The Aesthetics of Islamic Architecture
&
The Exuberance of Mamluk Design

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por

Tarek Amin El-Akkad

Part I-II

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This work
is
dedicated

to

my Mother

Table of Content

Part I

Part II

Index of Plates

Part I

Part II

(29) The Mosque of Ibn Tulun. a) Arch of the minaret bridge. b) Arch of the minaret entrance.
(30) The Mosque of Ibn Tulun. a) Typical engaged column capital. b) Arcade with piers.
(31) The Mosque of Ibn Tulun. a) Crown arches of the minaret. b) Mihrab of al-Afdal.
(32) The Mosque of al-Hakim. a) Entrance pishtak with minaret. b) Entrance floral designs.
(33) The Mausoleum of Imam Shafii. Slide library RBSCL, AUC
(34) The Complex of Qalawun. Floor plan. www.archnet.org/library.
(35) The Complex of Qalawun. a) Qalawun-set window. b) Street façade.
(36) The Complex of Qalawun. a) Horseshoe arch of the entry. b) Crosses under the arch.
(37) The Complex of Qalawun. a) Mausoleum façade detail. b) Main entrance door detail.
(38) The Complex of Qalawun. Mausoleum courtyard façade. Slide library RBSCL, AUC.
(39) The Complex of Qalawun. Stucco window grille detail. Slide library RBSCL, AUC.
(40) The Complex of Qalawun. a) Mausoleum wooden ceiling. b) Mausoleum mihrab.
(41) The Complex of Qalawun. a) Courtyard of the madrasa. b) Nave of the madrasa facing qibla.
(42) The Complex of Qalawun. a) Madrasa qibla wall. b) Detail of Cosmatesco work on the mihrab of the madrasa.
(43) Minarets of Qalawun and al-Nasir Mohamed.
(44) The Complex of al-Nasir Mohamed. a) Madrasa stucco window. b) Minaret middle section.
(45) a) Palace of Aljaferia, Zaragoza, crown arch. ARTstor. b) Complex of al-Nasir Mohamed, minaret detail. ARTstor.
(46) The Complex of al-Nasir Mohamed. a) Mihrab conch of the madrasa with Qalawun-I fleur-de-lis. b) Qibla façade of the madrasa.
(47) The Mosque of al-Nasir Mohamed at the Citadel. a) Wooden ceiling detail. b) Wooden ceiling between the arcades.
(48) The Mosque of al-Maridani. a) Stucco window grilles. b) Arcade of the courtyard with the wooden screen.
(49) The Complex of Sultan Hassan. Mausoleum dome and façade facing the Citadel. Slide library RBSCL, AUC.
(50) The Complex of Sultan Hassan. a) Original minaret. b) Flying fleur-de-lis crenellation.
(51) The Complex of Sultan Hassan. a) Joggled voussoirs with tile design detail above madrasa door. b) Ablaq with tile design above madrasa door.
(52) The Complex of Sultan Hassan. a) Floral stucco roundel with six-pointed star on qibla wall. b) Marble roundel on the side of the portal.

1- Introduction

The Egyptian Mamluk period was the most exuberant in the history of Islamic architecture. It lasted from 1250 to 1517, a short period of only 267 years but highly dynamic in art and architecture. No historian has given a documented and defendable reason for this rise yet many spoke of the origin of the Mamluks in Eastern Europe, Anatolia, the Black Sea area, and the Caucus. Their excellence in design was directly related to the diversity of their population in Egypt and Syria but more specifically in Cairo. A new aesthetic developed in their art and architecture and became uniquely Mamluk. It was a culmination of design influences coming from as far away as Persepolis in the East, and al-Andalus in the West. Islamic architecture was described as belonging to the romantic aesthetic by Hegel to distinguish it from the symbolic and the classical. By doing so he paved the way for establishing a strong connection with Gothic architecture which persisted in Spain, in Galicia and Asturias.[1]

This dissertation is an analysis of the sources of Islamic design in several regions, how architectural elements developed, and how they contributed to the exuberance of the Mamluk style. It discusses the change in aesthetics by comparing and analyzing examples from the pre-Islamic and Islamic periods to show how design concepts change.

Few authors have discussed Islamic aesthetics despite the existence of a wide range of Arabic literature on the arts, from architecture to music and poetry. This was caused by the translations of classical texts by Plato, Aristotle, and Euclid from the eighth to the thirteenth century. Soon after, Arabic texts that developed ideas of theory and practice followed. An example from the Middle Ages is the *Topkapi Scroll* which gives detailed information on the impact of the aesthetics on decorative patterns and their design principles.[2]

During the Mamluk period, wall revetments included patterns that were symbolic of constant change within a hierarchy. Windows had grilles with geometric patterns and colored glass for privacy to make the interior unrecognizable from the outside. Erzen attributed this to three Islamic belief principles: 1- Constant change within permanence. 2- Uncertainty of human

[1] Hegel, G.W.F., *Hegel: On the Arts, Aesthetics or the Philosophy of Fine Art*, Bagehot Council (Smyrna, 2001), 82.
[2] Erzen, Jale, Islamic Aesthetics: an Alternative way to Knowledge. In *the Journal of Aesthetics and Art Criticism*, Vol. 65, No. 1, Special Issue: Global Theories of the Arts and Aesthetics, Wiley-Blackwell (Somerset, 2007), 69.

cognition. 3- Love, or understanding with the heart.[3] These principles were applied not only during the Mamluk period but also in the periods preceding it. They formed the aesthetic basis that Mamluk design emerged from.

The contact with the Catalans was most important in transporting, not only people, but also ideas of aesthetics across the Mediterranean. This contributed greatly to the development of the architecture and the exuberance of Mamluk design.

1.1- Justification of the work

For most of my life I have been exposed mainly to Western architecture through education and professional experience. Even growing up in Cairo, I studied at a French school in the center of the city. The area surrounding it was transformed by Khedive Ismail in the nineteenth century, under an ambitious plan, for Cairo to become 'Paris by the Nile'. After several years of living in the United States and upon my return to Egypt, I became curious about Islamic art and architecture. After being in Cairo for a year, I decided to pursue graduate studies. Toward the end, and just before starting my master's thesis in 2000, I went to Spain to follow-up on research done on the urban architecture of Sevilla. It was my first trip to the city and I was shocked by everything I saw.

The development of Islamic architecture was driven by a need to shelter space either for religious or domestic purposes. Many building types were developed to meet specific requirements. Initially the architecture echoed the Roman-Byzantine tradition, especially in earlier Umayyad buildings, as in the Dome of the Rock in Jerusalem, which was modeled after St. Vitale in Ravenna. The public bath for example, followed early Roman prototypes, and was developed to meet a religious requirement for cleanliness. Muslim cities later became known for their many public baths. In Spain, after la Reconquista, many bathhouses were destroyed because they were seen as a symbol of Islamic rule.

In the beginning, my heavy exposure to Western architecture was mentioned. Part of the architecture I was exposed to in the United States, was the so called Spanish architecture, or the California style. Never questioning the sources of the style I simply assumed that it was part of Western influence, until my first trip to Spain. The buildings I saw in Sevilla, the

[3] Ibid., 70.

Mudéjar and el Estilo Sevillano, made me question the sources of the California style.

Few buildings remain throughout Andalucía from the Muslim period, and only traces remain in Sevilla, however, the echoes are seen everywhere. There is blending of history everywhere in the urban fabric of the city. Parts of Islamic buildings are still seen standing alone or connected to newer buildings, as in los Caños de Carmona on Luis Montoto Street, the aqueducts that brought the water from the nearby hills of Carmona. Another example is la Torre de Abd al-Aziz, on la Avenida de la Constitución, which was part of the wall built around the city by the Almohads in the twelfth century. This sort of blending was also seen in other buildings and in other cities.

The Romanticism of the late nineteenth century in painting and literature made Neo-Islamic architecture popular in Spain and around the world. The integration of Islamic design in the architecture of the early twentieth century was pursued by many architects in Sevilla, Barcelona, Cairo and elsewhere. It created a Neo-Andalusian style that spread to the rest of Europe and the United States. After studying the Mudéjar and el Estilo Sevillano in Sevilla, I realized that it came back in a full circle to Cairo of the 1920s. As much as Islamic architecture influenced Spanish design, in parallel, Spanish design influenced Mamluk architecture. The reason for the exuberance found in many buildings built around Cairo from 1250 to 1517 was never extensively studied. I became increasingly curious about the causes of this high style, especially after recognizing many design elements of Andalusian origin woven into the Mamluk repertoire. The focus of this dissertation is the extensive analysis of Mamluk architecture, the sources of its design, ornamental patterns, and abstracted motifs.

1.2- Proposition and objective of the investigation

Many design elements were developed in one area and appeared in another. The ancient city of Persepolis, for example, is full of buildings that can easily feel at home in Upper Egypt! Some design elements used during the Mamluk period were originally developed at Persepolis, however, they came to Cairo from Damascus and Córdoba, like the stepped crenellation for example.

The Bahri Mamluk style was almost fully developed in the thirteenth century at the Complex of Qalawun. This was at the beginning of Mamluk rule which makes it a phenomenon unmatched in the history of Egypt. It is not typical for a new style to develop so quickly and be so vibrant and

sophisticated. The objective of this dissertation is to find out why the Mamluk style developed in such a short period of time, and why the aesthetics of Islamic architecture became so exuberant.

Alexandria was the entry port for many ships coming from Aragón, Morocco and Genoa. Many Andalusians lived in the city and maintained contact with Spain even during the periods of trade prohibition. Part of this study is to demonstrate and prove that there was a strong connection between Egypt and the West starting in the Ayyubid period, and intensifying during the Mamluk period. It was because of this contact that the architecture reached its pinnacle in the fourteenth century.

The investigation starts with a presentation of the state of the question and the influence the contact had on design. The research of existing literature on the subject of trade relations in the Mediterranean is included in following sections.

1.3- Hypothesis

In Mamluk Egypt, the design techniques mostly came from al-Maghreb but the motifs came mainly from al-Andalus. The hypothesis of this dissertation is: What accelerated the enrichment of the Islamic design palette and resulted in the exuberance of Mamluk design was the strong contact with the Catalans. Contrary to what most historians say, it was the contact with the Christians of al-Andalus, not the Muslims, which caused this to happen.

The heavy exchange between Alexandria and Barcelona contributed greatly to the exuberance of Mamluk architecture. This is proven by the Mamluk buildings of the Bahri and the Circassian periods respectively. Many design elements were incorporated into the architecture, but the fleur-de-lis motif was singled-out as the ultimate proof of the strong contact with Spain, and its impact on the development of the aesthetics.

Starting with Córdoba and Madinat al-Zahra, carving techniques in the stuccowork were studied at the Great Mosque of Córdoba, and in the marble capitals at the Salon of Abd al-Rahman III at Madinat al-Zahra. In addition, the carvings at the Aljaferia, the Alhambra, and the Alcazar of Sevilla, were analyzed and were found to be quite different in style and technique.

At Madinat al-Zahra the marble capitals were carved with straight deep rectilinear lines slightly angled toward the inside of the relief. The depth of the cuts with their sharp edges, created nice shadows that were visible from a

distance, adding to the volume of the carving through the play of light and shadow. The predominant motif was the triangle, with slightly curved sides, which appeared on all the capitals. Floral designs were created using several motifs including the fleur-de-lis. It is also known that the columns were made in Tunis especially for Abd al-Rahman III.

The carving at the Great Mosque of Córdoba was, by comparison, shallower with more curvilinear cuts and rounded edges. This was also true of the Alhambra and the Mudéjar work at the Alcazar of Sevilla which was used as an example of the carving of the Almohads.

In Cairo, comparing carving techniques at the Mosque of Ibn Tulun on the Fatimid mihrab of al-Afdal, the main entrance of the Mosque of al-Hakim, the façade of the courtyard entrance to the mausoleum of Qalawun, and the minaret of al-Nasir Mohamed, revealed that they were identical. The carving technique was traced to Algeria and the Great Mosque of Tlemcen, where the style of the cut and the motifs were confirmed.

Also studying the designs at Samarra did not reveal the fleur-de-lis motif in any of Style I, II, or III. The designs under the arches, at the Mosque of Ibn Tulun were clearly following Samarran examples but with some Umayyad and Coptic influences. Consequently it cannot be agreed with the arguments presented by Creswell, Whelan and others that Mesopotamian designs greatly influenced Mamluk aesthetics. They did, however, but not to the same extent of the influence Andalusian designs had.

The cutting style must have come from Tunis and Tlemcen to Egypt starting with the Fatimid period and after the fall of al-Andalus. The fleur-de-lis motif was a favorite Christian motif appearing in Islamic design as early as the eighth century at the Great Mosque of Córdoba. The use of this motif was not widespread in any of the Umayyad buildings studied in Greater Syria. The fleur-de-lis appeared in Christian designs, including crenellations of church altarpieces, prior to the arrival of the Muslims in the Iberian Peninsula. A similar design appeared earlier of course, in Roman buildings but as bands of spades and trefoils.

The preceding analysis led to the conclusion that the Umayyads of Córdoba must have adopted the fleur-de-lis as a favored motif, since it started appearing in many designs, from the eighth century onward. The same thing happened in Cairo with the Mamluks, because of their Christian background, and since many of them were Janissaries. Starting with Qalawun, the heavy exchange with the Christians, especially the Catalans, resulted in the fleur-de-lis becoming a favorite motif in Mamluk architecture.

During research for this work, it was discovered that the famed Creswell did not use, or acknowledge, the term fleur-de-lis in his survey of the architecture in Egypt and beyond. He generally used the term palmette and half-palmette, which created a great misrepresentation and a huge gap in the understanding of the origin of Mamluk design in Egypt in particular, and in Islamic architecture in general.

1.4- Criteria of the methodology

The methodology of this work is based on the analytical on-site investigation of the architecture in Egypt and Spain. The focus of the work is to analyze Mamluk architecture and its sources, to link specific developments in design to other events in the Mediterranean. First, the sources of Islamic design in Persepolis, Greater Syria, and al-Andalus are studied to identify specific design elements. Second, the research of primary and secondary sources in Arabic, Spanish, French and English on travel and trade with Egypt is presented, for example: the travels of Ibn Jubayr and Ibn Khaldun. Third, a field survey of relevant Mamluk buildings in Cairo including photos, drawings and historical references is conducted. Fourth, an analysis of locally developed architectural elements using a comparative method in light of the cordial relationship with los Reyes Católicos follows, for example: why did the use of the fleur-de-lis crenellation become widespread in Cairo starting in the fourteenth century? Fifth, a discussion of Ottoman architecture is introduced to show how Mamluk aesthetic was superior since it benefitted from strong Catalan contact.

Many of the buildings studied were not accessible or have changed considerably due to deterioration and neglect. It was necessary to depend on accounts of other scholars who have visited the sites and developed accurate reports. This was the case with the minarets of al-Hakim, for example, as they are now in poor condition and are inaccessible. Creswell had visited the site in the 1950s to do his survey, and has published accurate drawings and photographs of the original minarets. In other cases, especially in Cairo, major restoration projects entirely reconstructed building sections. This happened with the inscription band inside the mausoleum of Qalawun, where the original content of the text was changed.

Consequently, and for accuracy, each section of this dissertation has an introduction based on relevant existing literature. It is followed by a discussion of the information and opinion of each author. A study and an analysis of the particulars of each section follow, with findings and conclusions presented at the end.

2- State of the Question

Few authors have written about the integration of Islamic design elements in nineteenth and twentieth century architecture. I have been tracing what is called Neo-Islamic design for several years in Spain and other countries. In addition, I was always curious as to what caused the exuberance of Mamluk design in Cairo, starting in the thirteenth and ending in the sixteenth century. In contrast, the Mamluk period was extensively studied by scholars. This led to a large body of knowledge with sometimes conflicting information. Many authors spoke of the contact between Egypt and Europe in the Middle Ages but did not agree on what caused this excellence in design to suddenly appear in Cairo. It is then important to understand how a design was created in one area and later reappeared in another. Hence, the question now is: How was Islamic design transmitted?

For the purpose of this work, extensive searches were conducted of primary and secondary sources in Spanish, English, French and Arabic. Several search engines were used including JSTOR, Al-Qantara, Muqarnas, Archnet, and Google to find articles on the subject. The Library of Congress online catalog was searched in both Spanish and English. Several books were located at libraries in Spain specifically in Sevilla, Granada, and Barcelona, but few directly talk about the subject. Other sources included the catalogs at Cairo University and the Bibliotheca Alexandrina. Of course the main source on Islamic architecture was, and still is, the Rare Books and Special Collections Library at the American University here in Cairo. In this chapter, the results of the research done on the transmission of Islamic design are listed by author.

Flood said that a comprehensive study on the copying of design elements in the medieval Islamic period simply does not exist. The phenomena of borrowing design undoubtedly existed, however it received very little attention from art historians. He said: “The influence of certain powerful prototypes on later architecture has occasionally been noted in passing, but seldom explored in any details.”[4]

The fact that some design elements came from as far away as Persepolis is intriguing. It is clear that the transmission of design went back and forth. The Umayyads brought many designs with them to Spain where they were perfected and later transported to other countries. It is known that

[4] Flood, F. B., Umayyad Survivals and Mamluk Revivals: Qalawunid Architecture and the Great Mosque of Damascus. In *Muqarnas XIV: An Annual on Islamic Art and Architecture*. Necipoglu, Gülru, ed. E. J. Brill (Leiden, 1997), 57.

al-Walid brought the mosaics for the Great Mosque of Damascus from Constantinople hence Byzantine artisans were involved.[5] Stepped crenellations for example appeared in Egypt from the Ayyubid period on. They came with Ayyubid craftsmen coming from Syria, later they were used extensively in the Bahri Mamluk period. The stepped crenellations were used sparingly in the buildings of the Circassian Mamluk and completely disappeared with the arrival of the Ottomans. The fleur-de-lis crenellation appeared as a motif in wall designs and became fully realized as a crenellation model at the Complex of Sultan Hassan, the grandson of the famous Sultan Qalawun. From then on it has become a symbol of Mamluk architecture appearing on almost every building of the Circassian period.

According to Ali other design motifs like the eight-pointed star first appeared at the Dome of the Rock (In the geometry of the plan). Later, geometric figures formed the basis of abstract Islamic design. Other Sasanian and Christian motifs also appeared in the designs of the interior.[6]

Ali spoke of other design elements and said that the horseshoe arch came to Spain from Syria through Egypt and Tunisia. It has become widely used in many Islamic buildings especially at the Great Mosque of Córdoba. The horseshoe arch was found in churches in Armenia in the fifth century, at the sixth century Sasanian Taq-i-Kisra in Iraq and in the Visigoth church of Santa Maria de Melque in Spain.[7] Byzantine craftsman did the glass mosaics at the Great Mosque of Córdoba. They lost their similarities with the Sasanian and Byzantine models from the Great Mosque of Damascus and the Dome of the Rock, and became more abstract with arabesque designs.[8]

Bloom has written about the subject of transmission and the spread of design influences. There is evidence that plans and architectural drawings as well as written references were used from as early as the thirteenth century.[9] For early Umayyad buildings the process could have not been based on using written or drawn references. Instead and because of the close proximity of the buildings in Syria, craftsmen were learning from earlier Roman and Byzantine examples. It is said that a team of mosaic installers worked in Bethlehem at

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[5] Herzfeld, Ernst, The Genesis of Islamic Art and the Problem of Mshatta. In *Early Islamic Art & Architecture*. Bloom, Jonathan, ed. Ashgate (Burlington, 2002), 17.
[6] Ali, Wijdan, *Islamic Art as a Means of Cultural Exchange*, FSTC Limited (Manchester, 2006), 4.
[7] Ibid., 8.
[8] Ibid., 9.
[9] Bloom, Jonathan, On the Transmission of Designs in Early Islamic Architecture. In *Muqarnas X, An Annual on Islamic Art and Architecture.* Sevcenko, Margaret, ed. E. J. Brill (Leiden, 1993), 21.

the Church of the Nativity around 690, the Dome of the Rock and finally at the Great Mosque of Damascus.[10] The same can be said of the mosque of Ibn Tulun in Cairo where we have design elements from Mesopotamia indicating the presence of workers from there. On the other hand we have verbal transmission of design proven by the variety encountered in the many provinces. Bloom used three examples to prove his point: the mosque at Siraf in Iran, the Great Mosque of Qairawan and the Great Mosque of Samarra. They all had a similar layout with an open courtyard and a minaret opposite the qibla wall but that is it! Everything else about the three mosques was completely different.[11]

Despite this there is also evidence that detailed drawings must have been used for an early Umayyad building: the Dome of the Rock. Based on the analysis done of the geometry by Creswell, it is clear that the building must have been designed in plan and elevation before construction. The columns were located according to a grid placed inside a circle, an octagon and two rotated squares. A smaller circle for the columns supporting the domes was placed in the center. The exterior elevation also related to the geometry of the plan. This was needed for such an elaborate building but was not typical.[12] It follows that for other similar buildings, plans and detailed drawings must have been used.

Creswell did an extensive analysis of the origin of the plan of the Dome of the Rock and said that the earliest existence of a rotunda in Syria and Palestine, was at Constantine's Church of the Holy Sepulcher completed around 335. Earlier circular buildings appeared in Greece like the Temple of Palaimon at Corinth, the Temple of Athena Pronaia at Delphi, the Tholos of Epidarus, the Tholos of Delphi, the Philippeion at Olympia, etc. Roman mausoleums had circular domed structures but in Syria the designs were completely different. In Rome the examples include the Pantheon of Hadrian 120-124, the Minerva Medica 253-68 and the mausoleum of St. Helena built in the IV century. Aisled concentric rotundas similar to the Dome of the Rock were used at Santa Costanza in 324-6. The Church of the Holy Sepulcher must have followed the example of Santa Costanza built by Constantine a few years earlier and it was said that Abd al-Malik wanted to rival it with a larger dome for the Rock. The arrangement of the interior supports of the dome is alternating one pier with three columns similar to the two piers and three columns at the Church of the Holy Sepulcher.[13]

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[10] Ibid., 22.
[11] Ibid., 23.
[12] Ibid., 22.
[13] Creswell, K. A. C., *A Short Account of Early Muslim Architecture*, The American University in Cairo Press (Cairo, 1989), 36-37.

Creswell explained how the Muslims were influenced by local people in many ways he said: “The Arabs, having brought no administrative machinery with them from Arabia, and having nothing resembling it, were only too glad to adopt the administration which they found in being in Syria and Persia. Thus it came about that the staff of the revenue offices in Syria continued to be composed of Christians, and in Iraq and Persia of Persians. Baladhuri says that the language used for the Land Tax Register in Iraq was Pahlavi, until Hajjaj decide that Arabic should be used instead. In Syria, where Greek had been used, it was only in 700 that the Caliph Abd al-Malik ordered the adoption of Arabic. In Egypt it was only in 706 that the governor ordered all administrative documents to be drawn up in Arabic instead of Greek.”[14]

In his analysis of the Great Mosque of Damascus Creswell agreed with Arabic sources that it was built on the site of a Roman temenos. He said that there was evidence to support the following: “(1) that the façade of the sanctuary of al-Walid’s mosque was probably derived from a palace façade, or rather the courtyard façade of a palace at Constantinople, perhaps the Chalke; (2) that the three-ailed sanctuary was a result of the Arabs’ familiarity with sanctuaries of this type, so many Syrian mosques at that time being merely converted churches used laterally; and (3) that everything else -- the shape and dimensions of the mosque and the position of the entrances -- was fixed before hand by the ancient temenos, and that even the level of the window-sills was fixed before hand by the top of the south wall.”[15]

He spoke of the horseshoe arch and said that the earliest one built was in the Baptistery of Mar Yaqub at Nisibin built by Volagesos in 359. Other examples Creswell mentioned were found in the church of Dana in north Syria built in 483. In the fifth century it was found in the apse of the church of Khoja Kalesi in Asia Minor and in the sixth century monastery at Dayr Siman also in the apse. Concerning geometric designs he said that they were known and used in the Roman period but lacked imagination. Their full development was attributed to the Muslims.[16]

The model of the Great Mosque of Damascus persisted for centuries. It influenced the designs of many mosques including the Great Mosque of Córdoba. There are elements according to Bloom that were transmitted by travelers: “The three ribbed domes over the *maqsura*, which have no local precedent, maybe an attempt to realize a verbal description of the three domes at the Damascus mosque. While the prototype in Damascus had three domes arranged in a line in the direction of the qibla, a misunderstanding in

[14] Ibid., 39.
[15] Ibid., 69.
[16] Ibid., 69.

the verbal transmission would allow for the three domes at Córdoba to be arranged perpendicular to the qibla. Although no description survives of the earliest domes at Damascus, Ibn Jubayr's description of a later dome, which may have been modeled on an earlier one, states that it was round like a sphere and strengthened with stout wooden ribs bound with iron. The ribs curved over the dome and met at the summit in a round circle of wood. From the interior, the inner dome was inlaid with carved, colored and beautifully gilded wooden panels. Might not the wonderful ribbed domes of the Córdoba mosque be an attempt to give three-dimensional reality to something known only from enthusiastic description."[17]

Herzfeld spoke about Umayyad building characteristics in Jerusalem and what made them monuments of Islamic art. He said: "It is the connection with old types put to new uses with empirically acquired adaptations."[18] It is also the knowledge of traditional architectural design principles put to serve building esthetics. For sure it was the cooperation of artisans and craftsmen from a large Islamic world that gave the architecture its richness. In the decoration many western and eastern elements were applied next to local and imported designs. Fantasy played a major role in the creation of new forms and variation or in my opinion the imagination of the Muslim artist.[19]

In his analysis of the Ibn Tulun mosque in Cairo, Herzfeld discussed the plaster ornamentation in the friezes surrounding the arches in the courtyard and in the many bands around the mosque. The designs were seen as abstracted foliage that were symmetrically balanced to form arabesques. New combinations and variants were created using the idea of infinite repetition and the abstraction of vegetal motifs.[20]

The interaction between the different provinces of Islam was the reason the arts developed to become distinctively Islamic. Egyptian, Syrian and Mesopotamian forms were combined in perfect balance. Under Nur al-Din in Syria many forms appeared in the design of the mihrabs of the mosque of Ibrahim at the Citadel of Aleppo and at the Great Mosque of Mosul in the twelfth century.[21] The arabesque design of the Tulunid type spread to Asia Minor as proven by Herzfeld. In Spanish arabesque on the other hand, the acanthus, is always predominant. In Syrian arabesque the vine scroll with leaf and grape, acanthus and vase are shown to be used in a more naturalistic

[17] Bloom, Transmission of Designs, op. cit., 26.
[18] Herzfeld, Genesis of Islamic Art, op. cit., 18.
[19] Ibid., 18.
[20] Ibid., 21.
[21] Ibid., 26.

way than in Egypt.[22] This variation shows that the development of Islamic design elements was influenced by local tradition that spread back and forth.

In general there was a development process that took place as Islam spread. Herzfeld said: “To meet the requirement of the new rulers and the new religion, artists and artisans select the most suitable types from their repertoires, which they adapt to new purposes with only slight changes; this is the case for buildings, individual objects such as prayer niches and tombs, as well as decoration. Together with building types, techniques of construction and building materials are taken over. This happens locally at first, but very soon it is transferred from one province to another. The consequence is that certain techniques of construction, hitherto only present in an embryonic form, are developed into a fully formed principle. This is so with the tie-beams in the construction of arches; another is the pointed-arch, which has spread together with Islam, across the globe.”[23]

The artisans were also transferred between provinces, the natives had to deal with imported materials and imported craftsmen had to work with local materials. The creation of many cities demanded a large pool of skilled labor. The cost of the project was irrelevant as the money was available in abundance. Corvée labor was the answer to provide the skilled workers needed across the provinces. In Egypt, papyrus documents say that material and labor were demanded for large Umayyad projects in Syria. In letters, officials insisted on receiving labor and material instead of taxation money. For the building of Samarra al-Yaqubi said: “al-Mutasim sent for laborers, bricklayers and artisans such as smiths, carpenters and all other tradesmen; he ordered the import of teakwood and all wood suitable for building and palm trunks from al Basra and its vicinity, from Baghdad and the whole Sawad, and from Antakiya and all the coastal towns of Syria; and the import of artisans skilled in marble and marble-plasterwork, with the result that in al Ladhiqiya and elsewhere marble workshops were started.”[24]

It is clear now that Ahmad Ibn Tulun in Cairo made use of his provincial power base to construct his large mosque as well as other projects. This contributed to the spread of design elements from Samarra to Egypt and later Tunisia and Spain. For example it is documented that Aghlabid Ibrahim ordered the *minbar* of the mosque of Sidi Uqba in Qairawan from Baghdad. Also the tiles for the mihrab came with a master craftsman that completed the

[22] Ibid., 29.
[23] Ibid., 31.
[24] Goeje, M. J., ed. *Kitab al-Buldan*, E. J. Brill (Leiden, 1892), 238.

work in Tunisia. Abd al-Rahman I imported Byzantine mosaic installers for the Great Mosque of Córdoba who later founded a school for Spanish mosaics.[25]

The building construction process was highly organized in the provinces of Islam. For big projects a large number of workers had to be organized therefore several people were in charge of supervision. The management of the business of construction was always with prominent dignitaries. The caliph also appointed several technical managers to ensure the quality of the project. The executive architect for the Great Mosque of Damascus was from Persia for example. The imported and local artisans worked in groups under the supervision of the official executive architect. The highly specialized work like mosaic was entrusted to imported Byzantine workers, however, the supervising official could not have interfered. Imported artisans were given the freedom to work independently, which contributed to the imagination and design variation. The mosaics of the Umayyads could not have been inspired by the Byzantines but only they could have completed the work. Herzfeld explained: "In this mixture of workmen who had been brought together by Corvée men acquired the techniques of their foreign companions along with their native ones, hence the original juxtaposition of alien forms and their quick adaptation; for a new generation, which fused methods of many different derivatives in their training, developed among the journeymen and apprentices. The next generation implanted the alien methods in the new country, hence the basic views are expressed in the same manner, despite all provincial differences."[26]

The discussion above was used by Herzfeld to prove that the palace of Mshatta near Amman in Jordan was built in 743-4 by the Umayyad al-Walid II. It contained many design elements coming from the four main design centers: Egypt, Syria, Iraq and northwest Mesopotamia. The exterior walls contained Coptic and Sasanian designs, which only a powerful Caliph could have imported.[27] Mshatta is very important in showing the link between Persia, Egypt, Syria and later Spain.

Another author, Ettinghhausen wrote about the Umayyad complex of Khirbat al Mafjar and how the Umayyads combined Classical and Iranian designs. There was artistic interaction between the Byzantine and Sasanian empires but it became more accelerated after the Umayyads had gained control over Byzantine Palestine, Syria and all of Sasanian Iran.[28] Scholars

[25] Herzfeld, Genesis of Islamic Art, op. cit., 34.
[26] Ibid., 35.
[27] Ibid., 68.
[28] Ettinghausen, Richard, The Throne and Banquet Hall of Khirbat al-Mafjar. In *Early Islamic Art and Architecture*. Bloom, Jonathan, ed. Ashgate (Burlington, 2002), 283.

have discussed the designs in the bath and the palace namely: a statue of the caliph in Persian clothing, stepped crenellations, winged horses and stucco reliefs. These had Sasanian elements that were combined with classical inspiration especially in the floor mosaics.[29] The designs varied from the abstract to the iconographic. Of particular interest are the geometric patterns as they acted as inspiration for many designers. One important floor design is in the apse of the bath hall, in the center, it has a large apple tree with two gazelles on the left eating, and a lion attacking another gazelle on the right. Scenes of animals and attacks of vicious beasts were common in Roman and Byzantine mosaics.[30]

Simple rosettes having four heart-shaped petals separated by pointed sepals, and the six-petal rosette with no separation found in wall decoration, have been traced to greater Syria despite having Sasanian origin. Ettinghausen said: “Commonplace as a rosette design might seem, it nevertheless appears to have had royal associations which existed already in the Achaemenian period. A rosette occurs as the only ornament on the tomb of Cyrus the Great where it certainly must have had a specific significance; rosettes are to be found in great abundance in the framing borders in Persepolis.”[31] In addition, he said that other types of floral designs like the fleur-de-lis, which later appeared in French royal designs, also in Spain and Mamluk Egypt, are found elsewhere at Khirbat al-Mafjar carved in stone and plaster. They are repeated on the bath hall entrance façade where there is a statue of the caliph dressed in Persian with the Sasanian stepped crenellations above.[32]

What Ettinghhausen said was confirmed as a variance of the fleur-de-lis was located at Khirbat al-Mafjar, as well as rosettes and other motifs. The statue of al-Walid II mentioned is now housed in a museum so it is not clear if he ever saw it attached to the façade. There are, instead, palmettes that could have been mistaken for fleur-de-lis motifs. A fragment of stucco which has the remains of a border surrounding a lozenge pattern filled with floral designs was closely examined. Each lozenge has a rosette in the center surrounded by alternating palmettes of two distinct designs. Palmettes typically start with a floral shape similar to a fleur-de-lis and extend out into a blossom. This cannot be called a fleur-de-lis simply because the design must be seen as a whole. In addition, the motifs are connected in a way as to form a border around the rosette by means of a kidney-shaped motif. Ettinghausen must have been referring to this palmette when he talked of the fleur-de-lis.

[29] Ibid., 287.
[30] Ibid., 310.
[31] Ibid., 304.
[32] Ibid., 306.

Creswell did the exact opposite by calling every fleur-de-lis he found, a palmette; this will be discussed in full detail in upcoming sections.

It is clear that many Iranian elements were used but more importantly, not only at Khirbat al-Mafjar, but also at Qasr al-Hair al-Gharbi, sculptures and decorations were made of stucco. Before the Umayyads, stucco was not known in Syria and Palestine but was used in Sasanian Iraq, and Iran.[33] At the end of his analysis of Khirbat al-Mafjar, the building design sources were divided into two: the floor mosaics were Byzantine while the decoration and iconography were Iranian. Furthermore Ettinghausen said: "Three further conclusions suggest themselves. First, the basic Byzantine and Sasanian elements co-exist here as 'equal but separate' entities; there seems thus to be no true intermingling of the two strains, only a skillful coordination. One reason for this may possibly have been that the local Palestinian or Syrian masons were not able to construct a major vaulted hall on the order of the Taq-i-Kisra at Ctesiphon, the original setting of 'the suspended crown.' Secondly, while the architecture itself is due to functional considerations -- of which the wish to impress and present a grandiose and luxurious setting for the major ceremonial occasions was just one aspect -- the decorations at the porch, throne apse and elsewhere were meant as proclamations of the owner's special pretensions and general ideas. As such they reflected his self image which centered on imperial ambitions, but they also presented his world view which ranged from beliefs in evil spirits and the means of their magical entrapment, to a preference for Persian costume, and included even a value judgment of war and peace. Finally, it can be said the while the whole setting and imagery is pre-Islamic, the way in which the various features were impressively combined is both novel and a specific Umayyad achievement. It is also noteworthy that in this complex, concerted effort, the new religious ideas reveal themselves, if at all, in only one place and then in the spatially more limited and private *diwan*."[34]

Hillenbrand wrote about the Umayyad palaces especially the ones built by al-Walid II (ruled 743-744). The architecture is very different when the palaces are compared by their structures and decoration. The three he discussed were: Qusayr Amra, Khirbat al-Mafjar and Mshatta.[35] He discussed their decoration and design elements like the entrances. He said about the decoration: "The type of decoration used in these gateways also presents problems. In view of the persistent classical flavor of so much Umayyad

[33] Ibid., 307.
[34] Ibid., 329.
[35] Hillenbrand, Robert, la Dolce Vita in Early Islamic Syria: the Evidence of Later Umayyad Palaces. In *Early Islamic Art and Architecture*. Bloom, Jonathan, ed. Ashgate (Burlington, 2002), 334.

architectural decoration, it is strangely unclassified. The Roman triumphal arch with its rich iconographic repertoire might have been expected to exert some influence on these Umayyad buildings. Yet themes of religious content, of victory, military display and submission – even plain narrative – are all conspicuously absent, as are religious themes of any kind. It is easy enough to isolate the foreign motifs and ideas in Umayyad gateways, but it is difficult to ascertain whether any threads run through this varied iconography. Perhaps the most that can safely be asserted about the really ambitious Umayyad gateways is that they were intended quite generally to glorify by their sheer magnificence the caliph or prince who erected them. Confronted as they were with the artistic traditions of Byzantium, and Sasanian Persia, in which royal iconography had a long and distinguished history, the Umayyads can scarcely have failed to realize the potential of art as a vehicle for propaganda and symbol."[36]

Creswell spoke of the fresco wall paintings at Qusayr Amra and said: "The paintings clearly belong, not to the hieratic art of Byzantium, but to the late Hellenistic art of Syria, and they bear eloquent witness to its vitality." He continued: "That the paintings are derived from the Hellenistic art of Syria has been recognized by practically everyone who has discussed them: Brunnow, Strzygowski, van Berchem, Diehl, Herzfeld, and Dalton." Concerning the artist who did the paintings he concluded that they knew Arabic better than Greek and were probably Syrian.[37] The pointed-arch at Qusayr Amra could not have been of Sasanian origin as it was completely unknown in their architecture. Creswell deduced that the pointed-arch is of Syrian origin as it appeared in several Umayyad buildings. Precisely he said: "Thus the first nine examples of this feature all occur in Syria."[38]

Another important building discussed by Creswell was Qasr al-Hair al-Gharbi built 724-727 by Hisham near Palmyra. The prototype for the plan is clearly the Roman fort even though it did not serve a military function. The Umayyad armies passed a series of fortifications along the Roman frontiers from the Gulf of Aqaba to Damascus and from there to Palmyra. Umayyad princes regularly lived in some of these forts including Walid II. This gave them the knowledge to build fortifications along the Byzantine frontier and it influenced the design of their palaces. The palaces of al-Walid at Minya and Jabal Says, Hisham's Qasr al-Hair al-Gharbi and Qasr al-Hair al-Sharqi, the palace at Khirbat al-Mafjar, also the palaces of al-Walid II of Mshatta and

[36] Ibid., 341.
[37] Creswell, *A Short Account*, op. cit., 114.
[38] Ibid., 117.

Qasr al-Tuba all follow the fort plan.[39] The plan was rectangular with a stone enclosure, an inner courtyard, and round corner towers.

According to Creswell the central courtyard with two levels of rooms behind open arcades, initially appeared at the palace of the Roman governor at Bosra. It was completely ignored by researchers in the discussions of the origin of Umayyad palaces. There was a *bayt* system at the palace which is a central hall flanked by a pair of rooms on both sides. The earliest one appearing in Islam was at the palace of al-Walid at Minya where we have a five-room *bayt.*[40]

We can compare this system with the Persian prototype, which consists of an iwan with a pair of rooms on both sides. The rooms in this case can be entered either from the iwan or the courtyard. The Syrian prototype has more privacy and only allows the entry to the rooms through the hall. A later development of the Persian prototype was shown at the palace of Khusrau Parvez (590-628). The iwan and the side rooms have become deeper with a portico of three arches in front. From the studies Creswell did of later of Abbasid buildings namely Ukhaidir (second half of eighth century) he concluded that the Sasanian model was followed.[41]

Damascus was the Umayyad capital so many of the surviving buildings are in Syria. The influence of Christian architecture was evident yet at the Dome of the Rock for example Sasanian influences were apparent. Creswell explained: “And just as the Muslims in Syria were influenced by the Hellenistic and Christian art of their environment, so those who found themselves in Iraq or Persia as a result of the fanwise invasion of the Arabs, were influenced by the Sasanian traditions of their environment. Although little of the Umayyad date has survived in Iraq or Persia, we know from the descriptions of early authors that a type of mosque prevailed there quite different from the stone-walled, gable-roofed mosques of Syria.” He continued to explain the Persian mosque type: “The columns were sometimes of stone, but frequently of wood. In this type of mosque we have a direct link with the ancient Persian apadana, or hypostyle audience hall of the Achaemenian kings, and the *talar* or flat-roofed portico of more recent Persian palaces. In Persia materials such as Persepolitan columns with bull-headed capitals were taken from older buildings, just as Corinthian columns from older buildings were used in Syria.”[42]

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[39] Ibid., 142.
[40] Ibid., 145-146.
[41] Ibid., 146.
[42] Ibid., 226.

Bloom talked about how the *muqarnas* became known in Egypt. The earliest examples appeared in the eleventh century in several Fatimid buildings. It was used to separate parts of buildings as in the cornices of minarets. It was used in transitional zones below domes and it was simply used for decoration. He said that the muqarnas vaults used in Sicily and North Africa in the twelfth century did not appear in Egypt until the fourteenth century. They were placed over the entrance of the complex of Sultan Hassan.[43] Bloom talked about the muqarnas in transitional zones below domes as being very similar to the one developed in Iran. This was attributed in part to the similarities of the Egyptian Fatimid being Shiite to their Iranian counterparts. It was disputed also that the two could have been developed simultaneously despite their similarities![44] Bloom later discussed the Fatimid tombs in Aswan in Upper Egypt and the transitional zones below the domes. He pointed to other researcher and their work on the subject and concluded that the design influence must have come from Tunisia because of similarity and because of trade routes coming from Tunisia through the oases of the Western desert to Aswan.[45] This is also true of other design development during the Fatimid period. Despite what he pointed-out about the closeness of the Shiites in Iran, it was revealed that Fatimid floral design motifs were more closely related to the West.

Of particular interest are the entry arches of the Fatimid tombs in Aswan. They are of the same type that appeared in Iraq where they exceeded their span. In addition to the sixth century horseshoe arches at the Taq-i-Kisra, this was most probably the prototype for the Syrian horseshoe arch. Similar arches were used in Tunisia at the mosque of Mahdiyya in the portico built in the tenth century but in combination with horseshoe arches from Córdoba. Bloom claims that Roman triumphal arches inspired the portico, however, it will be shown later that the Fatimid design elements themselves were mainly from al-Andalus.

In the end, Bloom concluded that based on accounts of Persian and Andalusian travelers, muqarnas vaulting was wide spread in and around Mecca. It was described as following prototypes from Iraq. The pilgrimage route to Mecca from North Africa went through Aswan hence the sudden appearance of muqarnas in the eleventh century in Fatimid tombs. Aswan

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[43] Bloom, Jonathan M. The Introduction of the Muqarnas into Egypt. In *Muqarnas V: An Annual on Islamic Art and Architecture*. Grabar, Oleg, ed. E.J. Brill (Leiden, 1988), 21.
[44] Ibid., 22.
[45] Ibid., 23.

being so closely related to the Hajj route was the first to receive new architectural ideas from outside of Egypt.[46]

Tracing the origin of Fatimid art, Bloom went to Tunisia to follow the trail into Egypt with the Caliph al-Muizz, when he founded al-Qahira. The Fatimids had three major enemies: the Umayyads of Spain, the Abbasids and the Byzantines.[47] Egypt was conquered in 969 under the command of Jawhar al-Siqily; al-Muizz finally arrived in Egypt in 972 to a camp built earlier by Jawhar, which was renamed al-Qahira. According to Bloom: "The half-century of Fatimid rule in North Africa had significance far greater than a simple political prelude to Fatimid rule in Egypt, al-Mansur introduced his dynasty to modes of propagandizing which had long been common to the kings and emperors of the Mediterranean world. The Fatimid genius lay in their being such quick learners: grasping the lessons in North Africa, they went on to surpass all their teachers in founding the most dazzling court in Egypt. While Fatimid art has often been considered the great secular revival of medieval Egyptian art, it should also always be understood as another cog in the great propaganda machine the Fatimids put in motion to conquer not only the lands but the minds of the world."[48]

Another author, Ruggles wrote more specifically about el mirador. He talked about Madinat al-Zahra, built in the tenth century by Abd al-Rahman III, as not being unique around Córdoba: al-Rusafa was also built by Abd al-Rahman I to the North in the thirteenth century. Another city, al-Zahira was built to the East by al-Mansur the wazir of Abd al-Rahman III on the other side of Córdoba after he seized power also in the tenth century. Other palatial cities were built as well but most were destroyed during civil wars that caused the fall of the Umayyads. The cities and the palaces were further destroyed for their important building materials. Only three cities have documented remains: Rusafa, al-Rummaniya and Madinat al-Zahra. Ruggles said that the remains of Madinat al-Zahra give us definite clues as to where the design came from. He said that the plan was influenced by Abbasid palaces from Samarra as compared to the Jawsaq al-Khaqani built in 836 and Balkuwara 849-859.[49] When Abd al-Rahman III built Madinat al-Zahra he looked at the Abbasid model to separate and elevate himself from the public and only brought administrative officials, merchants and craftsmen needed for his new

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[46] Ibid., 27.
[47] Idem., The Origins of Fatimid Art. In *Muqarnas III: An Annual on Islamic Art and Architecture*. Grabar, Oleg, ed. E.J. Brill (Leiden, 1985), 32.
[48] Ibid., 34.
[49] Ruggles, D. Fairchild, The Mirrador in Abbasid and Hispano-Umayyad Garden Typology, In *Muqarnas VII: An Annual on Islamic Art and Architecture*. Grabar, Oleg, ed. E.J. Brill (Leiden, 1990), 73.

position as the Umayyad caliph of al-Andalus to the new city.[50] The planning of the buildings was done to provide for views of the surrounding landscape. This was a concept again borrowed from Samarra and the two palaces previously mentioned by Ruggles. In conclusion he said: “The exaltation of the king/viewer, learned from Sasanian models, was introduced into the Islamic context by the Abbasids at Baghdad in the late eighth century and was developed further in their sprawling complex of palaces at Samarra in the ninth. The innovative contrivance of views toward garden and landscape, through the exploitation of topographical elevation and miradores became part of Islamic palace typology and was transported abroad to the Maghreb.”[51]

Shafii talked about certain design elements and followed their origins to al-Maghreb. He dissected many buildings in Cairo to show how these elements were incorporated. He said that many Islamic design schools exchanged influences and some architectural elements from one school appeared in another. In his thesis he said: “I tackled the analyses of Calyx-Forms and their components, and found that in some cases they showed influences from West Islam acting in Egypt during several occasions.”[52]

In his analysis of the mausoleum of Imam Shafii he concluded that many of the floral ornaments and Kufic inscription bands were from the Islamic West. He traced many of the designs to al-Maghreb namely the Great Mosque of Tlemcen 1136, the Great Mosque of Kutubiyya 1146-63, the Great Mosque of Tinmal 1153-54 and the Mosque of Tuzur 1194. He traced other elements like the split-palmette with alternate ribs and wide spaces, to the Great Mosque of Córdoba 961-66.[53] Here again no reference is made to the fleur-de-lis even though many split motifs are found.

On the exterior walls at Imam Shafii below the chamfers, around the dome, there are panels in the corner posts. In the North façade as seen in photographs taken before 1897, the panels have geometrical patterns. The corner posts have panels with Kufic inscription that have interlacings to create symmetrical composition. Shafii explained: “The idea of forming a symmetrical pattern from Kufic letters is a product of West Islam.”[54] This idea was pushed further in Spain to the point of reversing the letters to create a mirror image as seen for example in Granada at la Casa del Carbon built in the fourteenth century. When first seen, the inscriptions on both sides of the entrance

[50] Ibid., 74.
[51] Ibid., 81.
[52] Shafii, Farid, *West Islamic Influences on Architecture in Egypt*, Cairo University (Cairo, 1955), 1.
[53] Ibid., 28.
[54] Ibid., 26.

appeared to be made by non-Arabic speaking Spanish craftsmen, as the word Allah (God) was reversed to create symmetry. This could not have been done by Arabic speakers as the reversal of the word is somewhat confusing. Strangely enough this type of inscription was very common in al-Maghreb after the Reconquista.

Shafii concluded his analysis of the façades of the Mausoleum of Imam Shafii by saying: “Fresh and strong influences from al-Maghreb and al-Andalus had arrived in Egypt at the time of the complete rebuilding of that mausoleum in 1121; and I believe that Muslim craftsmen from the West took share and cooperated with local craftsmen in adorning that building, considered sacred by the Muslims, introducing some of their original ornamental native features and elements.”[55]

Concerning the Mamluk period Shafii talked about the Complex of Qalawun and said that the twin windows (the Qalawun-set) appeared in Egypt for the first time. The mihrab of the mausoleum has a horseshoe plan similar to the ones at the Great Mosque of Córdoba by al-Hakam II and the Great Mosque of Qairawan.[56] He analyzed the Madrasa of al-Nasir Mohamed next door and pointed-out several design elements in the minaret. He said that the blind tri-lobed arches must have evolved from earlier examples in Egypt. The Naskhi inscription horizontal bands contain intersecting lobes on the sides. This is the oldest example he could find in Egypt. These intersecting semi-circles existed since the beginning of the eleventh century in North Africa.[57]

At the mosque of Ibn Tulun originally built in 879, Shafii discussed the work done during the Mamluk period in 1296 by Husam al-Din Lajin. He pointed-out several elements, like the horseshoe arches under the bridge connecting the minaret to the mosque, and the entrance to the minaret itself. He further analyzed the plan, the composition of the minaret, and its twin horseshoe arches.[58]

Shafii concluded that several waves of influences reached Egypt from the West. This was clearly visible in early Fatimid art and architecture and extended to the Mamluk period. He described the waves more specifically by saying: “It is not easy to try always to establish some relation between the arrival of each wave and some historical factor that might have been responsible for the production of each wave of artistic influence. In fact, I do not think that this is necessary in all cases because the contact in the West

[55] Ibid., 28.
[56] Ibid., 33.
[57] Ibid., 34.
[58] Ibid., 35.

between the Muslims themselves, and between them and the Christians, never ceased through all the periods, and such conditions must have caused a number of the natives either to be exiled or to take refuge in more safe countries, far from such disturbances, and Egypt was not only one of these but also was much praised for its luxury and wealth."[59]

Flood studied the Great Mosque of Damascus and realized that it was a prototype for many of the designs in Mamluk Cairo. This is true of some designs but not all as will be shown later-on. He used the design of a vine frieze above the mihrab at the Umayyad mosque to make his point. He said: "The appearance of copies of this frieze in a series of imperial Mamluk tombs of the late thirteenth and early fourteenth century maybe seen as part of a revival of forms of decoration associated with the Umayyad monuments of Syria, and with the Great Mosque of Damascus in particular, during the reign of Sultan al-Mansur Sayf al-Din Qalawun and his son al-Nasir Mohamed ibn Qalawun."[60]

The design on the vine frieze was called *karma* and after my research was described as: "A narrow marble frieze which enclosed the interior walls of the *sahn* in the Umayyad mosque. Not strictly a vine, the frieze was carved with scrolling acanthus within which single vine leaves or fruits such as grapes and pomegranates appeared at intervals. The surface of the relief was gilded, which gave the *karma* its golden appearance." He pursued the *karma* design in Syria and said that it first appeared in the tomb of Baybars I, completed by his successor Qalawun in 1281. The *karma* appeared in the gilded frieze, which runs around the walls of the tomb.[61]

The spread of designs from the Great Mosque of Damascus was natural in Syria yet it also spread to Mamluk Cairo. They appeared at the Mausoleum of Sultan Qalawun built in 1285. Flood said that the plan of the building was inspired by the Dome of the Rock in Jerusalem, even though it is a square and the one at the Dome of the Rock is octagonal. The plan of the Mausoleum of Qalawun has four columns and four piers facing each other to form an octagon. This configuration is not as symmetrical therefore cannot be labeled as inspired by the Dome of the Rock. He talked about the decoration inside the mausoleum and said that it had a *karma* design. It was shown in the gilded marble frieze that runs around all four walls. This design was believed to have come from Hagia Sophia in Istanbul and was similar to Byzantine mosaics. Based on his research he concluded otherwise and said

[59] Ibid., 46.
[60] Flood, Umayyad Survivals, op. cit., 57.
[61] Ibid. 60-61.

that the designs must have come from the Great Mosque of Damascus.[62] In addition, the mihrab of the mausoleum, which is decorated inside the niche with four levels of small arcades composed of scalloped arches on single or double columns, must have come from Damascus. He used descriptions from the Andalusian traveler Ibn Jubayr to prove his point.[63] After reading the original Arabic travel book of Ibn Jubayr, it became clear that his description of the Great Mosque of Damascus was extensive, however, it could have easily been misinterpreted.

Creswell did the most accurate analysis of design influences spreading from the Great Mosque of Damascus. He mentioned several elements that were connected to other buildings. The most important for the purpose of this work is the double-tier arcade. He said that the idea behind this design was to allow for the use of short columns to achieve greater heights. This application appears at the Aqsa Mosque in Jerusalem and the Great Mosque of Córdoba. The alternation of piers and columns is also important and he said it appeared at the mosque of Qasr al-Hair al-Sharqi, the mosque of Hama in Syria and at Córdoba.[64] He spoke of geometric designs at the Great Mosque of Damascus and said that in general they previously appeared in Roman times, however, lacked imagination and their full development was attributed to Islamic art.[65]

Another element used in what Flood called a revival of Umayyad design was glass mosaic. Its use from the reign of Baybars to al-Nasir Mohamed or between 1260 and 1340 was seen as a revival.[66] He concluded that Sultan Qalawun used glass mosaics initially at the Tomb of Baybars I and other buildings in Damascus. Qalawun was also responsible for the introduction of glass mosaics to Egypt and its use until the end of the reign of his son al-Nasir Mohamed.[67] Flood in the end talked about the Great Mosque of Córdoba as being the first to be inspired by the designs from Damascus. He said: “What we are dealing with here is the deliberate copying of archaic architectonic and decorative forms which are specifically identified with, and therefore seen as characteristic of, the Umayyad mosque. There is good historical precedent for the latter phenomenon, not least in the apparent attempts of the Andalusian Umayyads to create the Great Mosque of Córdoba in the image of the mosque erected by their forebears in Damascus. This included both the replication, however schematic, of architectural forms known to characterize the latter mosque and the use of certain types of

[62] Ibid., 62.
[63] Ibid., 64.
[64] Creswell, *Short Account,* op. cit., 72.
[65] Ibid., 69.
[66] Flood, Umayyad Survivals, op. cit., 66.
[67] Ibid., 67.

decoration – notably glass mosaic – which were associated with the Umayyad prototype."[68] It is just not acceptable that the Great Mosque of Córdoba could be called a replication of anything coming from the Great Mosque of Damascus. Almost everything there reached a level of sophistication unseen before in Umayyad Syria. The mosaics for example, reached new design heights with newly devised patterns and motifs as will be shown later.

Creswell discussed the fall of the Umayyads in Damascus and the rise of the Abbasids in Baghdad. The effect of this shift was similar to the change that took place when the capital of the Roman Empire moved from Rome to Constantinople. Of course the design influence of the Orient was greater in Baghdad. He explained: "The Hellenistic influences of Syria were replaced by the still-surviving influences of Sasanian Persia and Iraq, which profoundly modified the art and architecture, and this gave birth to the art of Samarra, the influence of which extended in one direction to Egypt, where the mosque of Ahmad Ibn Tulun bears witness to it, and in the opposite direction to Bahrain, and to Nishapur and Afrasiyab (near Samarqand), where stucco ornament in Samarra style has been found by excavation."[69]

Creswell also spoke of other architectural design elements like the minaret with the square plan. It was derived from earlier church towers in Syria and became the standard for Syrian minarets until the early nineteenth century. This minaret type was transferred to Qairawan and Córdoba and persisted in Western Islam until the modern era.[70]

Lapidus talked about the arts in Egypt under the Mamluks and divided them into three phases. The first was from about 1250 to 1350, when Egypt inherited the scholarly and artistic legacy of the Islamic Middle East. The Mongol invasions left Iraq, Iran, and Anatolia in political turmoil and economic collapse, the Byzantine Empire was crumbling because of Turkish and Latin attacks. While Europe was dealing with the fragmentation of its feudal era, the Mamluk regime emerged as the strongest and most stable of the Muslim Mediterranean. The second phase of Egypt's responsive relation to world conditions came during the Black Death of 1348 and succeeding epidemics that destroyed a substantial portion of the population in Egypt. Lapidus says: "The Mamluk elite, deprived of resources, turned to factional warfare and exploitation of the subject population." The third phase showed a glorious outburst of Mamluk arts during the reigns of Qaytbay (1468-1496) and Qansuh al-Ghawri (1501-1516). She continued: "European fashion became an important influence on Egyptian glass, metalwork, pottery, and textiles in

[68] Ibid., 73.
[69] Creswell, *Short Account*, op. cit., 415.
[70] Ibid., 416.

the late fifteenth century, when Italian and Spanish goods were both imported and imitated in the Mamluk Empire. The predominant international influences, however, were Anatolian and Iranian."[71] This has not been shown in the many buildings designed during the reign of Qaytbay as will be demonstrated in later sections.

During the eighteenth and the first half of the nineteenth centuries European travelers, artists and statesmen discovered the architecture of the Orient. Many engravings and illustrations by artists traveling in India, Persia, Turkey, Egypt and Syria depicted the architecture and the people. Some of the famous names are: Richard Pococke, William Hodges, Stuart and Revett, Thomas and William Daniell, Thomas Allom and William Bartlect. The buildings were shown surrounded by foliage and earlier structural ruins with people, camels and other animals in the foreground.[72]

Bozdogan explained how detailed drawings were made in saying: "Then comes the proliferation of measured drawings and architectural studies which, from then on, constitute the foundation of various Oriental and Islamic revival in architecture, serving as models for any architect who builds in these 'styles'. There are such drawings and studies of Pascal Coste, Francis Arundale and Joseph Bononi (the first Westerners to measure and draw the Dome of the Rock), Owen Jones and Jules Goury (with their elaborate drawings of the Alhambra in Spain) Charles Cockrell, Charles Barry and William Chambers (with his drawings of Chinese designs)." She continued in explaining how influential the drawings have become: "That these works have a certain precision, method and scientific orientation is significant preparing the grounds for a 'reproduction' of these architectures in the Western world, in the form of influential publications, and more significantly, as actual buildings modeled after these authentic examples. If so far, Oriental/Islamic architecture was discovered and delineated, it was now the period of Oriental/Islamic architecture appropriated and displayed in the Western world. Within the context of the prevailing "battle of styles" and the eclecticism of the nineteenth century culture, Oriental/Islamic architecture constituted just another style at the architect's disposal, just another set of forms and ornamental repertoire to select from in a matter of taste and fashion."[73]

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[71] Lapidus, Ira, Mamluk Patronage and the Arts in Egypt: Concluding Remarks. In *Muqarnas, Vol. 2, The Art of the Mamluks*, Yale University Press (New Haven, 1984), 174.
[72] Bozdogan, Sibel, Orientalism and Architectural Culture, in *Social Scientist, Vol. 14, No. 7*, Tulika Print (New Delhi, 1986), 53.
[73] Ibid., 54.

Ali Bey (1766-1818) was a Catalonian traveler who in the nineteenth century went to Morocco, Tripoli, Cyprus, Egypt, Arabia, Syria and Turkey. He described many of the buildings he saw however without detail. He compared the mosques in Tangier and Fez to those in Spain specifically Córdoba. He said that almost all the mosques are built with a courtyard surrounded by arcades. The mihrab faces southeast and orients the prayers to the direction of Mecca. He said that this same layout is to be found at the Great Mosque of Córdoba and is proof that it was built by the Muslims and not the Romans.[74]

During the trip he took between 1803 and 1807, Ali Bey described some buildings in Cairo. He mentioned the Mosque of Sultan Hassan, being near the Citadel it had very high walls. It had a fine nave, which recalls the design of European churches. This is not true as the building has an open courtyard with a cruciform plan and four iwans. He also said that the Complex of Qalawun was remarkable. He described the mausoleum as being covered by a dome supported by columns. There was a hospital attached to the madrasa at the time of his visit which he did not describe and only said it was for men, women and the insane.[75]

His description of the Great Mosque of Damascus was very basic and he said that it was magnificent. Ali Bey explained that inside, there is a large courtyard surrounded by arcades on square columns with a fountain in the center. He described the interior as follows: “From this court is the entrance to the principal body of the mosque, which contains three immense naves from east to west, composed of arches lightly pointed, resting upon large columns and pillars; in each row there are 44 columns, which are not exactly equal; these naves are nearly 400 feet long. In the middle of the central nave, which is the largest, are four enormous pillars that support a large cupola of stone; the remainder of the mosque is roofed with timber.”[76]

Now it is clear how influential the Umayyads were especially in the Mediterranean basin. The arrival of Islam in Spain produced a society different from, but in constant contact with the Christian society. The strength of this cultural contact that created new forms of artistic expression was felt long after. It gave rise to a new component of the visual Spanish culture: the Mudéjar style. In Portugal a strong Mozárabe tradition was maintained throughout and is still visible today. In Morocco and Tunisia the influence of al-Andalus was combined with local forms and continues on. It was noted:

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[74] Ali Bey, *Travels of Ali Bey in Morocco, Tripoli, Cyprus, Egypt, Arabia, Syria and Turkey Between the Years 1803 and 1807*.Gregg International Publishers (London, 1970), Vol. I, 68.
[75] Ibid., Vol. II, 16.
[76] Ibid., Vol. II, 265.

"The western Mediterranean produced original forms of expression that reflected its conflicting and plural historical evolution."[77]

Danby talked about Islamic design being rediscovered in the nineteenth century. It was used in public and private buildings in Spain to display romantic nostalgia and sometimes used to represent a symbol or an identity. It continued into the twentieth century as theaters, cinemas, exhibition buildings and railway stations all showed Islamic influence.[78]

There was freedom of communication during the Muslim period through the Mediterranean. Regular travel between Egypt and the Iberian Peninsula was common. He said: "The east consisted of Egypt and the Muslim countries of southeast Asia. The West comprised all North Africa west of Egypt, including Sicily, with al-Andalus as an important sub-section."[79] For the purpose of this work, the West will be a reference to Islamic-Spain and al-Maghreb will mean North Africa not including Egypt.

Other authors discussed the impact of the increased interest in Islamic design due to European colonial expansions. For example French scholars became interested in North Africa after their colonization of the area. Blair and Bloom did extensive research work on Islamic art and architecture, and they claim that the idea of an Islamic design is totally western.[80] They said: "The idea of a tradition of Islamic architecture and art which began in Syria in the seventh century and grew to encompass the architecture and art of the lands from the Atlantic to the Indian Ocean is a creation of late nineteenth and twentieth century Western thought, for there is no evidence that any artist or patron mentioned in the preceding chapters ever thought of his art as Islamic. Such all-embracing terms as "Mohammedan" or "Islamic" and "Moslem/Muslim" came to be applied commonly to the culture only in the nineteenth century, when they increasingly replaced such restrictive geographic or ethnic terms as "Indian" (or "Hindoo"), "Persian," "Turkish," "Arab," and "Moorish," which had been applied to styles previously thought distinct."[81]

Andalucía was the most exotic and aroused the European imagination with Spain of course being the most accessible country. Many had been there to study the art and architecture of the Muslim period. In the second half of the

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[77] *The Umayyads: The Rise of Islamic Art*, Museo sin Fronteras (Madrid, 2000), 16.
[78] Danby, Miles, *The fires of Excellence*, Garnet (Reading 1997), 11.
[79] Ibid., 13.
[80] Blair, Sheila, and Bloom, Jonathan, *The Art and Architecture of Islam 1250-1800*, Yale University Press (New Haven, 1994), 303.
[81] Ibid., 303.

eighteenth century, the Real Academia de San Fernando had sent the architects Juan de Villanueva and Pedro Arnal to do research and to create drawings under the direction of Joseph de Hermosilla, of Granada and Córdoba. Their findings were published in 1780 as Antigüedades árabes de España. The Alhambra was of course the most visited by the Europeans and James Cavanah Murphy who spent time in Spain between 1802 and 1809 published the Arabian Antiquities of Spain in 1813. It was based on the Antigüedades and inspired many others to follow him. Among them were Chateaubriand, Victor Hugo, Washington Irving, and Theophile Gautier who wrote about their travels in Spain. In addition, artists published drawings and paintings of their trips like Girault de Prangey who was in Spain 1832-3 and in 1836 published Souvenirs de Grenade et de l'Alhambra. In 1839, it was followed by Monument arabes et moresques de Cordoue, Séville et Grenade. Later in 1841 he published Essai sur l'architecture des Arabes et des Mores, en Espagne, en Sicile, et en Barbarie. Also in 1834 Jules Goury and Owen Jones did their drawings of the Alhambra. Their book Plans, Elevations, Sections, and Details of the Alhambra was published in 1836 and was used as a reference book by many architects.[82]

[82] Ibid., 305.

3- The Mediterranean

Great Muslim conquests in the seventh century of the Levant and North Africa drastically altered maritime trade routes. After the fall of Spain in the eighth century, Muslim pirate attacks intensified on the islands in the eastern and western Mediterranean. In 717 Rhodes was occupied by the Syrians, later Cyprus, and in 798 the Umayyads of Spain took the Balearic Islands. The Aghlabids conquered Corsica and Sardinia in 809 after long being attacked by Muslim corsairs. Sicily was taken after a long and steady campaign between 827 and 902. From their Sicilian bases the Muslims attacked Italy at Gaeta and Salerno in 868 and 872 respectively. They came very close to Rome itself during their attacks on Central Italy. Despite a truce with Pope John VIII, Pisa was attacked in 935, and with Muslim bases at Bari and Tarentum marine traffic outside of the Adriatic Sea was eliminated.[83]

Mediterranean trade in the tenth century was described by Atiya as follows: “For all practical purposes, the whole of the Mediterranean became an Arab lake, inaccessible to Christian shipping, but open to trade from all countries under Arab sway, with staggering results in the field of Arab economy and industry. The vast expanse of the Arab empire from Samarqand in Transoxonia and Lahore in the valley of the Indus on one side, and the Atlantic with Spain on the other, increased trade potentialities beyond recognition.”[84]

Major trade routes coming from the East crossed territory controlled by the Muslims. Many ships loaded with goods anchored in Muslim ports in the Persian Gulf and the Red Sea. Caravans of thousands of camels crossed Asia carrying products from China to markets across Muslim lands. The Muslim borders were on the Caspian and the Black Sea opening trade routes to Russia and East Central Europe.[85] Major growth of wealth was recorded by historian in the tenth century of major commerce centers like Aleppo, Damascus and Jerusalem. Egypt under the Tulunid rule saw similar growth as evidenced by the high taxation revenues on goods entering the country totaling 2 million gold dinars. Al-Andalus under Abd al-Rahman III collected 20 million gold dinars in trade taxes. Proof to the large expansion of trade is in Muslim coins found in recent excavations of sites in Russia, Finland,

[83] Atiya, Aziz, *Crusade, Commerce and Culture*, Indiana University Press (Bloomington, 1962), 166.
[84] Ibid., 167.
[85] Ibid., 167.

Scandinavia, the Balkans, and even places as far as Britain and Iceland. The coins had dates ranging from the seventh and the eleventh century.[86]

The Muslim control over trade was unchallenged until the First Crusade of 1096 and the advent of the Normans in Italy and the Mediterranean in the second half of the eleventh century. In 1072, Palermo in Sicily was seized by the Normans and by 1091 the whole island was controlled by them. This marked the shift in the control of Mediterranean waters to Christian hands. The First Crusade on the other hand opened new routes to the East with hoards of Christians going there. The fleets of Venice and Genoa expanded to meet the growth in trade between Europe and the East. This resumption in trade was a natural consequence of the Crusade since merchants from Europe travelled with the expeditions opening new markets in every new port conquered in the Levant.[87]

The Venetians mainly controlled trade in the Mediterranean with Egypt and Syria while the Genoese were in charge of North Africa and the Black Sea. Cyprus played an important role as ships from Venice, Genoa, Florence, Pisa, and Catalonia docked in its harbors. The ships did not venture further in the Mediterranean because all trade with Syria was done there.[88]

Atiya spoke of trade routes on land and by sea and said: “The Eastern trade was brought by caravan across the traditional routes of Central Asia to the terminal cities within the borderland of Europe and in the Near East. Samarqand, Tabriz, and Baghdad were frequented stations. Novgorod, Kiev, and Caffa included famous markets. Aleppo, Damascus, and Acre were great centers of the Syrian trade, while Damietta, Rosetta, and especially Alexandria were freely visited by Western merchants.”[89]

The currents and prevailing summer winds in the Mediterranean have been well documented and mapped. The current flows in a counter-clockwise direction along Mediterranean shores. The main current enters from the Atlantic Ocean through the Straits of Gibraltar where it can reach high speeds. Ships in the Middle Ages were either cogs or galleys and fast currents represented a great challenge. The current heads east and turns strongly north up the coast of Lebanon. It was a major obstacle for the Muslims sailing north or trying to launch a naval attack in that direction. The Catalans took full advantage of this flow to bolster their trade going east along the southern coastline and heading back west along the northern coastline. The Venetians

[86] Ibid., 168-169.
[87] Ibid., 169-170.
[88] Ibid., 171-172.
[89] Ibid., 175.

and the Genoese also gained from this flow and were able to dominate trade in the Mediterranean only to be challenged by the Catalans in the thirteenth century.[90]

The ships sailing the Mediterranean were escorted in convoys to protect against piracy. The best time to travel east was in April and June, while travelling west was best in August and September. Winter travel was rare for fear of violent storms. Major developments in ship building took place in medieval times and galleys were expanded to carry 500 to 800 tons. Those ships in addition to cargo carried 800 to 1000 persons including sailors and passengers. The ships were driven by sails and oars operated by men under deck.[91]

Ibn al-Khatib (1313-1374) wrote about Mediterranean trade during the Fatimid period in Egypt between 969-1167 in his book about the history of Islamic Spain. He said that in 1054 Ali Iqbal ad-Dawla the Taifa period ruler of Dénia sent a huge ship full of food to the famine stricken Egypt which returned full of money and ammunition. It was an example of good trade on behalf of the Andalusian ruler who was successful in collecting and making money.[92] Ibn al-Khatib also spoke of what he encountered during his travels in Morocco and al-Andalus. He said that he met many people of science and literature and from the courts of the East. During his visit to the city of Safi or *Asafi* on the shores of the Atlantic Ocean in Morocco, he mentioned meeting people from Cairo and Alexandria. The most important was Ezz al-Din ibn Jamaa the chief *qadi* in the court of al-Mansur Qalawun.[93]

Granada was heavily cultivated by the Muslims by distributing the waters of the river Genil into more than a thousand irrigation channels. Constant production of fruits and crops was maintained year round including vines and olive trees. Silk was the main product shipped from the ports of Almeria and Malaga. The Italians learned the techniques of making silk from the Spanish Artisans especially Florence where raw material was imported well into the fifteenth century. The sources speak of the Genoese having

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[90] Pryor, John, *Geography, Technology, and War: Studies in the Maritime History of the Mediterranean 649-1571*. Cambridge University Press (Cambridge, 1992), 130.
[91] Atiya, *Crusade, Commerce and Culture*, op. cit., 176.
[92] Ibn al-Khatib, Lisan al-Din, *Tarikh Ispaniyah al-Islamiyah, aw, Kitab A'mal al-A'lam fi man Buyi'a Qabla al-Ihtilam min Muluk al-Islam*. Dar al-Makshuf (Beirut, 1956), 221-222.
[93] Ibn al-Khatib, Lisan al-Din, *Mushahadat Lisan al-Din ibn al-Khatib fi Bilad al-Magreb wa al-Andalus*, Alexandria University Press (Alexandria, 1958), 141.

mercantile establishments in Granada and commerce treaties with Aragón, consequently trade with Europe, Africa and the Levant flourished.[94]

Declining Muslim sea power, increasing pirate attacks, Christian supremacy over the shipping lanes, and commercial and diplomatic treaties between North African governors and Europe all motivated Muslims to lease and travel on Christian ships. By the early twelfth century, Muslim maritime traffic was restricted to the North African coast, while the trans-Mediterranean traffic had fallen under the control of the Italian Republics whose ships plied the waters of the Levant as far south as Egypt. In addition, most pirates in the sea were Christian corsairs and their commissions made it clear that their main targets were Muslim ships. Ibn Jubayr traveled on a Genoese vessel during his trip in 1183 from Ceuta to Alexandria because it was more convenient and used safer and quicker routes.[95]

The Mamluks are known to have commandeered Christian ships in the port of Alexandria to use in sending envoys and to do trade in Christian controlled areas of the Mediterranean. This was done simply because their ships faced pirate attacks. For example, in 1464 an envoy was sent on a Muslim ship to Cyprus but was captured by corsairs.[96]

Barcelona was the entry point for ships coming from the Eastern Mediterranean especially from Alexandria. Prescott spoke of the relationship that developed with the sea: “The ancient county of Barcelona had reached a higher degree of civilization than Aragón, and was distinguished by institutions quite as liberal. The seaboard would seem to be the natural seat of liberty. There is something in the very presence, in the atmosphere of the ocean, which invigorates not only the physical but the moral energies of man. The adventurous life of the mariner familiarizes him with dangers, and early accustoms him to independence. Intercourse with various climes opens new and more copious sources of knowledge; and increased wealth brings with it an augmentation of power and consequence. It was in the maritime cities scattered along the Mediterranean that the seeds of liberty, both in ancient and modern times, were implanted and brought to maturity. During the Middle Ages, when people of Europe generally maintained a toilsome and infrequent intercourse with each other, those situated on the margin of this inland ocean found an easy mode of communication across the highroad of its waters.

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[94] Prescott, William, *History of the Reign of Ferdinand and Isabella the Catholic.* Swan Sonnenschein (London, 1841), 190.
[95] Khalilieh, Hassan, *Women* at Sea:Modesity, Privacy, and Sexual Misconduct of Passengers and Sailors Aboard Islamic Ships. In *Al-Qantara XXVII 1*, Consejo Superior de Investigaciones Científicas (Madrid, 2006), 152.
[96] Pryor, *Geography, Technology, and War*, op. cit., 160.

They mingled in war too as in peace, and this long period is filled with their international contests, while the other free cities of Christendom were wasting themselves in civil feuds and degrading domestic broils. In this wide and various collision their moral powers were formed, with a deeper consciousness of their own strength, than could be obtained by those inhabitants of the interior who were conversant with only a limited range of objects, and subjected to the influence of the same dull, monotonous circumstances."[97]

Catalonia united with Aragón in 1150 after the marriage of Queen Petronilla and Ramon Berenguer the count of Barcelona. The Aragónese princes paid particular attention to the navy with a body of law prepared in 1354. The Catalan navy rivaled that of Pisa and Genoa and with the help of the Aragónese monarchs, conquered Sicily, Sardinia and the Balearic Isles from the Muslims. They went further east in the Mediterranean reaching the Levant including the coasts of Egypt and Syria.[98]

Historians generally agree that from the eleventh to the fifteenth centuries Muslim shipping lost completely its control of the Mediterranean. European archives show a great increase in the number of trips from the West made by ships going to the Byzantine and Muslim worlds during that period. In the previous period Muslim shipping connected Egypt, and the Levant with North Africa, Sicily, and al-Andalus but not with the Christian West. It is clear that prior to the Crusades, Muslim ships did not sail to Catalonia, Tuscany and other Christian ports in any great numbers.[99]

Other scholars have extended their analysis and said that starting in the thirteenth century ships from Genoa, Venice and also from Catalonia replaced Byzantine and Muslim traders. Furthermore, Italian, Ragusan and Catalan shipping eliminated Muslim competition in the Levant from the fourteenth century on. This was caused in part by the decline of Muslim technological superiority and the rise in Christian knowledge of maritime techniques. There is strong evidence that many Muslim travelers used Christian ships especially from Morocco and al-Andalus going to Egypt and the Levant. There is also a record of a fourteenth century Genoese merchant, Segurano Salvaygo operating under the Mamluk flag between Egypt and the Black Sea.[100]

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[97] Prescott, *Reign of Ferdinand and Isabella*, op. cit., 28.
[98] Ibid., 28.
[99] Pryor, *Geography, Technology, and War*, op. cit., 136-138.
[100] Ibid., 140-142.

In the thirteenth century merchants from Alexandria could be found in Marseilles and Jewish merchants from North Africa were to be found in Genoa. Alexandria had an old and a new harbor, between the fourteenth and the fifteenth centuries the old harbor was reserved for Muslim shipping. Many products including construction material came aboard Mamluk ships. Muslim and Jewish ships along with merchants from Morocco were to be found in Sardinia, Sicily, Majorca, Valencia, and Barcelona trafficking along side Christian ships.[101]

Barcelona reached a high level of commercial prosperity only previously enjoyed by Italian cities in the second half of the thirteenth century. It shared with them the wealth brought by the lucrative trade with Alexandria. The port enjoyed diversity of people from many nations and diffused commodities over inner Spain and the rest of Europe. Many products of Catalonia including fabrics were shipped overseas with some raw material imported to be manufactured locally and then exported. Barcelona had consuls in every major port in the Mediterranean to handle and facilitate trade. The first bank of exchange and deposit in Europe was established in the city of Barcelona in 1401.[102] The wealth brought by the expanded trade in the Mediterranean resulted in major projects: docks, arsenal, warehouses, hospitals and utility infra-structure.[103] In the sixteenth century the Venetian ambassador to Spain Navagiero, was shocked by the insubordination of the citizens of the city to the point that he said: “The inhabitants have so many privileges that the king scarcely retains any authority over them: their liberty should rather go by the name of license”.[104]

It is well documented that in the thirteenth century the Catalans were competing strongly against the Italian Republics for control of trade in the Mediterranean. Trade with Tunisia expanded rapidly and war ships were built using Catalonian models in al-Andalus and al-Maghreb.[105] Marine routes were protected from pirate attacks by strict treaties. Al-Mohads protected European merchants in their ports as long as they paid the required duties. Muslim pirates were under control, however, Christian corsairs continued to attack ships in the Mediterranean.[106] Coastal trade routes starting from Egypt were also established to connect inner desert land with al-Andalus and islands in the Mediterranean. These land routes were important for trade between Egypt

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[101] Ibid., 143-148.
[102] Prescott, *Reign of Ferdinand and Isabella*, op. cit., 41.
[103] Ibid., 42.
[104] Ibid., 43.
[105] Khalaf-Allah, Ibtisam, *al-Alāqāt bayna al-khilāfah al-Muwaḥḥidīyah wa-al-Mashriq al-Islāmī: 524- 936 H /1130 -1529 M*. Dar al-Maarif (Cairo, 1985), 270.
[106] Ibid., 276.

and Sudan in the east and Morocco and Europe in the west. Caravan crossed the desert from Morocco through Tripoli to Alexandria. Once there the caravans split into two directions heading north by sea to Tyre, Sidon, and Beirut, later following a land route to Iran, India and China. The route heading south went to Sudan, the Red Sea, and the Arabian Peninsula. These land routes were well delineated and were guarded by strong men travelling with the caravans since they transported valuable goods most importantly gold and slaves.[107] Between 1096 and 1291 large hotels or Khans were built in Fustat and Alexandria to store and distribute goods for Christian and Muslim merchants.[108] Sultan Qalawun established strong ties with the Europeans through trade negotiations and treaties. He encouraged traders from the Italian Republics, Sicily, and Aragón to come to Alexandria as it was safe and had many khans.[109]

Mali was the richest in gold and in 1324 its king Moses headed to Mecca for pilgrimage in a great caravan. He impressed the Muslim and the Christians alike as he went west through Niger, Morocco, Tunis reaching Egypt. Once in Cairo he was greeted by Sultan al-Nasir Mohamed who had one of his most trusted men escort him throughout the city. The king of Mali had so much gold with him to the point that he gave it as gifts to all the princes and associates of Sultan al-Nasir Mohamed in return gave him elaborate gifts of Mamluk products. These large quantities of gold increased trade in Cairo, raised the prices of goods and lowered the price of gold. As gold was brought into Egypt, textiles and horses were brought in large numbers into Mali.[110]

The artistic style of the Mamluks was also influenced by international trade as Lapidus said: “Despite the establishment of the Mongol empire in Central Asia and the opening of new routes to China, the Mamluks managed to keep open the Red Sea-Alexandria ground route to Europe. By the middle of the fourteenth century, the closure of Central Asian routes again favored Egyptian ports. By 1375 a regular trade with Venice was reestablished in Alexandria, and the international spice and luxury trade flourished in Syria. Throughout most of the fifteenth century, Syria and Egypt traded regularly with Italian, French, Spanish, and Balkan ports.”[111]

During the time of the Crusaders especially in the thirteenth century, the Egyptian navy was unable to pose any threat to Christian traffic in the

[107] Ibid., 280.
[108] Ibid., 299.
[109] Ibid., 317.
[110] Ibid., 286.
[111] Lapidus, Mamluk Patronage, op. cit., 175.

Mediterranean. Under the Ayyubids between 1193 and 1252 and later under the Mamluks between 1250 and 1291, the Egyptian fleet was ineffective against Christian ships and the Levant was left to be controlled by the Italians. Historians have argued that the lack of interest on behalf of the Egyptians to build their fleet was attributed to the later Ayyubids profiting from commerce with the Christian West. After the Mamluks conquered the coast of Palestine they destroyed all the naval capabilities of the ports fearing that they could be used by the Christians to control the sea again. They later restored them to become commercial centers and support trade with the Christians. In the second half of the thirteenth century it had become almost impossible for the Mamluks to build and maintain a fleet that could rival the fleets of the Italian Republics, Cyprus, Catalonia, and later Rhodes.[112]

In the fourteenth and fifteenth centuries the major threat to navigation in the western Mediterranean was from Catalan corsairs. Also exiled Muslims from Spain to North Africa were a great threat in the fifteenth and well into the sixteenth centuries. In 1487 Ottoman corsairs moved west into Morocco and became the most active at sea.[113] Fortunately land routes provided an alternative during that period since Cairo was interested in getting gold from Ghana and Mali using the southern route going through Nubia. Many military campaigns were launched to protect the gold from attacks during its long journey.[114]

The conquest of Cyprus in 1571 by the Ottomans was of great strategic significance since it left only Crete in the hands of the Christians. Unprotected, their ships were attacked repeatedly and could not travel in the Levant and the Aegean unless they were under the sultan's passport. The Ottoman fleet numbered 250 ships when it attacked Mamluk Egypt in 1517. A large naval presence and sufficient bases along the sea lanes allowed for the domination of the Eastern Mediterranean. The Ottomans between 1470 and 1571 were able to defeat Venice and Rhodes and take control of most of the important islands because of their tactical use of their fleet and their superior land power. After Ottoman successes around the Eastern Mediterranean and later in the sixteenth century the control of the Christian West over trans-Mediterranean trade was extremely eroded.[115] After the conquest of Egypt in 1517 the trade route linking the Black Sea, Istanbul, Asia Minor and Alexandria became prominent and only had few Christian ships. Despite this Venetians were found trading at Bursa, Adrianople, and Thessalonica after 1430, at Istanbul itself after 1453, Modon and Coron after 1500, and above all

[112] Pryor, *Geography, Technology, and War*, op. cit., 132-133.
[113] Ibid., 193.
[114] Ibid., 282.
[115] Ibid., 178-182.

at Alexandria after 1517. Treaties and agreements were instated to facilitate trade with the West in Ottoman territorial waters but the impact on the Italian Republics was severe. Genoa declined rapidly and shifted trade routes west toward Spain. To weaken the power of Venice the Ottomans encouraged trade with other nations namely: Florence, Ancona, Dubrovnik, and of course the French and the Catalans. Late in the sixteenth century the estimates of Ottoman trade were 80,000 tons compared to Venice at 40,000 tons and Spain at 60,000 tons. The Mediterranean was seized by the Ottomans from Dalmatia to Morocco by large naval forces and the ceaseless attacks by corsairs. Trade was encouraged in the Black Sea, and linkage of Egypt, Greater Syria with Asia Minor and the Balkans along with urban development helped create a new Mediterranean controlled through Ottoman subjects including: Jews, Greeks, Turks, and Armenians.[116]

It is important to discuss the role played in the Mediterranean by Catalan Jewish merchants. It is also known that they played a major role as merchants in Cairo and Alexandria and must have had strong connections with their counterparts in Catalonia. Ashtor did extensive research on the subject as he explained that they were very active in maritime trade until the end of the fourteenth century. They outnumbered, invested more money, and were the most active in the Mediterranean compared to other merchants of similar religion.[117]

Catalan Jews had trade activity not only in the Mediterranean but also in the Iberian Peninsula. Documents show that Jewish merchants from Barcelona traded with Sevilla and Valencia. They also traded with Sardinia which was under Aragonese-Catalan control since 1324, and Sicily which was under Aragonese reign. It is also probable that Catalan Jews had good relations with merchants from the North African coast. Ashtor said: “The acts of the Barcelonan notary Pere Marti, who had many Jewish clients, also contain a commenda contract, drawn up in 1381 between Isaac Catan and Beniuha Moses Dellel, the silk trader, concerning a trip to Majorca and Tunis. It is likely that the Catalan Jews also had close contacts with Jewish merchants of the Maghreb in commercial towns, for they too were much engaged in the exchanges between the countries of North Africa and the Iberian Peninsula. Some orders of the king of Aragón and Catalonia that date from 1319, 1324, and 1325 testify to the commercial activities of Jews in Ceuta and Cherchel in his dominions.”[118]

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[116] Ibid., 188-191.
[117] Ashtor, Eliyahu, *Technology, Industry and Trade: the Levant versus Europe 1250-1500*. Variorum (Brookfield, 1992), IX, 161.
[118] Ibid., IX, 162.

There is more specific information about the Catalan Jewish trade with Egypt around 1300 and the first quarter of the fourteenth century. In 1302 an order of King Jaime II referred to two Jews of Barcelona who ill-behaved in a church in Alexandria. This is proof that Catalan Jews were in Egypt around 1300 certainly for doing business. During trade prohibition with the Mamluks commercial vessels continued to go to Alexandria which also included Catalan Jewish merchants. King Jaime II gave several merchants permits to trade with the Mamluks among them four Jewish merchants: Bernardo Sala, Astrugo Abamari, Gaujo and his son in law.[119]

The record of the fines paid by Catalan Jewish merchants travelling in the Mamluk dominion is a clear evidence of the amount of trade that went on despite the prohibition. Ashtor said: “In the year 1305, a pardon was granted to the Jewish traders Juceff Besers of Villafranca and Astrug Biona of Barcelona, who had travelled several times to Alexandria, via Cagliari and other routes. Isaac Vives of Barcelona must have been a very rich and enterprising merchant. The copious correspondence between the judicial authorities and the royal chancery in the year 1307, after the merchants death bears testimony to the importance attached to squeezing a sizable sum from his heirs. In 1313, the king granted pardon for transgression against his prohibition to the crew of the cog Santa Eulalia and to the Jewish merchants who had shipped merchandise on it to Egypt. They were Abraham Bisbe, Salomon Faquin, Maymon Abraham, and Benvenist Salomon, all of Barcelona. The fine was 18.500 shillings. As the fines were usually levied according to the tariff of two shillings for merchandise of the value of one Barcelona pound, the commodities shipped on the Santa Eulalia were worth 9.250 pounds, according to the estimate pf royal authorities. So the four merchants engaged in rather large transactions.” This record in addition to many others only testifies to the intense Catalan Jewish trade with the Levant in the first quarter of the fourteenth century.[120]

The prosecution of Spanish Jews in 1391 had a drastic impact on the flourishing trade with the Mamluks. It practically eliminated trade originating from Spanish ports by Jewish merchants. Despite this, they continued to trade in the fifteenth century from Portugal. They travelled by sea to Catalonia and carried on trade like Simon Vazquez of Barcelona who still travelled to Egypt in 1414.[121]

Before 1391 Catalan Jews conducted trade with the Levant from other ports as explained. Soon after Sicily was under the control of King Pedro of

[119] Ibid., IX, 162-163.
[120] Ibid., IX, 163-164.
[121] Ibid., IX, 165.

Aragón in 1283, he issued a decree to allow a ship to travel to Alexandria. He ordered a Genoese to export cheese, wool, honey and other products from the port of Syracuse. He prohibited the Sicilians, except for the Jews, the Catalans, and the Aragonese from travelling aboard the ship. It is probable according to Ashtor that the reason for this was to avoid the capture of the ship by the corsairs of Charles I of Anjou. The Catalans and the Aragonese would be considered as the enemy but not the Jews. It is interesting to note that Catalan Jews were not considered to be Catalan! [122]

The structure of Jewish merchants under the Mamluks changed between the thirteenth and the fifteenth centuries. In 1250 at the beginning of Mamluk rule, Jewish merchants from the middle class still engaged in Mediterranean trade. This changed however and they were overpowered by other merchants namely the Karimis. Later on in the fifteenth century a stronger class of Jewish merchants from southern Europe emerged. Catalan documents refer to the activities of Egyptian Jewish traders late in the thirteenth century. Ashtor said: “In the year 1270, King Jaime I granted a safe-conduct to two Jews, brothers from Alexandria, Barchet and Mancer Avenmenage; the safe-conduct applied to their families and goods as well.” He continued on in explaining: “King Alfonso III decides in a liigation between Thebat, a Jew of Alexandria and Bernardo Marchet, son of R. Marchet, concerning a debt of the latter. Although those who are travelling are not liable to answer to claims, the king says, he makes a decision in the case because of the intervention of the sultan (on behalf of his subject). Apparently both of the litigants were Jewish merchants sojourning in Sicily or elsewhere outside Egypt and Catalonia.”[123]

The commodities exchanged in Alexandria and other trade centers were classified under three categories: slaves, natural products, and manufactured goods. The most profitable for the West was of course the slave trade which was eagerly sought after in the East. During the Mamluk period the slave trade was the main source for new soldiers in the Egyptian army. Every Mamluk emir had his own regiment of trusted fighters who were bought on the market by as much as his means permitted. Sultan Qalawun had 6,700 Mamluks to protect him, his son al-Ashraf Khalil had even more, 10,000, but his other son, al-Nasir Mohamed drastically increased the number to 24,000. The sultan’s Mamluks were typically divided by their origin into battalions of Turcomans, Mongols, Circassians, Kurds, Armenians, Greeks, Slavs, Slovenes, Albanians, and Serbs. Sultan lajin, a successor of the Qalawunid dynasty, was known to be of the Teutonic Order who had fought in

[122] Ibid., IX, 170.
[123] Ibid., IX, 176-177.

Livonia around the Baltic Sea later becoming a Crusader in Syria where he converted to be a Muslim and joined the Mamluk ranks.[124]

In Alexandria, the main entry point for merchants from the West, trade had to be controlled through an elaborate system. It provided great revenues for the sultan in Cairo to use in major construction projects. Ships entering the harbor had their rudders and sails stripped to prevent them from leaving unexpectedly. In addition, a chain was drawn across the entrances of the harbor to stop the ships from leaving before paying customs duty. Passenger name lists and inventories of the ships' cargo were sent by carrier pigeons to Cairo. Merchants had to present letters of introduction from Egyptian agents based in European cities to be accepted in Alexandria. Upon landing all visitors had to pay a fee of one gold piece to be allowed to disembark. Visitors were not allowed freedom of movement around the country especially in the Red Sea area. The Europeans were only allowed to stay in a *fonduq* (alhóndiga) in the city with citizens from their own countries. Loading and unloading of cargo had to be done only at the sea gates opening into the customhouse for proper taxation.[125]

Marine trade during the Mamluk period was described by Abouseif as follows: "Navigation on the Nile was always important for Egypt's economy. Fustat served as the port for ships carrying agricultural goods from Upper Egypt and merchandise from the Red Sea trade via Qus to the capital, and further towards Alexandria and Damietta on the Mediterranean. During the fifteenth century, with the growing importance of Mediterranean trade, Bulaq's importance as a port increased, and it became a commercial and industrial center with an increasing number of mosques and palaces."[126]

It is clear that the Mediterranean provided the means for the exchange of goods and ideas. In creating their buildings, the Muslims employed Syrian, Armenian, Egyptian, Byzantine, Iranian, and Indian architects and artists. Minor arts played an important role in connecting the knowledge of the European and Muslim craftsmen. The centers of Spain, Sicily, and Palestine provided the points of contact between workers across the Mediterranean. Atiya said: "The Marts of Cairo, Damascus, and Baghdad overflowed with objects of art of all description. Jewelry, gold and silver work with repoussé and inlay, ceramics with and without metallic luster, colored glazes, fine pottery, all sorts of vases, glasswork, rock crystal, embossed leather craft, embroidered and woven monochrome and polychrome textiles—these and

[124] Atiya, *Crusade Commerce and Culture*, op. cit., 182.
[125] Ibid., 194.
[126] Behrens-Abouseif, Doris, *Cairo of the Mamluks, a History of the Architecture and its Culture*. The American University in Cairo Press (Cairo, 2007), 57.

many more art objects were continuously on display at the Oriental bazaars. They proved to be the vehicles by which the arts were transmitted to Europe in the course of the later Middle Ages."[127]

[127] Atiya, *Crusade Commerce and Culture*, op. cit., 235.

4- Sources from Persepolis

The architecture of the Iberian Peninsula and of Egypt was influenced by many sources. Certain elements originated from places as far away as Persepolis. The architecture of central Asia, mainly in Persia, has roots that extend for more than 6,000 years. It influenced an area that extended from Syria to North India and the edge of China, it also extended from the Caucasus to Zanzibar.[128]

Great monuments were built by successive rulers, Darius, Xerxes, Chosroes II, Ghazan Khan, Timur, Mahmud of Ghazna, and Shah Abbas. The surrounding mountains, large valleys, and wide plains dictated the size of the architecture.[129] The mountain itself was very important in its symbolism of the connection of the earth and the heavens. The early ziggurat or temple represented the shape of the mountain.[130]

Iran, the name meaning "Land of the Aryans" was derived from tribe settlements in the Iranian plateau and it dates back 10,000 years.[131] There was an admiration for mountains, which was reflected in the construction of huge ziggurats. The development of this building type was Mesopotamian in origin,[132] the first being built in Sumer around 2200 B.C. however, they must have been inspired through contact with Persia.[133] The link was established by the Elamites dating back to 3000 B.C. The greatest monument was the Choga Zambil built at Dur Untashi near Susa around 1250 B.C. by Untash-gul the King of Elam. It was a temple and tomb built on five levels.[134]

The Achaemenids who ruled between 560-330 B.C. built their first important site at Pasargadae in the province of Fars. Cyrus started construction around 550 B.C., of a complex of palaces and temples. When he died in 529 B.C. he was buried in a gabled temple surrounded by freestanding columns.[135] A reconstruction by Herzfeld shows the tomb in the center of a

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[128] Pope, Arthur, *Introducing Persian Architecture* (London, 1969), 1.
[129] Ibid., 2.
[130] Ibid., 3.
[131] Ibid., 4.
[132] The stepped pyramid of Zoser at Saqara in Egypt was built earlier using a number of platforms during the third dynasty of the Old Kingdom 3200-2160 B.C. Hamlin, Talbot, *Architecture Through the Ages* (1953, New York), 31.
[133] Pope, *Introducing Persian Architecture*, op. cit., 5.
[134] Ibid., 6.
[135] Pope, Arthur, *Persian Architecture, the Triumph of Form and Color* (New York, 1965), 23.

walled enclosure, elevated on several platforms. The exterior walls were capped with stepped crenellations throughout.

Pasargadae was not adequate to be a capital so a new site was selected for their empire at Susa. Darius I built it around 521 B.C. as an administrative city and Persepolis was planned to become a national shrine.[136] He proceeded with the construction of Persepolis between 516 and 518 B.C. It was built as a copy of the mythic City of Heaven and took a long time to build. It was not complete when Alexander destroyed it in 330 B.C.[137]

The city consisted of a group of buildings placed against the rugged mountains. It is entered through monumental stairs leading to a small pavilion called by Xerxes, the son of Darius, as the "Gate of all Nations". Several platforms were arranged to locate the individual buildings. The Apadana of Xerxes dominated the terraced site with its columns and porticos on three sides. To the East is the "Hall of a Hundred Columns", and behind it is the palace of Darius, which is in the royal city outside of the city walls.[138]

This arrangement allowed the architects of the site to utilize the different levels as terraces to enhance how the space was experienced. Of course many steps were cut from stone and their walls were decorated with reliefs. The walls themselves were described by Herzfeld when he said that they: "Followed the projecting and retreating angles of the terrace with no regular towers or buttresses, but only here and there a large bastion. Such a plan is called in theoretical fortification *plan en tenaille* or *en Crémaillère*. It is not attested in Babylonia or Assyria, but was known in Egypt, and probably used at Susa. Since the 'chart' of Susa says that the 'leading architects of the fortification wall were Egyptians,' the plan may have come from Egypt."[139]

Throughout the site there are many architectural elements that are used in harmony. The walls were made of sun-dried brick that crumbled leaving only stone structures. Some of the interior columns had plaster and were painted over in red, blue, and white.[140] In the Apadana there is a forest of columns with animal shaped capitals. There is a lion, griffon, and bull shaped capitals, also at the "Hall of a Hundred Columns". The walls of the stairs at the Apadana have reliefs and are capped with stepped crenellations. The stepping appears in many areas of Persepolis and the crenellations, inspired by the ziggurat, are capping many walls.

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[136] Pope, *Introducing Persian Architecture,* op. cit., 11.
[137] Ibid., 17.
[138] Ibid., 19.
[139] Herzfeld, Ernst, *Iran in the Ancient East* (New York 1988), 226.
[140] Pope, *Persian Architecture,* op. cit., 40.

The development of Persian architecture must be credited in part to Darius. Before his reign he served as a general in the army during Egyptian campaigns. He saw the hypostyle halls of the temple of Ammon and Karnak in addition to the temples at Thebes.[141]

According to Pope Persepolis was described as follows: “In regularity and symmetry, Persepolis represents an advance over the relative incoherence of early ritual ensembles. The main buildings are square and a uniform axis is strictly maintained throughout. The firm regularity of the plan gives to the ensemble a dignity appropriate to its ceremonial character, confirming the emotional effect of individual structures.”[142]

There are many architectural elements that were perfected at Persepolis. The stepped crenellation appeared earlier as a design that was inspired by the mountainous landscape in prehistoric times. Herzfeld mentioned vessels with stepped ribbon design from Samarra.[143] He also described an entablature with battlements at a tomb in Khak i Rustam near Kurangun called Da u Dukhtar that were also stepped from around 640 B.C. The tomb is also noted for its columns, which are considered proto-Ionic.[144] The façade, which was completely carved in stone, created a high relief on the mountainside. The crenellations were definitely inspired by the ziggurat and in my opinion were the prototype for Persepolis.

The best preserved parapet with stepped crenellations is at the walls of the tribute procession. Its wall sculptures are considered the greatest of all artistic Iranian undertakings. The processions took place at the Nauroz festival when all the nations of the empire brought their presents. The event took place in front of the audience halls and because of it the sculptures appear on the northern and western basement of the apadana and totaling more than 300 meters in length.[145]

The impact of the crenellations of the walls is fully realized as they ascend and descend with the steps. They form a transition between earth and sky as the mountains do. They appear as miniature ziggurats, their purpose was most probably to make Persepolis representational of the many nations united by the empire. The site as it was laid out shows monuments that show variety. The columns rising above all the buildings are the first to be seen from

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[141] Bell, Edward, *Early Architecture in Western Asia, Chaldaean, Hittite, Assyrian, Persian, a Historical Outline* (London, 1924), 211.
[142] Pope, *Persian Architecture*, op. cit., 40.
[143] Herzfeld, *Iran in the Ancient East*, op. cit., 116.
[144] Ibid., 206.
[145] Ibid., 269.

a distance and act as a beacon. The different terraces undulate on the horizon with different buildings appearing and disappearing. The Egyptian inspired entablatures are a reminder of the links with Egypt. Persepolis is proof of the connections between the Achaemenids, the Egyptians, Babylonians, Assyrians, Samarra, Lebanon, and Syria.

There must have been a strong link of architectural elements between Persepolis and Spain. The link between Syria and Iran was long established through trade routes. After the death of the prophet Mohamed in 632 his successors, the caliphs, were chosen from his companions. The Umayyad Mu'awiya Ibn Abu Sufyan ruled starting in 661 from Damascus instead of Medina. By 740 the Islamic rule stretched from Sind in the east to Spain in the west.[146] In 750 the Abbasids destroyed the Umayyads and Abd al-Rahman I, a grandson of Hisham escaped to Spain.[147] His mother was a Nafza-Berber from northern Morocco that is why he took refuge there before going north. He first turned to the Syrians who settled in Jaén and Elvira. He soon won their trust because of the prestige of the ruling family.[148]

In Cordóba, Abd al-Rahman I (al-Dakhil) became Emir al-Andalus in 756, and the city became the Umayyad capital. It was during his reign (756-788) that construction on the Great Mosque was started.[149] The Great Mosque became one of the largest in the world, being 128 meters wide by 175 meters long.[150] It has an open courtyard and a prayer hall that was only 37 meters wide, however, later additions made the mosque plan what it is today.[151] The style of the mosque shows many sources that were admired by Abd al-Rahman I. According to the sources his personal involvement with the design was considerable. The craftsmen were Syrians working with local talent from al-Andalus including Christians. The Umayyads admired pre-Islamic late Roman and Visigothic architecture.[152] There are elements that were brought from Syria as well like, the *ablaq* voussoirs, and the double-tiered arch. Stephen's gate, formerly the gate of the Viziers is the oldest and was used as the standard for all subsequent gates.[153] What is important to note here are the crenellations on the exterior walls as they were made in a way similar to the crenellations of Persepolis. They underwent a refinement

[18] *The Umayyads*, op. cit., 38.
[147] Ibid., 41.
[148] Barrucand, Marianne, *Moorish Architecture in Andalusia* (Cologne, 1992), 30.
[149] Ibid., 40.
[150] López, M. J., *La Mezquita de Córdoba*, INTUCO (Córdoba, 1999), 6.
[151] Barrucand, *Moorish Architecture*, op. cit., 40.
[152] Ibid., 44.
[153] Ibid., 42.

process and by that time were looking less like a ziggurat and more like palmettes.

Before appearing in Spain the stepped crenellations went through Syria and Jordan. They were used at several Umayyad palaces in Jordan and Syria like: Qasr al-Hair al-Gharbi built in 724-727, and Khirbat al-Mafjar built between 724 and 743. The stepped crenellations also appeared in later buildings in Samarra at Jausaq al-Khaqani or the Palace of al-Mu'tasim built after al-Mu'tasim took the city in 836.[154] This type of stepped crenellation at the palace was proof that it was spreading east as well as west.

Jumping to Spain of the nineteenth and twentieth century, the stepped crenellations appeared on the parapets of many buildings. They appeared on Neo-Mudéjar and Neo-Islamic buildings. José Espelius and Manuel Muñoz Monasterio designed la Plaza de Toros de las Ventas that was built between 1919 and 1931 in Madrid. Bullfighting rings were modeled after the Roman amphitheater, and started to develop as a building type in the eighteenth century. The earliest one was built in the mid eighteenth century in Sevilla overlooking the Guadalquivir River.[155] It was, however, devoid of any Islamic design elements. The earlier Plaza de Toros in Madrid (1874) set the prototype for Neo-Islamic bull fighting rings. It was replaced by la Plaza de Toros de las Ventas, the largest to be built in Spain, and was capable of accommodating 23,000 spectators. The new Las Ventas has a metal structure that is covered with fired brick with touches of colored ceramic tile. Ángel Urrutia described it as having a style that is regional Sevillan and compared it to the buildings of la Exposición Ibero-Americana of 1929 held in Sevilla.[156] Other bullfighting rings also included the stepped crenellations as in Las Arenas in Barcelona which was built in 1899-1900.

Another building type that used design elements originating from Persepolis was the train station. One of the most intriguing was built in 1889 as the main train station of Sevilla and was originally named la Córdoba Estación now la Plaza de Armas. It was remodeled in 1982, and remained as a train station until 1991. It housed the Sevilla pavilion during the 1992 world exposition, and later became a commercial shopping center. The original building architects were José Santos Silva, and Nicolás Suárez Alvizu.[157] The building used many elements of Islamic origin, the horseshoe arch, and the stepped crenellation from Persepolis. When it was built, the train station represented the stylistic direction of the latter part of the nineteenth century. It

[154] Creswell, *Short Account*, op. cit., 331.
[155] Danby, *The Fires of Excellence*, op. cit., 192.
[156] Urrutia, Ángel, *Arquitectura Española Siglo XX* (Madrid, 1997), 149.
[157] *Guia de Arquitectura, Sevilla Siglo XX* (Sevilla, 1992), 29.

showed the many possibilities of using new technology in combination with historical elements. The stepped crenellations was made of brick and metal capping the walls of the façades which show the Plateresque (from silverwork platería) influence from the sixteenth century, whose architectural elements were either in metal or metal-like.[158]

The spread of design elements from Persepolis continued in Spain. It is visible in many buildings in major cities especially in Córdoba, Sevilla, Granada, and even Barcelona. The stepped crenellations continued to influence architectural design in other countries and spread to Egypt. It was seen on buildings of the Ayyubid and Mamluk periods. This is fully discussed in the following sections.

[158] "The Plateresque style is characterized by the lavish use of ornamental motifs, Gothic, Renaissance, and even Moorish, unrelated to the structure of the building to which it is applied." Pevsner, Nikolaus, *Penguin Dictionary of Architecture and Landscape Architecture* (London, 1999), 440.

5- The Umayyads

The Umayyads had their capital in Damascus after they came to power in 661 less than 40 years after the death of Mohamed. Their rule lasted for only 90 years but they greatly changed the politics and the culture of the Mediterranean.[159]

The Muslims under Omar ibn al-Khatab conquered large territories. They occupied Damascus in 635 yet the Byzantines tried to reconquer the city. Almagro said: ”La victoria del Yarmuk sobre los bizantinos el 636 entrega a los ejércitos de Omar definitivamente Siria meridional, con su capital Damasco y toda la Palestina, entrando triunfante en Jerusalén el califa, que hará de esta ciudad un lugar santo de los musulmanes, paralelo a los de la Meca y Medina. Al año siguiente, tras algunas penetraciones anteriores, se da la batalla de Kadesiya, el 637, al Noroeste de Hira en Mesopotamia, en la cual los sasánidas son vencidos y todas las llanuras del actual Iraq caen en manos de los árabes. Esta batalla, y la del año anterior del Yarmuk, hacen al califa Omar dueño de las más extensas y ricas tierras del Oriente Próximo y abren a los ejércitos árabes y a la religión islámica las puertas del Irán, que será conquistado rápidamente.”[160]

The founder of the ruling dynasty was Muawiya ibn Abu Sufyan who governed for 20 years and was able to transform the unorganized Arab fighters into a highly disciplined army that defeated the Byzantines. Muawiya succeeded in making his son Yazid the Umayyad ruler after him therefore setting the rule of heredity. Husayn the second son of Ali, the cousin of the prophet Mohamed contested this. To show their discontent in 680, Husayn and his followers went from Madina to meet Yazid in Kufa. On their way Umayyad forces at the city of Karbala stopped them and upon their refusal to return they were all massacred. This is a very important point in history because it marked the split between the Muslims into Sunni and Shi’a. Several revolts followed but the Umayyads were finally in full control under Abd al-Malik ibn Marwan in 692. He continued the expansion of Muslim territories and made Arabic the official government language replacing Greek in Syria and Persian in Iraq and Iran. The greatest era of Umayyad rule followed with four of his sons and one nephew ruling from Damascus. It was a period of rapid territorial expansion and large building projects. His first successor al-Walid I was responsible for the construction of three major

[159] *The Umayyads*, op. cit., 35.
[160] Almagro, Martín, *Qusayr Amra Residencia y Baños Omeyas en el Desierto de Jordania*. Instituto Hispano-Árabe de Cultura (Madrid 1975). 22.

mosques at Madina, Jerusalem and Damascus. This period ended with the death of another of his sons Hisham.[161]

Almagro described the rule of Hisham by saying: “Durante la etapa de Hisham (724-743) se volverá a dar un nuevo empuje a las construcciones de fundación real. Pero entonces al paisaje político del imperio árabe ha variado ya y aparecen residencias reales al N. de Damasco, como Qasr al-Hayr al Gharbi y Qasr al-Hayr al Sharqi, o ya incluso en el interior del Valle del Jordán como Khirbat al-Mafjjar.”[162]

The Umayyads were further weakened by growing discontent among the shi’as in Iraq and Persia. They never forgot the killing of Husayn at Karbala and were determined to fight the Umayyads. They were thought of as too worldly and impious to rule the Muslims. The opposition united under the Abbasid family, direct descendents of one of the uncles of the prophet Mohamed. The Umayyads were unable to stop the advancement of the Abbasid especially that Hisham was followed by three weak rulers among them al-Walid II. He was too interested in music, poetry and wine, which is shown in his building projects especially at Qusayr Amra. Marwan II a strong successor tried to stop the revolts, which started in Persia in Khurasan in 744 but was defeated and Kufa fell in 749. Abu al-Abbas declared himself caliph and Marwan II was defeated and killed after he was traced down in Egypt in 750. All members of the Umayyad family were later tracked down and killed except for one prince.[163] His name was Abd al-Rahman and he was the grandson of Hisham. He managed to escape the Abbasids and he went to Spain where he restarted the Umayyad dynasty in Córdoba.[164]

The Umayyads ruled the Muslim world from Damascus, the capital of Greater Syria or Bilad al-Sham, which included Lebanon, Jordan, Palestine, and Syria. The territories they ruled combined the cultures of Greece and Rome in Syria, Asia Minor, Egypt and North Africa with the Assyrians, Babylonians, Achaemenids, Parthians and Sasanians in Iraq, Iran and Central Asia. The Jordanian desert was very important as it connected Damascus with the route to Mecca for the pilgrimage. This is shown in the many palaces and country estates built by them that will be discussed later.[165]

The earliest surviving building of Islam is the Dome of the Rock in Jerusalem built by Abd al-Malik Ibn Marwan in 692. Many scholars have

[161] *The Umayyads*, op. cit. 38-40.
[162] Almagro, *Qusayr Amra*, op. cit. 24.
[163] *The Umayyads*, op. cit. 40.
[164] Ibid., 41.
[165] Ibid., 41-42.

comprehensively studied the building. For the purpose of this work only buildings and elements that are relevant are studied. The Rock is very important in the study of Umayyad architecture, as it connected to Byzantine examples in Ravenna, it did not set a model for other buildings to follow in plan or elevation. It did, however, provide for many workers to work together and develop new mosaic design combinations. The reasons for erecting the Rock were discussed by Creswell as he said that because of the rivalry with the ruler of Mecca Ibn al-Zubayr, the Umayyad caliph Abd al-Malik wanted to prevent Syrian pilgrims from going there. He then decreed that the Rock, which is believed to be the place from which Mohamed ascended into heaven, had to replace the Ka'ba.[166]

The Great Mosque of Damascus was studied by several scholars and was proven to be a model for other buildings. The sources of many of its design elements are important as it connects Persepolis with the West. It is known that al-Walid I ordered the construction of the mosque in 706 and it was finished the year he died in 714. Its splendor and magnificence was to rival Christian churches in Syria so craftsmen were collected from all over the Muslim world. In plan it was an oblong rectangle with an open courtyard and four corner minarets. It is believed and proven by Creswell that the mosque was built using the foundation of an ancient Roman temenos. Others dispute this but in any case the plan of the prayer hall was so unique that it did not relate to any previous models either Roman or Christian.[167]

The mosque did represent the start of the actual planning of prayer areas. This must have been done after studying existing models in Syria. The sanctuary with its layout of three aisles parallel to the qibla wall and a perpendicular transept having a dome above it, served to orient the Muslims toward Mecca. This showed the genius of the architect in creating opposing masses to emphasize axial direction. From a far, the direction of the qibla is very clear with the gabled roof of the transept pointing to the south. The whole building is visible around the city of Damascus and it is the main focus.

Qusayr Amra was one of the most important buildings in the development of Islamic architecture, it was built around 711-715 by al-Walid II. Almagro described it by saying: "El conjunto está cerca con otras residencias de los califas omeyas que gustaron buscar lugares de descanso y de placer no lejos de las provincias conquistadas y sometidas a su gobierno, pero donde podían gozar, aunque fuera temporalmente, de la atmósfera del desierto arábigo del cual procedían y del que seguirán sacando sus hombres de máxima confianza y de su capital Damasco, y alejados de la Meca y de

[166] Creswell, *Short Account*, op. cit. 19.
[167] Ibid., 68.

Medina, ciudades. En estas apartadas residencias quedaban cerca de las tierras de Siria santas para ellos como para todo el Islam, pero a las que siempre temieron."[168]

He spoke of the architectonics of the design and said: "Las construcciones que integran el baño-palacio, aunque forman un conjunto agrupado de volúmenes, expresan claramente sus dos elementos distintos. Un volumen mayor, correspondiente a un espacio interno de mayores proporciones que ningún otro elemento del conjunto, es lo que podemos denominar el gran salón. A él se adosan por el S. tres pequeños volúmenes que corresponden al salón del torno, unido espacialmente con el anterior, y a dos alcobas que comunican con el salón del torno. Todo el palacete está regido por una simetría y ordenación de volúmenes clara y rítmica. La cubierta del gran salón, que se compone de tres bóvedas de cañón que apoyan en los muros exteriores y en dos grandes arcos interiores, preside y domina todo el conjunto con su ritmo uniforme y preciso."[169]

To understand the development of Umayyad architecture, the importance of Qusayr Amra along with its architecture lies in the wall paintings of the interior which Almagro described by saying: "Si es una grata sorpresa para cualquier viajero que llegue hasta el edificio, en el interior del desierto, descubrir sus pinturas como el desarrollo visual de una crónica palatina, luego, ante un detallado examen, irá asombrándose con la riqueza de su colorido, con la belleza de algunos de sus cuadros, con el vivo movimiento de las escenas de cacería o la intimidad que emanan las escenas del baño de las mujeres. Podrá decir también que todo ello es además una fuente muy importante para el conocimiento de la época histórica en que fueran pintadas."[170]

Inside the alcoves of the throne room in the central nave there are floor mosaic designs which are very important in the development of Islamic design. Almagro said: "El espacio rectangular mayor se decora con un tema como alfombra y aislado, por tanto, de las paredes y del tema que ocupe el ábside. Ambas "alfombras", digamos, se decoran con temas de trenzado, en la habitación de la izquierda en base de círculos, con entrelazados formando figuras romboidales; y en la habitación de la derecha, en base de círculos, con entrelazados formando un dibujo cruciforme colocado en diagonal. Los espacios libres se decoran con pequeños rombos policromos. Las cenefas son en el primer caso una trenza sencilla; para la segunda una de almenas

[168] Almagro, *Qusayr Amra*, op. cit. 20.
[169] Ibid., 32.
[170] Ibid., 45.

contrapuestos y otra exterior con motivos vegetales, trifolios, también contrapuestos."[171]

Regarding the decoration of the interior Almagro said: "La decoración nos ha permitido analizar la razón de ser de este edificio, pero también nos señala el punto base de partida del arte musulmán. Se considera que la decoración pictórica de Amra, junto con la musiva ría de las mezquitas de Jerusalén y Damasco, son los primeros ejemplos que conservamos de los esquemas decorativos utilizados por el nuevo orden que traen junto con su religión los árabes. Los técnicos que los realizan y la mano de obra evidentemente es local, igual que hemos visto ocurría en los cuadros de la administración. De aquí el influjo fuertemente clásico y bizantinizante que descubrimos en la decoración de Amra. A su vez la hermandad que este edificio posee en su decoración con las Mezquitas de Damasco y Jerusalén. Y aunque en ocasiones y eventualmente se vean en estos primeros monumentos posibles influjos iranios o sasánidas, todos los autores están de acuerdo en suponer estos edificios como obra de la tradición decorativa cristiana."[172]

Almagro concluded by saying: "La relación de la decoración de Amra con las mezquitas de Damasco y Jerusalén queda suficientemente comprobada en bastantes de los motivos decorativos. Su entronque en la totalidad de los mosaicos parietales de aquellas mezquitas es directo con la tradición helenístico-romana, tanto en los temas vegetales, como en los temas de arquitectura de Damasco. Es evidente que ocurre exactamente igual con los temas similares que aparecen en Amra y a ello hemos tenido ocasión de referirnos."[173]

Qasr al-Hair al-Gharbi was built by Hisham in 724-7 west of Palmyra in Syria. The palace measuring approximately 70X70 m had corner towers and an open courtyard. It had a monumental entrance with two flanking towers. It was describe by Creswell by saying: "The stucco decoration of the monumental entrance has been brilliantly reconstructed by Schlumberger as follows. The decorative plan begins 4 m from the ground with a frieze of wind-blown acanthus. Above this on each tower were three great oblong panels, about 3.25 m high, set vertically; each of the three panels had a different design, with those on the right tower corresponding in design to those of the left, but in reverse order. Separated from these panels by a band of little medallions and a splay-face molding is a series of seven panels alternately square and oblong, surmounted by a narrow frieze of palmettes. Above this is

[171] Ibid., 55.
[172] Ibid., 100.
[173] Ibid., 100.

a row of colonnettes supporting an alternation of gables and shell-hoods, between which a number of female busts were inserted. Above this was a band formed by a meander filled by palmettes and rosettes alternately. Each tower was crowned by five stepped and undercut crenellations, with an arrow-slit in the center of each."[174] It was emphasized that the first introduction of stucco ornamentation into Islamic architecture was at Qasr al-Hair al-Gharbi. Other important elements included the bayt system, which was discussed elsewhere in this work.

Khirbat al-Mafjar was built between 724 and 743 by al-Walid II near Jericho. The majority of the buildings are long gone but what remains of the mosaic floors is in good condition. The most important building for the purpose of this work is the bathhouse or hamam. It is to the north of the palace and its floor plan is well preserved and can be used to draw the elevations. The floor mosaic in the frigidarium is divided into 38 different carpets with seven repeated designs.

The different designs were classified and described by Creswell as follows: 1- Rectilinear diapers or reticulations. 2- Interlacings on rectangular grids. 3- Concentric interlacings. 4- Sprig patterns. 5- Rainbow matting pattern. 6- Basketry patterns. 7- Overlapping circles. All of the patterns have 45-degree angles with the exception of the mosaics under the dome of the *diwan*, which have 60-degree angles. The basketry design under the main dome and the apse opposite the entrance in the frigidarium is considered to be the best in the whole complex. "It consists of a network of concentric circles increasing in diameter as they advance, and intersected by two sets of curved lines rotating in opposite directions. These three sets of lines form isosceles triangles, their bases lying on the concentric circles and their sides on the rotating curved lines."[175] This is very important in the development of Islamic design patterns, as the triangle became a favorite motif.

The bath porch reconstruction by Hamilton shows stepped crenellations and niche arches exceeding their spans. This is important in explaining why this type of crenellation and the horseshoe arch became favorites with the Umayyads in Spain and North Africa. The reconstruction was based on fragments and remains of fallen material at the site. He used a complicated reasoning process to establish an image of the façade. Creswell explained: "The façade, which faced east, was 8.45 m wide; it was entered by an arched opening 3.91 m wide, the arch sprung from two centers about one-seventh of the span apart, above which was a semi-domed niche with a statue of the caliph, nearly life-size, wearing a small sword. He is standing on

[174] Creswell, *Short Account*, op. cit 135-139.
[175] Ibid., 193-195.

a pedestal, with two squatting lions back to back, but looking outward. This niche was flanked by two smaller niches at a level about a meter lower. At the top edge of the porch were stepped and undercut crenellations of brick, 70 cm high. Total height of the façade was 10.63 m. In the jambs of the arch were two facing niches with finely carved hoods. Within the porch was another pair of arched recesses, each 2.55 m wide, and at the back was a doorway with molded jambs and a decorated lintel, surmounted by an arch treated rather like that leading into the vestibule of the palace. It was 2.50 m wide and opened into the frigidarium."[176]

The Muslims initially used existing buildings in conquered lands to meet their needs. In Syria they used divided or converted churches for prayer and in Iraq where they created complete new cities their new buildings did not show sophistication at first. The half-Bedwan instincts of the Umayyads and how much they loved desert life led to the construction of many palaces. Due to more recent archeological work much is understood about their architecture.

In concluding his analysis Creswell specifically said that Umayyad architecture used the following elements: the semicircular arch, the round horseshoe arch, the pointed-arch, flat arches or lintels with a semicircular relieving arch above, arches braced with tie-beams, joggled voussoirs, tunnel-vaults and cross-vaults in stone and brick, the system of roofing in which transverse arches support parallel tunnel-vaults, wooden domes, also domes of stone and brick. Other elements were employed in Umayyad forts like the half-round towers and the *machicoulis* (openings above the entrance to pour hot oil on attackers).[177]

The only survivor of the Umayyads in Damascus was Abd al-Rahman I who as explained restarted the dynasty in Córdoba. Their rule continued until 1009 but their strongest design period was under Abd al-Rahman III and his son al-Hakam. Their capital was one of the wealthiest and of the most brilliant cities in the medieval world. At the time, the Umayyads in Spain had the most powerful cultural center of all European countries.

[176] Ibid., 186.
[177] Ibid., 226.

6- The Fleur-de-Lis

In Islamic architecture several symbols were used as design motifs. The use of blazons was widely acknowledged by historians during the Mamluk period. Meinecke identified eight different symbols: the rosette, the crescent, the so-called target, the bands, the bars, the pointed shield, the cross, and the fleur-de-lis.[178]

The use of these designs was associated with free born leaders among the Mamluks. Of the twenty four rulers of the first Bahri Mamluk period (1250-1390) only seven were actually bought to serve in the military and all the others were free born men. During the first two periods of the reign of al-Nasir Mohamed Ibn Qalawun (1293-1294 and 1299-1309) no symbolism was used on his coins. Suddenly during his third reign (1310-1341) the eagle appears as his personal blazon. Symbolic images of fleur-de-lis, rosette, and fesse with bends were used to represent his imperial power. These symbols appeared on coins minted in Syrian provinces, Damascus, Aleppo, Hama, and Tripoli, but not in Cairo or Alexandria.[179]

An extensive study on the use of plants in European heraldry was done by Kenk and he said the following about the fleur-de-lis: “There is much controversy as to the origin of this decorative symbol. Legend tells us that it was presented to Clovis, King of the Franks, as a token of the Trinity by an angel descending from heaven. It first appears in heraldry on seals of Louis VII of France, surnamed Fleury, and may be a rebus = Fleur de Louis (It is interesting to note that the name Louis is equivalent to Clovis). Some records refer to it as "flos gladioli", derived perhaps from the head of a spear. A similar design occurs on Roman monuments and in the art of the Near East. A theory of less aesthetic appeal holds that it is a stylized toad. Those who maintain that the symbol has a floral origin disagree whether the flower is a lily or an iris. Whatever the source, the fleur-de-lis has become the chief heraldic symbol of France. It appeared on the English Royal Arms from 1340 to 1603, expressing the English claim to the throne of France. The ancient arms of France, (azure, semé-de-lis or) were changed to France Modern by Charles V in 1365, reducing the number of fleurs-de-lis to three in an attempt to refute the English claim. The fleur-de-lis occurs on many other shields. An

[178] Meinecke, Michael, *The Mamluk Heraldry*. Transcript of unpublished lectures at Cairo University, 29.
[179] Ibid., 29-30.

interesting variation of the design is found on the arms of Cantelope and Morley: a leopard's face jessant-de-lis."[180]

Other historians like Pastoureau said the following about the usage of the fleur-de-lis motif: "The use for ornamental or symbolic purposes of the stylized flower usually called fleur-de-lis is common to all eras and all civilizations. It is an essentially graphic theme found on Mesopotamian cylinders, Egyptian bas-reliefs, Mycenaean pottery, Sasanian textiles, Goulash and Mamluk coins, Indonesian clothes, Japanese emblems, and Dogon totems. The many writers who have discussed the topic agree that it has little resemblance to the lily, but they disagree as to whether it derives from the iris, the broom, the lotus, or the furze; others believe it represents a trident, an arrowhead, a double axe, or even a dove or a pigeon. It is in our opinion a problem of little importance. The essential point is that it is a very stylized figure, probably a flower that has been used as an ornament or an emblem by almost all civilizations of the old and new worlds."[181]

Before looking at the different uses of the fleur-de-lis it is important to identify other motifs often described as such. The trefoil term was used repeatedly by Creswell and Barrucand to describe fleur-de-lis designs. By definition a foil is: a lobe or leaf-shaped curve formed by the cusping of a circle or arch. A trefoil it follows is a clover leaf formed from three partially overlapping circles.[182] A three-lobed leaf description is the same but hollowed out. Another motif identified by scholars is the palmette and by definition it is a fan shaped leaf of a palm tree. Mistakenly, the term was often used to describe split and stylized fleur-de-lis motifs.

In order to distinguish the fleur-de-lis motif as a type in floral designs it is defined as follows:

The motif must have an elongated petal or frond like a spearhead, stemming from a point in the center of two volutes, rotating away from the base downward toward the inside.

The key is the volute, without it any leaf-design like the grape, the trefoil, or the palmette would not fit this classification. There are of course many variations but they have to follow this criterion to be called a fleur-de-lis.

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[180] Kenk, Vida, The Importance of Plants in Heraldry, In *Economic Botany*, Vol. 17, No. 3. Springer on behalf of New York Botanical Garden Press (New York, 1963), 171.
[181] Pastoureau, Michel, *Traité d'Héraldique*, Picard (Paris, 1979), 98.
[182] Pevsner, Nikolaus, *The Penguin Dictionary of Architecture*, Penguin Books (Middlesex, 1980), 118.

Since many authors wrongly called the motif other names, discrepancies will be pointed-out from this point forward.

Sultan Qalawun (1279-1290) used the fleur-de-lis as his personal identification on his coat of arms. The symbol also appeared on Syrian coins of five sultans from his descendents. There is strong evidence that a fleur-de-lis blazon existed for him as documented by Maqrizi.[183] It is told that the people in Cairo were upset with the sultan who stayed at the citadel and did not appear in person very often. They showed their anger by throwing dirt at his blazon while screaming and yelling at the gates. It is known that the Mamluks used the blazons to indicate their ownership by painting them on doors of homes, grain and sugar storage buildings, and boats. The blazons were even embroidered on cloth used under saddles of horses and camels and everything that belonged to the emirs.[184]

Evidence was found by Meinecke that Qalawun handed down his blazon to his grandson Anuk (1321-1339) who was the favorite son of al-Nasir Mohamed. There is also proof that his coat of arms was used on buildings as it appeared in the southern iwan in a fleur-de-lis[185] medallion above the mihrab at the Maristan of Nur al-Din Zangi in Damascus. The building was erected in 1154 and it was restored with the addition of this iwan in 1283 during the reign of Sultan Qalawun. This design is considered the oldest still existing Mamluk coat of arms.[186]

The blazons were not limited to a selected group of heraldic devices according to many sources. It is known that the first blazon used by a Mamluk sultan was the lion of al-Zahir Baybars (1260-1277). The second most important one was the fleur-de-lis of Qalawun, however, his son al-Nasir Mohamed initially used the eagle as his personal blazon. These heraldic devices changed completely between 1320 and 1330 during the reign of al-Nasir Mohamed to a written blazon. It contained praising phrases in three-shielded fields on the name of the sultan and became a standard to follow. The use of a written motto in blazons practically continued until the end of Mamluk rule in 1517.[187]

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[183] Ibid., 30.
[184] Maqrizi, *Kitab al-Suluk*, op. cit., 672.
[185] This fleur-de-lis was neither the Type-A nor the Type-B identified later in this chapter. It was the standard Frankish type as it appeared on the Maristan of Nur al-Din and the many coins of Qalawun and his descendents.
[186] Meinecke, *Heraldry*, op. cit., 31.
[187] Ibid., 49.

The use of the fleur-de-lis by Mamluk sultans was studied by Allen. It appeared on coins of al-Nasir Mohamed, al-Muzaffar Hajji, al-Ashraf Sha'ban, Ali, al-Saleh Hajji, Barquq and his son Faraj. The symbol also appeared on the Crusaders coins of Bohemond III, Prince of Antioch and Henri de Champagne of Acre. In some cases pellets are used in the design, two or four in number, to which the Mamluk designs with the same pellets must be linked. He concluded that the use of the fleur-de-lis must have been based on a pre-Mamluk royal design.[188]

Copper coins from Cairo did not have the fleur-de-lis design for unknown reasons. Coins minted in Syria, mainly in Damascus and Aleppo had the design during the reign of the following sultans: al-Nasir Mohamed, Ali, Hajji I,II, Barquq, Faraj, and Shaaban II.[189]

Other historians like Mayer traced the fleur-de-lis in buildings and as noted earlier the design appeared above the mihrab of the *maristan* of Nur el-Din in Damascus. In addition, it was placed on two columns of the *minbar* at the Great Mosque of Homs which was built during the reign of Nur al-Din between1146-1174.[190] He spoke of the origin of the design and said: "Although the fleur-de-lis, presumably as a mere meaningless form of decoration, is found in use long before the days of armory in Europe or in Asia, the essential difference is that in the pre-heraldic form of the Western fleur-de-lis the three elements are connected, growing as it were from one stem, whereas the definitely established heraldic form, as seen in the arms of Louis VII, consists of three separate leaves held together in the middle by a band. In the East, all early forms of the fleur-de-lis, whether merely decorative or heraldic, are of the latter type, namely, with three separate leaves." He continued his findings and said: "The early European type of the fleur-de-lis (with connected leaves) appears in the East only during the second half of the fourteenth century, the first datable example being on coins of Barquq. There is not a single case, either on Mamluk coins or on any objects of art, where an early specimen of this form of the fleur-de-lis is of an indisputably heraldic character. The only permissible conclusion, therefore, would seem to be that the true heraldic form of the fleur-de-lis is of Saracenic origin."[191] What he said is true with regards to coins but not in architecture. Two main types of the fleur-de-lis motif were identified and are classified below. What he described as the Western heraldic type with the three separate leaves never appeared

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[188] Allen, J. W., Mamluk Sultanic Heraldry and the Numismatic Evidence: A Reinterpretation. In *the Journal of the Royal Asiatic Society of Great Britain and Ireland*, No. 2. Cambridge University Press (Cambridge, 1970), 104.
[189] Ibid., 111.
[190] Mayer, Leo, *Saracenic Heraldry: A Survey*, Clarendon Press (Oxford, 1933), 22.
[191] Ibid., 24.

in architectural ornamentation except as stated above in Damascus and Homs. This reinforces the point that the fleur-de-lis motif was adopted as a Christian symbol and developed at Córdoba before spreading eastward to Egypt and elsewhere.

The fleur-de-lis as a design motif also appeared in pottery made in Fustat in the eleventh century during the Fatimid period. During a discussion with Dr. George Scanlon, from the Islamic Art and Architecture program at the American University in Cairo about this issue and after seeing pictures of the motif from the Great Mosque of Córdoba, he pointed-out that he found similar designs in pottery found during his research at the ruins of the old city of Fustat. Dr. Scanlon spent 10 years doing excavation work at the site and published his last report in 1986. This discussion led to Bahgat and his extensive work on Islamic pottery. He spoke specifically of designs that were shared in wood carvings that had the fleur-de-lis motif. He compared a wood-carved lintel from the mausoleum of Sayyida Nafisa to engraved pottery pieces and found them to be similar.[192] The designs were of a repetitive pattern with a fleur-de-lis that had one large leaf with two, much smaller ones on both sides. This design was similar to the one on the lintel but differed greatly from other designs found on pottery shards.

Certain production techniques were unique to Fustat in Egypt. As compared to pottery from Valencia, Urbino in Italy, Nevers and Rouen in France, and Delft in Holland, the enamel used was strikingly different. The Fustat enamel was very fluid compared to the Spanish, Italian, French, and Dutch counterpart which was more stable.[193] This must be the Roman filmy type of enamel that will be discussed later. The rich glossy enamel developed in Egypt and Syria in the twelfth century was yet to be seen. Several fleur-de-lis motifs were found in Bahgat's publication which varied from the traditional Frankish to the more fluid from Córdoba. This is an important discovery since pottery is more portable and the appearance of the fleur-de-lis motif in Fustat marks the beginning of its widespread use in Egypt. This could have easily happened despite the adversarial relationship between the Umayyads of Spain and the Fatimids of Egypt. Travel did not stop between Egypt and al-Maghreb and Andalusian-Umayyad pottery must have been widely present there even before Fatimid control over North Africa.

The transmission of design ideas was viewed differently by Whelan. She wrote about Mamluk emblems and related them more to Mesopotamian sources. She talked about Baybars and said: "It has frequently been observed

[192] Bahgat, Ali, *La Céramique Musulmane de l'Egypte*, Institut Français d'Archéologie Orientale du Caire (Cairo, 1930), 69.
[193] Ibid., 18.

that Baybars used the lion as his “emblem” indeed, feline creatures in various forms do appear on many of his architectural reliefs and almost all his coins. Such imagery seems to reflect an essentially Mesopotamian tradition of sovereign representations, carried on outside the boundaries of that region and in somewhat reduced form. The practice of carving appropriate reliefs to accompany monumental inscriptions was deeply rooted in northern Mesopotamia, going back as far as the early tenth century and becoming particularly highly developed after the late eleventh century; this continuous tradition seems not to have had any counterpart elsewhere in the Islamic world. Among the many animals, monsters, and human figures in the Mesopotamian repertoire, the lion was perhaps the most common. It also appeared, though far less often, on figured copper coins struck in the same region. None of the Mesopotamian motifs can be considered a heraldic emblem, however, though certain princes did show marked preference for certain images.”[194]

In addition, Whelan raised basic questions regarding Mesopotamian origins: “First, the relation of these emblems to Mesopotamian courtly iconography has been emphasized here. This relation must be viewed as an integral part of the pattern of events in the Near East from the time of the Turkish invasions. In the twelfth century the three most powerful figures in the Islamic heartlands were successively Zanki ibn Aqsunqur, ruler of Mosul; his son Nur al-Din Mahmud; and Salah al-Din Yusuf ibn Ayyub, who was raised in the inner circles of Nur al-Din’s court. All of these figures were Mesopotamian by birth or adoption, and, as they came to operate in a larger political arena, it is not surprising that they carried Mesopotamian ideas of dynastic prerogatives and representation with them. A primary example is the introduction into Syria by Nur al-Din of the mausoleum complex, the *muqarnas* semi dome, and so on.”[195]

In conclusion Whelan later said that the Umayyads played an important role in the transmission of design: “The Zangids carried ideas and forms from Mesopotamia to Syria, where they were adapted and assimilated to local traditions; at the end of the Ayyubid period these amalgams then penetrated into Egypt, where again they were adapted and assimilated to local traditions. Perhaps this process was also accentuated by the tide of refugees moving westward from Mesopotamia after the Mongol conquests.”[196]

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[194] Whelan, Estelle, Representation of the Khassakiyah and the Origins of Mamluk Emblems. *Colloquium in Memory of Richard Ettinghausen* (1980: New York University), Pennsylvania State University Press (University Park, 1988), 226.
[195] Ibid., 232.
[196] Ibid., 232.

There is no proof of the acceleration of Mesopotamian forms into Egypt during the Ayyubid period. There was a strong influence during the Tulunid Period but with the arrival of the Fatimids there was a shift to the West. It was found that many Andalusian elements started appearing in several buildings as will be discussed later. The problem with Whelan's assessment is that she was speaking in general terms without using specific elements or motifs as evidence of the transmission coming from the East. To her credit, one major element, the stepped crenellation, followed the path she described. As discussed earlier, it first appeared at Persepolis, later Syria and Spain, and finally Egypt. During the Mamluk period, design elements were coming from different sources but the specific motifs outlined here contributed to their aesthetic excellence.

The origin of the designs at the Great Mosque of Qairawan and the Great Mosque at Susa were discussed by Creswell as he traced their sources. It is important to mention his findings here since several authors attributed many of the elements appearing in Cairo to those buildings in Tunisia. He said the following of the decoration: "The very simple plant elements are the same with which we are acquainted in other buildings of Ifriqiya of the ninth century. The stem is a supple stalk split by a central groove. The leaves exhibit either a triangular symmetrical leaf with five rounded lobes, or three lobes only, rounded or pointed, or else an asymmetrical three-lobed leaf. In the Great Mosque of Qairawan, the marble panels of the mihrab, the dome in front of the mihrab, two panels of stone inserted in the wall of one of the aisles, the impost blocks of the portico in front of the sanctuary and, in the Jami Tleta Biban, the decoration of the façade, all these exhibit symmetrical or asymmetrical palmettes of the same kind, inspired by the vine-leaf, either spread or folded in two, the character of which is rendered perfectly clear by the addition of a grape."[197] Carefully studying the drawings and photographs accompanying the text published by Creswell revealed that none fit the criteria of the fleur-de-lis. This is important since Creswell will reference sources from Tunisia as influencing designs in Cairo. The closest one found was on the marble paneling at Qairawan but with grapes in place of the frond part of the fleur-de-lis.

In addition, Creswell continued his analysis and said: "With what traditions shall we link this Muslim ornament? Where have the craftsmen of Ifriqiya found the model for squares placed lozenge-wise and filled with plant motifs or rosettes? The fact it is employed at Qairawan in the dome of the Great Mosque, where Mesopotamian influence is shown by many constructive

[197] Creswell, Creswell, K.A.C., *Early Muslim Architecture*, Hacker Art Books (New York, 1978), V-II, 252.

details, leads us to seek in the East likewise for schemes of decoration. It is necessary to recall that pant motifs inscribed in a square occur quite frequently at Samarra and that these squares are sometimes set lozenge-wise. Certain plant borders at Susa seem to be inspired by the old Iranian type of a tree rising on the axis and bearing symmetrical branches. Oriental inspirations, ancient or recent, may not be completely foreign to the invention of the Ifriqiyan decorator."[198]

In conclusion Creswell said the following: "However, the plant forms in themselves, the designs of carved foliage do not betray any relationship with the flora of Iraq. On the contrary they recall the flora of African basilicas. Local Christian tradition can easily be recognized there." He spoke of other designs and said: "Christian decorators, also, have carved designs in stone that are very similar. In the basilica of Tigzirt, on the Algerian coast, impost blocks have been dug up which surmounted the capitals of the aisle. One of the faces of these impost blocks is decorated with squares containing figures, namely Daniel in the Den of Lions; others bear rosettes. One of these motifs occurs almost unchanged in the Great Mosque of Susa."[199]

Important points about the sources of Islamic design were raised by Creswell: "The decorative elements which we see there may be considered as derived from Christian tradition; the plant types may be related to flora of the basilicas, and the rosettes inscribed in a square more probably reproduce ancient local types; but the symmetrical presentations of the plants and the arrangement of the squares according to a diagonal network seem to be Muslim innovations (e.g. Qasr al-Hair), and we have every reason for recognizing here, as in so many other features of Tunisian art of the ninth century, a recent influence coming from Iraq. The detail of the forms employed in this beautiful decoration is African, but the setting appears to be Asiatic." [200] He did not specify any particular motif other than the palmette and the trefoil, and he never mentioned the fleur-de-lis.

Floral designs and the palmettes with three fronds wrapped with vine scrolls appearing at the Great Mosque of Qairawan and elsewhere in North Africa were also studied by Marçais. He specifically said the following: "Pour la commodité de l'étude, il conviendrait de distinguer les fleurons ou palmettes, occupant le plus souvent des axes et qui sont généralement symétriques, des feuilles ou palmes, qui trouvent place entre les fleurons et pour lesquelles, la symétrie ne s'impose pas. On notera, pour les éléments symétriques, la fréquence de la forme bulbeuse ou lancéolée, terminée au

[198] Ibid., V-II, 253.
[199] Ibid., V-II, 253.
[200] Ibid., V-II, 253.

sommet par une pointe, a la base, par deux crochets. A la fois aboutissement et point de départ, cette forme couronne fréquemment deux tiges qui s'accouplent et engendrent deux nouvelles tiges. Elle détermine le mouvement initial de l'arabesque. Parfois encore elle circonscrit des surfaces en relief, que meublent de petits ornements faiblement défoncés."[201]

In addition Marçais said the following: "Le doute est permis quant à l'origine de la forme bulbeuse. Il semble inutile d'aller la chercher dans les frises peintes de l'art égyptien ou dans les antéfixes à palmettes de l'art grec ; mais on ne peut dispenser de signaler l'analogie que présentent ces palmes musulmanes du onzième siècle et les feuilles de vigne du neuvième siècle, avec leur sommet pointu et leurs deux enroulements inferieurs. Le souvenir plus ou moins conscient de la vigne, qui tient une si grande place dans le décor de l'âge précédent, a pu inspirer la découpure fréquente de ces fleurons en cinq lobes. Toutefois on notera que la forme lancéolée est un des schèmes favoris de l'art sassanide et que ses deux courbes symétriques – ses deux S – se terminant en haut et en bas par des enroulements contraries figurent dans la céramique proto-musulmane de Mésopotamie comme dans la plâtres de Samarra. Les feuilles qui remplissent les intervalles entre les fleurons d'axes sont de formes variées : la palme a deux lobes inégaux est d'un usage courant, notamment a la Qal'a des Beni Hammad ; la palme a trois lobes n'est guère moins employée. Nous l'avons déjà vu figurer au haut des hampes des lettres coufiques."[202]

What Marçais said about the floral designs was very plausible since similar motifs were found after studying the Mosque of Ibn Tulun built in 876. Some of the column capitals also have fleur-de-lis motifs resembling what he described as "Sommet pointu et deux enroulements inferieurs", which fits the description of the fleur-de-lis but in this case instead he was talking about a stylized vine leaf. The use of the fleur-de-lis motif was not widespread in Samarra and as a consequence it could not have been transmitted from there to all of a sudden become so commonly used in Córdoba, Granada and North Africa. Marçais spoke of other motifs coming from Samarra so it is important not to mix them up with the fleur-de-lis developed in Córdoba as other scholars have done. On the contrary very little of the Samarra style was used in the Mamluk period. The type used at Ibn Tulun can be connected with the local Coptic influence rather than Samarra or elsewhere.

The fleur-de-lis motif was widespread in al-Andalus starting with the Umayyads as explained. There are several examples in stucco carvings and

[201] Marçais, Georges, *L'Architecture Musulmane D'Occident: Tunisie, Algérie, Maroc, Espagne et Sicile*, Arts et Métiers Graphiques (Paris, 1954), 115.
[202] Ibid., 115.

mosaics at the Great Mosque of Córdoba. It was also the preferred and dominant floral motif at the Alhambra. This is discussed later in full detail under the section on al-Andalus. During a visit in 2009 to the Victoria and Albert Museum in London a large fragment of a silk fabric from Granada dated 1300-1400 was found. The design is mainly geometric with eight-pointed stars in the center of large geometric-rosettes alternating with roundels and quarto-foils filled with interlaced geometric designs emanating from more eight-pointed stars. All those designs are interconnected throughout the fabric. This magnificent fabric is made of tan, green, blue, grey, and white, on a reddish background. It is interesting to see an elongated fleur-de-lis motif inside the petals of the eight-pointed star rosettes. This is a common design on the walls of the Alhambra that was created in wood, stucco, tile, and paint.

In 2010, during research work at the Museu de Ceràmica in Barcelona a group of annunciation altar tile pieces was found. They belonged to the Church of Vallmull, dated 1445-1450, and were made in the style of Jaume Huguet. They are described on the plaque as follows: “The painters of Gothic altarpieces tended to reproduce their most immediate surroundings: the most luxurious fabrics, the furniture and the everyday utensils. In many tableaux of the period one notices the inclusion of the blue and white floor tiles for churches and palaces as well as others in pink terracotta. The artist treated the figures and the rest of the objects in the pictorial composition with the same painstaking detail and precision.” Several of these tile pieces were displayed in glass cases that contained blue, green, and white colors. They appeared to be made by Muslim craftsmen and were consistent with the tiles seen in Córdoba, Sevilla, and Granada. The first one is a composite square piece with several motifs repeated in a grid. Eight-pointed stars alternate with crosses in several rows in a typical Andalusian arrangement. Another smaller square piece has an interlaced eight-pointed star with stylized fleur-de-lis motifs extending to each of the four corners. It was not surprising to find-out that these tile pieces came from a church despite their Islamic appearance. This was very common in Spain and continued throughout to the present day. The idea of mixing crosses with eight-pointed stars was very common and it reflected how the artists saw the two religions as being strongly connected. This particular design appeared quite often and is still used today in Egypt to express the unity of religions. It can be seen on public buildings, for example, as on the doors of the main entrance to the Palace of the Arts in Cairo. In design, the eight-pointed star motif represented Islam while the fleur-de-lis motif and the Greek cross represented Christianity. Today, Islam is represented by the crescent as the Roman and Greek crosses represent Christianity.

In addition to the tile pieces described above there is a sixteenth century red cape at the Museu Tèxtil i d'Indumentària displayed in the exhibition of 'Dressing the Body'. It is from Valladolid and is described as being of silk-satin and embroidered in silk, silver, and gold. The design at the lower edge contains a border of fleur-de-lis motifs alternating with other floral designs. The golden shimmer of the embroidery creates high contrast against the red silk-satin fabric. The motifs are connected with scrolls at the bottom exactly like the mosaic ones on the dome above the mihrab at the Great Mosque of Córdoba. This motif represents the trinity in Christianity as previously discussed. It is clearly the frond with the two volutes but with a band wrapped around the stem to represent the Virgin Mary. Its origin is France representing the Frankish Kings and is still used today on the Spanish coat of arms.

Spanish style fashion set the trend for European courts in the Middle Ages. Men and women wore loose clothing that hung from their shoulders like the red cape described above. Similar capes must have been worn by merchants travelling between Barcelona and Alexandria. Embroidered fabrics were traded by the Catalans and must have had the same fleur-de-lis motif. This of course was in addition to other products like glassware examples which were found in Cairo and were proven by Carboni to come from Barcelona as will be explained in a later chapter. All these products circulating in Cairo and Alexandria provided a visual resource for inspiration in architecture and must have contributed to the wide spread use of the fleur-de-lis motif during the Mamluk period.

Typology

For the purpose of this study five types of the fleur-de-lis motif are identified in addition to one zoomorphic shape:

1- Type-A Fleur-de-lis.
2- Type-B Fleur-de-lis.
3- Qalawun-I Fleur-de-lis.
4- Qalawun-II Fleur-de-lis.
5- Flying Fleur-de-lis.
6- Lizard-Tail.

For Type-A and Type-B, the first is similar to the Frankish style which is elongated but without the band and with a more rounded frond and volutes. It is sometimes hollowed out as seen in the mosaics of the Great Mosque of Córdoba. The second is shorter, wider with a fuller frond and less space between the volutes. Type-A was typical of floral designs in Córdoba while

Type-B was more typical of Granada and al-Maghreb. The two types appeared in Egypt during different periods starting with the Type-B at the Mosque of Ibn Tulun built in 876. Despite this simplified classification there were immense variations used throughout the Islamic period. The Qalawun-I Fleur-de-lis is characterized by a fleur-de-lis that is wider and shorter with the frond hollowed-out, and wider more solid volutes. The Qalawun-II Fleur-de-lis is basically a scalloped spade with a Type-A fleur-de-lis, carved-out of the inside. In the Flying Fleur-de-lis, the volutes were eliminated, and the two fronds were raised to resemble the spread-wings of a bird. The Lizard-Tail is more animated than the floral designs and is also referred to as tongues of flames by some authors. The different types will be discussed under relevant sections later on.

7- A Short Iberian History

The name Andalucía geographically and administratively refers today to the southwestern province of Spain, composed of the main cities of Almería, Málaga, Cádiz, Huelva, Jérez, Jaén, Ronda, Sevilla (the capital), Córdoba, and Granada. Three geomorphological units could be clearly distinguished according to Barrucand: "in the center, the marl and sandy valley of the Guadalquivir river (al-Wadi al-Kabir), bounded by hills and opening onto the Atlantic; in the north, the Sierra Morena, the southern foothill of the Iberian Meseta, a lightly populated mountain region whose main source of wealth lay in a few copper, coal, mercury and lead mines; and in the south the mighty Sistema Penibético, stretching from Gibraltar in the west to Cape Nao in the east. The lower Baetic Cordilleras divided the Guadalquivir Valley from a series of parallel valleys, dry to the east around Guadix and Baza, but near Granada irrigated and therefore very fertile (the Vega). High mountain ranges in the south (Sierra de Ronda, Sierra Nevada, and Sierra de Los Filabres) left room along the coast for small irrigated plains. The most important area, historically and economically, was the rich Guadalquivir Valley, the cradle of the three cities of Córdoba, Cádiz, and Sevilla."[203]

Ibn Ghalib al-Idrisi called attention to the high quality and fertility of the soil around Sevilla, both for plantation and orchards and also for the irrigated land and animal pasturage. The name Aljarafe (al-Sharaf) applied to both, the district and the mountain (iqlim and jabal al-Sharaf), and it constantly appeared in descriptions of Sevilla; bordering on the district of Shadhuna. It extended for 64 kilometers, based on al-Idrisi, starting about 5 kilometers to the north of Sevilla and included the prosperous, densely populated areas located between Sevilla, Niebla and the sea. The economy of Sevilla was based to a great extent on large plantations of olive and fig trees, mainly in Aljarafe, and specifically on the production of high quality oil, which was used around al-Andalus and also exported to the East. Also very important economically was cotton, here again of very high quality, which was sent to other areas of al-Andalus and to Africa. In all Sevilla had 12 agricultural districts or iqlims around it.[204]

Initially all of Islamic Spain was named al-Andalus, which from the eighth to the tenth century included most parts of the Iberian Peninsula. In the north, its border nearly followed the course of the Duero River, while in the east it followed the Pyrenees Mountains. Barrucand said: "Theoretically at

[203] Barrucand, *Moorish Architecture*, op. cit., 11.
[204] Vilá, J. Bosch, Ishbiliya, *Islamic Desk Reference,* compiled from *The Encyclopedia of Islam,* E. J. Brill (New York, 1994), 114-115.

least, material evidence of the Islamic culture should be present in all of this area."[205]

The origin of the name "al-Andalus" was shown to be an Arabization of the Visigoth name of the former Roman province of Baetica.[206] The Visigoths controlled the area from 468 until 711, "Gothica sors" being the name given to single lots acquired by individual lords. The name could be found in most of the written sources as the Latin name for the Gothic Kingdom. Its Gothic equal was "landa-hlauts" (land-lot), which later became "al-Andalus".[207]

By the beginning of the eighth century, the weakness of the Visigothic kings was obvious. The ruling class was made up of a small very wealthy Germanic upper class aristocracy, which was a descendant of the Ibero-Roman *noblesse de robe*. The rulers were faced by an impoverished rural population and depleted towns. They lost most of their privileges and former power and their authority was minimal. In 711, an appeal was made by Akhila and his brothers, the sons of the king, Wittiza, to the Muslims of Morocco for help to fight against the usurper Roderic.[208]

The Gothic period ended miserably and in bloodshed, yet according to Barrucand it would be considered wrong to judge it in a totally negative manner: "it was the period during which Spain was united administratively for the first time, and it also saw not only the Iberian Peninsula's conversion to Christianity, but also its continuous Romanization in respect of language and law. The Germanic Visigoths played the role of a catalyst in this process. Later historians came to glorify this period as the one which saw the birth of a Spanish national sentiment."[209]

A small group of men led by Tarif Ibn Malik, in the summer of 710, landed west of Gibraltar on a reconnaissance mission, at a point presently known as Tarifa. The landing was successful and encouraged the Muslims in the following spring to cross the Straits with a 7000 man army, in ships provided by Akhila who was heading the Visigoths. The mostly Berber army was led by Tariq Ibn Ziyad, who was a freedman of Musa Ibn Nusayr. Some sources said that he was originally from Persia, yet he was probably a Berber. He had been a representative of Musa in Tangier and probably knew of the internal problems of the weakened Visigothic kingdom. On 19th July 711 near

[205] Barrucand, *Moorish Architecture*, op. cit., 12.
[206] Ibid., 12.
[207] Ibid., 13.
[208] Ibid., 21.
[209] Ibid., 21.

Algeciras (on the Rio Barbate) the Muslim army, in alliance with the Visigoths, easily defeated Roderic and his forces, who at the time of the landing of Tariq and his men, were in the north fighting the Basques. After the defeat of Roderic, Tariq met no additional organized resistance. Consequently, Córdoba and Toledo (the Visigothic capital) fell to his forces shortly after. Musa Ibn Nusayr, in the summer of 712, after crossing the Straits with an army of 18000 men consisting mostly of Arabs, conquered Sevilla and the surrounding areas, and later Mérida. The conquering of Spain continued until the summer of 713 when Musa and Tariq joined up their forces. Meanwhile Musa's son took Niebla and Beja. Later, Musa made Toledo, and the once known for its wealth Visigothic palace, his residence. The following summer Musa resumed his campaign as far as Oviedo through Soria and the upper Duero river valley, and Tariq went through the upper Ebro River and reached Galicia. The caliph al-Walid in Damascus meanwhile was questioning their conduct due to court conspiracies, and later recalled both Musa and Tariq to give him an explanation. Abd al-Aziz, one of Musa's sons, was given the command of Spain. According to the sources, Musa most probably ended up in a Syrian prison, and Tariq vanished somewhere in the East and was not heard of.[210]

The conquest of Spain became part of Arabic folklore, and its battles became anecdotes and an important part of the culture. At the present time in Spain the conquest is remembered and associated with those battles, and the names of Musa and Tariq.

In Córdoba, Abd al-Rahman I (al-Dakhil) was proclaimed Emir al-Andalus in 756, and the city became the Umayyad capital replacing Damascus which was sacked by the Abbasids. It was during his reign (756-788) that construction on the Great Mosque was started. During the reign of Abd al-Rahman III (912-961) Madinat al-Zahra was founded, and the capital was moved to the new location only five kilometers northwest of Córdoba.[211]

Later, after the death of al-Mansur (978-1002) the Umayyads were weakened and several revolts followed. The unrest continued until 1031 and several small states, which were called Taifas (al-Tawa'ifs), were created (1031-1091).[212] The strongest and most important of all the Taifas were the ones established in Granada and Sevilla, by Badis, and al-Mutadid respectively.[213] There is not much left of the architecture of the Taifa Period,

[210] Ibid., 25-26.
[211] Ibid., 61.
[212] Sordo, Enrique, *Moorish Spain, Cordoba, Seville, Granada*, Crown Publisher (New York, 1963), 61.
[213] Ibid., 62.

and very little is known of the buildings in Sevilla and other main centers. The Mosque of the Aljaferia built by Ibn Ja'far in Zaragoza, in the middle of the eleventh century, along with the Great Mosque of Sevilla, were the most important ones.[214]

The chaos went on for several years, and became a main source of weakness for the country. In the time from the death of al-Mansur (978-1002) and until the invasions of the Almoravids and the Almohads (Berber domination 1091-1248), according to Enrique Sordo: "The Muslims became noticeably Hispanized or softened, by the luxury and mildness of their surroundings, slowly lost their war like tendencies; their Arab and African soldiers changed in the same way."[215]

The Christians became organized into a Crusade against the Spanish Muslims who were weakened by successive attacks. They started looking across Gibraltar towards al-Maghreb for help and support. Burckhardt said of the strengthening relations: "Muslim jurists from all areas assembled in Córdoba and agreed to approach the commander of the Almoravids, Yusuf ibn Tashufin, for assistance against the Christians. The Andalusian Princes were now in danger of being anticipated by a popular uprising. Al-Mu'tamid, who had been exchanging letters with Yusuf ibn Tashufin for years, consulted the Princes of Granada and Badajóz, and together they sent envoys to the Almoravid ruler. They pressed him to come immediately to Spain with his army, and offered themselves as allies, on condition that he did not encroach upon their own sovereign rights in Andalucía."[216] He continued by saying: "This was a critical move that led to a succession of events, and it tied the destiny of the Spanish Muslims once and for all to that of their North African co-religionists. When al-Mu'tamid's eldest son advised his father to follow Alfonso, rather than to bring the intolerant, barbarian Almoravids to Spain, he answered him, 'I do not want to be vilified from all the pulpits of Islam. If I have to choose, I would rather tend camels for the Almoravids, than pasture swine under the Christians.'"[217]

Consequently the Almoravids conquered all Andalucía and went as far as Toledo to the north and Valencia to the east. They were stopped by el Cid and were prevented from controlling Valencia. He ruled the Christians according to Visigothic law and the Muslims according to the Quran. Al-

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[214] Ibid., 78.
[215] Ibid., 62.
[216] Burckhardt, Titus, *Moorish Culture in Spain*, McGraw-Hill Book Company (New York, 1972), 123.
[217] Ibid., 123.

Mu'tamid later died in exile in 1095 in Aghmat, el Cid died in Valencia in 1099, and Yusuf ibn Tashufin died in 1109.[218]

Barrucand traced the origin of the Almoravids and said: "The name 'Almoravid' is derived from *al-Murabitun* ('people of the Ribat'), a term associated with the Holy War. From the Senegal basin in the Western Sahara, a nomadic Berber, tribe, the Lamtuna, a member of the Sanhaja group, emerged towards the middle of the eleventh century to undertake a wave of conquests in the north, in the name of religious renewal. Mystical and religious ideas were the moving force which breathed spiritual life into the fighting qualities of this tribal army, which soon became the leader of a far-reaching tribal coalition, and before long had conquered the whole of Morocco and western Algeria. The persuasiveness of a religious reformer, Abd Allah ibn Yasin al-Jazuli, combined with the energy and stamina of one of his converts, the Berber leader Yahya ibn Omar, to create a new distribution of power, in which tribal feuds and love affairs, or at least martial affairs (Almoravid society may have been matriarchal in structure) played a decisive role, leading to the foundation of Almoravid empire under Yusuf ibn Tashufin."[219]

The Almoravids were very important in the development of Islamic architecture as they acted as a strong bridge between Spain and Egypt. Many of their design motifs and stucco carving techniques started appearing in Egypt from the Fatimid period onward. Many historians said that the arts regressed during their dynasty which is hard to prove. Barrucand said the following about their culture: "To the Andalusians, the upper classes above all, these dark-skinned, illiterate Berbers were fanatical barbarians. Barbarians or not, they were quickly and lastingly impressed by the splendor and the sophistication of Andalusian culture, for which their crude energy was no match. If one is to believe the Andalusian sources, the Almoravid period was one of cultural regression, in which the ruling class no longer had any appreciation of secular learning or the fine arts, the tone being set by bigoted jurists and theologians. This view is certainly too one-sided, since many works of art of the period show that while the Berbers covered Andalusian culture in a blanket of religious fanaticism, they did not suffocate it. The Almoravids ushered in a period of new, intensive religious feeling; this development, which incidentally was paralleled in the Christian and Jewish minorities. During this period, countless Christians were deported to North Africa."[220]

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[218] Ibid., 128.
[219] Barrucand, *Moorish Architecture*, op. cit., 133.
[220] Ibid., 133.

It is important at this point to examine what Barrucand said in her last sentence. Since many Christians were deported to North Africa and Christian symbolism was clearly visible in the architecture of the period as was shown by Marçais and others, it must follow that this development in aesthetic must be directly linked to the arrival of the Christians in large numbers. As a consequence the fleur-de-lis was a dominant motif at the Great Mosque of Tlemcen which was built in 1085 by Yusuf ibn Tashufin.

The Almoravids started losing their power in Spain quickly, they lost Zaragoza in 1118 to Alfonso I of Aragón, and in 1133 Alfonso VII of Castilla pushed deep into the south of Andalucia. Also in 1144/45 internal rebellions lead to their descent from power.[221] They were easily defeated in 1146 in Morocco by the Almohads as they quickly lost their nomadic power after living in Spain. The Almohads had a much greater and a more powerful empire that stretched from Andalucía to the eastern parts of Tunisia. The intellectual riches were transferred to North Africa from Spain in exchange of an influx of Berbers. Burckhardt described this as follows: “The Almohads left their mark on all these countries, the roughness of their Berber character marrying happily with what may best be described as the metaphysical genius of Islam. This can be seen in the architecture of the time, which represents something of a beginning for all that was to appear subsequently in Muslim Spain, Morocco, and Algeria. Even the art of the Alhambra, whose glittering splendor contrasts strongly with the rough simplicity of the Almohad buildings, has a crystalline strength that relates it to these.”[222]

Marrakesh fell in 1147, Andalucía in 1161 but Sevilla was taken much later in 1172. Abu Ya’qub Yusuf (1163-84), Barrucand said the following about him: “He resumed the tradition of summer campaigns into Christian areas. He had been Governor of Córdoba before he succeeded to the Caliphate, and seems to have been deeply impressed by the achievements of al-Hakam II. Like his Umayyad predecessor, he collected books and surrounded himself with scholars, among them Ibn Zuhr (Avenzoar), Ibn Tufail and Ibn Ruschd (Averroes). Alongside Marrakesh, Sevilla was where he most liked to reside, and he was generous in providing the city with new buildings. The reign of his son Abu Yusuf Ya’qub ‘al-Mansur’ (1184-99) was the most magnificent of the whole dynasty. He too, like his predecessor, was a major patron of architecture. He achieved a series of spectacular military successes both in North Africa and on the Iberian Peninsula. The victory at Alarcos, between Córdoba and Toledo, over Alfonso VIII of Castilla in 1195 was one of the last Islamic victories in Spain, and while it undoubtedly added to the prestige of the Almohads, it did nothing to extend the actual power of the Muslims vis-à-

[221] Ibid., 134.
[222] Burckhardt, *Moorish Culture in Spain,* op. cit., 140.

vis the Christians. In total contrast, in July 1212 he provoked a devastating counter-attack by the Christians at Las Navas de Tolosa, where Leon, Castilla, Navarra and Aragón managed to join forces for a short while."[223]

Barrucand said the following about the Almohad culture: "The Almohad Empire also had its roots in a North-West African religious revival centered on Berber tribes. But while the Almoravids were nomads from the Sahara, the Almohad doctrine was spread by their traditional enemies, the sedentary Masmuda Berbers of the High Atlas. The latest religious reformer, Ibn Tumart, had come into contact with new philosophical and religious movements while on a trip to the Orient in the early twelfth century. His teachings are distinguished from those of the Almoravids, which had been restricted to a rigorous Malikism, by their greater originality. The name 'Almohad' is derived from *al-Muwhahhidun* ('those who affirm the unity of God'); Ibn Tumart's struggle was directed against the 'anthropomorphists' and the 'polytheists', and thus against the widespread tendency to supply God with human attributes. For the Almohads, God was pure spirit, eternal and infinite and so absolutely sublime that even such attributes as goodness and mercy appear blasphemous if taken literally, so that where they appear in the scriptures, they must be understood figuratively. For all this, Ibn Tumart was not so much a philosopher as a preacher of virtue and a revolutionary who addressed the masses, if need be in the Berber language. Under the Almohads the Quran was translated from Arabic into Berber, something that was by no means a matter of course at the time."[224]

Sevilla was the Almohad's Andalusian capital and the best period for art in Muslim Sevilla was during the reigns of the first Almohad monarchs. The Almohad Caliph Abu Ya'qub Yusuf (1172-1175) was very involved in embellishing and enlarging the city.[225] He built the Alcázar, on the site of the Abbadid palace of al-Mu'tamid, which Pedro the Cruel later expanded. Very little now remains of their art and architecture because their monuments were replaced by the Christians. The minarets of some of their mosques can still be seen today incorporated in the towers of the Churches of St. Catherine and St. Mark, and most importantly in the Cathedral, with its magnificent minaret. Barrucand said: "The minaret of the al-Mohad's Great Mosque of Sevilla, the Giralda, still stands even today as the symbol of their former power, and has become the city's hallmark."[226]

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[223] Barrucand, *Moorish Architecture*, op. cit., 137.
[224] Ibid., 134.
[225] Sordo, *Moorish Spain,* op. cit., 83.
[226] Barrucand, *Moorish Architecture*, op. cit., 156.

The Almohad rule ended suddenly in Andalucía because of their unpopularity due to the strict rule they applied. Their rough Berber character was resented by the Andalusians who had revolted against them. Their greatest achievement was in the extraordinary buildings they erected in the south-west but especially in Sevilla.[227]

Muhamad Ibn Yusuf Ibn Nasr defeated the Almohads, and in 1237 occupied Granada and established Nasrid rule (1237-1492). Spain quickly disintegrated into many small principalities again which were open to the attacks of the Christians. The Catholic Kings of Spain, those of Aragón, Castilla, and Portugal divided the areas to be conquered. The east was attacked by Aragón, and Valencia fell in 1238. The Portuguese attacked the south and Castilla attacked Andalucía from the north and in 1236 Córdoba fell in Christian hands.[228]

The development of Granada as a major city began in the eleventh century according to the sources, and the Nasrids built the Alhambra (al-Qal'a al-Hamra) on the Sabika hill, where an insignificant Zirid fortress once stood.[229] This was only possible because of an alliance with Ferdinand III of Castilla. From then on Granada had to pay an annual fee to be protected from Christian attacks. In addition, the Muslims had to provide support to Ferdinand III attacking other parts of Andalucía. Upon the return of the prince of Granada after the end of the war against the Muslims he was greeted by the population as the 'Victor'. He replied by saying: '*Wa la ghalibu illa-Allah*', which is Arabic for: 'There is no victor but God' (Solo Dios es vencedor). Of course this sentence is seen all over the walls of the Alhambra today.[230]

Ferdinand III died in 1252 and at that time the Nasrids had enriched the city of Granada, which had a population of 150,000, with schools, hospitals, baths, and fountains. The Castilian influence was clear in this last Muslim kingdom in Spain. During the reign of Yusuf I who took over in 1333, Granada turned increasingly towards North Africa. Under increased attacks from the Christian they asked for the help of the Marinids in Fez.[231]

The racial mix in Granada was described by Barrucand as follows: "During this final Sultanate on the Iberian Peninsula, Baladiyyun, Shamiyyun, Muwalladun and Berbers had long since fused into a homogenous Arab-Islamic population, which was distinguished, according to Ibn al-Khatib, a

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[227] Ibid., 137.
[228] Burckhardt, *Moorish Culture in Spain,* op. cit., 181.
[229] Barrucand, *Moorish Architecture,* op. cit., 183.
[230] Burckhardt, *Moorish Culture in Spain,* op. cit., 182.
[231] Ibid., 182.

historian and vizier from Granada by: medium height, pale skin, black hair, even features, lively disposition and a talent for teaching."[232] She continued her description by saying: "The mozarabic congregation had largely dissipated, most of their members having fled to Christian Spain during the persecution of the Christians by the Almoravids and Almohads. Even so, there were still Christians in Granada: in the Sultan's personal bodyguard, and among the traders and merchants, who are known to have included Catalans, Florentines, Venetians and, in particular, Genoans. In addition there were a considerable number of prisoners, who having been captured in raids or by piracy, were forced to perform hard labor, and were occasionally bought free."[233]

Barrucand described the Marinids and said: "Since the downfall of the Almohads, a new dynasty had ruled in Morocco. During the twelfth and thirteenth centuries, the Marinids had wandered around eastern Morocco before conquering Taza, Fez, Meknes and Sale in the mid-thirteenth century, and Marrakesh twenty years later. Their claim to power had no religious basis whatever, which may explain why they sought all the more to legitimize it through the jihad. However, their six Spanish campaigns between 1275 and 1291 led to no lasting results, and the Marinid jihad policy was ended once and for all by their crushing defeat at the Battle of the Rio Saldo in 1340. Nevertheless the Marinids were able to assert their presence for some time in Algeciras, Tarifa and Ronda, which last belonged mostly either to the Nasrids or the Marinids, but in practice remained largely independent until it was taken by Ferdinand in 1485."[234]

On the 2nd of January 1492 Muslim forces surrendered to the joint armies of Prince Ferdinand and Queen Isabella and the last Nasrid ruler, Abu Abd Allah Mohamed XII, known to the Spaniards as Boabdil was allowed to leave.[235] Christopher Columbus started his journey, in the same year, in search of the Indies, with the financial support of Queen Isabella's newly acquired wealth from Granada.[236]

At the beginning of Christian rule, medieval Spain had a large Jewish and Muslim population. Aside from Sicily, it was the only multi-racial and multi-religious country in Western Europe. Much of the development of Spanish civilization in religion, literature, art, and architecture stemmed from this fact. In the following years, because of the Spanish Inquisition, many

[232] Barrucand, *Moorish Architecture,* op. cit., 179.
[233] Ibid., 179.
[234] Ibid., 180.
[235] Ibid., 181.
[236] Ibid., 181.

Jews and Muslims were either expelled (in 1492 queen Isabella expelled 170,000 Jews, and later 275,000 Moriscos were expelled by 1614), killed, or forced to convert to Christianity, changing the cultural and ethnic makeup of the country.[237]

After the discovery of the New World Sevilla became a key city in trading with the new colonies. The crown insisted that all trade should be carried on through this city, and should be reserved for Castilians, because it was their money and blood that had built the new empire. This trade was regulated by la Casa de Contratación (1503), or the House of Trade. The city rapidly became one of the greatest trading centers in Europe, and its population rose from 25,000 in 1517 to 90,000 in 1594.[238]

The decline of Spanish economic and political power started in the seventeenth century and especially in the second half. The decline in other areas including art and architecture was not as apparent. In fact the Churrigueresque style of architecture was developed in the late seventeenth century by the Churriguera brothers.[239]

[237] *The Encyclopaedia Britannica, a Dictionary of Arts, Sciences, and General Literature*, Adam and Charles Black (Edinburgh, 1875), Spain, 39.
[238] Ibid., Spain, 41.
[239] Ibid., Spain, 49.

8- Al-Andalus

After the Reconquista, many Muslims were living in Spain under Christian rule. The architecture created during that period was named Mudéjar, (In Arabic *mudajjan* or domesticated), and the name was used to describe the Muslims that remained in Spain after the Reconquista until the 17th century (later they were called Moriscos). The name Mudéjar was later generally used, to describe non-Muslim architecture built using Islamic design elements. Towards the end of the nineteenth century, medieval Mudéjar styles reappeared in southern Spain in a revival based on historicism.[240]

In contrast Mozarabic architecture was created by Christians under Muslim rule. The name was derived from the Arabic word *al-must'aribun* or Arabized, and was used to describe the *dhimmis*, or Christians and Jews living under Muslim protection.[241] The best examples of Mozarabic architecture were built in northwestern Spain in the ninth and tenth centuries. They were mainly churches designed using Islamic design elements, the most impressive of which is the church of San Miguel de Escalda near León. Other examples include Santa María de Lebeña near Santander, and San Baudel de Berlanga, near Berlanga de Duero.

8.1- The Great Mosque of Córdoba

The Great Mosque of Córdoba was properly named as everything about the mosque is truly great: the exterior, the interior, the detailing and even the late Christian additions. After the fall of the Umayyads in Damascus, the only survivor Abd al-Rahman I, who at the time was only twenty one years old, started a campaign against Córdoba after hiding in North Africa for some time. He succeeded in 755 after gaining victory on the Guadalquivir River and was declared emir in 756.[242]

Construction of the mosque started in 785, ordered by Abd al-Rahman I, on a site overlooking the Guadalquivir River which according to the sources used to have a Roman temple and later a Visigothic monastery. Half of it was initially bought to be a place for prayer and later the other half was also bought to make room for the new mosque according to Creswell. The qibla orientation was off by 17 degrees (built at 28 degrees SE instead of 45 degrees SE from Córdoba) due to the reuse of an existing Visigothic wall by

[240] Barrucand, *Moorish Architecture*, op.cit., 15.
[241] Ibid., 229.
[242] Creswell, *Early Muslim Architecture*, op. cit., V-I, 139.

the Muslims according to the sources. The Great Mosque became one of the largest in the world, being 128 meters wide by 175 meters long.[243] The original mosque was square in plan and was roughly 74 meters on all sides. It had an open courtyard and a prayer hall that was only 37 meters wide, however, later additions made the mosque plan what it is today.[244]

Description

There were several enlargements of the mosque starting with Abd al-Rahman II, which were actually completed under his successor Mohamed I in 855/56. There were related construction problems resulting in the bulging out of the north wall of the prayer hall. Consequently Abd al-Rahman III fixed the problem in 958, by building a new wall in front of the old one on the courtyard side. Earlier on he had commissioned a minaret to be built in 951/952 on the north side of the mosque. The minaret became the core of the new bell tower added in the sixteenth century which is now called “Alminar”. He extended the courtyard further to the north because it was reduced in size when Abd al-Rahman II extended the prayer hall.[245]

The most striking element of the interior is the double-tiered arch in the colonnaded prayer hall. The arches are supported on reused columns from previous buildings; the lower arches are horseshoe, while the upper ones are semicircular. They have limestone voussoirs alternating with red brick, continuing the *ablaq* tradition of Umayyad Syria. Echoes of the Great Mosque of Damascus are evident, yet the double-tiered arcade is so innovative in its conception and execution, that it is hard to relate it to any previous model. The same could be said of the symbol of Andalusian architecture: the horseshoe arch. Examples were found in earlier in Syria, and in pre-Islamic buildings in Spain (mainly in Visigothic architecture), yet the form used by the Muslims is far more sophisticated and proportionally better balanced than all the others.

Creswell did an extensive study of the mosque and described the interior as follows: “On entering by the Puerta del Perdón we find ourselves in a veritable hall of columns with wonderful vistas in every direction, except where the view is blocked by the great Chapel of the Canons. The arcades run perpendicular to the back wall, instead of parallel to it as we should expect, and the arcades themselves are of novel construction. The columns, which are only about 3 m in height, exhibit great variations of type; some are smooth, others fluted, as few even have twisted flutings; their diameters vary

[243] López, *La Mezquita de Córdoba*, op. cit., 6.
[244] Barrucand, *Moorish Architecture*, op. cit., 40.
[245] Ibid., 71.

from 35 to 43 cm. The bases are hidden in nearly every case owing to the pavement-level having risen about 30 cm in the course of centuries. The red-brick pavement, however, has been cut away in many cases to expose the old bases, the floor-level being maintained by covering the excavation with small wooden trap-doors fitted round the bases of the columns. The shafts are all of marble, mostly of the pinkish tint, although some are bluish grey and others of a dark breccia. The capitals are also very varied, being of every conceivable type of Corinthian and Composite. On these capitals are set impost blocks, which also vary in style and height; the horse-shoe arches which spring from them are 53 cm broad and composed of white stone voussoirs alternating with composite voussoirs of four layers of thin red bricks set edgewise. The present decoration is due to painted plaster, but the actual brickwork is exposed in the fourth row from the west, second arch from the *sahn*. The brick have been rubbed down to a wedge form, their thickness at the extrados being about 6 cm. In addition to this the impost blocks have to carry stone piers a meter deep, the overhang being supported by corbels. These piers, which are about 1.75 m in height, carry a second tier of arches this time almost, but not quite, semicircular and 1.07 m in breadth, also composed of stone and composite brick voussoirs alternately, with a covering ring of decorative brickwork. There are eight composite brick voussoirs in the arches of each tier."[246]

Al-Hakam II in July 962 began the work on the expansion of the prayer hall, with the addition of twelve bays to the south and a new mihrab, heptagonal in plan. The bays in front of the previous mihrab had scalloped interlocking arches, and the area is now called la Capilla de Villaviciosa, or Chapel of the Dissolute Town. The arches were double-tiered, and were made of stone that was plastered over and painted.[247] The mihrab is horseshoe-shaped, with a row of trefoil arches above, and has gilded mosaics in the voussoirs, the spandrels, the Kufic inscription bands, and on the wall surface around it.

The mihrab was described by Barrucand as follows: "The climax of the mosque is the mihrab, at the culmination of the main axis; its overwhelming effect is ingeniously anticipated and enhanced by the multi-lobed transverse arcades. The horseshoe-shaped niche is ensconced in a veritable façade, which takes up the themes of the Stephen's Gate once more, and composes variations upon them, albeit here with far greater wealth of detail. As in the gateway, here too we have base zone, an arch with a surrounding *alfiz*, and a blind arcade above, all clearly demarcated. The base zone is faced with marble slabs; on either side of the mihrab opening is a pair of dark-colored

[246] Creswell, *Early Muslim Architecture,* op.cit., V-I, 149.
[247] Barrucand, *Moorish Architecture*, op. cit., 83.

marble columns which had been used in Abd al-Rahman II's mihrab. The voussoirs of the horseshoe arch are faced with gold mosaics depicting arabesque patterns on differently-colored backgrounds. The gilt spandrels display a motif of circles of various sizes, which in some form or other appears time and again in the art of Andalusia and the Maghreb. The arch and the spandrel are framed by a broad calligraphic border – gold Kufic characters on dark blue background – itself within a sculptured marble border. The blind arcade of trefoil arches on marble columns plays upon the contrast between the pale marble and the glittering multi-colored mosaics gold ground. The interior of the mihrab is paneled at the base with smooth marble slabs, surmounted by a calligraphic frieze; above each slab is a trefoil arch on black marble columns which stand in sharp contrast to the alternately smooth and sculpted white voussoirs. A broad calligraphic frieze and another with a vine-leaf motif run along the base of the scalloped vault. Inscriptions give the names of the ruler who commissioned the building, the name and title of the supervisor of building works, and the date of completion (November/December 965), along with the names of four craftsmen which have also been found in the Salon Rico in Madinat al-Zahra."[248]

The names of the four craftsmen were not given by Barrucand but she gave the following description of the mosaics: "The glowing gold-mosaic facing of the mihrab, have a decidedly Byzantine character, an impression which is indeed confirmed by the written sources: Ibn Idhari reports that the dome was completed in June 965, and that the mosaics were started immediately afterwards. Al-Hakam had previously asked the Byzantine Emperor Nicephoros II Phocas to send him a mosaicist capable of imitating the mosaics in the Great Mosque of Damascus. The Caliph's envoys had returned from Constantinople with the mosaicist as requested, and moreover with several sacks (amounting to some 1,600 kilograms) of gold mosaic cubes as a gift from the Emperor. The Caliph had then assigned the mosaicist a number of slave apprentices and assistants, who after a while had mastered the art so well that they surpassed their master, and were able to proceed on their own after the latter's departure. The story of the Byzantine connection is found in other, earlier authors, and the work of Henri Stern and Dorothea Duda has made it clear beyond any doubt that Byzantine imports were involved."[249]

Creswell also said that the dome above the mihrab was finished in 965 and confirmed what Barrucand said about the Byzantine connection: "The decoration in gold mosaic was then begun, craftsmen for the work being sent from Constantinople by the Byzantine Emperor, at the express request of al-

[248] Ibid., 84.
[249] Ibid., 84.

Hakam II. This mosaic decoration still exists; it forms a rectangular frame, in which the mihrab is set, and two similar panels which frame the doors leading into the rooms to right and left of it. Round three sides of the panel framing the mihrab is an inscription in the name of al-Hakam II, stating that the work was carried out under the supervision of Muhammad ibn Tamlikh [a doctor], Ahmad ibn Nasr, Khalid ibn Hashim, Prefect of Police, and Mutarrif; the date is missing. The other two panels, however, are definitely dated 965 by an inscription which frames the arch."[250] He continued his survey of the mosque and said: "In the second decade of Shauwal (9th – 19th Oct.) al-Hakam II went to inspect the works; 'he ordered four magnificent columns (*sawari*), which flanked the old mihrab, to be put aside until the new mihrab, was sufficiently advanced to receive them'. They were eventually placed in it in Nov./Dec. 965, as is recorded by an inscription carved on the impost blocks of the arch. This mihrab was lined with marble, as we expressly told by an inscription which runs all round the interior on the cornice of the dado, and finished 28th Nov. – 27th Dec. 965." He also said that a year later the old pulpit was placed at the side of the new mihrab and set up the old *maqsura*. The date was given as June/July 966.[251]

The culture of the Muslims in Spain was discussed by Burckhardt as he spoke of the Great Mosque of Córdoba as a symbol of the power the Umayyads had. He also discussed the mosaics in the mihrab area and said the following: "Al-Hakam II requested the Byzantine emperor to send him a master in the art of mosaic, who was to instruct the Moorish craftsmen in Córdoba so that they could decorate the prayer niche of the Great Mosque. This established a link with Byzantine art, although it was not much more than a transfer of techniques, for the forms that appear in the mosaic decorations of the prayer niche in Córdoba belong wholly to the geometric style of Moorish-Islamic art; the plant tendrils on the voussoirs are not intended to resemble nature in the style characteristic of their Byzantine forerunners. They do not convey any impression of spatial depth, but are rather a harmonious pattern of sinuous lines on the frontal of the arch, all in shades of copper and rust-red that contrast brilliantly with the hieratic severity of the inscription surrounding the rectangular frame of the niche in letters of gold against a dark blue background."[252]

The discussion of the mosaics by Barrucand was finished by stating that they were of inferior quality and she included several close-up photographs of them from the wall of the mihrab and the dome above but did not discuss their style or their motifs. She did a technical comparison and

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[250] Creswell, *Early Muslim Architecture,* op.cit., V-I, 143.
[251] Ibid., V-I, 143.
[252] Burckhardt, *Moorish Culture in Spain,* op. cit., 13.

said: “It is said that the mosaics were not completed until late 970 or early 971, in other words a good five years after the structure itself. This period seems really quite long for an area of no more than about 200 square meters; however, progress may well have been delayed by the need to train the native craftsmen, and by their subsequent assumption of responsibility for the work. Henri Stern has established that the techniques employed in Córdoba, while comparable with those used for the roughly contemporary mosaics in Hagia Sophia in Constantinople, are nonetheless of decidedly lower quality. Thus in Córdoba the cubes were always laid flat, while the master mosaicists in Constantinople set theirs at an angle in particular places in order to exploit the light effects to the best advantage. Thus, for example, the background of the mosaic of the Virgin Mary on the south gate of the narthex is convex in certain places (in the halo), while in others the light effects are enhanced by the use of silver cubes. The preliminary drawing in Constantinople was a complete picture in itself, while in Córdoba it seems to have been no more than a rough sketch. On the other hand, more colors were employed in Córdoba. The mosaics of the west door were probably carried out by native craftsmen. And while the materials and techniques were thus of undisputed Byzantine origin, nonetheless we find in the inventory of forms features of Hispano-Islamic style of ornamentation which had developed its own vocabulary since Madinat al-Zhara.”[253]

The design motifs of the mihrab of Córdoba were compared by Barrucand with those from the Alhambra and said: “The rich Hispano-Umayyad decorative flora included leaf and lotus forms, rosettes, semi-palmettes, trefoils, pine-cones and bunches of grapes; the individual elements always had rich internal decoration, and often pinnate or perforated edging. The basic geometric organization is provided by out-curving branches. For all the stylization, the leaves and petals can still usually be distinguished from the branches and stalks. During the twelfth century, smooth forms begin to take over, and the inventory becomes more stylized and repetitive. Broad cups, semi-palmettes and trefoil forms grow out of or into the stalks; the forked-leaf motif is everywhere, and vegetal growth is now based exclusively on geometrical principles.”[254] The term semi-palmette was used by Barrucand instead of the more common half-palmette used extensively by Creswell, but she made an error in using the term trefoil. It is a generic name for a clover leaf formed from three partially overlapping circles. What was discovered is that the trefoil she described in her analysis is actually a fleur-de-lis fitting the criteria established earlier.

[253] Barrucand, *Moorish Architecture*, op. cit., 84.
[254] Ibid., 85.

An analysis of the mosaic designs in the mihrab area is due at this point. As explained before, the façade of the mihrab has an arcade of seven tri-lobed blind arches above the two inscription bands. The number seven was used for several reasons: being an odd number to create balance, the seven days, and the seven heavens. This is emphasized by the balance created with the mosaic arabesque designs inside the arches. The design inside the center arch is symmetrical and unique with a large upside-down Type-A fleur-de-lis as the focal-point. It is topped by split, and surrounded by, half fleur-de-lis greenish motifs on a golden background. The two arches on either side have a different mirrored design which is asymmetrical by comparison. It uses floral design motifs with rosettes and other shapes but no distinguishable fleur-de-lis motifs except for one that is stylized in its central frond. On either side of these arches are two with perfectly symmetrical arabesques. The focal-point is the Type-A fleur-de-lis again with stylized, split, and reversed other similar motifs. The leaves and rosettes used in the other arches are also present. On either side of these arches are the last two of the blind arcade. The have perfectly symmetrical arabesques with similar leaves and rosettes but no fleur-de-lis. The overall visual effect is clear now with the seven arches, everything is done in pairs on both sides of the center arch. The first, nearest, are mirror images of one another and the successive pairs are identical with one another with symmetrical arabesque designs.

The domes above the mihrab were described by Barrucand by saying: “All four domes appear from outside as relatively insignificant structures with small windows, each with its tiled pyramid roof. They are supported by a skeleton consisting of four pairs of parallel curved ribs embedded in springers of rectangular cross-section. These ribs span the space in the manner of centering or false-work scaffolding, in that they divide it into small easy-to-span segments. The ribs never intersect at the apex; the master builders of Córdoba were a long way from the technical skills of those who constructed the vaults of Gothic cathedrals, where the ribs conduct away the thrust in order to relieve the walls. The architects of Córdoba had not yet grasped the potential of this technique (filling the space between the ribs, for example, with thick stonework, although a lighter weight would have been technically far more appropriate). For all its beauty, their work cannot be seen as the precursor of the Gothic.”[255]

The domes were also discussed by Burckhardt as he said the following: “The domes over the cluster of pillars near the mihrab have an unusual architectural form that is without precedent in the East or West. Although at first sight, it appears to be no more than geometric decoration, the

[255] Ibid., 76.

structure is in fact the logical solution to the problem of how to set a semicircular dome on the square formed by the supporting walls, while keeping the curves of the ribs equal. For if the ribs are placed crosswise and diagonally over the square, so that they meet at the highest point of the dome, then either the diagonal ribs would be too flat to carry weight, or the crosswise ribs would have to be steeper than the diagonal ones, and form a pointed-arch. The latter was, in fact, the Gothic solution to the same problem. But Moorish architecture arrived at a different solution by constructing an octagonal within the square, and joining a semi-circular rib from each of the eight corners to the next corner but one on either side. The lattice effect produced by the intersecting ribs leaves a space in the center, which is just small enough to carry a dome without requiring reinforcing ribs. In Córdoba the dome is fluted. There are Persian domes similarly built except that the intersecting ribs do not support the dome but reinforce it on the outside; all that can be seen of them from the inside are the arrises between the individual facets of the vaulting."[256]

The discussion of the domes and their support was continued by Burckhardt as follows: "In order to reinforce the bays supporting the domes, the master responsible for the extension of the Mosque in the time of al-Hakam II hit upon the brilliant idea of doubling the number of pillars and intersecting the arches springing from the pillars, as if intending to transpose the formal structure of the domes to the weight –bearing arcades. By using the intersecting arch in addition to the horseshoe arch, he produced an exceptionally rich structure in which everything contributes to the effect of static clarity as well as to the great, pulsating rhythm. It is this combination of qualities that appeals most to the Islamic spirit and to Arab thought. Geometric forms without rhythm are sterile and lifeless, and rhythm without geometric clarity produces discordant emotion. The reality of the world itself consists of the interweaving of perpetuity and rhythmic change, of space and time: 'You see the mountains and consider them to be immovable, and yet they pass like the clouds,' says the Quran (XXVII, 88)."[257]

Design Analysis

The dome above the mihrab area was described in detail earlier by Barrucand and Burckhardt. The same design theme used in the blind arcade below was carried over to the dome. In plan-view, the ribs simply form two squares rotated at 45 degrees to make an eight-pointed star placed inside the octagon created by the squinches supporting the dome. The ingenuity of this design scheme was extensively analyzed by many scholars but despite this, it

[256] Burckhardt, *Moorish Culture in Spain*, op. cit., 14.
[257] Ibid., 15.

was discovered that in the center of the dome an imaginary cross was drawn. First, closely examining the various mosaic motifs, on the flutes in the center, and in the triangles created by the intersections of the ribs on the lower part of the dome, revealed that they are floral with no rosettes but with stylized fleur-de-lis motifs. The only exceptions were eight large Type-A fleur-de-lis motifs placed upside-down in the triangles above the squinches. It is strange to have the motif placed upside-down since this is typically done to balance a mirrored design and there are none here. Second, by drawing straight lines across the dome connecting the fleur-de-lis motifs a new shape was revealed! The intersection of each pair of lines formed a Greek cross in the center of the dome with four fleurs-de-lis motifs being at each end of the cross. This provides an explanation as to why the motif is upside-down since the artist must have wanted the two imaginary crosses in the middle of the dome to be emphasized. Third, by closely examining the designs on the ribs of the dome themselves another discovery was made! From the floor those designs appear rich but are not distinguishable. Examining high resolution close-ups revealed that the artist used two sets of designs for each square formed by the ribs in the eight-pointed star. The ribs of the first square have alternating pods of mirrored fleur-de-lis motifs and pods of a clover leaf that creates a cross. The ribs of the second square have lozenges filled with crosses created by four stylized fleur-de-lis motifs. Since the lozenge touched the edge of the rib, triangles were created in between that were filled with mirrored fleur-de-lis motifs. Those crosses are impossible to see from floor-level looking-up, by any visitor of the Great Mosque of Córdoba. In conclusion, the artist must have intentionally placed hidden crosses inside the dome. Furthermore, the strategic placement of the fleur-de-lis in the mosaic as a favored Christian symbol must point to either Christian artists unwillingly working on the mosaics (Christian prisoners for example as was pointed-out by Burckhardt) or recent Spanish converts who still wanted to use the cross as a motif. It must be emphasized here that the introduction of the fleur-de-lis as an Islamic motif was inspired by Christian Spain not Samarra. In addition, this motif was not commonly used in Constantinople and it seldom appeared in other Umayyad buildings in Syria. This applies specifically to the Type-A fleur-de-lis, however, other stylized versions appeared earlier in Egypt at the Mosque of Ibn Tulun. Again, this must be attributed to the Egyptian Coptic influence rather than Samarra.

To understand the mosaics in the mihrab area it is important to know how the artists and craftsmen in Córdoba developed their skills. Burckhardt discussed their attitudes and said: “By contrast with modern technology – which has perfected machinery to the point where we can produce infinite numbers of the same soulless objects in monotonous uniformity – Moorish craftsmanship was concerned with refining working methods, and producing

the rarest effects by the simplest means. This necessitates a perfect mastery, not only of the tools used, but also of the material to be worked, and gave rise to a discipline of unusual order, as if the craftsman or artist – the two were indistinguishable – was perfecting himself together with the external work he was creating. His professional mastery was more than a technical facility. It gained spiritual significance from the fact that certain professional activities produced the impulse to introspective wisdom. The relationship between 'form' and 'matter' that is the basis of all art has a universal meaning – for all creation is imprinting an ideal form upon a more or less plastic matter. Throughout the cosmos there are essential forms that express themselves to a greater or lesser degree depending on the matter in which they are clothed. The quality of the form lies in its essential content, and the value of the matter in its plasticity. Form and matter – *froma et materia* – is a distinction that is fundamental to the whole of medieval thinking, and not merely on a philosophical level. 'Form' did not merely mean an outline, a spatial or other kind of limitation, but the stamp of an essential unity. In other words, form was understood to be qualitative, and not merely quantitative. Art, however, did not consist of imitating nature or of giving the imagination free reign, but of imparting to everything, whether a building or a drinking vessel, a form expressing an essential unity."[258]

The layout of the prayer hall with the aisles perpendicular to the qibla wall, and the horseshoe arch were attributed to Syrian influences by Creswell. He also said that the scheme of the arcades around the courtyard where two columns alternate with one pier came from the Great Mosque of Damascus. Most importantly is what he concluded about the reason for such a strong Syrian influence: "Abd ar-Rahman I, the founder of the reigning dynasty, was an Umayyad refugee from Syria, who he had been born in 731 and had many Syrians round him. There is ample proof that Andalusia was full of Syrians, for example Ibn al-Qutiya tells us that, during the troubles in the reign of Caliph Hisham (724-43), when there was open warfare between the Syrians on one side and the Arabs of the towns, allied to the Berbers, on the other, the Governor of Andalusia, Abu al-Khattar (743-7), asked if the people were prepared to submit. 'We swear obedience and fidelity to you cried the Berbers and the Arabs of the towns, but we can no longer endure in our midst *these hordes of Syrians*.' Further we read that Hisham decided to segregate the Syrians in the different provinces of Spain and above all to keep them as far as possible from Córdoba, because the people of that city could not bear them. 'Thus the people of Damascus were established at Elvira; those of the Jordan Province at Ryia, those of Palastine near Sidonia, the people from Homs in the neighborhood of Seville; those of Qin'nasrin at Jaen.'" [259]

[258] Burckhardt, *Moorish Culture in Spain*, op. cit., 51.
[259] Creswell, *Early Muslim Architecture,* op. cit., V-I, 157.

Life around the mosque was described by Burckhardt as follows: “In the tenth century, at the height of Córdoba’s flowering, the mosque pulsated with activity, for at that time the city had more than a million inhabitants, and was surrounded by a cluster of small townships and villages that spread over the fertile plain of the Guadalquivir.”[260] Despite this there was discontent because of the rise in the cost of the administration which resulted in soaring taxes. Of course there were conflicts between the different social groups in Córdoba which Burckhardt described by saying: “The Arabs, then as ever, considered themselves to be the nobility with privileges beyond the Berber and those of the native population who had adopted Islam. Meanwhile, the Berbers and the new Spanish Muslims justifiably clamored for equality. Al-Hakam I struck back with unremitting severity, not hesitating to set his enemies cunning traps. As a result of one uprising, several thousand Córdobans immigrated to Morocco, where they settled in Fez, in that part of the city which is still known to this day as the ‘Andalusian’ quarter.”[261]

Barrucand continued her analysis of the mosque and discussed the later additions and said the following: “Al-Mansur, the all-powerful minister who governed on behalf of Hisham, embarked on a further substantial enlargement in 978/79, as the population of Córdoba had seen yet another major increase as a result of the importation of Berber mercenaries and their families. To the south, the building was bounded by the banks of Guadalquivir; to the west lay the palace (on the site of the present-day Archbishop’s Palace), so that only the east side was available for extensions, and it was here that eight new aisles were added along the whole length of the hall. The courtyard was also enlarged correspondingly. The broad nave leading up to the mihrab now no longer formed the central axis, but the extension maintains an air of subordination and seems to make no attempt to compete with the splendor and prestige of al-Hakam’s additions. Thus large sections of the former east wall were left in place, in order to clearly demarcate the main hall from the hall to the side; al-Hakam’s south transverse arcade and the chambers to the south were not extended. Al-Mansur’s prayer hall was thus far simpler and two bays deeper than al-Hakam’s. All this gave the Mosque the stately dimensions of 178 by 128 meters, making the third-biggest in the Islamic world, exceeded only by the two Abbasid Great Mosques of Samarra.”[262]

Barrucand concluded her analysis of the mosque by saying: “Each of the three great rulers during the period of the Caliphate had left his own

[260] Burckhardt, *Moorish Culture in Spain,* op. cit., 15.
[261] Ibid., 33.
[262] Barrucand, *Moorish Architecture*, op. cit., 85.

personal stamp on the Great Mosque of Córdoba. The characteristic feature of Abd al-Rahman III phase is the minaret, that of al-Hakam II consists in the domes, the interlocking multi-lobed arches and the Byzantine mosaics, while for al-Mansur the characteristic feature is the size of the extension."[263]

The exterior of the mosque is virtually unchanged from the times of the Umayyads. The high stone walls are capped with the familiar stepped crenellation. There are several doors on the exterior western wall perpendicular to the qibla. Each door is placed in the most splendid façade filled with stucco carvings. There is a horseshoe arch above with *ablaq* voussoirs and rich spandrel floral designs. This is topped by an inscription band and checkered tile frame. Above it is an arcade of blind interlocking or horseshoe arches filled with alternating geometric tile and stucco floral designs. On both sides of the door are windows with scalloped blind arches above that are filled with geometric tile designs. These patterns are completely different from the interior floral mosaic designs previously discussed. The motifs vaguely resemble those of Samarra and can hardly be a justification for what some scholars said about the Umayyads carrying design elements from Mesopotamia through Syria and to Spain with them. This will be discussed later in detail under the Samarra design section.

One part of the exterior wall was reconstructed in the fourteenth century and a new door was put in at la Puerta de los Deanes. It was inserted in a new brick wall surrounded by the original stone masonry. This side of the wall was capped with a hollowed out Mamluk style fleur-de-lis crenellation. This application is exactly like the ones used repeatedly in Christian altar pieces which is the original inspiration for the fleur-de-lis crenellations in Mamluk architecture.

Córdoba fell to the Christians in 1236 and the mosque was consecrated as a cathedral. In 1257 an altar was added, and la Capilla Real or the Royal Chapel was attached to la Capilla de Villaviciosa. It was rectangular and followed existing column bays with the dome of la Capilla de Villaviciosa being at the end of the nave.[264] In 1523 the Bishop Alonso Marinque ordered the construction of la Capilla Mayor or Main Chapel, in the middle of the prayer hall. A large part of the work done under Abd al-Rahman II and al-Mansur had to be destroyed. There was a great effort initiated later on by King Charles V, after he saw the initial work done on la Capilla Mayor, to preserve as much of the mosque as was possible to protect the history of Spain from destruction. Therefore, Hernán Ruiz, El Viejo, the same architect who did the work on la Giralda in Sevilla, and planned the initial cathedral had

[263] Ibid., 85.
[264] López, *La Mezquita de Córdoba*, op. cit., 12.

to keep his work within the existing colonnades. He later died and his work was finally completed by his son in 1582.[265]

The original prayer hall was bisected by la Capilla Mayor which was aligned to face east. A whole section of the Great Mosque was removed to be able to build it. Upon entering the mosque, the cathedral is not immediately visible. It takes walking around for a while for the Gothic cathedral to appear, and it is shocking. It is so different from everything else inside the prayer hall so it was wise to keep it hidden. It is evident that the sight lines to the qibla wall and the mihrab were preserved. The interior of the mosque shows the impact of all past influences that were blended together in certain areas. The current artificial lighting inside is very subdued with many spotlights shining on the ceiling. Natural light is limited to the clerestory windows at the base of the domes above the three bays in front of the mihrab. The lighting effect in those areas is incredible with the combination of incandescent, which simulates the original candle lamps, and daylight. The gilded mosaics of the mihrab area have a magnificent shimmer with their foliated and arabesque designs. The mihrab is the focal point of the space, as the building is entered from the north side, and is preserved as such despite all the alterations.

To make the Great Mosque into a cathedral the Christians kept the existing arcades, and the ceilings were redone in parts of la Capilla Real and la Capilla de Villaviciosa. The original ceiling was constructed of wood beams with carved designs. Instead of the original wood beams, ribbed tunnel vaults were built, and the results were awe-inspiring. In la Capilla Real and la Capilla de Villaviciosa, the ribs of the tunnel vault dated 1713 to 1723 by Creswell, were designed to resemble fan vaults and were terminated at the spandrels of the existing arches. Typically, fan vaults fanned out of their supporting piers, yet structurally that was not possible because of the existing condition. Instead, imitation fan vaults were used to preserve the Umayyad arcades. In between the fan vaults, an area was created resembling a pointed-arch for high-reliefs of Christian subjects. This concept successfully created a transitional zone between the old and the new. To keep the design consistent, a decorative bas-relief band was added at the top edge of existing arches.

In la Capilla de Villaviciosa existing columns and arches were preserved, to create a Christian sense of entry to la Capilla. An existing arch was doubled and the Islamic features were concealed. The *ablaq* of the Umayyads on the other side was used as a stencil for placing voussoirs filled with high-relief. The voussoirs were aligned with existing bas-reliefs on the limestone below the arch. In those areas, the old and the new were

[265] Ibid., 23.

interwoven in a way that had never been done before. For the most part keeping the modifications confined to the ceiling resulted in a hybrid design that was not immediately visible, yet successful. The Great Mosque of Córdoba, aside from being one of the largest in the Muslim world, has some of the most creative and beautiful design solutions anywhere. The work done by the Christians was an early attempt at the blending that would be fully mastered later-on.

8.2- The Great Mosque of Sevilla

The capital of al-Andalus was transferred from Córdoba to Sevilla after the Almohads controlled most of the areas previously under the Almoravids rule. The period preceding their rule 1031-1091 was called the *Fitna* referring to the many disagreements between the Berbers, the Saqaliba, and the Andalusians. Those groups in Arabic were called *Tawa'if* or as commonly known, Taifa. In fact this period was one of chaos where not only the three groups fought each other but also in alliances amongst themselves. After the fall of the Umayyads, every town saw the rise of a leader who controlled the population by hiring mercenaries, collecting money and fortifying his palace.[266]

History

This period was described by Barrucand by saying: "The murder of the Amirid was followed throughout Andalucía by a seizure of power on the part of local strong men. These must have included, primarily at first, the local administrators appointed – or often simply confirmed in office – by the Amirids themselves, thus for example Mundhir I al-Tujibi in Saragossa and Abu Bakr ibn Ya'ish al-Qadi in Toledo. Sometimes they were Berbers, for example al-Qasim ibn Hammud in Algeciras, Ali ibn Hammud in Ceuta and Malaga, Zawi ibn Ziri al-Sinhaji in Granada and Abu Mohamed Ismail ibn Dhi al-Nun in Toledo. The Hudids, who came to power in Saragossa in about 1040 were also Berbers. 'Slavs' took over on the east coast, for example Mubarak and Muzaffar in Valencia, Mujahid al-Amiri in Denia and on the Balearic Islands, Khayran in Murcia and Almeria, and Sabur in Badajoz. In Córdoba and Sevilla, power was seized by leading patrician families (the Jauharids and the Abbadids), while elsewhere the new rulers can only be described as robber barons. The new political units were city-states in every case, many of them minute, their internal cohesion resting not on any cultural unity among their inhabitants, but purely on geographical considerations. On the periphery of

[266] Barrucand, *Moorish Architecture*, op. cit., 107.

Andalucía a number of these states, with a rich agricultural hinterland at their disposal, spread out to occupy a sizable area, thus for example Saragossa, Toledo and Badajoz. On the coast, by contrast, the units were small, managing to survive by virtue of their international maritime trade and their highly developed economic infrastructure."[267]

From the eleventh century the Abbadid family in Sevilla became more powerful. The founder of the dynasty Mohamed ibn Abbad (1013-42) was succeeded by his son and his grandson, al-Mu'tadid and al-Mu'tamid. They continued to enlarge their control by annexing many surrounding areas from east to west, from Murcia to Mertola. The strongest cities during the Taifa Period were Sevilla, Toledo, and Saragossa. Barrucand described the arts at the time by saying: "The 'official style' of the eleventh century is famous for its refinement; education and culture were in general highly valued, and the art of the period, insofar as we are familiar with it, is very sophisticated." She concluded by saying: "The most magnificent court by far was that of the Abbadids of Sevilla."[268]

The chaos continued during the Taifa Period until Toledo fell in the hands of Alfonso VI in 1085. This was a turning point because the Abbadids had to ask for help to protect their dynasty against Christian attacks. Al-Mu'tamid called on the Almoravid leader Yusuf ibn Tashufin to cross the straits to support him. They had a great victory over Alfonso VI at Zallaqa near Badajoz in 1086 and returned to Morocco afterward. They were called back in 1090 to fight against the Christians and the Muslims allied with them. This time Yusuf ibn Tashufin decided not to leave and include al-Andalus into the Almoravid territory.[269]

The golden years for Sevilla were under the Almohads who defeated the Almoravids in 1147 and took over Marrakesh. They only took al-Andalus in 1161 and Abu Ya'qub Yusuf (1163-84) made al-Andalus a province under his control.[270] Before building in Andalucía the Berbers had built cities and towns across North Africa. There isn't much left of their secular architecture but their mosques still stand to this date. For example, the Almoravids Great Mosques of Algiers, Nedroma and Tlemcen are testimony to their religious power and construction knowledge. There was no standard floor plan to follow but the three mosques mentioned follow the plan of the Great Mosque of Córdoba and that of Qairawan: that is to say a hypostyle plan with one or more transverse arcades. Arches similar to the ones found at Córdoba and

[267] Ibid., 108.
[268] Ibid., 109-110.
[269] Ibid., 112.
[270] Ibid., 134.

elsewhere in al-Andalus were found in North Africa as well. Also the domes in front of the mihrab were again used for emphasis. Barrucand said that the dome in front of the mihrab at Tlemcen from 1136 had rich ornamentation with pierced stucco cladding between its ribs. This was the first time muqarnas was seen in al-Maghreb at the corners of the dome.[271]

The architecture of the Almoravids was discussed by Marçais as he said that Algeria had the greatest mosques. They were remarkably simple except for the Great Mosque of Tlemcen. It was built in 1136 according to a wall inscription which puts it during the reign of Ali ibn Yusuf ibn Tashufin (1106-1142). The building measures 60 x 50 m and the prayer hall has 13 naves perpendicular to the qibla wall. The transverse arcades have multi-lobed arches while the ones parallel to the naves have horseshoe arches. The center nave leading to the mihrab has two domes. The first is placed in the center of the nave almost at the same location as the dome of la Villaviciosa at the Great Mosque of Córdoba. The second dome is right in front of the mihrab and has a *maqsura* below it with an inscription date of 1138. The dome itself is on an octagonal drum and is decorated with radiating ribs. Marçais specifically said the following of this dome: “La coupole centrale est sobrement ornée de nervures. Celle qui précède le mihrab présente un décor de même genre, mais d’une grande richesse, qui rappelle les coupoles de la Grande Mosquée de Cordoue et de l’église del Cristo de la Luz de Tolède. Au-dessus de la corniche du tambour inférieur, qui porte l’inscription cursive datant l’édifice, est établie cette coupole à seize pans. Des trompes formées de muqarnas occupant les angles. Le fond de ces trompes et l’arc qui les circonscrit sont en porte-à-faux, comme le fond et les pieds droits des niches angulaires de la Grande Mosquée de Damas. De cette base s’élèvent douze grands arceaux qui déterminent par leur croisement des panneaux à trois et quatre côtés et qui circonscrivent les douze pans d’une lanterne.”[272]

The analysis was concluded by Marçais by saying that the dome in front of the mihrab at the Great Mosque of Tlemcen was a descendent of the dome at the same location from the Great Mosque of Córdoba. He extensively studied the floral designs and the palmettes at the mosque but did not mention the fleur-de-lis. He had specific descriptions of many floral forms including the pointed and triangulated three leaf flower. Some errors were found in his description of the dome. He mentioned that the dome was raised on an octagonal drum. This is incorrect since the plan of the dome is a square with chamfered corners. The arches he described at the corners are the squinches copied from the Great Mosque of Córdoba. What is found at the apex of the squinch, in between two decorative bands, is a three-dimensional

[271] Ibid., 144.
[272] Marçais, *L’Architecture Musulmane D’Occident*, op. cit., 192-195.

fleur-de-lis jutting out in place of the keystone of the arch. This type of carving style is exactly matched on the walls of the entrance to the mausoleum of Sultan Qalawun in Cairo. The fleur-de-lis motif is what is classified as a Type-B except that it has deep carvings since it juts out of the surface of the arch.

The great Almohad mosques were built in great cities with large population and shared similar plans. This was the case with Algiers (1096), Tlemcen (1036), Fez (the Qarawiyin Mosque, 1135), Marrakesh (1146-96), Rabat (1196-7), and Sevilla (1171).[273] Ettinghausen and Grabar talked about the development of the architecture during the Almohad rule and said: "The two most important aspects of the western Islamic monuments are the development of the muqarnas and the variety and use of decorative motifs. In the twelfth century the dome on ribs tends to disappear and the dome on squinches (as in the superb Qubba al-Ba'adiyin in Marrakesh) is rare. Both are usually replaced by a dome of muqarnas, first fully developed in the east, to whose meaning an origin we shall return. The muqarnas of North Africa, certainly derivative, is used on square or rectangular plans. It is not structural, but a plaster screen, almost entirely of architectural origin, hiding the actual vault. However intricate some of the plaster muqarnas of Fez or Tlemcen may have been, the feeling remains of a rapidly learned new ornamental routine."[274]

The second most important aspect of Islamic buildings in the West, the decorative motifs, were described by Ettinghausen and Grabar as follows: "Concerning architectural decoration, two preliminary points must be made. First, in eleventh-century Spain (stemming from the art of Córdoba) it tended to be more complex than it was at first in North Africa – compare the stucco panels from the Aljaferia in Saragossa, with their wild breaking-up of Cordovan themes, and the simple and severe geometric and architectural designs framing the niche of the mihrab at Tinmal. Much of the history of the decoration consists in the interplay between these two tendencies. Second, plaster was the most common medium; its comparative independence from the construction allowed the decorators considerable latitude of imagination in the development of themes, as we have seen in the muqarnas. They were probably painted as well."[275]

What Ettinghausen and Grabar said about the aesthetics in the Maghreb is surprising: "The western Islamic world does not display the same brilliance and originality as the contemporary Middle East during the twelfth

[273] Ettinghausen, Richard, and Grabar, Oleg, *The Art and Architecture of Islam 650-1250*, Yale University Press (New Haven, 1987), 141.
[274] Ibid., 144.
[275] Ibid., 144.

and thirteenth centuries. Although here too forceful frontiersmen took over old and splendid cultures, the world of North Africa and Spain was not inventive; its conservatism, its comparative isolation from the Orient, its antagonism to its Christian neighbors, and the powerful impact of ninth- and tenth-century masterpieces led it to explore further possibilities within the traditional hypostyle and to develop the old decorative vocabulary into a more complex language. Yes in two ways the Maghribi world also partook of the profound changes which characterized the whole of Islam at that time. First, its monumental architecture spread from a few administrative and cultural centers such as Qairawan and Córdoba to dozens of new cities, the Atlas Mountains, and the North African coastline – a proliferation similar to that in the east. Second, the buildings of the Muslim west also exhibit a fascination with domes, less structurally impressive than in Iran, the Moroccan examples have a scintillating decorative inventiveness which will remain a hallmark of western Islam for several centuries."[276] It is hard to agree with this assessment of the Islamic West during the twelfth and thirteenth centuries. The sterile all brick, tomb-towers or *gunbads* of Central Asia are hardly considered brilliant or inventive! The most inventive building in Iran is the Great Mosque of Isfahan, but that is only one example. The following analysis of the Great Mosque of Sevilla is used not only to disprove their point but to also compare the work of the Almohad with later periods in Egypt.

Description

The Great Mosque of Sevilla was built ten years after the Almohads conquered al-Andalus in 1171, by Abu Ya'qub Yusuf where the Cathedral is now standing on la Avenida de la Constitución. What remains of the Great Mosque is the minaret, and the *sahn*, or what is now called the Orange Tree courtyard.[277] The typical Almohad great mosque was characterized by a nave and side aisles perpendicular to the qibla wall, or simply a basilica plan. The nave and aisles open into a transept, therefore creating the typical T-shaped plan.

Barrucand described the original mosque as follows: "It had a nave and sixteen aisles, each of thirteen bays; the nave and aisles ended in a transept the breadth of one bay. The nave and the outermost aisles were broader than the remaining aisles, and the bays they had in common with the transept probably had domed ceilings. The courtyard was ringed by a colonnaded walkway, the main entrance being in the middle of the north side. The ground is in general copied from Córdoba."[278]

[276] Ibid., 145.
[277] Barrucand, *Moorish Architecture*, op. cit., 157.
[278] Ibid., 158.

The Almohads brought new ideas and a new aesthetic to Sevilla. They rejected the ideals of the Almoravids being of luxury and softness, and opted for simplicity. Of course they were influenced by what they saw in al-Andalus and had to go through a changing process. Barrucand described their development and said: “The Almohad period was to go down in the history of the art, and especially in the history of architecture, as one of the most significant in western Islam, being far more fruitful than that of the Almoravids or the Taifa rulers.”[279]

After Sevilla fell in 1248 the Great Mosque was consecrated as a cathedral. Later, the Mosque was demolished to make room for the new structure, and work on the cathedral started in 1401. The plan was shaped as a Latin cross: it had a nave, a transept and side aisles. The minaret of the mosque had been built on a Roman foundation in 1184, and in 1558 it received a new top. It was designed by Hernán Ruiz, the same architect who did the plans for la Capilla Mayor at the Great Mosque of Córdoba. The new addition included a pavilion for twenty five bells and a statute of faith now known as el Giraldillo.[280] The pavilion was fully integrated with the minaret through the use of horizontal bands. The bands offset the verticality of the minaret shaft and its elongated lozenge design. In addition, bulbous finials were placed atop the balustrades, above the crown of the pavilion, and below the Giraldillo.

Design Analysis

The original section of the minaret has the most splendid brick lozenge designs found anywhere. Close examination of the side opposite the Cathedral revealed amazing intricate brickwork. Each of the four sides of the minaret is divided by four lozenge panels on either side of a row of four shallow balconies. Each lozenge panel is visually supported by a pair of scalloped arches on three columns. Each balcony has balustrades that appear to be from the Renaissance period. Behind the balustrades there is a pair of arches that alternate from the first level to the last level from horseshoe to scalloped. Above each pair is a scalloped brick arch that is of a unique style on each level. The spandrel area of this large arch is filled with hollow brick patterns that are different on each of the four levels. On the first level a silhouette of a Type-B fleur-de-lis is clearly visible. It terminates in a smaller squatty similar motif. The Second window spandrel has a more linear design with visible leaves but the apex of the arch has a Type-A fleur-de-lis motif. The upper two have circular and interlocking designs. Upon reexamining the

[279] Ibid., 153.
[280] *All Andalucía,* Editorial Escudo de Oro (Barcelona 1999), 6.

hollow designs of the brick lozenge panels it was discovered that they were based on a fleur-de-lis design pattern. They appear to have a large frond and hollow volutes but that makes them pseudo fleur-de-lis! To prove this point this lozenge design was compared with the one at el Patio del Yeso at the Alcazar. Both designs are diagonally aligned but the motif at el Patio del Yeso is pointing upwards with no volutes and is more like a lotus flower. The aesthetics were very different and only attest that there was no standard lozenge pattern to follow. Based on this analysis, the lozenge designs on the minaret of the Great Mosque of Sevilla were definitely based on the fleur-de-lis motif.

The interior of the Cathedral was completely separated from the remains of the mosque. The Cathedral exterior is visible today through the remaining horseshoe arch gate, on the north side, dating from the twelfth century. The main entrance to the Gothic cathedral is on la Avenida de la Constitución opposite the eastern facing altar. The Orange Tree courtyard was built in 1184 and had fired-brick walls. What remains today are the pointed horseshoe arches of the arcade surrounding it, and the cornice above. The arches were built on piers and they appear to be reconstructed in several areas. The exterior walls have pointed-horseshoe arches that were blocked and are crowned with stepped crenellations similar to the ones found at the Great Mosque of Córdoba. The stepped crenellations also appear above the cornice around the Orange Tree courtyard. The exterior walls as well as the walls of the courtyard were kept by the Christians. It is hard to imagine what the Great Mosque looked like, but what remains is more important. The courtyard was a very significant part of the Great Mosque since it was used as extra prayer space. The fact that it was kept is a key issue in the design of the existing cathedral.

Today, the Cathedral is entered from the north side through the exterior walls built by the Almohads and through the inner courtyard. Once the main gate of the Mosque is approached, the flying buttresses and the body of the Cathedral become visible through the main archway. Once inside the courtyard, the full splendor of the Cathedral becomes apparent, with the minaret standing high above the rest of the building. The interior is dim with no natural light but when the nave is approached, the light gradually intensifies and the altar becomes visible fully immersed in natural light due to the surrounding windows. There are several stained glass clerestory windows lining the full length of the nave with the side windows of the altar. The design of the Cathedral provides an experience of transition: from the outside world, across the courtyard that symbolizes the Muslim period, and into the dark side aisles. But once inside, the mood is dramatically changed by the natural light flooding the nave and the altar.

It was easier for the Christians to raze the great mosque of the Almohads and build from scratch in order to meet the requirements of their ambitious cathedral program. At the Great Mosque of Córdoba, la Capilla Mayor was lost in the Islamic hypostyle prayer hall, yet the smaller Capillas were more successfully integrated. To meet the program requirements of the Gothic cathedral, the builders had to demolish the mosque, in order to avoid the problems encountered at the Great Mosque of Córdoba. The minaret of the Great Mosque of Sevilla was preserved and reused which set a standard to follow for preserving the history of Spain. The new hybrid design with its many organic figure statues strongly contrasts the geometric designs on the original minaret but despite this it creates a successful design.

8.3- The Alhambra

The Almohads had to retreat to North Africa after they were defeated at Las Navas in 1212. A few years later in 1216 they were attacked from the Sahara by the Marinids, a tribe of Zenata Berbers, and in 1269 they lost Marrakesh.[281] The Nasrid dynasty in Granada was sandwiched between the Christians to the north and the Marinids to the south however, Granada remained a shining center of Islamic civilization until 1492 the Alhambra (al-Qal'a al-Hamra) was built on the Sabika hill, where an insignificant Zirid fortress once stood.[282]

Description

The complex was described by Blair and Bloom as follows: "Like all Nasrid buildings, those of the Alhambra are structurally simple, with trabeate construction and heavy stone walls supporting light wooden roofs, the whole concealed behind a glittering façade. A virtual encyclopedia of Nasrid architecture and decoration in glazed tile, carved and painted stucco, and carved and joined wood; the Alhambra is practically notable for several superb muqarnas vaults. As early as the ninth century the site contained a citadel called *al-Hamra* (the red, probably because of the color of its walls. In the eleventh century the citadel was linked with the town's defenses to the north, and between 1052 and 1056 Yusuf ibn Naghrallah, the Jewish vizier to the Zirid rulers of Granada, built his palace there. Two centuries later, Mohamed I (1230-72), founder of the Nasrid dynasty, made the Alhambra his residence. Over the next two centuries his descendants continued to enlarge and embellish it. Most of the work was done by Yusuf I (1333-54) and

[281] Blair, and Bloom, *Art and Architecture of Islam*, op. cit., 117.
[282] Barrucand, *Moorish Architecture*, op. cit., 183.

Mohamed V (1354-91, with interruptions), although Charles V (1516-56) added a palace in the Renaissance style, and Philip V (1700-46) redecorated some rooms in an Italianate style. The site subsequently fell into ruin but was rediscovered in the early nineteenth century by the Romantics, who supplied the buildings with the names commonly used today."[283]

The description of the site was continued by Blair and Bloom as they said: "The Alhambra is contained with a walled enclosure (740 by 220 meters) punctuated with twenty-three towers and gates. At its western end is the Alcazaba (Arabic *al-qasaba*, fortress); to the east are the remains of several palaces, a mosque, baths, and an industrial zone with a mint, tanneries, and ovens. Across a ravine to the east of the enclosure are the palace and gardens of the Generalife (Arabic *jinan al-'arif*, gardens of the overseer). The Alcazaba, the oldest part, is a double-walled fortress of solid and vaulted towers containing barracks, cisterns, baths, houses, storerooms, and a dungeon."[284] The most important area of the Alhambra for the purpose of this work is the core area which they described by saying: "The core of the Alhambra, the so-called Casa Real Vieja (to distinguish it from the addition of Charles V), consists of several palaces arranged along the northern curtain wall and incorporating several of its towers. The palaces follow the traditions of palace design in the western Islamic world, with rooms arranged symmetrically around rectangular courts."[285]

The Alhambra was compared to other buildings in Europe by Burckhardt by saying: "Unlike all the royal residences of Christian Europe, here there is no façade, and no main axis to which the different buildings relate, no suite of apartments to pass through, beginning at one end, and working up to a climax. Instead, one enters various inner courtyards around which the rooms are grouped haphazardly, accessible through tucked-away passages, so that one can never guess what lies hidden on the other side of the wall."[286] In addition, Barrucand had this to say about the site: "The Alhambra was a palace city from the outset, from where the burghers' city of Granada and the sultanate of the same name were ruled. In this respect it is in direct line of descent from Madinat al-Zahra and the Almohad *qasaba* of Marrakesh, and is far larger and more complex than the citadels and palaces of the Taifa rulers. And yet its pronounced fortress-like character and its strategically impregnable position stamp it unmistakably as a palace city of the late Middle Ages. In the history of architecture it represents a synthesis of

[283] Blair and Bloom, *Art and Architecture of Islam*, op. cit. 124.
[284] Ibid., 124.
[285] Ibid., 125.
[286] Burckhardt, *Moorish Culture in Spain*, op. cit., 184.

the palaces of early Islam and the far more advanced defensive fortresses that arose subsequently in consequence of centuries of threat.“[287]

The description of the site was continued by Burckhardt as he said: “The plan on which each one of the individual groups of seemingly unrelated buildings is built is always the same. It is based on the Moorish dwelling house that always consists of a rectangular inner courtyard surrounded by oblong units, with rooms opening inwards. The inner courtyard is sometimes more square-shaped and enclosed by colonnaded halls, like a monastery courtyard – the Court of Lions in the Alhambra is built thus – or it may extend lengthways, like the Court of Myrtles in the Alhambra, and in this case it usually terminates at both of the short ends in pillared halls, leading to living apartments, while the two long sides consist simply of walls – as in the Generalife – or of lower wings. One of the four architectural units adjoining the courtyard may have a projecting structure on the ground, facing outwards, rather like a large oriel with windows on all three sides. This provides the house with a room where guests may be entertained without disturbing the family life that is centered around the inner courtyard. There are a number of these ‘oriels’ in the Alhambra, which are built into projecting citadel towers. One of them, the so-called Hall of Ambassadors, or Throne Hall, is built on a very large scale. Access to it is from the Hall of Myrtles, and across a reception hall, and it incorporates one floor of the Comares Tower. A small oriel in front of a larger projecting structure in the so-called Mirador of Darxa (*dar ‘Aisha*, House of Aisha), which belongs to the group of buildings around the Court of Lions. The so-called Partal, the pillared hall by the large fountain in the Alhambra garden, has an oriel in the lady Tower (Torre de las Damas). Rising up to overlook the roofs of the Moorish houses, there are often small towers where one can withdraw to enjoy the cool of the evening. At one time, the Alhambra possessed several such ‘belvederes,’ but the only ones left today belong to the Partal and to the northern wing of the Generalife. Another characteristic feature taken from the Moorish house is the way in which the inner courtyard has to be approached – not head on, but by a detour.”[288]

Several buildings at the Alhambra were discussed by Barrucand as she said: “Its chief patrons were, however, Yusuf I and above all Mohamed V, who were responsible for the buildings, many of them still standing, which made the Alhambra world famous, even though this did involve demolishing existing structures on the site. The gates ‘de las Armas’, ‘de la Justicia’ and ‘de Siete Suelos’, the towers ‘del Candil’ ‘de la Cautiva’, ‘de Machuca’ and ‘de Comares’ were all either built or, more probably, rebuilt during the reign of Yusuf I. None of these additions, however, necessitated any repositioning of

[287] Barrucand, *Moorish Architecture,* op. cit., 183.
[288] Burckhardt, *Moorish Culture in Spain,* op. cit., 185.

the walls. Presumably the Mexuar (from *mashwar*, conference room) and the Cuarto Dorado date from the same period, although the magnificent south façade of the latter, which is also the entrance façade of the Comares palace, bears inscriptions in the name of Mohamed V. The mighty Comares Tower contains the 'Ambassadors Hall', Yusuf's throne-room and thus one of the crowning glories of the Alhambra. In front of it, the 'Sala de la Barca' (from *baraka,* blessing), an entrance hall, opens on to the portico which forms the north side of the Myrtle Court; also known as the 'Alberca Court' (from *al-birka*, pool), most of it is taken up by a long myrtle-lined pool, measuring 34.7 meters by 7.5, in which the façades around the court are reflected. On the east side is Yusuf's bathhouse. This in turn is connected to Mohamed's palace, which stands perpendicular to the Myrtle Court complex; in the middle of the palace in the Lion Court. The direct link was commissioned by the Catholic Kings, who occupied these palaces. In the middle of the Lion Court is a fountain guarded by twelve stone lions; on each of the shorter sides is a pavilion with fountains within; running from the middle of each side to the central fountain is a paved path with a channel down the middle. The plinth with the twelve lions was obviously not made for the fountain basin which it now supports; it is in fact often attributed to the eleventh century. However, the lions are so similar to those of the Partal that it can be safely dated to the second half of the fourteenth century. The courtyard is surrounded on all four sides by colonnaded galleries; the beds in the courtyard were formerly sunken. The four sides are formed by stalactite-vaulted state-rooms: west, the long hall 'de los Mocárabes', a kind of vestibule with a more recent Renaissance ceiling; east, the much sub-divided 'Kings' Hall', the most important in the whole complex; in the south and north there are two apartments, the first of which is grouped around the tripartite 'Hall of Abencerrajes' with its central pool, and the second centering upon the square 'Hall of the Two Sisters'; this latter leads to a wide room with a central alcove, the 'Mirador de Daraxa' (from *dar A'isha*, or house of A'isha). Today the view from here is on to a romantic courtyard laid out by the Christian Kings, but formerly it looked out over the Darro and the Albaicín. The friary of St. Francis, now known as the Parador, rises up above an Islamic palace. The remains of another important complex above the Partal garden were once part of the palace of Yusuf III (1408-17); its tower once loomed over a patio with a long rectangular pool, together with side-courts, a bathhouse, a monumental entrance and various buildings not yet identified."[289]

[289] Barrucand, *Moorish Architecture*, op. cit., 195.

Analysis of Design Motifs

After such a lengthy comparison of the architecture of the Alhambra by several scholars an analysis of the design motifs used on the walls and their connection with Egypt and al-Maghreb is due. The wall surfaces of the different buildings were studied and analyzed to be able to identify certain motifs that were adapted and used elsewhere. Many photographs taken on location for this work, as well as others available online at ARTstor were analyzed. In addition, a careful analysis was completed of drawings by Owen Jones and Jules Goury from 1830, as well as drawings published by Marçais. All of this revealed astonishing results which are discussed below.

The hypothesis of this work regarding the heavy involvement of Christian workers in creating the design vocabulary of the Alhambra was reinforced by Marçais. He said the following of the floral designs created during the reign of Mohamed V: “Bien que la facture de cette ornementation sculptée se maintienne dans l’esprit de l’arabesque, elle présente des caractères assez particuliers, elle met en œuvre des silhouettes assez différentes des formes contemporaines pour qu’un doute soit permis sur son origines musulmane et sur sa datation. On est tout d’abord tente d’affirmer que la cour de Lions et les bâtiments qui l’entourent, voire le décor de la cour des Myrtles, sont des œuvres chrétiennes difficiles a localiser dans le temps ou qu’elles ont été profondément retouchées a une époque indéterminée. La difficulté qu’on éprouve à leur assigner une date autre que la seconde moitie du quatorzième siècle est un premier argument en faveur de leur attribution a Mohamed V. Des éléments de même genre se retrouvent dans des œuvres mudéjar attestées comme de cette époque. Un autre argument dans le même sens est la présence de cette ornementation florale des lions, sur lesquels figurent des formules pieuses, des textes coraniques, des louanges à l’adresse de Mohamed V.”[290]

To prove his point Marçais continued by saying: “Au reste, l’intervention de la main d’œuvre chrétienne dans ce palais crée pour un prince musulman apparaît comme très vraisemblable. Un poème sculpté sur les murs du patio de l’Alberca célèbre les victoires remportées sur les Chrétiens et l’utilisation des captifs à la construction des palais. La coutume d’employer des corvées de prisonniers de guerre est d’ailleurs constante, mais la collaboration rétribuée d’artistes étrangers est également admissible. Elle paraît bien établie pour les peintures de la Salle des Rois. On peut l’accepter sans peine pour les sculptures.”[291]

[290] Marçais, *L’Architecture Musulmane D’Occident*, op. cit., 355.
[291] Ibid., 355.

The ornamentation at the Alhambra was also discussed by Burckhardt as he said the following: “The ornamental art of the Alhambra is a science, and in order to appreciate it fully it is necessary to know its underlying principles. One of its elements is the arabesque, which is developed in an almost unlimited variety of ways.” He continued by saying: “The arabesque, with its rhythmic repetition serves quite a different artistic purpose than does pictorial art. It is a direct contrast to it, as it does not seek to capture the eye to lead it into an imagined world, but, on the contrary, liberates it from all preoccupations of the mind, rather like the view of flowing water, fields waving in the wind, falling snow or rising flames. It does not transmit any specific ideas, but a state of being, which is at once repose and inner rhythm. This is abstract art, without any subjective, semi-conscious tentativeness about it – it is composed by entirely conscious rules. The arabesque developed from the plant tendril belongs to the law of pure rhythm – hence its unbroken flow, its opposing phases, the balance of its filled-in and open forms. The arabesques of the Alhambra combine abstract palmettes with stylized flowers and geometric inter-weavings – tongues of flame, jasmine blossoms, and snowflakes, unending melody and divine mathematics – or spiritual intoxication and spiritual sobriety combined, to use the terminology of the Islamic mystics. Hieratic inscriptions are inserted or interwoven into all this, and sometimes gentle, intersecting arches emerge from their strokes like the diffused glow of candlelight. The geometric roses or stars that continuously run into one another and develop out of each other are essentially the product of the Islamic spirit. They are the purest simile for the manifestation of divine reality (*al-hakika*), which is the center throughout, in each creature, and in each cosmos, without any being or anything being able to claim to being its sole reflection, creating an unending reflection of centers in each other. The ‘unity of being’ (*wahdat al-wudjud*), however, is expressed in two different ways in these ‘spider webs of God’ – by being woven from one single band, and in the way they radiate from many identical centers.”[292]

The description of the art of the Alhambra was summed–up by Burckhardt by saying: “Paradise is created from divine light, and this structure, too, is made up of light. For the forms of Moorish architecture, the frieze of arabesques, the trelliswork etched into the walls, the sparkling stalactites of the arches are all used not so much for their sakes, but to display the nature of light. The innermost secret of this art is the alchemy of light, for just as true alchemy aims at ‘transforming the body into spirit, and the spirit into body,’ so does the art of Granada dissolve the solid bodies of the structures into a mass of shimmering light by transforming the light into immobilized crystal.”[293]

[292] Burckhardt, *Moorish Culture in Spain*, op. cit., 206.
[293] Ibid., 211.

The analysis must start with la Sala de los Embajadores at the Comares Tower since it has the most obvious representation of Christian symbolism. The walls around the hall have stucco ornamentation starting above the tile and going to the ceiling. The walls have varied designs but the ones studied were illustrated by Jones and Goury and published in their book Plans, Elevations, Sections and Details of the Alhambra. The panel in Plate XXXVI is perfectly symmetrical with floral designs set diagonally in a lozenge arrangement. It has a border at the bottom, with mirrored letters extending upward to blend into the floral design. The word in the design could not be read, but it appears to be a stylization of the word Allah, which has many versions around Granada, especially at la Casa del Carbon. As said earlier, this could not have been done by Muslim workers, as the reversal of the word Allah reduces its divine impact. The focus of the design is the fleur-de-lis motif which has a central position in the lozenges. All the floral elements propagate away from the fleur-de-lis in shapes that follow the outline of the motif. This creates visual unity as the panel is made of a few shapes that repeat over and over again in keeping with the philosophies discussed by Burckhardt It is clear that the fleur-de-lis used is Type-B which is also repeated in the cornice below the ceiling and in other arabesque designs around la Sala de los Embajadores.[294]

At el Patio de los Leones, another drawing by Jones and Goury, Plate II detail 3, has a design centered on an eight-pointed star. The overall layout is based on a square with four circles at the corners and four cartouches at each side. The ones on top and bottom have inscriptions of '*Wa la ghalibu illa-Allah*', and the ones on the left and right have floral designs. The floral designs in them are two Type-B fleur-de-lis motifs that are mirrored with smaller bulbs in between.[295]

At la Sala de las dos Hermanas Jones and Goury did a detail of the wall stuccowork which shows a combined geometric floral design. The center piece of the design is an eight-pointed star with a rosette inside, Plate VI Detail 10. The geometry emanates from the center with diagonal lines forming cartouches and other triangulated shapes that are filled with floral designs. The Type-B fleur-de-lis appears in two sizes with some split to create an outline. The split motif is placed on top of the fleur-de-lis like scissors with their tongues wrapped around it. Whenever a shape is duplicated in halves or in a different size in design it is called shape similarity. This technique is used by artists and designers to create unity and visual rhythm. Since the shapes

[294] Jones, Owen, and Goury, Jules, *Plans, Elevations, Sections, and Details of the Alhambra*. O. Jones (London, 1842), pl. XXXVI.
[295] Ibid., pl. II.

are similar, the negative space in between creates new shapes that are also similar since they follow the contours of the original.[296]

Another stucco detail at el Patio de los Leones, Plate VIII Detail 12, is a square with a border containing a single Type-B fleur-de-lis at the bottom. Its silhouette appears right above it with four halves placed around it. A lotus like smaller bud is also placed around it, at the corners and above. Again this is another example of a repetitive use to create shape similarities.[297]

At la Sala de los Embajadores a large panel was drawn by Jones and Goury, Plate XVI which has the familiar floral lozenge layout. This panel is amazing because each lozenge has several motifs stacked and reversed. The outline is made up of interlocking shapes that look like dancing flames. The inside is filled with several types of fleur-de-lis. At the bottom is the Type-B, above it, a wide stylized type topped by half scrolling shapes, with a wide and short fleur-de-lis cap. Jones and Goury colored this panel so the different motifs become clear which helped me distinguish the two types of fleur-de-lis motifs.[298]

The interlocking outline shape described above is similar to what Burckhardt called tongues of flames. It is also very similar to a lizard-tail but without the scroll. This shape is more animated than the floral designs around it and will be referred to as a Lizard-Tail from now on. This is important because this shape appears stronger, fuller and more alive than all the rest. In stucco carvings it is usually rounded as if it were of flesh reinforcing the idea of a living zoomorphic design. So in the case of the Alhambra it will be called a scrolled Lizard-Tail to distinguish it from the typical tail without a scroll.

Another drawing studied was a detail by Jones and Goury at la Sala de Abencerrajes, Plate XIX. This panel is set up as an arcade in several horizontal and vertical divisions within the standard lozenge layout. Semi-circle arches alternate with multi-lobed arches that have floral designs. The Semi-circle arches have a Type-B fleur-de-lis others have inscriptions that say "*al hamd lil Allah wahdo*". Again the fleur-de-lis is the focal point of the design but here there is also a cross shape aligned with it. It is made of four trefoil vine leaves connected by a small square wrapped by an eight-lobed outline. This cross inside the lobed outline alternates with a small shield from one row to the next.[299]

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[296] Ibid., pl. VI.
[297] Ibid., pl. VIII.
[298] Ibid., pl. XVI.
[299] Ibid., pl. XIX.

It was very surprising to see the shield during the first visit to the Alhambra. It was a strange occurrence to have a Christian symbol with the Nasrid insignia of '*Wa la ghalibu illa-Allah*' written across it. For an architect this would be considered as kitsch in design. It is basically taking a Christian symbol and by simply adding an Arabic inscription, it becomes part of the design vocabulary. It can be used as proof that the workers in this case were Christians who were accustomed to using the shields of the Catholic Kings in their designs. Unlike the fleur-de-lis and the Lizard-Tail, this motif did not become very popular rarely appearing in al-Maghreb and did not appear in Egypt except as a blazon and on coins.

Plate XXV is a detail from la Sala de los Embajadores which is set up as a multi-lobed arch with a Type-B fleur-de-lis motif at the apex. The design is made up of several halves of the motif and of scrolling floral designs. The panel in Plate XXVI also from la Sala de los Embajadores has a multi-lobed arch with Type-B fleur-de-lis motifs at the corners of the spandrels.[300]

Plate XXVII from la Sala de las dos Hermanas is a rectangular panel with three multi-lobed arches filled with floral designs. The one in the center is larger than the two on either side which have Type-B fleur-de-lis at the apex. The center arch has inscriptions interwoven within the floral design. The half leaves are used to fill the space of the spandrels and inside the arches.[301]

A section of a panel from la Sala de los Embajadores in Plate XXXIV has a narrow design. Here it is very clear that to focus of the panel is the Type-B fleur-de-lis. It is placed in a central location at the apex of the lozenge floral layout. Because the upper part is missing from the plate, it was assumed that the lozenge repeated in the hidden area. These are the same familiar motifs discussed before, the half motif, the scrolled Lizard-Tail, and the mirrored leaves.[302] Plate XXXVI shows a spandrel from the same area at la Sala de los Embajadores. The arch itself is scalloped with a thin outline that creates a wave along the spandrel. The corner starts with the Type-B fleur-de-lis with a rosette directly below it. This creates an anchoring point for the floral designs to be balanced on either sides of it. The spaces are filled with scrolling half fleur-de-lis motifs as well as other leaves.[303]

The design motifs discussed so far appear on wall surfaces in stucco carvings but in Plate XLII Detail 68 in el Patio de la Alberca a column capital shows similar composition. It is divided in the center by a composite fleur-de-

[300] Ibid., pl. XXV.
[301] Ibid., pl. XXII.
[302] Ibid., pl. XXXIV.
[303] Ibid., pl. XXXVI.

lis/palmette motif. The Fleur-de-lis is of Type-B but it is at the base of the palmette with volutes below it and smaller fleur-de-lis at the tip of the palmette. Reversed, scrolling leaves adorn the rest of the capital in an upward direction away from the center. This type of column is repeated in several areas including el Patio de los Leones.[304]

The last plate to be analyzed is Plate XLVIII Details 80, 82, 83, and 84 at la Sala de las dos Hermanas. Detail 80 has a similar set up as previously discussed but in a more linear crown like design. Detail 82 has a central design but is more creative in how it uses variations of the fleur-de-lis motif. The one near the bottom of the panel is of Type-B wrapped by two scrolling Lizard-Tails to create an arch. At each of the upper corners a split fleur-de-lis creates another arch around a Type-A fleur-de-lis motif. Details 83 and 84 are arched panel niches that have symmetrical designs on both sides of a large stylized fleur-de-lis motif. There is more interlacing here with the main fleur-de-lis motif to the extent that it was hard to discern it from the surrounding leaves.[305]

There are no more plates that include relevant design motifs in the book by Jones and Goury but photographs which have similar motifs are included in this work for comparison purposes. In any case the point is clear that the fleur-de-lis is a dominant design motif throughout the palaces of the Alhambra. It is proof that the motif was favored by Christian artists since many scholars attested to their involvement during construction.

8.4- Analysis

Hamlin saw the Spanish landscape as being influential, he said: “Spain was, and is still, a land of the most vivid and dramatic contrasts, windswept and barren upland plateaus, rocky and forbidding mountains, valleys of great fertility; cold and blustery in the northern uplands, warm and balmy and almost tropical along the southern Mediterranean shore. It was a country too, with a rich and confused cultural background; Roman, Visigoth, Moor, and later the Christian chivalry of the conquering kingdoms had all left their mark.” He continued in his analysis: “All of this gave the Spaniard a certain driving intensity of feeling, a certain dynamism, a special kind of dramatic power, that was in a sense the human analogy of the drama of his natural surroundings.”[306]

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[304] Ibid., pl. XLII.
[305] Ibid., pl. XLVIII.
[306] Hamlin, *Architecture Through the Ages,* op. cit., 386.

Barrucand wrote of the Islamic architecture of Spain: “One could spend hours discussing the most appropriate way to pigeonhole this architecture in some classificatory scheme. Whether it is described as Moorish, Hispano-Islamic or Hispano-Maghrebian, it is clear that none of these attributes does justice to a reality in which Arabic, Spanish and Berber elements subjected each other to mutual influence of varying intensity on the fertile soil of Islam, and in so doing gave rise to unparalleled peaks of achievement.”[307]

The Great Mosque of Córdoba and the Great Mosque of Sevilla illustrate the influence that spread since they are hybrid buildings and contain design elements that were used as a model to follow. They are two examples of how Spanish architects solved the problem of integrating two different cultures in one place of worship. Stylistic elements from different worlds are fitted within the same structure.

The Alhambra is used to contrast its ornamentation with other buildings in Egypt and al-Maghreb. The stucco wall designs are very rich and they provide an encyclopedia of design motifs. The palaces have their own highly developed design aesthetic which was copied all over the world. The learned techniques of combining design elements, which were mastered in Spain, provided a new architectural design tool.

In the case of the Great Mosque of Córdoba the chapels had to be interwoven into the existing mosque at la Capilla de Villaviciosa and la Capilla Real. Later the designers decided to sidestep the problem all together by demolishing a large portion of the hypostyle prayer hall for la Capilla Mayor. The blending of the styles is successful in some parts of the mosque, yet looks very odd in other areas. The minaret does not show Islamic design elements because the tenth century original had to be rebuilt in the eighteenth century after a major earthquake. The exterior walls and gates are virtually unchanged with the exception of some minor additions. Several design elements were specifically discussed: the stepped crenellation, the horseshoe arch, the stucco carving, and the mosaics with the fleur-de-lis motif. Those elements strongly impacted the future development of Islamic design from Spain to Egypt.

At the Great Mosque of Sevilla the only integration occurred at the minaret. The original shaft contains design elements like the brick lozenge pattern and the fleur-de-lis motif that are carried to other parts of the Islamic world. Other elements used in the courtyard, like the pointed-horseshoe arch and the stepped crenellation, also appear in other Islamic buildings in Spain

[307] Barrucand, *Moorish Architecture*, op. cit., 18.

and beyond as proof of a spreading design aesthetic. The mosque structure itself was completely demolished to make way for the new nave and the transept of the Latin cross based cathedral. Flying buttresses are used to support the walls, however symbolic as they represent the triumph of Christianity.

9- The Cordial Relations with Spain

9.1- Granada

The Nasrids rulers of Granada were not very interested in establishing strong relationships with the Mamluks until they were attacked by the Christians. They had better relations with the Marinids as they were geographically closer. Despite this, in 1322 when the Nasrids were attacked by Christian armies, the Marinids were reluctant to help and did not send forces. Later during the fourteenth century the sultan of Granada Mohamed al-Ghany sent messages to Cairo to improve relations. The first letter was sent during the reign of al-Ashraf Shaaban who ruled from 1363 to 1377 and was a descendent of Qalawun. The letter was short and simply asked for the renewal of good relations between Granada and Cairo. Later embassies were sent to Cairo with more letters explaining the fight of the Muslims against the forces of the Reconquista. In response, letters were sent back to Granada with gifts. One letter started by acknowledging the receipt of a red letter in reference to the Red Forte or Alhambra, hence cordiality was expected. It was written by Sultan Shaaban, in it, he explained that the envoy of Granada was well treated and allowed to finish his business in Cairo. He was sent back with gifts and a thousand dinars. The Nasrids asked for the help of the Mamluks to fend off attacks by Ferdinand of Castilla but of course they did not get any.[308]

The Muslims in Granada insisted on having good relationships with the Christians despite the constant attacks during the Reconquista. During the reign of Yusuf I, between 1333 and 1354, it was evident that he made good use of his translators. Several bilingual letters survive that were addressed to Pedro IV of Aragón reigning from 1336 to 1387. Other gestures of good will were shown, for example when Alfonso XI died of the plague during the siege of Gibraltar in 1350. His body was transported by his knights to Sevilla and orders were given by Yusuf I not to attack his convoy. This opened the way for new relationships between Castilla and Granada, leading to friendship between Pedro I, who was in power from 1350 to 1369, and Mohamed V.[309]

In 1358 war broke out between Castilla and Aragón. In 1360 Mohamed V was dethroned, escaped to Fez and Mohamed VI "el Bermejo"

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[308] Surur, Mohamed, *Dawlat Bani Qalawun fi Miṣr: al-Halah al-Siyasiyah wa al-Iqtisaadiyah fi Ahdiha bi-Wajhin Khass.* Dar al-Fikr al-Arabi (Cairo, 1947), 147-149.
[309] Fernández-Puertas, Antonio, The Three Great Sultans of al-Dawla al-Ismāʿīliyya al-Naṣriyya Who Built the Fourteenth Century Alhambra: Ismāʿīl I, Yūsuf I, Muḥammad V (713-793/1314-1391). *Journal of the Royal Asiatic Society*, Third Series, Vol. 7, No. 1. Cambridge University Press (Cambridge, 1997), 10.

took over Granada after killing Ismail II who was enthroned temporarily. El Bermejo later became allied with Aragón but in the same year Pedro I of Castilla defeated the Aragonese and the rebellious Castilians at Najera. He later proclaimed himself a defender of the dethroned Mohamed V, and forced Abu Salim of Fez to allow him to return to Granada who then left with his family and Mamluks to meet Pedro I after arriving at Gibraltar. He was received with all the honors and dignities, and was assured that Pedro I had no wish to conquer Granada. Mohamed V established his court in exile at Ronda. In 1362 with the help of Pedro I forces at Casares, they advanced on el Bermejo who fled to Sevilla seeking asylum upon seeing the large army. He was later killed by Pedro I himself in the Campo de la Tablada near the Alcázar de Sevilla and his head was sent to Granada.[310]

Mohamed V's external policy, notably towards Aragón, was always subordinate to his friendship with Pedro I of Castilla, though he tried to prevent the slow advance of the Christian Reconquista and succeeded during his lifetime. But later in 1367 he reversed his policy and signed a three year pact with Pedro IV of Aragón, which included the Marinid Sultan Abu Faris. The agreement allowed Catalan merchants free movement within Nasrid and Marinid territories and the right to reside.[311]

Pedro I was killed in 1369 and Mohamed V signed an eight year truce with Enrique II of Trastamara who was in power between 1369 and 1379. In the same year he also signed five year pacts with Aragón and the Marinids. In 1376 he signed another five year truce with Pedro IV of Aragón which established commercial relations and in the case of war, the exchange of between 400 and 500 Nasrid cavalry men for four to five Catalan ships.[312]

During his reign, Mohamed V maintained good diplomatic relations with the Hafsids of Tunisia and the Mamluks of Egypt. He even sent a mission in 1364 to the Mamluk Sultan al-Ashraf Nasir al-Din Sha'ban to congratulate him on averting a Christian attack on Alexandria. The gesture was returned with the sending of two thousand Egyptian dinars and various products. In any case, the Mamluks never gave the Nasrids any military support in their fight against the Reconquista since they had good relations with Aragón.[313]

Christian art sources became apparent during the reign of Mohamed V. The influence was visible in the sculptures of the Fuente de los Leones, and in the ceiling paintings of the Sala de los Reyes. Also in architectural ceramics

[310] Ibid., 18.
[311] Ibid., 21.
[312] Ibid., 22.
[313] Ibid., 23.

appearing in the figures on the floors of the Torre de Abu el-Juyush and of the Palacio de Alijares.[314]

The feuds between the sultans of Granada hastened the fall of the city and made it easier to be conquered by the Christians. At many occasions they requested the help of the Mamluks during their war with Ferdinand and Isabella. As soon as the armies advanced on the city they sent an envoy to Sultan Qaytbay asking for his military support. Of course the sultan was reluctant to help because of the good trade relations with Spain. He sent his famous letter instead, threatening to arrest Christian pilgrims going to Jerusalem in case the Muslims were ill-treated in Granada. The letter did not help and the city fell in 1492.[315]

9.2- Castilla and Aragón

The Italian Republics had long established good trade relations with the Muslims in Egypt and the Levant, but in the second half of the thirteenth century the Catalans started playing a major role. During the early times of Mamluk rule in Egypt Jaime I, king of Aragón and Catalonia decided to establish a consulate in Alexandria. In 1262 he sent an envoy, Raimondo de Conchas of Montpellier, which was under Aragonese control at the time, to Cairo to get permission from the Mamluk sultan Baybars. The envoy succeeded in his mission and a consulate, as well as a *fonduq* (alhóndiga) were established. Ramon Ricart of Barcelona was appointed to organize the Catalan colony in Alexandria in March of 1264, but was quickly replaced by Guillem de Moncada as consul for two additional years. King Jaime I had difficulties controlling his subjects in Alexandria as proven by the various decrees issued at the time. He sent Raimondo de Conchas back to Egypt to appoint a new consul, however this did not happen and the king left Guillem de Moncada in control. In 1266 the king again sent Bernard de Molins and Bernard de Plan both of Montpellier to direct the Catalan colony. These appointments are a testimony to the intense trade between Barcelona and Alexandria which continued until 1274 when the church forbade trade with the Mamluks.[316] The termination of trade was not enforced and only timber and iron were not sent to the Mamluks. The successor of Jaime I, Pedro III (1276-1285) was more interested in creating stronger commercial ties with Egypt

[314] Ibid., 25.
[315] Abd al-Tawwab, Abd al-Rahman, *Qaytbay al-Mahmudi*, al-Hayah al-Miṣriyah al-Ammah lil-Kitab (Cairo, 1978), 173.
[316] Ashtor, Eliyahu, *Levant Trade in the Later Middle Ages*. Princeton University Press (Princeton, 1983), 13.

than eliminate them. Trade with Alexandria continued despite the reissuance of the prohibition in 1281 by Pedro III, who did not want to upset the church.[317]

It is known that the Mamluks had good relations with Castilla dating back to 1261 when an Egyptian embassy of Sultan Baybars was sent to King Alfonso in Sevilla. Martínez published the Arabic account of the visit after al-Nuwayri which is translated for this work as follows:

> "The envoys of the sultan were arriving in Sevilla to meet King Alfonso. Previously the king had sent an envoy named Dinar with a gift and a letter to the sultan in Cairo, to promote good relations. In response, the sultan sent three ambassadors with gifts to see the king. After leaving Cairo they went to Alexandria where they sailed to Shaqrish where the lord of Barcelona (the crown of Aragón) held them for a few days. They were later released and allowed to go to Valencia where they landed and headed to Burgos. By then they were in the land of Alfonso who had them brought to Vitoria where he met them. During the trip they passed many villages where the people went out to greet them. They were well treated and met the king after three days. He was pleased with the gifts they brought and accepted them. They left to go to Barcelona to sail on a ship he had prepared for them to go to Alexandria."[318]

The account of the embassy points out to the route used: Cairo-Alexandria-Valencia-Burgos-Vitoria-Barcelona-Alexandria-Cairo. It is important to note that the ambassadors must have seen many towns in between which in itself created a specific knowledge of Spanish art and architecture at the time.

Martínez spoke of an embassy in 1277 going to Egypt sent by King Alfonso to meet the sultan in Cairo, the son of Baybars, with lavish gifts. The sultan reciprocated and sent the ambassadors back to Sevilla with gifts of his own to the king.[319]

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[317] Ibid., 14.
[318] Martínez Montávez, Pedro, Relaciones de Alfonso X de Castilla con el Sultán Mameluco Baybars y sus Sucesores. *Al-Andalus XXVII, Revista de las Escuelas de Estudios Árabes de Madrid y Granada*. Imprenta de Estanislao Maestre (Madrid, 1962), 363.
[319] Ibid., 371.

Qalawunid Relations 1279-1382

In 1281 King Alfonso sent two envoys to Sultan Qalawun with a gift of horses (Spanish-Andalusians, PRE) and mules, he replied with lavish presents. That same year a defense treaty was concluded between Sultan Qalawun and the king.[320] This was also confirmed by Martínez who mentioned the name of the envoy as al-Faris al-Hakim Maister Filip al-Ispaniyuli (the Spaniard).[321]

Of course the rest of the thirteenth century witnessed the increase in trade between Cairo and Sevilla. This was mainly because of the large areas of olive trees in the valley of the Guadalquivir River, which fell in the hands of Fernando III. Sevilla became the center of the olive oil industry and saw rapid commercial growth.[322] Later in 1300 Sultan al-Nasir Mohamed sent two ambassadors with gifts including Venetian cloth, to the king of Castilla Fernando IV to promise freedom of trade for Castilian merchants.[323]

In the times of Baybars a truce was established with the Franks which expired after ten years in 1282. When Sultan al-Mansur Qalawun assumed the throne of the Mamluks envoys were sent to Cairo to renew the truth. Sultan Qalawun insisted that they come by sea not overland across Syrian Mamluk territory. He agreed to negotiate a new truce because of the commercial value of Acre and to take advantage of peaceful relationships. The treaty was modeled after the one signed earlier in the times of Baybars. It was finally ratified in June of 1283 after an emir from Cairo went with and an official of the chancery to Acre. The two unequal but sovereign powers agreed to guarantee the safety and security of territories and subjects. The Franks were forbidden from restoring fortification outside Acre, Sidon, and other areas. They were not to be attacked by Mamluk galleys and were to cooperate in naval matters. Most importantly both parties agreed to act against pirates in the Mediterranean to protect marine trade.[324] In addition, the Christians agreed that no help was to be given to pirates to fix their ships or provide them with food and water. They were to be arrested if found in Christian ports and their goods confiscated and safeguarded until given to

[320] Surur, *Dawlat Bani Qalawun*, op. cit., 262.
[321] Martínez, *Relaciones de Alfonso X*, op. cit., 372.
[322] Ibid., 374.
[323] Ashtor, *Levant Trade*, op. cit., 37.
[324] Holt, P. M., Mamluk-Frankish Diplomatic Relations in the Reign of Qalawun (678-89/1279-90). *Journal of the Royal Asiatic Society of Great Britain and Ireland*, No. 2 (London, 1989), 283.

their rightful owners and the sultan would do likewise in his ports.[325] A detailed section covered trade relationships and the protection of merchants and their vessels.

Maqrizi wrote about this treaty and how important it was since it specifically included the Knights Hospitaller from Acre, who later were in the service of the King of Aragón in Rhodes. The treaty covered Mamluk territory from the Euphrates to Nubia. It covered merchants and travelers going on land or by sea in all the seas and the ports.[326] It specifically mentioned the ports of Damietta and Alexandria because of their importance. It said that all people of all countries should be safe in the land of the Mamluks including their money, children, women, and goods. It included all the Franks and the Knights Hospitaller in Acre and all coastal towns covered in the treaty.[327]

The Mamluk merchants were protected in case their ships broke down in Christian ports. The ships and their cargos and all the money were to be kept and delivered to them or to representatives of the sultan. Similar treatment was to be given to Christian ships in Mamluk ports. Help was to be given to repair the ships and deliver the goods in all ports included in the treaty. It is also mentioned that merchant ships should be allowed to dock at any port to get food and water.[328]

Sultan Qalawun agreed with the Christians to have them send information on imminent attacks by the Crusaders coming through Acre or other ports. It also included exchanging information on Mongol movement on land toward Mamluk or Christian territories. They also agreed to defend each other and protect coastal towns included in the treaty.[329]

Maqrizi explained that the merchants from both sides were protected in their trade. They were free to travel and stay as they preferred with no dues to be imposed that were unusual or higher than normal for whatever reason. The merchants were free to trade in any product as long as it was not prohibited by the sultan or the Knights Hospitaller of Acre.[330]

Later in 1292 Jaime II sent Ronteo de Marimon and Raymondo Alemany to Cairo to propose a political alliance which included defense

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[325] Maqrizi, Ahmed, *Kitab al-Suluk li-Mma'rifat Duwal al-Muluk*, v.1 pt.3. Matbaat Lajnat al-Ta'lif wa-al-Tarjamah wa-al-Nashr, (Cairo, 1956), 993.
[326] Ibid., 975.
[327] Ibid., 988.
[328] Ibid., 991-992.
[329] Ibid., 993.
[330] Ibid., 993.

especially against a new crusade. The King of Aragón was actually going against the pope in signing this treaty and was prepared to fight against other Christians. He was speaking in that case in the names of the kings of Castilla and Portugal. The agreement with Sultan al-Ashraf Khalil Ibn Qalawun of course included trade relations and as Ashtor said of the treaty: "It refers to the Catalan merchants who visit Alexandria and Damietta and to Moslem traders coming to the countries under the rule of the king of Aragón, then including Sicily, and contains the renouncement of both governments of any claim upon the bequests of merchants who were subjects of the other and had died in their territories and also upon the *ius naufragii.* Further, there was a paragraph concerning the delivery of war material. The king of Aragón obliged himself, as his brother Alfonso III had done before him, to allow his subjects to supply to the Muslims timber, iron, and weapons."[331]

Despite the treaty with Sultan al-Ashraf Khalil, in 1297 Jaime II had secret contacts with the Ilkhanids in Persia, the enemies of the Mamluks. They were offered help against Cairo between 1293 and 1300 through two ambassadors. Aragón continued with a policy of expansion after the conclusion of peace with the House of Anjou. It was clear that despite conflicting messages from the king of Aragón that he had great interest in trade revenues. In 1302 he had again forbidden any trade with the Mamluks but this time it was allowed only to collect fines from the merchants afterward. The treasury in 1308 reported an increase in the collection of fines and signed 200 letters of absolution. Ashtor explained one of the letters: "As one reads in a document referring to these proceedings that without the export of grains (carried on by the transgressors) Alexandria would have remained uninhabited, the inquiry probably concerned shipping in 1296, when Egypt suffered from a serious dearth of grain; in other words, the reference is to commercial activities before of the enactment of the royal prohibition. The treasurer also reports that the decision as to how to proceed was made when the king set out for Sicily (*pro gran cuyta que haviets de diners*). According to the reports of the magistrate, some of the merchants who had exported war material to Egypt and had been imprisoned claimed to have permits and demanded to be brought before the king himself."[332]

An extensive study on the relation between Egypt and Aragón and how it was affected by the Crusades was done by Atiya. He specifically wrote about the relationship between Jaime II and Sultan al-Nasir Mohamed Ibn Qalawun during his second and third reigns between 1299-1309 and 1310-1341. The diplomatic exchanges occurred in the decades immediately following the end of Christian control over the Levant and the fall of the

[331] Ashtor, Levant Trade, op. cit., 20.
[332] Ibid., 21.

Kingdom of Jerusalem in 1291. This initiated a new era to boycott Egyptian trade and to blockade Mediterranean ports in order to eliminate the power of the Mamluks. Jaime II was careful in guarding the interests of his country and knew how to achieve more with diplomacy rather than raging war against Egypt. The rules laid out by the pope did not stop him from trading with the Mamluks. He was like Emperor Frederick II in conducting trade and breaching the boycott of trade and like him he suffered the wrath of the papacy. He was on an opposite course having peaceful relationships with al-Nasir Mohamed despite the consequences. It was this policy along with that of the Italian Republics of Venice and Genoa that caused the blockade against Egypt and Syria to collapse.[333]

The increasing influence and interest of the Catalans in the Levant must have brought the crown of Aragón in closer contact with the Mamluks. Atiya explained: "The character of al-Malik al-Nasir himself made these rapprochements with Aragón possible in spite of the traditional hostility of Egypt towards the Latins since the time of the early Crusades. Small, lame and with a deformed eye, the Sultan was hardly a war like figure, unlike most of the Mamluk class to which he belonged. Yet he had one of the most domineering personalities of his times. Enlightened, shrewd and indefatigable, he was also a great diplomat and loved the ways of peace which did not impair his prestige or mar his interest. A man of this kind could not refuse friendly overtures whatever their source might have been, more especially if they brought prosperity to his country. In reality, al-Nasir deliberately encouraged the advent of embassies, Eastern and Western, Muslim and Christian; and the court of Egypt during his reign became a center of diplomatic exchanges with princes whose trades passed through the marts of Cairo and Alexandria, Damietta and Damascus, as well as the rest of the great emporia of the Mamluk Empire. At least his third reign was phenomenal in the story of medieval Egypt, and the country enjoyed a period of almost incredible affluence under his rule. In acceding to the modest requests submitted to him by Jaime II, al-Nasir undoubtedly secured a good customer for the Egyptian markets and succeeded in creating an irreparable breach in the blockade devised by the Popes and their advisers to choke his commerce and intercept the importation of war material and new stock of young Mamluks to reinforce his ranks."[334]

King Jaime II sent a letter to Sultan al-Nasir Mohamed in 1300 requesting that Catalan merchants and pilgrims be safe travelling in Mamluk dominion. The sultan replied in a short letter by outlining his victories in Asia

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[333] Atiya, Aziz, *Egypt and Aragon: Embassies and Diplomatic Correspondence between 1300 and 1330 A.D.* Kraus Reprint (Nendeln, 1966), 9-10.
[334] Ibid., 11-12.

over the Mongols after their repeated attacks and that the Catalan were safe to travel in Egypt, Syria, and Jerusalem. The king was happy and encouraged to send another letter in September 1305 requesting the protection of Christian pilgrims, the protection of Catalan citizens and merchants living in Alexandria, and the release of Christian prisoners in Cairo. The sultan replied in February 1306 approving the requests and sending several gifts to the king including silk and lavish cloths.[335]

Relations were severed again for eight years because of problems between the embassies of Egypt and Aragón but were resumed in 1314. King Jaime II sent two ambassadors with a letter apologizing for any misunderstanding between them. He also asked for the release of Christian captives and the safe passage of pilgrims. Sultan al-Nasir Mohamed replied accepting the requests and sending gifts as usual.[336]

Later in 1318, F. de Villafrancha, a noble of Barcelona was sent to Cairo with a special message acknowledging the release of Christian prisoners and thanking the sultan. Jaime II asked for more captives to be released but the sultan did not reply which was unusual. [337]

The sending of many embassies to Cairo indicates heavy commercial activities between Aragón and the Mamluks. Catalan merchants sailed from Palermo, Candia, as well as other ports. In addition to the standard Barcelona-Alexandria route and the supplementary Majorca-Alexandria route, ships sailed from the Greek islands.[338] According to Ashtor it is known that in 1307 three ships sailed from Barcelona to the Levant, five in 1321, four in 1322, two in 1329, and three in 1333. It is also mentioned in the sources that 163 merchants visited Egypt and Syria, some of them for two or three times coming from different ports and on other Genoese ships.[339]

It is known that European fabrics were highly desired by the Mamluks. Ashtor mentioned that linen from Reims and colored cloth of Châlons-sur-Marne, cloth of Douai, and Ypres were given as gifts to the sultan by the Catalan ambassadors in 1314 and 1322.[340]

Later on between 1345 and 1370 trade resumed on a regular basis. A request was submitted to the pope in 1338 by the Venetians to lift the

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[335] Surur, *Dawlat Bani Qalawun,* op. cit., 263-266.
[336] Ibid., 267.
[337] Ibid., 270.
[338] Ashtor, Levant Trade, op. cit., 36.
[339] Ibid., 37.
[340] Ibid., 37.

prohibition because of the conflicts in Persia and with the Tatars, but it was denied. The pope reconsidered in 1344 to prevent the collapse of trade and permits were slowly issued for travel to Egypt and Syria.[341] The Catalans resumed their trade with Egypt after Pedro IV sent Pere de Mijavilla as his ambassador to Cairo. He had specific requests: the reduction of customs duties paid by the merchants, the release of Catalan captives, and the relics of Saint Barbara. In 1344 the king of Aragón allowed a ship from Barcelona to be sent to Alexandria. Reports by Florentine merchants in 1347 explained that permitted Catalan ships full of goods were anticipated in the port of Alexandria during the reign of Sultan Hassan.[342]

Trade between Catalonia and Egypt was very intense during that period to the extent that a 1348 papal document indicated that it was never discontinued. Jeronimo Zurita the chronicler from Aragón spoke of the heavy trade in the Mediterranean between the Catalans and the Mamluks in the 1360's. Other records from multiple sources support this information. Another source, rabbi Nissim of Gerona who lived in Barcelona between 1310 and 1375 spoke of another merchant from Catalonia who travelled to Cyprus and Alexandria. [343]

There were of course some attacks by Catalan pirates who did not differentiate between Christian and Muslim ships in the Mediterranean. Their action did not specifically target trade with Mamluk ports. The Catalan consulate was long established in Alexandria to oversee Catalonian affairs. The colony always had a consul from Barcelona appointed by the city council. Ashtor spoke of documents from 1347, 1360, 1361, and 1362 which dealt with the Catalan consulate. In 1360 the Council of Barcelona replaced Bernardo Badutii with Bonanato Gil who was later in 1361 again replaced. Other documents show that the consul was asked to intervene with the sultan on behalf of the Franciscans in Bethlehem.[344]

In 1363 at the beginning of a new Crusade initiated by King Peter I of Cyprus, Christian forces attacked Egypt at Aboukir and Rosetta on the Mediterranean coast. Peter I tried to get help from the Italian Republics who reluctantly agreed on the condition not to affect trade with Alexandria. He later in 1365 assembled a fleet of over 100 ships at Rhodes and headed toward Alexandria. The port city was sacked on 10 October but was only held for a few days as Sultan al-Ashraf Sha'ban swiftly responded. The Crusaders destroyed the house of the Venetian consul and put ablaze the *fonduqs* of the

[341] Ibid., 66.
[342] Ibid., 69.
[343] Ibid., 85.
[344] Ibid., 86.

Genoese, the Catalans, and the merchants from Marseilles. In addition, looting of houses of European merchants including the Catalans ensued. The consequences of such an attack were great as it disrupted trade in the Eastern Mediterranean for a long time.[345]

The Mamluks wanted to end the war with the Crusaders so envoys were sent to the kings of Aragón, Venice and Genoa. Of course the Europeans were more eager to resume trade in the Mediterranean. As soon as the Crusaders returned to Cyprus trade resumed and ships sailed from Famagusta toward Egypt. In March of 1366 Venetian ambassadors went to Cairo to encourage Sultan al-Ashraf Sha'ban to continue good trade relationships. The king of Aragón sent an embassy with two ships full of merchandise to Alexandria. In addition to the request of resuming normal trade, the embassy asked for the release of Catalan merchants imprisoned during the attack on Alexandria and the return of merchandise ceased by the sultan. A couple of months after the departure of the embassy from Cairo, the King of Aragón sent another embassy to the pope asking for licenses for four merchant ships to sail from Barcelona and Majorca to get the sultan to accept. Pedro IV asked for the release of 300-400 Catalans and the return of merchandise worth 400,000 fl. All this indicates an intense level of contact and commercial exchange between Egypt and Spain just before the Crusader's attack. According to Ashtor: "If these claims are correct they would indicate the supremacy of the Catalans in this branch of world trade in that age, for it is unlikely that the commercial exchanges of either the Genoese or the Venetians with the Muslim Levant reached such dimensions in that period."[346]

The pope was forced to have a more lenient policy on trade with the Muslims. A more liberal policy in granting licenses was adopted without abolishing the prohibition. In 1374 licenses were obtained by the Venetians for 2 galleys and in 1377 they asked for 25 galleys, however, obtained licenses for 17.[347]

Between 1370 and 1402 the Mediterranean had more trade activity than ever before. The Catalans and the Italians increased the number of ships sailing in of the Mamluk dominion drastically. This was because of the instability of Persia and the dangers facing the merchants travelling there. Constantinople was weakened and by the time it fell to the Turks it almost had no European merchants. New trade routes had to be established to allow for the flow of spices, dyes, and other products from India and China. In 1365

[345] Ibid., 89-91.
[346] Ibid., 95.
[347] Ibid., 108.

new routes of trade were established: Alexandria-Venice-Nurnberg-Lviv or Alexandria-Genoa-Milan-Nurnberg-Lviv.[348] Of course this meant an increase in goods going to Alexandria and exported to other ports in the Mediterranean including Barcelona.

Catalan Jews

Catalan Jews had a large share of Mediterranean trade until the end of the fourteenth century. It is well documented that they held first place among other European Jews in the number of merchants and the capital invested. Jews from Barcelona had trade relations with other ports in the Iberian Peninsula like Valencia and Sevilla. They also traded with Sardinia and Sicily since they were part of the Aragonese-Catalan dominion. In addition, they had close contacts with Jewish merchants in North Africa especially in Ceuta and Cherchel. This is evidenced by orders of the king of Aragón dating from 1319 to 1325.[349]

According to Ashtor there is a lot of information regarding the activities of Catalan Jews in Egypt around 1300 and the first quarter of the fourteenth century. He spoke of the period of papal trade prohibition with the Mamluks: "The proceedings against the merchants who went on trading with Egypt despite the royal decree shed bright light on the intensity and the volume of the Jewish trade with the Muslim Levant. The proceedings are well documented. The correspondence of the king with the judicial authorities and his decisions contain many data concerning the travels of Jewish merchants and the fines they had to pay."[350]

Jews living under the Mamluks in Egypt and Syria went through drastic changes in their professional structure. Early on during Mamluk rule there were many of them engaged in Mediterranean commerce, they were overpowered by the Karimis who almost monopolized foreign trade. Later a new class emerged of southern European Jews who were heavily involved in seaborne trade. Catalan documents refer to activities of Egyptian Jews in the late thirteenth century. Ashtor said: "In the year 1270, King Jaime I granted a safe-conduct to two Jews, brothers, from Alexandria, Barchet and Mancer Avenmenage; the safe conduct applied to their families and goods as well."[351]

At the end of the fourteenth century the Catalans controlled trade between Sicily and the Muslims since the island was under their control. Many

[348] Ibid., 107.
[349] Ashtor, *Technology, Industry and Trade,* op. cit., IX-162.
[350] Ibid., IX-163.
[351] Ibid., IX-177.

merchants from Barcelona, Valencia, and other Spanish cities had settled there and were trading with the Italians and the Mamluks. It was normal for the Catalans to charter ships to transport their goods. In 1402 two Catalan traders sent a Venetian cog from Alexandria to Syracuse loaded with spice and cotton.[352]

At times there were conflicts between the Catalans and the Mamluks because of piracy. In 1378 Europeans only described as Franks in Arabic sources, tried to attack Tripoli but were pushed back. Catalan sources in the Royal Chancery of Aragón, explain that Catalan merchandise was sequestered in Cairo because of the attack. In 1379 an envoy was sent to Cairo to try to release toe goods. He succeeded in his mission and the king of Aragón gave orders not to attack Mamluk ships, therefore a peace treaty was concluded. Later in 1386 the king sent three envoys from Barcelona to negotiate a new commercial treaty. There other attacks by Catalan pirates in 1395 which resulted in reprisals by Sultan Barquq. The attack was on Muslim and Genoese ships in the port of Beirut. The Catalans agreed to return Muslims goods but not the Genoese therefore the Catalan consul in Damascus and five others were put in jail and their merchandise sequestered. The attack was committed by a Catalan nobleman, Guillem Ramon de Montcada who was a known pirate at the time.[353]

Relations with Barquq 1382-1399

During the reign of Sultan Barquq (1382-1399) the relationship with the Christians was at its best and had no conflicts. He had one revolt in 1389 when he had to flee Cairo, but he returned in 1390 to overthrow his opponent and reclaim his reign. He personally encouraged trade with the Italian Republics and the Catalans.[354]

In 1400 the Catalan colony in Alexandria was not large but it was influential. It consisted of a consul and merchants from Barcelona, Tarragona, Manresa, Perpignan, and Majorca. Damascus also had a consul and a colony and it was the most important of all the European colonies. Catalan trade with the Mamluks was flourishing by the end of the fourteenth century. In 1381 and 1386 the Council of Barcelona dictated the administrative rules for the consulates in Alexandria and Damascus respectively. The rules organized trade coming into the Mamluk dominion in the Mediterranean from Sicily, Rhodes, and Turkey. Catalan trade with the Mamluks increased from 1390

[352] Ashtor, *Levant Trade*, op. cit., 140.
[353] Ibid., 148.
[354] Ibid., 111.

on: the number of vessels going to Alexandria and Beirut went from three to eight a year.[355]

An important port for Catalan trade with the Mamluks was Collioure in Perpignan. It was located in Southern France and facilitated trade between Barcelona and places like Toulouse and Paris. Catalan ships sailing in the Mediterranean visited other ports in France before going to Rhodes and Cyprus, later Alexandria and Beirut.[356]

The main product exported by Barcelona to Alexandria was locally made Catalan cloth. Ashtor explained: “In the records of a notary of Barcelona dating to 1398, one finds a commenda, given by a single merchant, of 118 pieces of cloth. Most of the cloth exported by the Catalans to the Levant consisted of products of the local industry. Great quantities of Catalan cloth were shipped to the Near East also on foreign vessels. A Genoese merchantman carried, in 1399, 400 bales of Valencia cloth to Alexandria.”[357]

Relations with al-Muayyad 1412-1421

The Catalans always faced trade competition in the Mediterranean to the extent that in 1411 a battle broke out with the Genoese in the port of Alexandria. Catalan ships were attacked in the port and many merchants were killed. Later they gained the upper hand and succeeded in capturing a Genoese corsair known at the time as “the Biscayan”. He was handed over to the Mamluks as he was considered to be an enemy of Muslim traders. Despite this the relationship between the Catalans and the Mamluks was unstable. Early in 1406, a merchant from Barcelona who lived in Alexandria was forced to pay fines for damage caused by a privateer from Majorca. In 1408 another case of Muslim merchants being kidnapped aboard a Catalan ship and sold as slaves in Barcelona, caused Sultan al-Muayyad Shaykh in 1411 to force the Catalans to pay fines. They also had to pay fines with the Genoese for their battle in the port of Alexandria.[358]

The king of Aragón tried to curb Catalan piracy in the Mediterranean and had given orders to Sicily to do so in 1415. He was not successful and in 1416 Catalan cogs attacked the Muslims in Alexandria, took prisoners and killed many. They attacked ships in the port as well and killed their crew before they left to avoid troops coming from Cairo. The attacks continued on ports in the Levant with the Catalans helping Cypriot and Rhodian pirates. In

[355] Ibid., 149.
[356] Ibid., 150.
[357] Ibid., 151.
[358] Ibid., 223.

1416 the Egyptian coast was attacked, later Jaffa and other ports. In retaliation Sultan al-Muayyad Shaykh banned the Catalans from trading in his dominion. Trade continued, however, through the Venetians and others but in 1417 Catalan merchandise was confiscated in Alexandria.[359] The turmoil and the attacks continued for several years which caused a decline in trade and gave the Venetians the opportunity to expand their commercial activities in the Mediterranean.

Catalan trade was at its peak with the Mamluks in the first part of the fifteenth century. Ashtor explained: “In the Catalan trade of the Muslim Levant, the merchants of Barcelona held first place. Most ships sailing from Catalonia to the Levantine ports belonged to citizens of Barcelona, and they were the largest investors in this trade.” Ashtor described the Catalans in Egypt: “The Catalan merchants who lived in Alexandria in the first decade of the fifteenth century came from various provinces of their country. There were merchants of Valencia, Gerona, Ampurias, Perpignan, and Majorca. Some of them lived in the Egyptian emporium for a long time.”[360]

Relations with Barsbay 1422-1438

Sultan Barsbay, who ruled between 1422 and 1438, had to develop a new economic policy because of the decline of several sectors in the Egyptian economy. A general neglect of the Nile irrigation system led to a decrease in crops. Reduced demand caused by depopulation led to lower grain prices and consequently lower revenues. To control the revenues, in 1423 he created a monopoly over cotton fabrics as well as the sugar industry, and in 1428 he succeeded in creating a monopoly over spices.[361] Barsbay concluded several commercial treaties at the beginning of his reign in 1422 with the Venetians and the Florentines but not with the Catalans. King Alfonso V who reigned from 1416 to 1458 pursued an aggressive policy of expansion in the Mediterranean. He was not interested in trade with the Mamluks and did not try to stop Catalan pirate attacks so the sultan retaliated by placing an embargo on Catalan merchandise.[362]

During the slow trade period of the first years of the reign of Sultan Barsbay, there was no Catalan consul in Alexandria, however, from 1429 on the post was filled. Catalan merchants always lived in Alexandria; they came

[359] Ibid., 226.
[360] Ibid., 231-232.
[361] Ibid., 278.
[362] Ibid., 286.

from all major towns of Aragón, Perpignan, Tortosa, and Valencia which included Muslims.[363]

In 1429 and at the initiative of Sultan Barsbay a treaty of peace and commerce was concluded with the king of Aragón. He sent an envoy, a Franciscan monk from Jerusalem, to Barcelona who was welcomed by the local merchants. They intervened on his behalf with the king to influence him to negotiate with Barsbay. The Knights of Rhodes later organized a meeting between the ambassadors of the king and the sultan in Rhodes. Ashtor said: "The treaty contained several clauses, which one finds in all similar contracts, e.g., that customs should be paid only for merchandise actually sold and that litigation between Catalan merchants and subjects of the sultan should be brought before secular judges (and not *cadis*). It also contained an understanding of the sultan that there would not be compulsory purchases and sales of any commodity. Other clauses were connected with the special character of Catalan trade and traffic and the activities of the Catalan corsairs. Since often Catalan ships were chartered by Muslim merchants, it was stipulated that the latter might ask for guarantees (that the Muslim passengers should not be kidnapped, etc.). The Catalan embassy also undertook that the Catalan merchants in Egypt and Syria would be responsible for acts of piracy committed by Catalans and even by others, if the latter had been supported by Catalans. The jurisdiction of the consul within the Catalan merchant colony was recognized as binding only if he would administer justice in the presence of a Muslim official; thus his status was restricted as compared with that of the Venetians and Genoese consuls. On the other hand the Catalans were granted a right of preference as far as loading their merchandise was concerned."[364]

Upon reviewing the Arabic copy of the treaty of May 1429 which was translated into Spanish by Ruiz Orsatti, it was revealed that the Catalan ambassadors who signed the treaty were Rafael Ferrer and Luis Sirvent, both merchants from Barcelona. The Mamluks ambassadors were Mohamed Ibn al-Maymun and Seif al-Din Shahir the interpreter. It had 32 agreed upon articles and one excluded concerning Catalan attacks in the Mamluk dominion. The second article speaks of the agreement on the safe passage and the right to reside in any part of Mamluk or Catalan territory. It gives the right to conduct trade anywhere without prejudice with equal treatment on all levels. Barsbay was so generous as to authorize the construction of a *fonduq* (*alhóndiga*) for Catalan merchants without any charge as stated in article

[363] Ibid., 340.
[364] Ibid., 296.

24.[365] Orsatti described the *fonduqs* in Alexandria as being large with living quarters, storage areas and shops. Christian merchants used to live and trade in the many *fonduqs* in the port city. The buildings were described by European travelers as being beautiful surrounded by gardens that are full of exotic plants.[366]

The monopoly created by Sultan Barsbay over spices, especially on pepper trade, was rejected by the king of Aragón. The treaty of 1429 did not hold for very long and acts of aggression ensued. In 1436 the Catalans attacked the Egyptian coast at Aboukir and a Genoese ship in the port of Alexandria. Despite the heavy activities of Catalan corsairs, the merchants from Barcelona continued to travel to Alexandria for trade. There were acts of retaliation against them after coastal attacks but they continued in their trade. In 1437 the Council of Barcelona appealed to the king to resume trade with the Mamluks. Barsbay died in 1438 in the middle of a trade crisis with the Europeans especially the Catalans.[367]

Relations with Jaqmaq 1438-1453

Sultan Jaqmaq ruled the Mamluks from 1438 to 1453. He followed a somewhat more liberal policy but continued the monopoly on spices. The Council of Barcelona was persistent in trying to resume trade relations with the Mamluks and in 1438 King Alfonso V agreed to appoint Pere Muntros as the Catalan consul in Alexandria. The council also asked the king to curb the attacks by the corsairs in the Mediterranean. Later in Cairo, Muntros was well received by Sultan Jaqmaq who sent back a friendly letter to the Council of Barcelona. Despite this new commitment the corsair attacks continued but it was not clear who they were. The Catalan merchants resumed their trade with the Mamluks and ever since there was always a competent Catalan consul in Alexandria. Because of this new peace, the Mamluks started expanding in the Mediterranean by attacking Rhodes since they had the support of the king of Aragón. In the following years and up to 1445 there were fewer attacks by corsairs on Egypt and Syria. There were more problems in the years to come and trade was disrupted again because of renewed attacks and the inability of Alfonso V to negotiate a peace treaty.[368]

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[365] Ruiz Orsatti, Reginaldo, Tratado de Paz Entre Alfonso V de Aragón y el Sultán de Egipto, al-Malik al-Ashraf Barsbay. *Al-Andalus IV, Revista de las Escuelas de Estudios Árabes de Madrid y Granada*. Imprenta de Estanislao Maestre (Madrid, 1935), 337.
[366] Ibid., 382.
[367] Ashtor, *Levant Trade*, op. cit., 303.
[368] Ibid., 309-311.

Earlier in the 1420's trade between Barcelona and Alexandria was intense. Even in 1422 when the sultan had forbidden Catalan trade, their ships anchored regularly in Alexandria and other ports. Up to 1433 every year five to seven Catalan ships visited the ports of Egypt and Syria compared to between two and four in earlier times. Of course from 1435 on there was a big decline in the number of ships which were from two to three until 1444. Trade increased again from 1445 to between four and five ships a year.[369]

The Catalan ships used in trade with the Mamluks were mostly owned by private merchants with some owned by the government of Catalonia. In the 1430's, during the slow trade period, most of the ships going to Mamluk ports were government owned. Most of the ships sailing in the Mediterranean were cogs but in the 1440's the galleys were more dominant. The Majority of the ships coming from Catalonia sailed from or had owners from Barcelona, with others coming from Valencia, Majorca, and Perpignan. Catalan ships going to Egypt regularly made stops at Palermo and Rhodes their most important trade bases. Other stops included Cagliari, Gaeta, Naples, and Syracuse. During the intense trading period of the 1420s, ships sailed directly from Barcelona to Alexandria. Most of the merchants on those ships were also from Barcelona with others from Tortosa, Saragossa, and Valencia.[370]

The Catalans brought two types of commodities to the Mamluks: cloth and agricultural products. They sold cloth of Barcelona, Puigcerda, Cerdana, and Majorca. The agricultural products they shipped from their own country were: honey, olive oil, hazelnuts, almonds, and saffron. Other products came from Sicily like coral and molasses.[371]

Ashtor spoke of life in the homes of European merchants in Alexandria and elsewhere in Levant towns. The merchants never had their spouses with them but they had servants and slave girls. The Venetians had servants from their own country but also from Germany and Austria, from Nurnberg, Salzburg, Vienna, and other places. They had servants from Dalmatia, Zara, Ragusa, Cattaro, and from Hungary. The French had servants from their own country. The merchants had slave girls who were young Orientals, Greeks, Circassians, Russians, Bulgarians, and Hungarians. The male servants had among them craftsmen, goldsmiths, tailors, and barbers. Most importantly, the colonies had artisans who practiced their professions on a full-time basis. The artisans came from many countries including the Italian Republics, Dalmatia, and above all Catalonia.[372]

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[369] Ibid., 337.
[370] Ibid., 337.
[371] Ibid., 341.
[372] Ibid., 408.

The clergymen who lived in the colonies were also from several European nations among them Franciscans from Majorca and Apulia, Dominicans from Genoa, and priests from Venice. Some were pilgrims but mostly they were chaplains of consuls and remained in the colonies for some time.[373]

Practically all the Europeans living in the colonies engaged in trade. Sailors on the ships sailing the Mediterranean carried some merchandise with them in order to make some money. They bought products in Alexandria to sell back home as well. Even the artisans living in the colonies were involved in trade with the merchants and others.[374]

Relations with Qaytbay 1468-1496

The golden years of trade in the Mediterranean for the Venetians were from 1453 to 1498. Shipping of metals flourished especially silver, copper, tin, and lead, because of new technological development and high demand in Mamluk land. Trade with other European nations including Catalonia was diminished. Catalan trade at that time was irregular because of the decline of the local economy and the civil war (1462-1478). Trade improved after 1479 and in the late fifteenth century it was less than before, but in 1483 travelers in Alexandria mention finding busy Catalan *fonduqs*. Commercial relations never stopped and ships of other European nations sailed between Barcelona and Alexandria. Even Catalan merchants boarded French ships sailing from the south of France. Only the Venetians, the Genoese, and the Catalan had commercial activities between 1481 and 1497 according to European travelers. In 1485 the Council of Barcelona appointed Juan de Viastrosa as Catalan consul in Alexandria but he did not take office until 1486. He was probably the same Catalan consul mentioned in an order by King Ferdinand el Catolico in 1488. Later there were problems within the Catalan colony that further impeded trade and in 1498 the Council of Barcelona had to appeal to the sultan and his Catalan interpreter emir Taghribirdi to resolve disputes within the colony in Alexandria.[375]

The main reason for the decline in Catalan trade with the Mamluks was the civil war (1462-1478). It resulted in the depletion of assets and of means of transport, the loss of international commerce, and the impoverishment of the market at home. In spite of attempts to continue trade with the Levant by sending merchandise on any available ship, the civil war had a strong effect

[373] Ibid., 409.
[374] Ibid., 410.
[375] Ibid., 490-491.

that the weak Catalan economy could not withstand. This was clearly stated by Queen Maria in 1440: “For what the Catalans were renowned for, for what they loved, neither the Levant nor the West remained”. Steps were taken to improve the situation and in 1447 the following measures were enacted to protect political and economic interests: the expulsion of the Florentines, the protection of textile production and naval construction, the creation of a regular route for the fleet traveling to the Levant, the occupation of the small island of Castellorizo, which was conquered from the Mamluks by Alfonso V in 1450, and the introduction of commercial clauses in all treaties through diplomatic channels. It is also a strong indication that an economy in need of such protection was in a very weak state.[376]

These measures did not help the economy despite the fact that trade never stopped since the problems were more internal. Unfortunately Barcelona lost its dominance in the Mediterranean and between 1454 and 1462 other ports like Valencia and Mallorca became more prominent.[377]

Taghribirdi, the sultan's interpreter, was a well documented case in which he was an emir during the reigns of Qaytbay and his son Mohamed. Fabri reported that he was a Sicilian Jew who had converted to Christianity before entering Qaytbay's service and eventually converted to Islam. He had a Greek and an Italian wife. Fabri also mentioned the son of Ferdinand II of Aragón, the king of Sicily and Naples, who apparently resided at that time as well at Qaytbay's court. Also earlier in the same century the interpreter of Sultan Barsbay was a converted European Jew who was from Sevilla. Other Europeans are reported to have acquired the status of emir during the fifteenth century.[378]

Earlier a letter was sent in 1473 from Sultan Qaytbay to the Doge Nicolo Trono of Venice. This happened after rumors of an alliance, between the Venetians and the Aq Qoyunlus, was being negotiated to attack both the Ottomans and the Mamluks. The Doge assured the Sultan by sending an envoy to explain that any attack was going to be only directed at the Ottomans.[379] Sultan Qaytbay started his letter with a salutation and proceeded to explain how Egyptian products were selected of the highest

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[376] Batlle, Carme, *Historia de Barcelona*, Volum 3, la Ciutat Consolidada, Ajuntament de Barcelona (Barcelona, 1992) 212-214.
[377] Ibid., 214.
[378] Behrens-Abouseif, Doris, European Arts and Crafts at the Mamluk Court. In *Muqarnas, Vol. 21, Essays in Honor of J. M. Rogers*. E.J. Brill (Leiden, 2004), 50.
[379] Wansbrough, John, A Mamluk Letter of 877/1473. In *Bulletin of the School of Oriental and African Studies*, University of London, Vol. 24, No. 2. Cambridge University Press (Cambridge, 1961), 202.

quality to be sent to Venice. Next he listed complaints about Venetian merchants and their inferior and fake products. They went as far as forging silver coins and reducing the quantities in wool rolls by cutting them down the center. He stressed that Egyptian merchants in Alexandria suffered because of this unfair trade. He was also very upset because of the Venetians who came with the envoy attacked and took prisoner a group of merchants in Alexandria, among them was a Muslim woman who was violated.[380] It is clear from the content of this letter that trade relationships with the Venetians were deteriorating rapidly. Perhaps it was the reason why Sultan Qaytbay welcomed the revitalization of trade relations with the Catalan merchants.

In 1479 when Ferdinand and Isabella took power, Alexandria was for thirty years to Catalan merchants in Barcelona, a lost very important trade partner. No relationships existed at the time between the two ports at both ends of the Mediterranean.[381] Starting in 1484 the crown of Aragón sought to revitalize the economy of Barcelona and without trade with Alexandria this was not possible. The flow of Catalan cloths, Sardinian coral, Sicilian wheat, and Levantine spices had to be re-established between the two ports. In Egypt, Sultan al-Ashraf Qaytbay welcomed this renewed interest in trade with the Catalans. The politics of war was not as important as trade relationships and for los Reyes Católicos Alexandria was the key to a vastly improved economy and Egypt became very important in the fifteenth and sixteenth centuries.[382]

The Catalan consulate had to be re-established in Alexandria and in 1485 Juan Cascassona became the new consul who was later substituted by Juan de Viastrosa. In the end Barcelona had permanent political representation which guaranteed to flow of merchants and goods down the Nile to Cairo.[383]

In 1487 trade between Egypt and Spain flourished after the fall of Málaga in the hands of Ferdinand and Isabella. Many ships went to Alexandria increasing the movement of people and goods dramatically. In written documents by Ferdinand of Aragón there is proof that the commerce with Egypt was very favorable to Spain. Ships carrying wheat, raisins, tuna, and arms or iron to make arms were sailing from Spanish ports to Alexandria. A new consul was established in the port city to oversee Spanish affairs, his

[380] Ibid., 212.
[381] Suárez Fernández, Luis, Las relaciones de los Reyes Católicos con Egipto. In *la España Medieval*, No. 1. Universidad Complutense de Madrid (Madrid, 1980), 509.
[382] Ibid., 508.
[383] Ibid., 511.

name was Jacobo de Fontelles. He remained as an ambassador until he was replaced in 1494 by Miguel Marqués.[384]

By the middle of the fourteenth century developments in the maritime sphere were very significant for the future of Europe. Along the Atlantic coast the remarkable vessel: the full-rigged ship; combined the technology of both the northern seas and the Mediterranean. The carrack as it was known quickly became the vessel of the future in the Mediterranean; along with the caravel, that was developed along Portuguese coasts. In addition, improvements in compass and portolan charts proceeded at the same time improving navigation techniques and maps making European marine knowledge more superior to the rest of the world.[385]

The Ottomans were seen as a major threat in the Mediterranean by the crown of Aragón starting in 1486. They were so much feared that an alliance with the Mamluks of Egypt was considered. In November of that year Gonzalo de Santofimia was sent to Cairo on a mission of high importance. He returned to Spain the following year, with definite information about a major naval assault planned by the Ottomans on Egypt and Syria. In January of 1488 Ferdinand of Aragón requested from the Pope to allow the shipment of wheat to help the Mamluks support their troops. The approval came very quickly and in February, ships carrying grain raced toward Alexandria. As it turned out the attack was actually planned against Malta instead, but it was weak and it failed. After this assault and in August of 1488 the Mamluks won a major ground battle in Adana that cut off the road to Syria. Ferdinand of Aragón considered this a victory for Spain as well because of his contribution and the support given to Sultan Qaytbay.[386]

Relations with al-Ghawri 1501-1516

A civil war ensued in Egypt but in 1501 Sultan al-Ghawri turned out as the victor and became the new ruler of the Mamluks. Many of the Jews who were expelled from Spain and settled in Cairo expressed their dismay at the unjust treatment they received from los Reyes Católicos. Of course this was not conducive to reestablishing good relationships with the Mamluks. The revolt of the Alpujarra was suppressed decisively by Ferdinand and Isabella and the guarantees given to the Spanish Muslims were abolished. There were grave consequences for these actions as the news reached Egypt. The populations in Cairo and Alexandria were more closely related to the Muslims

[384] Ibid., 513-515.
[385] Lewis, Archibald, The Islamic World and the Latin West, 1350-1500. In *Speculum*, Vol. 65, No. 4. Medieval Academy of America (Cambridge, 1990), 839.
[386] Suárez, Relaciones con Egipto, op. cit., 512.

of Spain than to the Ottomans. To reconcile with Sultan al-Ghawri an ambassador was ordered to prepare to go to Cairo, he was the Italian Pedro Mártir de Anghiera. He first travelled to Venice on land, and then by ship to Alexandria, residing there with the Catalan consul Felipe Parets until finally arriving in Cairo in February 1502. He was sent as the ambassador of Ferdinand the protector of the Christians in the Holy Land and not as the ruler of Spain. His argument was that the Muslims were under protection unless they revolted. Sultan al-Ghawri first rejected this explanation but later accepted it under the persuasion that Ferdinand was also protecting the Muslims in Jerusalem, Bethlehem, Ramallah, and Beirut. The result was the re-establishment of the normal political and economic relationships that were more important than religion.[387]

Mediterranean Wars

Commercial rivalry in the eastern Mediterranean through the Black Sea led to wars fought by Venice against Genoa between 1253 and 1381. These wars actually were far more disruptive of trade, especially between Muslims and Christians, than any other crusading naval action. The Venetians had regular trading routes to Romania (Black Sea ports), Cyprus, and Alexandria. The Genoese on the other hand were supplying fresh recruits from southern Russia to Egypt and at the same time conspiring with the rulers of Persia and Iraq against the Mamluks. The Pope attempted to impose an embargo on trade with the Muslims between 1323 and 1344, but was either compromised by exemptions granted in exchange for other favors or by the use of Cyprus as a port in between. In the fifteenth century, trade with the Mamluks continued to flourish with Venice taking the lion's share. Spices and Egyptian cotton were shipped from Alexandria directly to Venice, Ragusa, and Amalfi and were also taken to Rhodes, Crete, and Cyprus where they were traded with European merchants. Travel in the Mediterranean in the fifteenth century was safe to the effect that insurance premiums were extremely low. In 1479 only 0.75 percent was charged on cargo leaving from Venice to Beirut and in 1492, 2.0 percent on cargo to Alexandria.[388]

In 1464 a Venetian galley carrying Muslim merchants from the Maghreb and their goods docked at Rhodes to escape a storm. The rulers of Rhodes, the Knights of St. John, seized the ship, the passengers, and their cargo. In retaliation, the Mamluk sultan of Cairo imprisoned all European merchants and their goods in Egypt and Syria. In response, the Venetians

[387] Ibid., 519.
[388] Rose, Susan, Islam Versus Christendom: the Naval Dimension , 1000-1600. In *the Journal of Military History*, Vol. 63, No. 3. Society for Military History (Lexington, 1999), 575.

sent an ultimatum to the Knights of St. John stating that if the Muslims and their cargo were not released within three hours Rhodes would be attacked and destroyed. Consequently the ship was allowed to leave with its passengers and cargo intact.[389]

During the fifteenth century In Valencia, while licenses were being issued to those attacking Muslim vessels from the Maghreb, the targets for corsairs also included Portuguese, Castilian, Catalan, Genoese, and Venetian ships. Muslim raiders were certainly feared as well; in 1447 a Tunisian squadron razed Benidorm, and between 1472 and 1473 an Algerian corsair fleet of eight to ten ships under the command of the Catalan Bartolome Perpenya caused chaos on the southeastern coast of Iberia. In any case Muslim corsairs did not form the majority of those who preyed on trading vessels in the western Mediterranean. When merchants from Valencia complained to the authorities of attacks on their own cargo ships, a majority were said to be made by Castilians using Cartagena and the Balearics as bases, they were provided protection with convoys and coastal watchtowers. It should not be presumed that as a result it was very hard to trade profitably from Valencia. It is clear that while insurance premiums on ships were relatively high during the period of tense relations between Aragón, Genoa, and Florence from 1436 to 1453, they then fell for the rest of the fifteenth century, stabilizing at 4 to 6.25 percent from 1485 to 1492. This was higher than the rates already mentioned for Venetian ships but still allowed good profits to be made.[390]

The Jews were expelled from Spain in 1492 and many passed into Turkey from Italy and into the Levant. They also spread into Eastern Europe and established large communities. In addition, their buildings in the newly found home countries like the Czech Republic, Hungary, and Poland closely resembled those they left behind in Spain.

The goals of Ferdinand and Isabella were achieved in establishing strong economic relations with Egypt and in protecting Christians living under Mamluk rule. The impact on the art and architecture was immense especially under Qaytbay who had a flourishing economy. Trade with Spain provided him with the wealth needed for an ambitious building program of at least 230 monuments.

[389] Ibid., 575.
[390] Ibid., 576.

10- European Workers in Egypt

Historians mainly spoke of European merchants living in Cairo and Alexandria under the Mamluks. There is evidence however, of foreign craftsmen and artisans living in Mamluk territory to serve the sultan. The question of whether or not the person in charge of building design was European is problematic. We have the names of many famous architects but one cannot determine their religion based on their names alone since it was common for Christians and Jews to use names like Hassan and Ali.[391] In Egypt and Spain the architects had specific titles. It was the superintendant of buildings, *sha'ed al-amayer* in Mamluk Egypt, and *sahib al-mabany* in Umayyad Spain. In addition, the architect in Egypt was from the Mamluk military rank but in Spain he was a civilian.[392]

The Architect

The supervisors and master builders during the Mamluk period were discussed by Abouseif as follows: "For the construction of royal buildings, the Bahri Mamluks instated the office of supervisor, the *shadd al-'ama'ir al-sultaniyya*, who was traditionally a low-ranking 'emir of ten'. His task was to oversee the builders and craftsmen involved in the state's constructions. The *shadd al-'ama'ir al-sultaniyya* must have been associated with the *diwan* created by al-Nasir Mohamed to coordinate his building program. In addition, high-ranking emirs or bureaucrats were appointed to administer the construction of individual royal and princely buildings." She continued by saying: "Qalqashandi also mentioned a *muhandis al-'ama'ir* or construction engineer among the professionals (*arbab al-waza'if min ahl al-sina'at*). On the same level as the chiefs of the physicians, the ophthalmologists and the shipyard, he was lower down in the hierarchy, and on a more technical level than the supervisor. Like these professionals, the chief *muhandis* was a technician in charge of overseeing his craft, controlling the qualifications of the craftsmen and issuing authorization for their employment. A fifteenth-century protocol of the restoration of Baybars' apartment complex at Taht al-Rab' street names four *muhandis*, or surveyors, who were in charge of assessing the state of the building and the cost of its repair. A *muhanids* named Hujayj accompanied the emir Aqbugha to Hama to survey the Duhaysha palace of the Ayyubid sultan al-Muayyad in order to build a similar one in Cairo. The term *muhandis* referred also to builders; Maqrizi mentioned the *ra'is al-*

[391] Mayer, L. A., *Islamic Architects and Their Works*, A. Kundig (Geneva, 1956), 17.
[392] Ibid., 19.

muhandisin of al-Nasir Mohamed, *al-mu'allim* al-Suyufi, who built the madrasa of Aqbugha and the mosque of al-Maridani."[393]

What is called *shadd al-'ama'ir* by Abouseif is called *sha'ed al-amayer* by Mayer but in the end they are the same. They are different ways of translating the Arabic text. For the purpose of this work *sha'ed al-amayer* will be used which literally means the architectural builder. Another name used by Abouseif, as referenced in primary sources, is *muhandis al-amayer* which is more problematic. The word *muhanids* in Arabic is generally used to mean an engineer, however, in this case the reference is made to an architect. A more appropriate translation would be an architectural engineer. The word *muhanids* comes from the Arabic and Persian word of *al-handasa*, which means geometry. So anyone who uses geometry to design something is a *muhandis*. In English, French, and Spanish, the words engineer and architect are derived from different sources. Engineer comes from the word engine, which refers to converting energy into mechanical force; it is used to describe mechanical, electrical and other engineers. It can be used sometimes interchangeably with the word *muhandis*. The word architect on the other hand is derived from *architectus* in Latin which means someone who designs and plans buildings. In Arabic primary sources, the word *al-mi'mar*, which means architect, is never used alone but *muhandis al-amayer*, architectural engineer is used instead. During the Ottoman period the term became more wide spread and was used to mean an architect, for example, Sinan Mi'mar. This is due to the fact that in the Arabic language, the title architect only recently became widely accepted to denote a separate profession. It is clear from this analysis that the reference in Arabic text to a *muhandis*, as it relates to building design, refers to an engineer acting as an architect. This is true even at the present day as the term architect or *mi'mari* is not widely known or used except in professional circles.

Transfer of Technology

The phenomena of "parallel" invention presented by Ashtor, meant the development of a similar technology at two different locations independent of one another, however, this happened in earlier times when communication was much slower. He admitted that technological innovations were transmitted across geographical boundaries in the Middle Ages. Many inventions travelled from China and India to Western Europe especially with Tatar slaves. Sugar cane and cotton farming were introduced to Sicily by the Muslims as evidenced by Frederick II inviting Syrian technicians to improve sugar production methods. It has not been proven as to how these techniques

[393] Behrens-Abouseif, *Cairo of the Mamluks,* op. cit., 43.

transferred to the Italian mainland. Some said it was with slaves or Jewish workers, like the bow for beating cotton, but it was not substantiated by any documents.[394]

Continuing his analysis, Ashtor explained that Marxist historians believe that slavery impeded technological progress. He did not agree with this assessment since the Muslims and the Europeans in the Middle Ages depended heavily on slave labor. He went on to refute the Marxist view on labor in the Roman Empire by saying: "A more persuasive argument which disproves the Marxist analysis is that Roman technology made the greatest progress especially in methods of agricultural work during the first century B.C. while the finest Roman pottery, produced in the same period in Arezzo, was manufactured by slaves. One must also ask why Roman technology made insignificant progress in the early republican period when there was relatively little slavery, while it is obvious that the decline of slavery in the later empire did not result in technological advance."[395]

Technological advances were affected by demographic change because population growth encouraged the development of new technology while depopulation did not. In the Middle Ages there were major advancements from the eleventh to the thirteenth centuries when there was population growth in several areas yet this ended at the end of the thirteenth century when there was a decline in population. Ashtor emphasized that the data available concerning the development of technology during the time Muslim rule supports this hypothesis.[396]

The Crusades had a strong impact on the flow of people and products dating back to the time of the unification of Egypt and Syria under Salah al-Din the Ayyubid or as he was known in western sources as Saladin. Jerusalem fell in 1187 and the re-conquest of Syria followed with a final victory over Acre by the Mamluks in 1291. In pursuing the Crusaders, the Mamluks proceeded further into Asia and the Levant. Armenia was conquered by Sultan Baybars in 1322 and the port city of Cilicia fell with 12,000 prisoners brought to Syria. In 1359 Adana and Tarsus were also annexed by the Mamluks. [397] Cyprus was next to be attacked by the Mamluks since Peter I de Lusignans, the ruler of the island, was responsible for the devastation of Alexandria in 1365. In addition, the coasts of Egypt and Syria suffered from continuous attacks by Cypriot corsairs. The island was under Greek control when Sultan Barsbay started attacking Limasol on the southern shore in

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[394] Ashtor, *Technology, Industry and Trade,* op. cit., VIII, 10-11.
[395] Ibid., VIII, 13.
[396] Ibid., VIII, 14.
[397] Atiya, *Crusade, Commerce and Culture*, op. cit., 137-139.

1424. Larnaca which was a Genoese protectorate fell in 1425 and the Mamluks returned with more than a 1,000 prisoners of war. In 1426 Nicosia, the capital itself fell and the Mamluks returned with 3,600 prisoners.[398] The Mamluks had to take Rhodes to finish their Counter-Crusade attacks and in retaliation for the attacks on Alexandria. The island was controlled by the Knights of St. John of Jerusalem or the Knights Hospitaller. Despite several large campaigns starting in 1444 and ending in 1448 the Mamluks were never able to fully control Rhodes.[399]

Foreign workers introduced new techniques everywhere and the use of new materials was always associated with their hiring. This was true of Islamic countries and in the fourteenth century techniques were transmitted by migrating workers. The textile industry witnessed the greatest activity of migrant workers between England, Italy, and France. In Vicenza there were workers from Bergamo, Como, Crema, Verona, and even from Germany and Flanders. A variety of dyes were used in the textile industry and new methods of dying were imported from the East. Alum was imported in large quantity from the Levant since the Crusades and its introduction greatly improved the production of textile. There is evidence that the Europeans had respected dyers from the East because they were experts at textile and glass dying. Venice was a major trader with the Levant therefore it played a major role in the spread of dying techniques to the West. The advantages of the introduction of new raw materials were clear in the high quality of glass coming out of Murano in the fifteenth and sixteenth centuries. Clear glass was introduced around 1280 in Italy and it coincided with the first reference to the importation of Syrian alkali ash which was the basic material for Murano glass. The intense movement of workers resulted in the same materials and methods being used in several manufacturing centers.[400]

It is important to note that European countries started protecting their innovation in technology in various ways. There were many decrees enacted to protect industrial centers to prevent the migration of workers. For example, the senate of Venice forbade the teaching of glassmaking to foreigners and skilled artisans were not allowed to emigrate on ships leaving from Venice. Emigrating craftsmen were threatened with heavy punishment including the death penalty.[401]

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[398] Ibid., 140.
[399] Ibid., 143.
[400] Ashtor, *Technology, Industry and Trade*, op. cit., VIII, 20-23.
[401] Ibid., VIII, 20-22.

Andalusians in Cairo and Alexandria

During his travels in 1183, Ibn Jubayr spoke of the residents and workers in Cairo and Alexandria. About the Ibn Tulun Mosque he said: “The sultan made it a retreat for the foreigners from the Maghreb [Western part of Barbary and Spain}, where they might live and receive lectures; and for their support he granted a monthly allowance. A curious thing, told to us by one of their prominent men, was that the sultan had entrusted to them their own management, and allows no other hand over them. They themselves produce their own leader, whose orders they obey and to whom they appeal in sudden contingency.”[402]

An indication of the large number of Andalusians living in Egypt Ibn Jubayr spoke of food giveaways to them in Alexandria: “One of the sultans most generous acts was the allotting of two loaves daily for each of the Maghribi *ibna al-sabil* (travelers on the road), whatever their number; and for the daily distribution he appointed a person he trusted. Every day two thousand loaves or more, according to the lesser or greater number, were regularly distributed.”[403] When he visited Cairo he saw the citadel and was impressed by its size. In describing it he said: “The forced laborers on this construction, and those executing all the skilled services and vast preparations such as sawing the marble, cutting the huge stones, and digging the fosse that girdles the walls noted above – a fosse hollowed out with pick-axes from the rock to be a wonder amongst wonders of which trace may remain – were the foreign Rumi prisoners whose numbers were beyond computation. There was no cause for any but them to labor on this construction. The sultan has construction in progress in other places and on these too the foreigners are engaged so that those of the Muslims who might have been used in this public work are relieved of it all, no work of that nature falling on any of them.”[404]

Contact with al-Maghreb

It was established that a large number of Andalusians were living in Cairo and Alexandria and as a result many buildings in Cairo were influenced by designs from Córdoba, Sevilla and Granada. There is detailed information about specific architects living and working in Marrakesh and Tunis. Torres Balbás did extensive research on them and named Ahmed ibn Baso, a native of Sevilla, as a main architect in Córdoba and Sevilla. In 1160 he was

[402] Ibn Jubayr, Mohamed, *The Travels of Ibn Jubayr*, Jonathan Cape (London, 1952), 44.
[403] Ibid., 34.
[404] Ibid., 43.

responsible for the restoration of palaces and the reinforcement of fortifications around the city. He went back to Sevilla in 1173 to oversee the work on the Great Mosque and the minaret or what is now known as la Giralda. The work was initiated with foremen from Sevilla and other parts of Spain. In addition, workers from Marrakesh, Fez and others from the North African coast were employed. The work on the minaret was started in 1184 and Ibn Baso died a little afterward. Later the work was supervised by Ali de Gomara who was from Marrakesh and had to go back and forth between the two cities to finish the work. The metal work of bulbous dome was carried out by Abu Layt al-Siqily or the Sicilian.[405]

Torres Balbás spoke of Andalusian architects working in al-Maghreb in the thirteenth century. He said after Ibn Sa'id al-Maghribi that in Tunis, the Berber founder of the Hafsids dynasty, Abu Zakariyya made the city the center of his rule starting in 1228. In 1237 he began a large construction project of palaces and gardens that followed Andalusian design principles. All of his architects, brick layers, carpenters, metal smiths, painters, and gardeners were from al-Andalus. All the plans of his buildings were drawn by Andalusians or copied from existing Andalusian designs in Tunis. The powerful emir Abu Zakariyya became the ruler of Sevilla, Valencia, Murcia, Jerez and Tarifa in 1238. His successor, Abu Abd Allah al-Mustansir (1249-1277) the son of a Christian woman, had the most active construction period of the dynasty. His court was full of Andalusians from Sevilla who migrated after Sevilla fell in the hands of Ferdinand III. Many Christian princes lived under his protection including Don Enrique and Don Fadrique.[406]

A little later the influence of Andalusian artists and architects became apparent in Tlemcen. The city was very close to the Mediterranean port of Hunayn. From there, ships only needed two days to reach Almeria on the Spanish coast. Torres Balbás said after Ibn Khaldun that the monarch, Abu Hammu I and his son Abu Tashufin, solicited workers from al-Andalus between 1308 and 1325. Sultan Ismail I of Granada sent his best architects to plan palaces, houses, and gardens. They were used to construct splendid buildings that rivaled those found in Granada. The work was completed by carpenters, metal smiths, painters, and other workers who were Christian prisoners of war. Unfortunately nothing remained of those buildings as they were all destroyed by Abu al-Abbas the Marinid in 1384.[407] During the Nasrid period of the Emirate of Granada, the Muslims were fleeing internal conflict

[405] Torres Balbás, Leopoldo, Arquitectos Andaluces de las Épocas Almorávide y Almohade. *Al-Andalus XI, Revista de las Escuelas de Estudios Árabes de Madrid y Granada*. Imprenta de Estanislao Maestre (Madrid, 1946), 217-218.
[406] Ibid., 221.
[407] Ibid., 222-223.

and civil war between rival emirs. The migration of workers and architects from al-Andalus to al-Maghreb and toward Egypt continued and actually intensified as more Andalusian cities fell.

Design influences from the West, on the architecture of Egypt started appearing during the Fatimid period. Torres Balbás did an analysis of work done by Marçais on the artistic exchange between Western Islam and Egypt. He spoke of the influence at the Great Mosque of Córdoba specifically in ceiling designs, as coming from Mesopotamian patterns at the Mosque of Ibn Tulun in Cairo. In return, the designs on the wood beams at Córdoba resemble later Fatimid patterns from the minarets at the Mosque of al-Hakim in Cairo built around the year 1000, which have nothing in common with Mesopotamian examples. Common patterns include vegetal and geometric designs with interlaced bands, straight and curved. Other common designs appear at the Almoravid mosque of Tlemcen built in 1136. The dome which followed the Córdoba model has stalactite arches at all corners, resembling those at the mausoleum of Sayeda Atiqa in Cairo built between 1100 and 1120.[408] The stalactite arches at the base of the dome are actually supporting squinches.

Around 1040 and because of strong trade relations between the Fatimids and the West, many Tunisian merchants settled in Egypt. Egyptian linen which had 17 different types was in high demand. Raw linen was exported to Susa where it was manufactured and exported back to Egypt. The Tunisians settled not only in Fustat and Alexandria but also in areas where the plant was cultivated. Many of the trade goods were shipped from Fustat on the Nile to Alexandria and later to the West.[409]

The proof of artists from al-Maghreb including al-Andalus is shown at the Mosque of al-Saleh Tala'i built in 1160. Marçais attributed the designs on the arches of the mosque to Almohad and Almoravid artists from the West. Later during the Mamluk period in 1296, Sultan Lajin did major construction work at the Mosque of Ibn Tulun. Many elements at the mosque were described as originating from al-Andalus like: the horseshoe arch entry to the minaret, twin horseshoe arched windows, and two large horseshoe arches supporting the bridge connecting the minaret to the mosque. After the earthquake of 1303, al-Nasir Mohamed decided to restore the Mosque of al-

[408] Torres Balbás, Leopoldo, Intercambios Artísticos Entre Egipto y el Occidente Musulmán. *Al-Andalus III, Revista de las Escuelas de Estudios Árabes de Madrid y Granada*. Imprenta de Estanislao Maestre (Madrid, 1935), 412.
[409] Ahmed, Hassan, *Ilakaat al-Fatimiyeen fi Misr bi Dowal al-Maghreb 973-1171*, Madbouly Library (Cairo, 1996), 117.

Hakim. He took advantage of previous artistic exchanges with the West and expanded the use of stucco carving methods.[410]

An important and hidden element at the Mosque of Ibn Tulun is the wooden corbel or ménsula, in a small room next to the prayer hall behind the main mihrab that looks like a locust head. Torres Balbás said that it was a clear indication of a direct influence from Spain. This type of corbel was found allover Muslim Spain including later Mudéjar designs. This, in addition to other elements mentioned earlier, form a part of the artistic tradition coming straight from Córdoba. Those elements appearing at the Mosque of Ibn Tulun persisted in Mudéjar churches up to the thirteenth century. Córdoba fell to the Christians in 1236 and Sevilla in 1248 and the exodus of Andalusian artists and architects intensified. Their work appeared on the entry of the library at the Great Mosque of Qairawan. They continued their journey to Egypt and in 1296 they worked under Sultan Lajin at the Mosque of Ibn Tulun.[411]

Europeans Under al-Nasir Mohamed

There is strong evidence of Frankish and Armenian craftsmen working in the court of al-Nasir Mohamed. They mainly lived in Cairo at the Citadel in an area called Khazanat al-Bunud. These areas seemed to have enjoyed a privileged status, as the Franks were allowed to live there with their families and to have their own taverns and even a Christian place of worship. These areas were dismantled in 1343 by al-Malik and the workers were moved to the area around the mosque of Ibn Tulun. They were still living there almost a century later during the time of Maqrizi. We know that some of them were captured prisoners of war during Mamluk campaigns and others were Europeans captured during naval raids on Alexandria. There is also evidence of master builders named al-Tulunis who were heavily involved in the architecture of the fifteenth century, however, were first mentioned during the reign of Sultan Barquq.[412] It is known that they were of Western Islamic origin and named as such because they lived around the Ibn Tulun mosque. Those, in addition to Andalusians, must have included Catalans since most of the corsair attacks on Alexandria at that time were by them.

Europeans Under Barquq

Ibn Khaldun lived in Granada, Tunis and Cairo holding several important posts. After arriving in Egypt in 1382 he became very close to Sultan Barquq. This relationship allowed him to further his studies and

[410] Torres Balbás, Intercambios Artísticos, op. cit., 414-415.
[411] Ibid., 417.
[412] Behrens-Abouseif, *European Arts*, op. cit., 48.

knowledge through generous financial support. He was appointed as teacher at a number of schools most importantly at the Madrasa al-Barquqiya at the Bayn al-Qasrain Street until 1387. He became the Maghribi Consul for the sultan because he maintained contact with the leading circles of North Africa. Fischel said that he was: "The interpreter and mediator between al-Maghreb in the East and Egypt in the West. He functioned as an adviser to Barquq in all matters pertaining to Maghribi affairs and particularly to Maghribi visitors to Cairo, and thus strengthened further the connections between Fez and Cairo."[413] The timing of Ibn Khalun's arrival in Cairo coincided with the beginning of the Circassian Mamluk rule over Egypt and Syria. Sultan Hajji was dethroned and Barquq was proclaimed sultan that same year.

Ibn Khaldun spoke earlier in his chronicle of major movement of people between al-Andalus and al-Maghreb. In the twelfth century and during the rule of al-Mohads many moved to al-Maghreb. They moved from Christian areas in the east of al-Andalus to Tunisia. They spread their culture and civilization to many of its cities but especially the capital Tunis. The exchange of knowledge intensified and was transferred through travelers to Egypt.[414]

Ibn Khaldun described how the migration of the Spanish Muslims intensified after the Hafsids conquered Ifriqiya. Many distinguished families moved to Tunis among them were the Bani Abi al-Hassan, Lords of al-Qal'a near Granada. They were controllers of finance in al-Andalus and were placed in similar posts by the Hafsids.[415] Beginning with Almoravid dynasty (1130-1269) Ibn Khaldun explained that after the destruction of Muslim power in Spain many had to disperse in many countries and continued to spread into provinces of Ifriqiya and al-Maghreb. He said: "They have taught the settled population the arts which they possessed and have attached themselves to the Government Service, with the result that their style of writing has taken the place of that of Ifriqiya and caused it to go out of use. Thus the writing which was in use at Qairawan and Mahdiya is now forgotten, as well as the customs and arts which were peculiar to the two capitals."[416] What is most important is what he said about the Spanish Muslims moving to Cairo: "I have heard that the inhabitants of Misr, and al-Qahira possess great wealth, and that they have such a luxurious way of living that visitors are astonished and filled with amazement, moreover many poor men willingly leave the Maghreb if they

[413] Fischel, Walter, *Ibn Khaldun in Egypt, His Public Functions and His Historical Research (1382-1406)*, University of California Press (Berkley, 1967), 24-27.
[414] Ibn Khaldun, *Muqaddimet Ibn Khaldun*, Dar al-Bayan (Beirut, 1867) V.1, 371.
[415] Ibid., V.1, 119, ll. 22-5.
[416] Ibid., V.1, 205, ll. 24-34.

have a chance of going to al-Qahira. They have heard say that, in this capital, the comfort is greater than anywhere else."[417]

Europeans Under Qaytbay

During the reign of Qaytbay who had intense trade with the Venetians and their partners, the Germans and Flemings, seemed to have included a large number of Europeans and Mamluks of European origin in his court. The Flemish traveler Van Ghistele, who visited Egypt in 1482-83, wrote that Cairo had Mamluks of Greek, Albanian, Italian, and Vlach origin in addition to the Circassians and the Turks. Van Ghistele had the opportunity to witness the arrival of two European envoys during his stay in Cairo, from Ferdinand II of Aragón, King of Sicily and Naples, and that of the queen of Cyprus, Catharina Cornaro. According to him, Ferdinand II, was trying to install his illegitimate son who resided in Cairo, on the throne of Cyprus, so he sent a shipload of artillery equipment as a gift, which included a large array of richly decorated white weapons and armor to persuade the sultan to help. Ferdinand's gift pleased Qaytbay but annoyed the Europeans, who viewed it as an act that undermined the Pope's prohibition on the sale of strategic equipments to the Muslims.[418]

In October 1483, Fabri visited the palace of the son of Ferdinand II in Cairo with a number of Mamluks. He described the palace as being large with gardens full of beautiful beasts and rare unknown animals that he had never seen before. The following day he mentioned meeting several renegade Christian Mamluks from different nationalities, who were accompanied by many from Sicily, Aragón, and Catalonia. They came to his residence looking for other Christian Mamluks among the pilgrims in his court.[419]

Fabri also spoke of his trip to Alexandria and a Catalan *fonduq* he visited. As he entered he was greeted by the Catalan consul living there who sent help outside to take care of his rides. After a short while he was invited with his group to a large hall where lunch was ready. The lady of the house, a Christian, as he described her was there to greet them. They had a fabulous lunch and drank wine from gold and silver goblets. They later agreed to a good price for staying there including lunch and dinner. Fabri toured the building with the patron and described it as spacious with many rooms.[420] Qaytbay also hired European professionals for his military architecture. There

[417] Ibid., V.1, 176, l. 38, 177, l. 2.
[418] Behrens-Abouseif, *European Arts*, op. cit., 49.
[419] Fabri, Felix, *Le Voyage en Egypte de Felix Fabri 1483*, Institut Français d'Archéologie Orientale du Caire (Cairo, 1975), 430-431.
[420] Ibid., 667-668.

is evidence by Fabri after arriving in Alexandria that Qaytbay's fort, which had just been completed was attributed to a German architect from Oppenheim.[421]

It is known that during the reign of Qaytbay his emirs were in charge of new construction projects, however, he used to come down from his residence at the citadel to check their progress. Several architects were responsible for the design and the development of his buildings. We have the names of a few like, Badr el-Din Ibn al-Kawiz and Hassan Ibn al-Tuluni. The designs, despite using common design elements had enough variety to show that the designers came from different places. Al-Tuluni for example must have been from the West since his name refers to an area where Andalusians and other Europeans lived near the mosque of Ibn Tulun.[422]

Glass Vessels and the Catalans

European involvement in Qaytbay's court was emphasized by Abouseif, especially Catalan workers, according to an analysis by Carboni: "The hypothesis of a European involvement in late Mamluk craftsmanship might also help explain the origin of an enameled glass lamp bearing the name of Qaytbay, in the Islamic Museum in Cairo. This lamp is the only one of its kind attributable to the late fifteenth century, the production of enameled glass having come to an end in the Mamluk empire in the late fourteenth century, at a time when it began to flourish in Venice and Spain. The Qaytbay lamp is evidence of an attempt, albeit not successful, to revive the tradition of Bahri Mamluk enameled glass lamps. The style of the inscriptions and decoration betrays occidental features and appears rather "orientalist." Stefano Carboni has argued that it could not be Venetian, as commonly believed; he has instead suggested a Catalonian production. In light of the previous documentation, it can be proposed that the lamp was the product of a Cairene workshop using European expertise**.** Qaytbay must have hired European craftsmen, such as the German goldsmith and crystal maker from Flanders, to promote the art of metalwork, which had declined in quality and quantity, and to revive the production of enameled glass, which had entirely disappeared during the previous century. Such initiative would have been consistent with this sultan's patronage of the arts."[423]

A glass jar was found at the Museu de les Art Decoratives in Barcelona during a field visit in 2010; it was shorter but very similar to the mosque lamp described above by Carboni. It is made of clear glass with enameling in white, green, yellow, and blue. It has the same structure and profile of a mosque

[421] Behrens-Abouseif, *European Arts*, op. cit., 51.
[422] Abd al-Tawwab, *Qaytbay al-Mahmudi*, op. cit., 185.
[423] Behrens-Abouseif, *European Arts*, op. cit., 53.

lamp but with a straight neck instead of the cone-shape and with two handles. It is decorated on the main body with a row of four-petaled white flowers. The neck of the jar has a white enameled interlaced design of shapes resembling the Arabic letters of the word Allah. The handles are of white enamel and follow the shape of an S. Speaking with Dr. Anna Contadini from the School of Oriental and African Studies (SOAS) at the University of London during the Arts of the Mamluks conference in 2009 about this glassware she said: "The Qaytbay glass lamp is in Cairo at the Islamic Art Museum. There is a general consensus that this belongs to a Barcelona glass workshop of the end of the fifteenth-beginning of the sixteenth century. Other glass of the group is found in the Museu de les Art Decoratives in Barcelona." It is clear now that there was a strong artistic connection between Cairo and Barcelona in the fifteenth and the sixteenth centuries to the extent that Spanish and Egyptian workers were exchanged between workshops. This interaction, of course via Alexandria, further enriched the design repertoire of Circassian Mamluk architecture.

Glass was an important product in the transmission of techniques and workers. Carboni spoke of enameled glass during the Mamluk period by saying: "The enameling technique was developed in Syria and Egypt between the twelfth and the fifteenth centuries. Vitreous polychrome enamels that stand in relief and have a glossy appearance, unlike the filmy look of their closer predecessors (mostly cold-painted Roman glass from the second to fourth century A.D.), represented a true revolution in glass technology."[424]

The techniques of glass making from Egypt and Syria were sold to Venice according to a contract dated 1 June 1277 between Bohemond IV the prince of Antioch and the doge Contarini. Muslim artisans supervised the work initially with material imported from the Levant and helped develop a Venetian monopoly. The manufacturing secrets were later transferred to France through intermediaries. Glass was also manufactured in Palermo in Sicily as early as the twelfth century because of the direct contact with the Muslims. Córdoba monopolized the crystal industry where Ibn Finas had perfected the process during the ninth century. Crystal was not made in Egypt and Syria and only rock crystal was used to make vases, ewers, and other vessels. The ceramics industry was introduced into Italy and France by Muslim potters in the twelfth century.[425]

[424] Carboni, Stefano, *Glass from Islamic Lands*, Thames and Hudson (London, 2001), 325.
[425] Atiya, *Crusade, Commerce and Culture*, op. cit., 238.

Known Architects

Ahmed al-Qalqashandi (1356-1418) was an Egyptian historian who described life during the Mamluk period. He had a detailed account of several areas around the city of Cairo. He named a street full of Berbers from al-Maghreb, another full of Rumis[426] from the West.[427] Al-Qalqashandi included several letters in his chronicle between the Mamluk sultans and those of Aragón and al-Andalus. A letter was sent from Granada by Sultan Abu Abd-Allah Mohamed to Sultan al-Ashraf Sha'ban in response to the attack on Alexandria by the Crusaders in 1365. As discussed earlier many Spanish Muslims were living in Cairo and Alexandria and the Sultan of Granada must have been concerned about their well being. It showed the good relations the two countries had and is testimony to good exchanges between Cairo and Granada despite Christian attacks. Ibn al-Khatib was responsible for writing the letter according to al-Qalqashandi who he mentioned in his introduction.[428]

The migratory nature of artisans and craftsmen was discussed earlier but with architects, the case was rather different. There is no evidence of mass migration by them across Mamluk and Christian lands. Mayer listed all the known Islamic architects and their work. It is important to note the record available for the following architects:

- Hassan ibn Hussein al-Tuluni – was an architect and the grandson of Ahmed ibn Mohamed who was born in Cairo in 1432. He was a favorite of Sultan Inal and became chief architect in 1453. He worked on the restoration of the Mosque of al-Nasir Mohamed at the Citadel in 1471. His son Shehab al-Din replaced him when he became old but was later deported by the Ottomans in 1517.[429]
- Ahmed ibn Ahmed ibn Mohamed al-Tuluni – was the architect who finished the Madrasa of Barquq in 1386. [430]
- Ahmed ibn Mohamed al-Tuluni – who died in 1399, was also an architect and the father of Ahmed who also worked for Barquq. [431]
- Ahmed ibn Baso – who worked in Córdoba and Sevilla between 1160 and 1185. [432]

[426] The name Rumi in Arabic means from Roma, was originally used to describe people from the Eastern Roman Empire and the Balkans. It later became the name used to describe Europeans west of Constantinople including the Franks.
[427] Qalqashandi, Ahmed, *Kitab Subh el-A'sha,* Dar al-Kutub al-Khidiwiyah (Cairo, 1913) V.3, 358-359.
[428] Ibid., V.8, 107.
[429] Mayer, *Islamic Architects,* op. cit., 66.
[430] Ibid., 41.
[431] Ibid., 46.
[432] Ibid., 42.

- Ibn al-Rumiya – was responsible for the construction of a fountain in the courtyard of the Mosque of Ibn Tulun in 995.[433]

Construction Management

What Mayer mentioned was reinforced by Abouseif as she explained that Mamluk building construction was carried-out with a number of supervisors. She also talked about al-Tuluni family and said: "In the fifteenth century there seems to have been a fusion between the offices of the *shadd al-'ama'ir* and of the sultan's master builder, who was called *mu'allim al-sultan.* The first *mu'allim* to have climbed the social ladder, was Ahmad ibn al-Tuluni also called *muhandis*, *kabir al-sunna'* (chief of the builders), and *shadd al-'ama'ir* who served Sultan Barquq. He belonged to a family of carpenters, stonecutters and contractors, and was one of the wealthy notables of Cairo. Although he built Barquq's madrasa, the overseer of its construction was the emir Jarkas al-Khalili, the sultan's master of the stables, whose name is included in an inscription on the building. Barquq appointed Ahmad ibn al-Tuluni an 'emir of ten', and married his sister and his daughter. Ahmad built a mausoleum for himself in the southern cemetery. His descendants, who were educated as scholars, succeeded him in office, and they continued to play a prominent role in the building craft to the end of the Mamluk period. Although Ahmad ibn al-Tuluni experienced this extraordinary career, Barquq's reign did not produce the most outstanding Mamluk monuments."[434]

Continuing her description of the construction hierarchy Abouseif said: "The title *mu'allim al-mu'allimin* appears in the fifteenth century in connection with high-ranking native bureaucrats who supervised royal construction works, but at the same time Mamluk names also figure in this function. In the fifteenth century merchants are mentioned among the supervisors of royal construction works, such as the sultan's merchant (*tajir al-sultan*) Ali al-Kaylani, who was appointed by Barsbay to be a member of the team in charge of restoring the Mecca shrine. Badr al-Din (also called al-Badri) Hassan ibn al-Tuluni, who held the position of *mu'allim al-mu'allimin* during Qaytbay's and al-Ghawri's reigns, was described in his biography and obituary mainly as a scholar knowledgeable in various religious and theoretical disciplines rather than a practitioner."[435]

It is clear that the name "al-Tuluni" indicated a person living in Cairo around the Mosque of Ibn Tulun rather than a member of the family of Ahmed ibn Tulun who came to Egypt from Baghdad. The area was reserved for

[433] Ibid., 70.
[434] Behrens-Abouseif, *Cairo of the Mamluks,* op. cit., 44.
[435] Ibid., 44.

people from the Maghreb and their descendents. Hassan ibn Hussein al-Tuluni was born in Cairo and his family had a long history of planning and designing buildings. His father and grandfather must have come from the land of Western Islam but there is no evidence whether they were originally Christians or not. It is also known that Sultan Barquq married two girls from the Tuluni family but it was acceptable for Muslims to marry Christians. In the end, strong evidence was found of design elements coming from the West in several buildings in Cairo, especially at the Mosque of Ibn Tulun. It is then concluded with confidence that Western artists and architects were responsible for their construction.

11- The Monuments in Cairo

The contact between Egypt and Spain has long been established and goes back to the Roman period. What is of special interest is what happened during the Reconquista and the fleeing and expulsion of many Muslims. The influence of Andalusian artists and craftsmen became apparent in Cairo during the Ayyubid period and was fully realized in the Mamluk period. The Spanish Muslims started arriving in Egypt in large numbers as they were escaping the collapse of al-Andalus. In 1492 the loss of Granada was deeply felt in the Islamic world.[436]

In the tenth century Islamic Spain was way ahead of the rest of Europe. It was rich economically and intellectually because of the wealth brought by its agriculture.[437] There were several periods that followed: the Taifa, the Almoravids, the Almohads, and finally the Nasrids. Mohamed ibn Yusuf ibn Nasr founded the Nasrid dynasty and took Granada in 1237.[438] Granada in the fifteenth century was the last place left for the Muslims and the Alhambra was its symbol of power.

Castilla and Aragón were unified after the marriage of Ferdinand and Isabella in 1469 and many cities fell quickly. Boabdil the last Muslim ruler of Spain left in January 1492.[439] The political control ended but the artistic influence continued on, not only in Spain but also in the rest of the world.

Lapidus said that: “Egypt and Syria became places of refuge for scholars, artisans, and merchants from the besieged parts of the Islamic world. Muslims, escaping the conquests in Iran, Central Asia, and Spain and unsettled by the political turmoil in Anatolia, Mesopotamia, and North Africa, brought their scholarly knowledge and artistic ability to Damascus and Cairo. Egypt with its many madrasas became a leading center of Muslim religious scholarship, especially in the study of Islamic law and *hadith*. Migrant workers in metal, textiles, ceramics, glass, and building construction spurred Mamluk industry. Metal workers from Mosul, for example, created a flourishing industry of inlaid brass, and architects from Tabriz worked in Damascus in the 1330s. Patterns for ceramics came from Sultanabad, silk designs from Iran, and geometric motifs from Iran as well as Anatolia.”[440] It is clear by what she

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[436] Robinson, Francis, *The Cambridge Illustrated History of the Islamic World*, Cambridge University Press (London, 1996), 60.
[437] Barrucand, *Moorish Architecture*, op. cit., 56.
[438] Ibid., 179.
[439] Ibid., 181.
[440] Lapidus, Mamluk Patronage, op. cit., 174.

said that Cairo was a bustling city full of people from around the Mediterranean and beyond. Design influences came from many sources but it is important to point-out specific elements and trace their sources. In addition, the design aesthetics played an important role in shaping the architecture of the city.

11.1- The Aesthetics

Before analyzing the monuments in Cairo it is important to emphasize that the Christian culture, as it preceded the first Muslim Umayyad dynasty, was very influential in the development of Islamic architecture. Creswell surveyed Umayyad architecture and came to several conclusions. Most of the monuments he studied were in Greater Syria and in addition to the strong influence of Christian architecture of the pre-Islamic period, other sources were evident. This was due to the employment of labor from many parts of Umayyad territories. It resulted in a mixture of design elements first from Syria, second from Persia but most importantly from Coptic Egypt. He also concluded that Umayyad architecture used the following elements: “The semi-circular arch, the round horseshoe arch, the pointed-arch, flat arches or lintels with a semicircular relieving arch above, arches braced with tie-beams joggled voussoirs, tunnel-vaults in stone and brick, the latter constructed without centering, the system of roofing in which transverse arches support parallel tunnel-vaults, wooden domes, and also domes of stone on true spherical-triangle pendentives. The squinch does not appear to have been employed and the intersection of tunnel-vaults was avoided.”[441]

The aesthetics of architecture were classified by Hegel as symbolic, classical and romantic. He explained by saying: “First, architecture that is symbolic, or independent, in the strict sense; secondly, classical architecture which sets spiritual individuality before us in independent form while divesting the art of building of independence and reducing it thereby to the task of providing an artistically formed inorganic environment for spiritual meanings that have been independently shaped; and thirdly, romantic architecture – the so called Moorish and Romanesque, Gothic or Germanic – in which houses, churches, and palaces are indeed dwellings and places of assembly for civic and religious purposes and are yet so built that, without ceasing to be serviceable, they stand before us independently, as manifestly self-subsistent in meaning. Thus, while architecture retains its fundamentally symbolic character throughout, it clearly develops through characteristically classical

[441] Creswell, *Early Muslim Architecture*, op. cit., V-I, 650-651.

and romantic stages in providing an environment for the products of the distinctively classical and romantic arts."[442]

Gothic architecture in particular, had a strong impact on the development of Mamluk aesthetics starting in the thirteenth century. The style was fully developed by then and its connection with Islamic architecture was discussed by Hegel. He related this mainly to the Goths of Spain and their contact with the Muslims. He said the following: "We need finally to say something about the link between this romantic architecture that reached full maturity in the thirteenth century and the tribe of the Goths that settled in Spain, and remained there in some measure of independence after being driven up into the hills of Asturias and Galicia. In the buildings of old Spain there are indeed traces of what has come to be called the Gothic style, and for that reason it has seemed likely that there might be a significant connection between Gothic and Arabic architecture. Yet the two are essentially diverse. Arabic medieval architecture is characterized not by the pointed arch but by the so-called horseshoe arch; and, beyond this, the Arabic buildings were designed for an altogether different form of religious worship and they in fact display a characteristically Oriental excess and splendor of plant-like and other varieties of decoration in which Roman and medieval elements appear combined in a purely external fashion."[443] Hegel introduced important facts about the persistence of Gothic architecture in the north of Spain. What he didn't know is that the pointed arch along with the horseshoe arch appeared in a new combined window set in Cairo in 1284. This will be called a Qalawun-set and is fully discussed later in this chapter. In addition, a basilica plan was used inside the *qibla iwan* at the madrasa of the Qalawun Complex.

Geometric designs became very dominant in building decoration starting in the eleventh century. Star polygons covered wall surfaces from Córdoba to Samarkand. They were extensively developed in Morocco and al-Andalus. After the fall of Granada most of the Andalusian craftsmen moved to Morocco and continued their work on tile designs, called *zellij* techniques, which were mosaics cut of ceramic tiles.[444] The star designs were also created in stone and stucco carvings. In addition, floral and vegetal designs were heavily used in wall ornamentation.

The designs were interpreted as representing the endless and the infinite in reference to the universe by several scholars. Leeman disagreed

[442] Hegel, *On the Arts*, op. cit., 69.
[443] Ibid., 82.
[444] Castéra, Jean-Marc, *Arabesque, Decorative Art in Morocco*. ACR Edition (Paris, 1999), 85.

and said the following: “For one thing, unless space is infinite, whatever goes on in that space will have to come to an end at some point. Many have commented on what is taken to be a horror vacui in Islamic ornamentation, a dislike of the empty, and this accounts for the ways in which space is filled up so comprehensively in Islamic art. Yet space cannot be filled up entirely, for if it was the ornamentation would become entirely lost.”[445]

The geometric patterns were discussed by Leeman as follows: “One of the attractive features of the sort of geometrical illustration that is so common in Islamic art is its balance. The shapes that are produced seem to be just the right number. Too many shapes would have produced an effect of fragmentation, and too few would have made us concentrate on particular areas of space too much. In some such designs the application of a grid supplies a tight formal structure that gives the impression of being endlessly and infinitely repeatable. Larger areas cohere by color and shape rather than by subject matter, since the whole notion of subject matter does not really get much of a grip in this sort of design. Repetition within a specific section, or rephrasing of a section within the whole, produces a subtle rhythmic and harmonious pattern of sameness and difference, and this is vital if the work is to escape from both tedious monotony and a gradual loss of aesthetic identity. The work itself defies interpretation, sometimes it seems to be replete with a kind of libidinal exuberance and sometimes to be shot through with pathos. Sometimes it looks as though the flow of time has been arrested, and sometimes as though it has not been constrained at all, since the patterning is so excessive that it makes the attempt to constrain it, or render it coherent, futile. Any attempt at decoding it or synthesizing the vast array of shapes has to be rejected by the viewer, overwhelmed as she is by the jouissance of the intricate patterning.”[446]

The aesthetics of the architecture were described by Leeman in the following manner: “What are these aesthetic principles? For many of the classical buildings in the Islamic world these are balance and harmony. The use of highly dramatic color in parts of the structure tends to be balanced by areas where there is no color at all, or a very limited use of color. Decoration in one part contrasts with lack of decoration elsewhere; restraint in one place is liked to expansiveness elsewhere. There are often architectural features which bridge these opposites, thus bringing them into even closer harmony. It is the interplay of these different features which makes many of the buildings in the Islamic world so satisfying aesthetically. Whether these principles of design should be seen in this way, but equally clearly this is not necessary,

[445] Leeman, Oliver, *Islamic Aesthetics, an Introduction*, Edinburgh University Press (Edinburgh, 2004), 67.
[446] Ibid., 68.

and so it is dubious how much point there is in importing religion when it seems to be an inessential feature."[447]

There are four main aesthetic theories that were developed by Islamic philosophers. Two of those were from al-Andalus: Ibn Hazm (994-1064), and Ibn Rushd or Averroes (1126-1198), both from Cordóba. The other two were Ibn Sina or Avicenna who was born near Bukhara (980-1037), and Ibn al-Haytham al-Misri or Alhacen (965-1039) who lived for most of his life in Cairo under Fatimid rule. Their views on aesthetics differ as distinguished by Gonzalez. Ibn Hazm aesthetic interpretation is based on approaching sacred text of the Quran in its literal sense with no regard to hidden meaning; this results in a view based on moral and religious ethics. Ibn Sina is known as one of the most important Islamic philosophers of the Neo-platonic metaphysics. Ibn Rush and Ibn al-Haytham both are known to belong to the rational school of philosophy.[448]

Along with other philosophers in the Middle Ages, they developed aesthetic theory based on their time according to Gonzalez. She said: "Their ideas nevertheless must be understood according to the medieval conception of the beautiful, that is to say, as a philosophy of sensory experience that does not systematically treat its subject separately as an object of knowledge, or *épistèmê*, but includes it within the wider area of various orders of questions, the ontological, religious and ethical, and their derivatives. We will call this type of thought 'meta-aesthetics'." This leads to the dual problem of physical and divine beauty. Visual observation of the beautiful then resonates with the inner feeling of the divine and the concept of God's beauty.[449]

A clear differentiation must be made between the four philosophers to establish which aesthetic is applied to Islamic architecture. Of course, this will depend on the style in question but it must be pointed-out that clear ideas of aesthetics were applied to Christian architecture, especially the Gothic, with regards to the use of light and color. For example, light representing the divine, led to the design of cathedrals that used color glass windows to express this concept.

Ibn Hazm thought of beauty as a pure abstraction of God's beauty. He related beauty to love and said: "If I love someone it is for myself and for my soul which delights itself with his image, and by desiring it (this image) with all my soul, I pursue my logic, I follow my principles and I continue along my

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[447] Ibid., 131.
[448] Gonzalez, Valerie, *Beauty and Islam: Aesthetics in Islamic Art and Architecture*, I. B. Tauris (London, 2001), 6-7.
[449] Ibid., 7.

way." His idea of the beautiful rests on a process that relates it to the divine revelation where passion and imagination are overruled by reason. Gonzalez said: "This can happen only in absolute abstract terms, neither easily assimilated nor even comparable to aesthetic concepts related to human existence."[450]

Ibn Sina followed the Neo-platonic scheme as he saw no separation in the earthly and the divine spheres. Both spheres were put in a reflexive relationship based on the principle of emanation. The universe is a reflection of the divine as it emanates from it. In the metaphysical, this aesthetic beauty through reflection cannot express itself using physical matter. To be more specific, the ideal and spiritual can only be expressed by light. This aesthetic is characterized as being mainly conceptual since it is based on notions of light and splendor. Gonzalez explained that this concept of light was paralleled in Christian aesthetics, however, penetrated by Greek, Latin, and Arabic ideas. She explained by saying: "We find in the Middle Ages a *koine* of thoughts that join the Muslim and the Christian worlds through a common set of ideas, notably aesthetic ideas conveyed by the dual tendencies of metaphysical and objectivist views of the universe."[451]

The theories of Ibn Rush and Ibn al-Haytham are completely opposite of the ones presented by Ibn Hazm and Ibn Sinai. Ibn Rushd relies heavily on the work of Aristotle in developing his entire philosophy. Gonzalez said: "In respect to this positive, almost materialistic vision of the universe, the beautiful identifies itself, in Ibn Rushd's argument, not with a transcendental and sacred value of perfection, but with objective and observable notions of order (*tartib*), structural cohesiveness and physical harmony (*nizam*). All these concepts structure a mode of thinking aesthetics sustained by logical principles of the causality and finality of natural laws."[452]

Ibn Rushd sees nature as God's creation, therefore it existed before art. It is however, grasped, discovered and understood through art. He said the following: "Art (*al-sina'a*) is, in that sense, more limited than nature (*tabi'a*) given that art generates, within the quantities of colors that exist in the internal logos (*al-nutq al-batin*), only what the external logos (*al-nutq al-kharij*) is capable of producing. Meanwhile, nature produces all that there exists in the immaterial internal logos (*al-nutq al-batin al-ruhani*), and that is why nature is nobler than art (*ashraf min al-sina'a*), and the nobility (*sharaf*) of the artist will

[450] Ibid., 11.
[451] Ibid., 12.
[452] Ibid., 17.

depend on the degree of excellence (*jawda*) with which he imitates nature, and this within the boundaries of the possible."[453]

Ibn al-Haytham work on the aesthetics and beauty was founded on Greek philosophy and science and his observation of human relationship with nature and physics. In his book *Kitab al-Manazir* or Book of Optics he said the following: "The sight perceives (*yuhiss*) the light and the color existing in the surface of the contemplated (*mubsar*) object, thanks to the shape that expands from the light and the color existing from the surface of this object through an intermediary diaphanous body (*al-jism al-mushiff al-mutawassit*) between the sight and the object. The vision necessarily perceives all objects by means of supposed straight lines that extend themselves between the object and the central point of the sight (*markaz al-basar*)."[454]

There are two principles of beauty according to Ibn al-Haytham. The first principle is that there are generic visual properties he listed that are in themselves beautiful as in light for example. The sun, the moon, and the stars are considered beautiful because of their lightness and brightness. The second principle is the modulator of the beauty. It works through specific combinations of either one or a group of the generic visual concepts. He said the following: "Now for the beauty that is perceptible to the sense of sight: sight perceives it by perceiving each one of the particular properties (*min idrakihi li'l ma'ani al-juz'iyya*) of which the manner of perception by sight has been shown. For each of these properties separately produces one of the kinds of beauty, and they produce other kinds of beauty in conjunction with one another. For sight perceives beauty only from the forms of visible objects which are perceptible to it; and these forms are composed of the particular properties that have been shown in detail; and sight perceives the forms from its perception of these properties; and therefore, it perceives beauty from its perception of these properties."[455]

The beauty created by the grouping of visual properties is further explained by the aesthetics of Aristotle and Plato of order (*tartib*) and symmetry. Ibn al-Haytham revived their ideas by adding proportion (*tanasub*) and harmony (*nizam*). Generally speaking, these ideas underlined Islamic aesthetic theories in the Middle Ages. In addition, the Latin translation of his work in the thirteenth century, on both scientific and aesthetic theory of vision and beauty, had a strong impact on Christian European art and thought in the Middle Ages and beyond. With this new knowledge appeared a new aesthetic in Europe, which was developed through the cathedral building program to

[453] Ibid., 18.
[454] Ibid., 20.
[455] Ibid., 22.

explore the beauty of light in architecture, and perspective views in painting.[456]

Aesthetic Principles

The aesthetics of Islamic architecture, as a result, follow clear principles using the visual elements of line, shape, tonal value, texture and color, they can be classified as follows:

1- Harmony (*Nizam)*, is shown in the repetition of similar shapes in a pattern using one or several motifs to create visual rhythm. Also it is found in the repetition of arches and columns in arcades and hypostyle prayer halls.

2- Variety (*Tanawu'*), is achieved by contrasting, changing or diversifying a group of elements as in floral motifs. Also it can be created by the elaboration of a design element or a wall surface treatment or color.

3- Balance (*Tawazun*), is created by a visual sense of equilibrium using weight and a focal point. It can be seen in surface designs where the motifs are placed in symmetrical order (*Tartib*). It is also shown in mosques where the mihrab is the focal point which is balanced by symmetrical columns and bays.

4- Proportion (*Tanasub*), is defined as the relationship between the elements to one another. It is especially important in floral designs as the motifs vary in size from small and medium to large. Also it is found in mosques, mausoleums, and madrasas in the relationship between the sizes of the façade, the dome, and the minaret.

Abstracted motifs from nature were used in surface ornamentation to create infinite combinations in patterns and to develop unique designs. Abstracted elements from nature were repeated in the architecture to develop harmony as in forests of columns. Gonzalez studied the aesthetics of the Alhambra and identified the geometry as follows:

1- Imaging geometry is explained as subjective which resonates concepts from contemporary abstract art. It uses metaphors and non-representational symbols to evoke imagination.

[456] Ibid., 23.

2- Kinetic geometry is defined as visual movement created by repetition. In contemporary terms it is also called kinetic art and dynamic design. This can be found in 2-D and 3-D forms alike as in star patterns and muqarnas respectively.

3- Conceptual geometry is the main principle that organizes the geometrical system. It is the reasoning behind the creation of forms in 2-D and 3-D designs. It is pure geometrical thought expressed in a visual order as a product of the intellect.

Gonzalez summed up her analysis at the Alhambra by saying: "The geometry in the Alhambra fulfils a plural function insofar as it transforms spaces, volumes and planes into different visual creations concealing different significations by means of a great diversity of aesthetic systems and through the elaborate use of the principle of variation."[457]

It is clear from the previous discussion that there were several philosophical approaches to the design process in Islamic architecture. The aesthetics, however, are now established and the criteria outlined above, will be used to analyze the monuments in Cairo. The ideas of Ibn Rushd and Ibn al-Haytham are a Renaissance of sort in Islamic architecture. The most important element, especially in the work of Ibn al-Haytham, is the grouping of visual elements. This resulted in the classification of the four principles of organization: harmony, variety, balance, and proportion. Those principles will be used in the following section to analyze the monuments in Cairo.

11.2- Ibn Tulun

Ahmed ibn Tulun was sent from Samarra to Cairo in 868 on a mission, a year later he was in charge of the whole country. He founded al-Qata'i as a new city in 870 to replace al-Fustat and al-Askar. He needed a large Friday mosque for his new city so in 876 he built one on top of the hill called Jabal Yashkur.[458] The mosque was placed at a prominent site in a large square with a distinctive spiraling minaret visible from a long distance. The exterior walls were capped with striking anthropomorphic crenellations that appeared as a group of people holding hands. With the exception of the minaret, all the walls were constructed of brick running an English bond and were 1.32 m in thickness.

[457] Ibid., 74.
[458] Creswell, *A Short Account*, op. cit., 391.

Description

In plan, the mosque consists of a large central courtyard or *sahn* surrounded by arcades or *riwaqs*. The *riwaqs* are 5 aisles deep on the qibla side and 2 aisles deep elsewhere. The mosque also has *ziyadas* (extra prayer space) on three sides along the exterior walls. The arches around the *sahn* are pointed and elongated horseshoe. Creswell described them as pointed and stilted which is inaccurate. Despite the fact that the springing of the arches is higher, the lower part curves inward in the style of a horseshoe. The soffits of the arches were once all covered with stucco designs, however, now only ten on the south-west arcade facing the courtyard still exist.

The origin of the mosque was discussed by Creswell as he disagreed with Muslim historians like al-Qudai about it being modeled after either the Mosque of Abu Dulaf or the Great Mosque of Samarra both in Iraq. He later concluded that the Mosque of Ibn Tulun had many elements from Samarra, however, they were used differently. For example he said: "It is now universally agreed that the ornament of Ibn Tulun's Mosque is entirely derived from Samarra, but whereas at Samarra the three styles – A, B, and C – occur separately, in the Mosque of Ibn Tulun they are combined and mixed."[459]

Work of Lajin

What is most important at the Mosque of Ibn Tulun is the work of the Mamluk sultan Husam al-Din Lajin who reigned from 1296 to 1299 after the two sons of Qalawun: al-Ashraf Khalil who was murdered and al-Nasir Mohamed who was removed from power. Before becoming sultan and because of Lajin's involvement in the conspiracy to kill al-Ashraf Khalil he had to hide and consequently chose the mosque because it was abandoned at the time. He then vowed to restore the mosque if he survived unharmed and did so during his reign. He first appointed one of his emirs, Alam al-Din Sanjar to oversee the restoration of the mosque. He paid him all the money needed for the work and gave him strict orders to employ only free willed workers. He also insisted that no taskmaster would be employed to oversee the workers.[460] This, of course would mean that the skilled workers hired to restore the mosque had complete freedom in the execution of the work. They were free to choose the designs as they fitted the particular areas of the prayer hall and elsewhere at the minaret. Torres proved earlier that those workers came from al-Andalus after leaving their marks at Qairawan.

[459] Ibid., 405.
[460] Creswell, K.A.C., *The Muslim Architecture of Egypt*, Hacker Art Books (New York, 1978), V-II, 223.

The work on the mosque was considerable according to Creswell, he said that: “The great *midaa* (ablution fountain) and a stucco mihrab, both of which bear inscriptions in his name, the minaret, the gold mosaic in the main mihrab and probably the marble paneling of the recess, a stucco mihrab, known as the Mihrab of Sitt Nafisa, the minbar, the wooden pendentives of the dome in front of the main mihrab, and most of the stucco grilles, also the corbels which support the remains of a ceiling in the room behind the mihrab.”[461] Those elements mentioned will be discussed in full detail. What he called “corbels” in the room behind the mihrab are the ménsulas discussed earlier which persisted in Mudéjar churches in the thirteenth century.

Minaret Analysis

It was established that the original spiral minaret was restored by Lajin for several reasons. Unlike the remainder of the mosque and including its connecting bridge it was built out of stone. Creswell continued his analysis describing the entrance to the staircase and the bridge connecting the minaret to the mosque. He said the following about the entrance: “Is an anomaly in Egypt for it is spanned by a horseshoe arch with a rectangular molded frame which immediately reminds us of the Muslim architecture of Spain.” He said the following about the connecting bridge: “Is formed by two parallel horse-shoe arches of cut stone 4.20 m in span, placed 2.40 m apart, which serve as supports for a tunnel-vault. The Cornice, composed of a quarter-round molding surmounted by a cavetto, from which this vault springs, is carried round horizontally at each end, where it rests on four engaged pilasters with splay-face capitals. These serve as supports for four corbels of a type which there is no term in English so far as I know, but which is called in French *modillons à copeaux*.” This particular corbel is important because Creswell said that it was used earlier in Muslim Spain at the Great Mosque of Córdoba dating from 958 and spread to Segovia and the south of France.[462]

The most plausible scheme for the construction of the minaret is that it was originally built out of stone. The structure itself was completely separate from the mosque proper and it did not need to match it. In the end the mosque and the minaret were plastered over so no bricks and no stones were left exposed. The bridge connecting the minaret to the mosque on the roof level was definitely an addition since it awkwardly meets the exterior wall of the *ziyada* and the wall of the mosque. It even covers one of the windows facing the arcade of the prayer hall.

[461] Ibid., V-II, 224.
[462] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 227.

Lajin must have added the minaret top section with the ribbed dome in the prevailing Mamluk style of the time. This includes the muqarnas and the crown-arches of the lower section. Each side of this octagonal shaft has a crown-arch above either an open or blocked window. The earliest known minaret to display this type of arch was that of Abu al-Ghadanfar built in 1157 during the Fatimid rule.[463] He must have also added the horseshoe arches on the lower body of the minaret and kept the middle section as it was. What's important is what Creswell said about the design influence coming from Spain. In addition, the arch of the entrance to the minaret has the same proportion of the arches used in Córdoba and Madinat al-Zahra during the Umayyad period.

Andalusian and Christian Influence

It was discussed earlier that during his travels in 1183, Ibn Jubayr spoke of the residents and workers in Cairo and Alexandria. About the Ibn Tulun Mosque he said that the sultan made it a retreat for foreigners from the Maghreb, where they lived and were supported by a monthly allowance. Also it was shown that the name of the architect, al-Tuluni referred to a person from the mosque area and not from Iraq.

The room behind the mihrab which Creswell dates to the time of the Lajin restoration of 1296 is attached to another smaller roofless room. It has the remains of a roof on the south-western side supported by wooden corbels. Those corbels look like the head of giant locusts and project by 25 cm, measure 15 cm in height, and are placed 60 cm on center according to Creswell. The origin of these corbels or ménsulas was discussed earlier based on the findings by Marçais and Torres Balbás. Creswell also referenced both and added that Marçais in 1934 was the first to show that the corbels were a local version of the ones used in thirteenth century Spain. He added that Torres Balbás later cited several examples like: the Great Mosque of Tlemcen of 1136, Santa Maria la Blanca at Toledo. Which was originally a synagogue built in the twelfth century but now a church. Creswell added the fourteenth century example of the Patio de las Muñecas in the Alcazar of Sevilla.[464] The corbels at the Mosque of Ibn Tulun were photographed several years ago during a field visit as shown in the plates of this work. Unfortunately the whole room disappeared, the roof and the corbels, were nowhere to be found during a visit in 2010.

[463] Behrens-Abouseif, Doris, *The Minarets of Cairo*, The American University in Cairo Press (Cairo, 1985), 61.
[464] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 227.

The Andalusian influence in the thirteenth century at the mosque of Ibn Tulun was discussed at length by Creswell. He mentioned the horseshoe arches along with two types of corbels never seen before this far east of al-Andalus. He talked about the influence at the Mosque of al-Saleh Tala'i, the stucco decoration at the Mausoleum of Imam Shafii of 1211, the Kamiliya Madrasa of 1225, and the minaret of al-Husayn built in 1237. He said that there must have been a great influx of craftsmen from the West during this period. Creswell attributed this to the military defeats of the Muslims in Spain and said: "The Muslims began to lose ground in Spain with the fall of Toledo in 1085, but the real turning point came when they suffered a disastrous defeat at the battle of las Navas de Tolosa in 1212. From this moment the Reconquista began in real earnest under Ferdinand III of Castilla and Don Jayme of Aragon, the whole province of Merida being recovered in 1229/30. This was followed by the capture of Valencia on 29 September 1238, Córdoba on 29 May 1239, Seville 23 November 1248, and Murcia in 1260."[465] Many moved to Tunis as we have accounts by Torres Balbás of Andalusian Muslim and Christian workers and architects from Sevilla living at the court of Abu Abd Allah al-Mustansir (1249-1277). Of course many also moved to Cairo as Ibn Khaldun and others have testified.

Woodwork during the Tulunid period was influenced by Coptic designs as Marçais specifically spoke of it. This was shown in carved wood panels above several doorways between the mosque proper and the *ziyadas* around it. He also said that floral and geometric designs at the mosque of Ibn Tulun were far more superior to those found at Samarra.[466] This is a clear indication of early Christian design influence on the Islamic art and architecture of Egypt. Very specific Christian design symbols were found interwoven within the Samarra styles at the mosque. As was shown earlier, the fleur-de-lis was a design motif originating in Christian art representing the trinity and the cross. The fleur-de-lis appeared at the mosque from the date of its construction almost certainly at the hands of Christian workers. This is visible in the designs under the arches and in some of the capitals of the engaged columns at the piers. Those were neither Type-A nor Type-B, however, they seem to be more pseudo Type-A. This is said because they are elongated with a taper toward the center away from the volutes. The ones found on the wooden panels above the doorways were barely an outline of a fleur-de-lis. Again this could not have come from Samarra as this was an uncommon design motif.

[465] Ibid., V-II, 228.
[466] Marçais, Georges, *L'Art de L'Islam*, Librairie Larousse (Paris, 1946), 48.

Mihrab of al-Afdal

In addition to the main mihrab four more panels were placed on the piers in front of the qibla wall. The two closest to the *sahn* were placed on the piers of the center arch of the fourth arcade from the qibla side. The one on the left as one faces the qibla was created by the Fatimid Sultan al-Afdal Shahinshah in 1094. The one on the right was created by Lajin as a replica of the other but had suffered great damage and almost three fourth of its decoration is gone. Creswell described the stucco carving on the Mihrab of al-Afdal in detail and said the following about the area above the arch of the panel: "At the apex of the arch is a crescent, and above it a splendid band of Kufic on a background formed by a mesh of equilateral triangles, grouped so as to form hexagons, and bordered above and below by part of the figure-of-eight border already mentioned. Then comes a broad band of elaborate ornament and then the top edge of the figure-of-eight border. The composition we have described is crowned by a Kufic inscription executed on a flat ridge which stands out 5 cm from the surface."[467]

Continuing the analysis of the mihrab panel of al-Afdal and by comparing it to others found at Persian mosques, Creswell said that the composition of an arched frame set within a larger arch was not seen anywhere in Fatimid architecture. He compared this design specifically to twelve Persian mihrabs and concluded that nine of which consisted of an arched frame set within a larger arch. Uniquely enough it was the only one in Egypt which was partially influenced by Persian design. As a consequence, he dismissed previous arguments by other scholars that Fatimid art was generally influenced by Persian design.[468]

The Mihrab of al-Afdal was partially described above as the floral designs were not discussed. What is at the mosque now is a replica of the original which was moved to the Museum of Islamic Art in Cairo. Upon close examination of both versions of the mihrab, at the mosque and at the museum, they were found to be similar. The most important part of the mihrab is the band above the Kufic inscription saying: "*La ellah ila Allah, Mohamed rasul Allah, Ali wali Allah*", which Creswell described as: "A broad band of elaborate ornament". It is composed of floral designs surrounded by the figure-of-eight border from all four sides. This floral design starts on one side with interlaced vines that continue from edge to edge forming hearts using S shapes that are spaced equally. The spaces in between are of a similar size and form another unique bell shape. So there is an alternation of hearts and bells that have fleur-de-lis motifs at their bases. The bells have a Type-B fleur-

[467] Creswell, *Early Muslim Architecture*, op. cit. V-I, 220.
[468] Ibid., V-I, 222.

de-lis while the hearts have a stylized fleur-de-lis motif. The hearts have two more floral motifs that are more elongated and tilt inwards following the contours of the vine shape. All five heart shapes are filled with the exact same designs while bell shapes have completely different designs above the fleur-de-lis motif. They vary from hexagons to six-pointed stars. The whole mihrab panel is surrounded by an inscription band on the top and the two sides. Several other stylized fleur-de-lis motifs were also identified which are interwoven with the text.

It is important at this point to discuss the strong resemblance between the stuccowork at the Great Mosques of Qairawan and Tlemcen, and the stuccowork on the Mihrab of al-Afdal of 1094. The mihrab has design motifs and stucco carving techniques coming from the West. Carefully comparing the carving technique and style on the mihrab with two examples of column capitals from the salon of Abd el-Rahman III from Madinat al-Zahra confirmed that they were identical. It is known that 4324 marble columns were imported from Tunisia for the construction of Madinat al-Zahra on accounts of Ibn al-Khatib and al-Maqqari as investigated by Barrucand.[469] The Fatimid period marked the beginning of this influence and it is discussed in detail in the following section.

Design Aesthetics

The concept of the mosque is an open courtyard surrounded by arcades with a minaret opposite the qibla wall. It is not clear if the minaret was part of the original concept of the courtyard, however, it visually balances the dome above the mihrab and the horizontality of the long aisles behind the arcades. The overall effect is fragmented and lacks the grouping idea of Ibn al-Haytham except in the aisles where the geometry of the Samarra style contrasts with plane wall surfaces. Harmony is created by the repetition of the pointed arches and the piers and the small windows in between the spandrels. The overall effect is harmonious but monotonous for the lack of strong visual elements, to create variety, other than the oversized dome of the ablution fountain which appears out of proportion. The ornamentation is limited to borders around the arches and windows, on the soffits of the arches, horizontal bands, and window grilles. The most striking part of the mosque is the prayer area in front of the qibla wall. It is highly dynamic because of the different vistas created by its 5 aisles. The views change dramatically as one walks around the prayer area. Light quality and intensity changes in a gradual manner from the main mihrab to the edge of the courtyard.

[469] Barrucand, *Moorish Architecture*, op. cit., 62.

11.3- The Fatimids

The Fatimids started their dynasty at Mahdiya before moving on to Egypt and conquering it. The rule was established by Ubayd Allah al-Mahdi who first went to Morocco from Iraq through Egypt. He founded his capital at Mahdiya on the Mediterranean coast east of Susa in 916. He built two palaces, one for himself and another for his son, later he founded the great mosque.[470] Until 1171 the Fatimids controlled a large geographical area including al-Maghreb, Sudan, Sicily, Malta, the Levant, and the Hejaz.

This new power threatened the Umayyads in Spain during the reign of Abd al-Rahman III. Burckhardt explained the challenges he faced as follows: "When in 929 he assumed the title of Caliph, he did so not only in order to crown his own work as statesman: with the decline of the Abbasid Caliphate in the east, previously considered an unassailable stronghold of Islam by the Spanish Muslims, no alternative course of action remained open for him, especially as a new Caliphate had come into being that was hostile to both the Abbasids and the Umayyads. Using Mahdiya in Tunisia as their base, the Fatimids conquered the whole of North Africa. As a result, the old conflict between the Sunni and the Shi'ite concept of the Caliphate came within direct proximity of Spain. The Fatimids were Ismailites, who themselves are an extreme branch of Shi'ite Islam. The Shi'ites are of the conviction that only a direct descendant of the Prophet through Ali, the fourth Caliph and his wife Fatima, daughter of the Prophet, was worthy to inherit the Caliphate. For the Sunnites, on the other hand, who included both the Abbasids and the Umayyads, the models of the Caliphate were exemplified not only by Ali but also by the three Caliphs of Islam, Abu Bakr, Omar and Othman. These, although not descended from the Prophet, like him belonged to the Quraish, the most distinguished tribe of Mecca."[471]

In 914 the Fatimids under the direction of the son of Ubayd Allah started several campaigns against Egypt. They occupied Alexandria and advanced toward Fayoum unopposed but were driven away by reinforcements from Baghdad. In 918 they sent another army that took Alexandria, Fayoum, and moved on to Upper Egypt but again were driven out by troops from Iraq. Another attempt was made in 935 but had the same fate as the previous ones.[472] In 945 Ismail al-Mansur took over and founded Sabra later called al-Mansuriya, a suburb of Qairawan. After his death his son al-Muizz succeeded him in 953. He quickly brought order to the Fatimid dynasty with the help of his Byzantine-Greek prime minister Jawhar al-Siqily. He spent

[470] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 2.
[471] Burckhardt, *Moorish Culture in Spain*, op. cit., 34.
[472] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 10.

two years digging wells and building rest-houses along the road to Alexandria, and saving money for the conquest of Egypt. The invasion started after Egypt was weakened because of a famine and a plague. Gawhar lead an army of 100,000 men leaving Qairawan in February 969 arriving at Giza in July 969. They crossed the Nile River and totally defeated the army on the east bank forcing their surrender. The Fatimids entered Fustat without any resistance and camped on the north sandy plain.[473] A palace for al-Muizz was started that same night by the conquering leader. It was following other models in Marrakesh and Tlemcen and was to be the nucleus of a palace city like Qairawan. The relationship of Fustat to the new city of Cairo was to be the same as Mansuriya to Qairawan. The new city was named al-Mansuriya before the name was change to al-Qahira (Cairo) in 973 four years later by al-Muizz. [474]

Cairo became the center of the Fatimid dynasty and Egypt flourished. Trade routes in the Mediterranean and the Indian Ocean were full of vessels carrying goods from Fatimid and European ports. Trade extended as far east as China and influenced later commercial development in the Middle Ages. The Fatimids neglected agriculture in favor of trade, which caused the Nile irrigation systems to deteriorate resulting in the famine of 1060.[475]

The most renowned Fatimid building is the Mosque of al-Azhar which started as an Islamic school in 969, and received numerous additions throughout the years. It is now the largest university of Islamic studies and has spread outside the walls of Fatimid Cairo to a much larger campus. It is so eclectic in design that it was decided to omit it from this work. In addition and most importantly, carefully studying the early Fatimid wall designs led to the conclusion that they were heavily influenced by Samarra rather than the West. It might be appropriate at one point to discuss the reason for such influence vis-à-vis the later appearance of Spanish Andalusian motifs in Fatimid architecture. Ettinghausen and Grabar came to the same conclusion which is discussed in the following section.

11.3.1- The Mosque of al-Hakim

The Great Mosque of Mahdiya must have provided a model for the Mosque of al-Hakim in Cairo. At Mahdiya, the plan is rectangular with an open courtyard *or sahn* built with the qibla wall facing the Mediterranean Sea. The

[473] Ibid., V-I, 19-20.
[474] Ibid., V-I, 21-22.
[475] Goldschmidt, Arthur, *A Concise History of the Middle East*, Westview Press (Boulder, 2002), 84-86.

opposite wall has one of the earliest monumental entrances to a mosque. The interior has been rebuilt and little is left of the original mosque according to Creswell. What is important to realize is what Marçais discussed about wall ornaments. He studied floral designs in detail and distinguished between the palmette and other bulbous designs. He traced the motifs to Mesopotamia and the Sasanians but that does not necessarily mean that the designs came directly from there.[476]

Description

The Mosque of al-Hakim was built inside the walls of Badr al-Din al-Jamali incorporating one of the main northern entrances to the newly founded city of Cairo. The gate of Bab al-Futuh became part of the mosque outer walls when it was completed by al-Hakim in 1003. The mosque was originally started with the construction of the sanctuary by his father al-Aziz in 990.[477] The mosque in plan is a rectangle with an open courtyard or *sahn* surrounded by arcades, with an ablution fountain in the center.

Entrance Analysis and the Fleur-de-lis

The main entrance has a tower 15.50 m wide, on the northwest side of the mosque. It is actually a Persian *pishtaq* with a pointed-arch followed by a tunnel-vault entry. Above the arch, there is an inscription stone plaque with a restoration date of 1304, and the name of Sultan Baybars al-Jashankir. At both sides of the entrance there are two pointed-arch niches with bands of moldings running across. Creswell described the widest band as follows: “The band itself is composed of a geometrical framework, formed by a row of oblong hexagons, each pair supporting a trefoil enclosing a three-lobed leaf, which is linked below to the split palmettes placed between the trefoils.” He later explained the similarities with a bracket design at the flanks of the entrance with that of another at the Great Mosque of Qairawan. He also mentioned a palmette carved in bold relief in the hoods of the arches in the flanks that is exactly like some at the Great Mosque of Córdoba.[478] Upon close examination, the trefoils, the three-lobed leafs, or the palmettes mentioned could not be found. Creswell used the names trefoil and the three-lobed leaf interchangeably. The only distinction between the two is that the latter is a hollowed version of the first. Furthermore, neither description is accurate since a trefoil shape is completely different from the design motifs of the entrance façade. The trefoil he mentioned is instead a fleur-de-lis typical of al-Andalus and al-Maghreb. The palmettes are also problematic since there

[476] Marçais, *L’Architecture Musulmane D’Occident*, op. cit., 115.
[477] Behrens-Abouseif, *Islamic Architecture in Cairo,* op. cit., 63.
[478] Creswell, *Muslim Architecture of* Egypt, op. cit., V-I, 69.

are no whole or split ones, on the flanks of the entrance. A palmette design is a motif resembling the fan-shaped leaves of a palm tree. Again, those designs are variations of the fleur-de-lis motif.

The pointed-arch niches on the exterior of the main entrance were reconstructed and are grouped like this: two in the front on each flank, and two on each returning side, for a total of six niches. Under the tunnel vault there is one niche on the left and one niche on the right. There are several bands of geometric and floral designs running above and below the arches. Each niche has a lozenge design below it similar to the ones found on the western minaret discussed later. There are two models of ornamentation under the arches that repeat around the entrance. The first model, which will be called Model I, starts with a Type-A fleur-de-lis motif rising from a circle in the middle, near the bottom of the hood. It is surrounded by scrolling vines that swirl around to create other floral designs. There are four pods on both sides of the central fleur-de-lis motif where two are filled with fleur-de-lis motifs with two additional fronds, and two are filled with stylized palmettes. At the apex of the arch there is an additional squatty fleur-de-lis motif. The overall effect is open and flowing around as the different motifs flow into one another. The Type-A fleur-de-lis and the stylized others are identical to the ones published by Creswell on the western minaret. The second model, which will be called Model II, is a tighter more geometric layout by comparison. It starts in the middle, near the bottom with an oval surrounded by vines moving around it creating half circles and other shapes that have right angles. There is only one Type-B fleur-de-lis motif located above the oval closer to the top of the hood. This model lacks the many identifiable motifs of Model I and depends on the vines and the scrolls to create unity. There are a few half palmettes near the bottom of the hood and around the edges that help in framing the design. The way these niches are arranged from left to right is basically: Model II – Model I – Model II – Model I. This layout creates a nice symmetrically balanced main entrance and it continues on the returning sides as: Model I – Model II. Simply said this arrangement is an alternation of the two models around the projecting entrance.

The same concept of two models is carried to the lozenge designs below the arches. One lozenge has geometric designs that are based on circles wrapped around a small circle, while the other has floral designs based on the fleur-de-lis wrapped around an eight-pointed star. These lozenges were placed to correspond with the pointed-arch niches above. The geometric lozenge was placed under the Model II niche while the floral lozenge was placed under the Model I niche. Amazingly both designs inside the lozenges create stylized crosses. There is no record of the nationality of the workers at this mosque. But it is generally known that Armenians worked on the walls

surrounding Cairo so they must have also worked on the mosque. In addition, Egyptian Copts are known to have influenced many Islamic designs in the city going back to the Umayyad conquest. Unlike the hidden crosses of the Great Mosque of Cordóba, the crosses in Cairo where openly used as a design motif. This is apparent all over the city, but especially at the northern gate of Bab al-Foutouh, where the crosses are clearly used as a dominant motif.

Work by Baybars al-Jashankir

The minarets were built on either sides of the entrance at the corners of the mosque facing al-Muizz Street, the main north-south axis in the old city. Again, this configuration was first used at the Great Mosque of Mahdiya according to Creswell. Alterations were made to the minarets in 1010 according to Maqrizi, by basically covering them with slanted stone walls. Both were topped by a *mabkhara* built after the earthquake of 1303 by Emir Baybars al-Jashankir.[479] This included several levels of muqarnas and keel-arched hoods above arched windows. Those windows have the crown-arch first appearing at the minaret of Abu al-Ghadanfar built in 1157 during the Fatimid period.[480]

It is known that other work at the mosque was done by Baybars including a smaller mihrab to the right of the original. Unfortunately there was no information available on who the builder of the second mihrab was, however, it has the most elaborately carved marble columns found anywhere. The shafts of the two columns framing the mihrab have stylized fleur-de-lis motifs that could not be classified as either Type-A or Type-B but are of the Mamluk variety. They continue around the shafts of the columns, linked by vines that turn from one motif to the next as they flip up and down in the most amazing order. The same exact design was found on the mihrab of the Complex of Sultan Barquq but it was made using cut marble that is curved to follow the cavity of the wall. The rest of the Mihrab at al-Hakim was made in a typical Mamluk aesthetic with multi-color marble slabs and *ablaq* voussoirs.

Northern Minaret Analysis

The northern minaret was described by Creswell as follows: “It consists of a cylindrical tower diminishing slightly in diameter from 7.43 to 6.50 m, and resting on a richly profiled socle about 3.65 m high and 7.68 m square. The shaft is divided into eight bands or storeys measuring 1.13, 1.47, 2.26, 1.71, 2.75, 1.49, 3.76, and 1.62 m in height respectively, not counting the torus molding by which they are divided. Each storey being very slightly smaller

[479] Behrens-Abouseif, *Islamic Architecture in Cairo,* op. cit., 63.
[480] Idem., *Minarets of Cairo,* op. cit., 61.

than the one below, it may be compared to a telescope stood on end. Of these bands the first is plain, the second is decorated with three large medallions, the third with three blind windows, the fourth with a magnificent Kufic inscription, the fifth with three windows, the sixth with a splendid band of arabesque, the seventh with three windows, and the eighth with a band of medallions. Above this begins the ninth storey, a plain circular shaft 2.51 m in height, above which begins the brickwork of 1304. The part preserved measures about 3.65 m (socle) plus about 20.04 m (shaft), say, 23.70 m."[481]

Three blind windows on the northern minaret placed on three sides of the third decorative band were mentioned by Creswell as being similar in size and composition but not in decoration. His observation was limited to the size and composition of the windows without analyzing the designs inside the borders. He described the first one as being 1.13 x 0.47 m in size with a beveled frame surrounding a calligraphic border which turns the four corners by means of a palmette occurring in all three windows.[482] After closely examining photographs taken by Creswell of two of the windows, the first was of the window facing north which had two corners clearly visible, the palmette he described was not there, but a stylized fleur-de-lis motif at each corner was there instead. The same was true of the window facing west which had all four corners clearly visible but again with fleur-de-lis motifs. In addition, the design in the center of the window, which had a missing section clearly showed two fleur-de-lis motifs in the middle and in its upper section which were closer to Type-B.

The inscription on the fourth band of the northern minaret was described by Creswell as follows: "A magnificent Kufic inscription 68 cm high set between borders of small leaves springing from an undulating stalk." He concluded that based on the date shown on the southern minaret and the similarity of the two, the completion date of the northern minaret must have been the same which was 1003.[483] Again, after examining the published photograph of the inscription band it was clear that several of the small leaves described by him were in fact of Type-A fleur-de-lis motifs.

The sixth band on the northern minaret has arabesques that are 53 cm high according to Creswell. He quoted Flury in describing the band as having a row of palmettes bound together by arched lines.[484] Since this band is the most complete, scrutiny of its composition is further due. The photograph taken by Creswell shows four panels with only a part of a fifth. The separate

[481] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 90.
[482] Ibid., V-I, 92.
[483] Ibid., V-I, 93.
[484] Ibid., V-I, 93.

panels have hollowed-out designs that are split in halves. The center design is made of two large volutes turning upward originating from a central stem. On the second tier of the stem two smaller volutes turning downward fill the center of each two joining panels. The stem ends upward with a Type-B fleur-de-lis motif connecting the two panels. Each panel starts with a large fleur-de-lis closer to Type-A, moving upward through vines to a small palmette made of three fronds and two volutes. It is clear that the main motif is the fleur-de-lis with palmettes in between. Creswell did not make a distinction between the palmette and the fleur-de-lis and simply called them all palmettes. The arched lines he used to describe the design are actually outlining each motif in the panels.

The seventh band has three windows facing all directions except south. The one facing east has a partially surviving frieze of floral design which Creswell described as follows: “Like those in the fifth band these windows have no Kufic borders, their place being taken by broad palmette friezes, which contain nearly all the types of leaf found in Fatimid stone ornament. The combination of geometric and plant motifs is here carried out in a masterly fashion; the various corner treatments deserve special notice. The actual opening of the first measures 1.36 x 0.58 m.”[485] The corner treatment Creswell mentioned above has the typical Type-A fleur-de-lis arrow head stemming from a main stalk with two volutes turning toward the corner of the window. In between the two corners, there are palmettes with three fronds surrounded by vine scrolls. This treatment is exactly like the one at the Great Mosque of Qairawan as documented by Marçais. It was referenced by him as stone carvings of bands and cornices of the interior of the mosque. The other two windows facing north and west have been covered up and contain similar designs except for the addition of pierced balustrades. They seem to have served as windows for the call to prayer since they had the protective railings.[486]

Western Minaret Analysis

The western minaret is completely different from the northern one discussed earlier. Creswell accurately described it as follows: “It consists of a square shaft, 13.90 m in height, surmounted by five receding octagonal storeys, measuring 2.86, 2.55, 2.63, 1.75, and 0.57 m in height respectively. The total height preserved is, therefore, 24.26 m, against 23.70 for the other minaret, so their tops must have broken off at almost exactly the same level in the earthquake of 702 H.”[487]

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[485] Ibid., V-I, 93.
[486] Marçais, *L’Architecture Musulmane D’Occident*, op. cit., 51.
[487] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 94.

The description was continued by Creswell by saying: “The square shaft measures a little over 7.50 m a side; its south-western side is completely exposed, and most of its north-western side also, except for the first 4 m, but its north-eastern face is entirely hidden by the rubber filling of the salient except for the great band of inscription at the top.” He described the south-western face first: “The shaft is divided by eleven moldings and string-courses into eleven bands of varying width, of which four are plain, four decorated with arabesque, two with fine Kufic inscriptions, and one by three squares placed lozenge-wise. Two bands (the fifth and ninth), otherwise plain, are each pierced with a small window.”[488]

The first 3 m of the western minaret were described by Creswell as follows: “They are treated as a sort of socle, of which the lower half is plain and the rest decorated with three bands of arabesque, one broad and two narrow, bordered by four moldings. The narrow bands consist of an undulating stalk with a leaf above and below alternately, the broad central band of elaborate arabesque developed from a row of six-pointed stars, each containing a five-lobed leaf.”[489] Upon examining the band between the six-pointed stars, two Type-B fleur-de-lis motifs were located surrounded by an outline. The placement of this motif was not mentioned by Creswell at all.

The sixth band was described by Creswell as being bordered above and below by a projecting string course similar to the entablature of the main entrance. He discussed the three squares placed lozenge-wise in between the string course and said: “Each one is filled by an elaborate interlacing design within a simple border of undulating tendrils.”[490] The interlacing designs can be described as geometric and the simple border as having split and stylized fleur-de-lis motifs at each corner. The one in the center is badly deteriorated but the two on either side are well preserved. The one on the right has a cross with a star in the center culminating in a larger interlaced star. Furthermore, the undulating tendrils on the border are actually the lower half of a fleur-de-lis with the volutes clearly visible flipping from side up to side down.

The fourth octagonal story of the western minaret is 1.75 m in height and is terminated by blind arcading like cresting according to Creswell.[491] Inspecting the drawing detailed by Melnikov used by Creswell of this cresting revealed that it was a design based on a row of stylized fleur-de-lis motifs very similar, at least in its lower half, to later crenellations appearing in Mamluk

[488] Ibid., V-I, 94.
[489] Ibid., V-I, 96.
[490] Ibid., V-I, 96.
[491] Ibid., V-I, 99.

architecture. Consequently, this application was the model followed in many buildings in the Mamluk period.

The survey of the Mosque of al-Hakim by Creswell was concluded with a comparison of the two minarets with the main entrance: “No one can fail to be struck by the fundamental difference between the two, both in form and style. Although the northern minaret has two fine bands, one calligraphic, the other of arabesque, its decoration is chiefly concentrated on the many beautiful window-frames with crisply carved calligraphic borders and on their beautiful pierced balustrades, several of which are still preserved, whereas in the western minaret the windows are small, narrow, and generally perfectly bare, and the decoration is concentrated on four splendid bands of ornament, two calligraphic and two of arabesque. In addition to this, the plain torus moldings of the northern minaret are replaced by highly decorated ones.” He continued by stressing that there must have been two architects working on the mosque to justify the differences. He added that the main entrance and the western minaret were so similar that they must have been the work of the same architect.[492] This conclusion is agreeable as the designs and the carving styles were very similar proving that the same craftsmen worked on both the main entrance and the western minaret.

Design Sources

The style of the decoration at the Mosque of al-Hakim was discussed by Ettinghausen and Grabar as they said: “The decoration of the Hakim mosque is quite different. Flat ornamented panels are rarer, when they exist, as on certain niche-heads of the entrance or on the windows of the domes, they consist of symmetrical designs of stems and leaves or of more complex arabesques, always set off by a visible background. Most of the decoration is of stone and is concentrated in a series of horizontal and (more rarely) vertical bands which emphasize certain lines of the architecture, especially the minarets and the gateway block. The designs include vegetal as well as geometric and epigraphical motifs, almost always on a visible background. It may be that some of the devices – such as pentagrams – on the heavily decorated medallions which here and there replace the horizontal bands had a symbolic significance. The Hakim decoration as a whole, however, is most notable, especially when compared to the Azhar, for its sobriety, and for the effectiveness of composition of the façade, in which the basic symmetry is broken by the similarly decorated but differently shaped minarets. Both the sobriety and the thought-out composition recall North Africa rather than the East, although it is possible that the ubiquitous classical background of the

[492] Ibid., V-I, 101.

Mediterranean reasserted itself here both in the simple ornamentation and the revival of more naturalistic themes."[493]

The assessment above of how the Fatimid style evolved since the construction of the Mosque of al-Azhar built in 969 is accurate since the main entrance of al-Hakim is very different. What was mentioned about the designs of al-Hakim being of Western origin rather than Eastern is very true as explained earlier. Al-Azhar replicated designs from Samarra rather than the West which is puzzling. Since we know that the Fatimids came from al-Maghreb it should follow that their design inspiration should also be from the West. The fact that the ornamentation of the Mosque of al-Hakim evolved with motifs from Córdoba as explained, with the designs of the two minarets and the main entrance, it must be taken as testimonial to the presence of Spanish Muslims in Cairo. This happened despite the known resentment between the Fatimids and the Umayyads.

Architectural origins of the mosque were discussed by Creswell as he said that the Great Mosque of Mahdiya was used as a model for the main entrance. For the minarets, he used the work of Marçais to show that the Great Mosque of Sfax in Tunisia was the model used.[494] This assessment is incorrect as the model from the West is very different in proportion and style. Creswell used the fact that the Great Mosque of Sfax predated the Mosque of al-Hakim and that the Fatimid used to live in the shadow of Sfax but an analysis of the three minarets did not confirm his conclusion. The fleur-de-lis crenellation band discussed above, on the western minaret, is very different from the ones appearing at Sfax. A clear distinction must be established here between certain design elements coming from al-Andalus which are very different from the ones developed in Tunisia. This will be later discussed, but it is important to note that many elements despite appearing in Tunisia were actually designed and developed in al-Andalus.

Design Aesthetics

The concept of the mosque is an open courtyard surrounded by arcades with two minarets opposite the qibla wall. The minarets visually balance with the horizontality of the exterior walls and the arcades inside, but not with the three domes on the opposite qibla wall, above the mihrab and at each corner. The domes are too small in relation to the size of even the original minarets, which were smaller than the existing ones. The overall effect is balanced with the minarets symmetrically placed at opposite ends. This is the grouping idea of Ibn al-Haytham of similar elements to create

[493] Ettinghausen and Grabar, *Art and Architecture of Islam*, op. cit., 179.
[494] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 103.

harmony. In the courtyard the repetition of the pointed arches, the piers, and the small windows in between the spandrels create a contrasting rhythm. The overall effect is harmonious, from within the courtyard, despite the general lack of detailed ornamentation. It is difficult, if not impossible to visualize the original walls with their revetments since most of them were reconstructed. There is, however, enough left on the original minarets and around windows to develop an analysis of their style and origin.

11.3.2- The Mosque of al-Aqmar

The Mosque of al-Aqmar was built in 1125 by the vizier of Mamun al-Bataihi on the site of the original Fatimid Palace.[495] The mosque is small and misaligned with al-Muizz Street south of the Mosque of al-Hakim. The layout had to respect both the qibla direction and the street. The interior has a *sahn* with bays parallel to the qibla while the exterior façade is parallel with the street. This configuration created a bent entrance to the prayer hall. The street façade was elaborately covered with carved stone. It has a fluted pointed-arch main portal flanked by two side walls with arched niches. The whole façade is divided horizontally by inscription bands with several medallions and panels aligned in between.

Description

The mosque was described by Creswell as follows: “This little mosque is of great interest, for it is the earliest building in Egypt of which the plan is dominated by the line of the street. Its supreme interest, however, lies in its façade, which is the first in Egypt to exhibit an ambitious architectural scheme. It is not the first building, however, to exhibit stalactites, as stated by Franz, Herz, Worsfold, Saladin, Tarchi, and Briggs, for we have already observed this feature at the summit of the square shaft of al-Guyushi’s minaret, and above a window in the Wall next the Bab al-Futuh. It consists of a *sahn* 9.77 x 10.17 m bounded on each side by a façade of three arches. The arcades are three deep on the qibla side, but only one deep on the other sides. The façade, instead of being parallel to the north-west side of the *sahn*, forms an angle of 21 degrees with it, leaving space for two rooms and a staircase. The entrance passage, which is set askew, runs from the center of the north-west side of the interior to the center of the façade.”[496]

The façade was also described by Creswell by saying: “The last point is of importance and is apt to escape notice, for only part of the façade has

[495] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 72.
[496] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 241.

been laid bare, so that one is apt to get the impression that it is lopsided. The façade, as partly laid bare by Herz in 1901, consists of a doorway flanked on either side by a niche, the whole of this portion, which measures 7.10 m in width, being set forward 68 cm. The wing to the left measures 6.42 m in width and is decorated with a single recessed panel. Close to the right-hand side of the entrance salient is the side of a house, but a space 30 cm wide is left, at the back of which, and 75 cm (not 68) in retreat on the salient, is what is clearly the commencement of a wing similar to that on the left, judging by the fact that the band of Kufic, which runs across the center of the façade, continues across this exposed fragment at the same level. The part immediately above the band is hidden by a shapeless mass of brick and cement adhering to it. A reference to the plan shows that the interior of the mosque requires an extension of the façade equal to the left wing. The façade, therefore, contrary to its present, appearance, was symmetrical, with a salient 7.10 m wide in the center, framing the doorway."[497]

The façade has since been restored and the house on the right-hand side was removed. The wing on the right was reconstructed as a mirror image of the one on the left. The work on the new wing was carried out as an almost exact match of the other side with the exception of the inscription band at the top and the stepped crenellations which were omitted.

Façade Analysis

The stonework on the façade was described by Creswell as follows: "The entrance, which is provided with a granite sill, is set in a recess 2.04 m wide and 63 cm deep, covered by a beautiful fluted hood, the earliest example but one in Egypt. The outline of the cross-section of the flutes is identical with the ornamental edge of the inner semicircular arch which frames the gateway of the Bab al-Futuh. The first four flutes run horizontally right across, which coincides exactly with the center of the medallion occupying the back of the hood. This beautiful medallion consists of four concentric circles; the field of the inner is decorated with three lines of Kufic pierced right through to the upper part of the entrance passage. Then comes a circle of arabesque, then a ring of Kufic, pierced right through like the former, and finally a band, equal in width to the last, decorated with interlacing scrolls framing typical Fatimid cinquefoils. The pointed-arched outline of the hood is surrounded by a narrow plaited band. The door itself is framed by a flat arch, composed of voussoirs, each keyed to its neighbor by joggles composed of three semi-circles. There is a band of Kufic above the lintel which runs right across the façade following all its salient and re-entrant angles. The niches, 78 cm wide and 38 cm deep,

[497] Ibid., V-I, 241.

on either side of the entrance, are each crowned with a small fluted semi-dome with an eight-petalled sun-disk medallion in the center, a Syrian motif, and a fluted edge somewhat similar to that of the big niche, but with a more angular edge. These two niches are each set in a larger one, 1.27 m wide and 25 cm deep, capped by a nearly square hood filled by four tiers of stalactites. This hood, in elaboration, presents a great advance on the two simple tiers of al-Guyushi's minaret, and in crispness also, being executed in stone instead of brick. This rectangular stalactite niche is framed by a plait-band slightly more elaborate than the main one. As these side niches do not rise to a point level with the top of the central recess, the torus molding, which forms a rectangular frame round the latter, descends to their level and then runs along horizontally, descends the outer side of the stalactite frames, and continues horizontally once more. It rises on meeting the arched panel of the wing, runs round it, and continues horizontally to the end of the façade. This is the second unmistakable example of Syrian influence in this façade. The spandrels of the arch of the entrance niche are decorated with fifteen-petalled sun-disks, and the rectangles formed in the upper corners of the salient by the descent of the torus molding are filled by little niches formed by a ribbed shell, resting on two engaged columns with Persian lotus-like capitals and pedestals. The columns of the left hood are fluted, the flutes being spiral in their upper portion. At the back of these little niches is a second, very shallow recess also capped by a fluted shell. Across the summit of the whole façade runs a fine Kufic inscription in much larger characters and, immediately above it, is a cavetto cornice, the front edge of which is decorated with a band of simple flowing arabesques. Inscription and cap-stone continue round the corner and run for about 11 m along the north-eastern façade, but the lower inscription only just passes under the stalactite angle corbel, and then stops."[498]

Of most interest are the four carved stone panels discussed by Creswell and also were called "strange" by Abouseif. The first two are on both sides of the entrance, right below the top Kufic inscription band under the stepped crenellations and above a lozenge geometric design. The stone carved panels resemble a closed double door with three panels per door leaf. They have a frame of floral designs and flipping stylized fleur-de-lis motifs within each of the six smaller panels. The center divider also has a stacked design of different, again, fleur-de-lis configurations.

The second pair of the four panels is at the same height but closer to the building edges. These are in the form of arched window grilles with geometric designs in the center emanating from a six-pointed star. The border

[498] Ibid., 243.

of each grille is a frame of floral winding designs with vines. At the top, the motif is a fleur-de-lis with two additional fronds that is flipping up and down while on the sides it winds down with variations of fleur-de-lis motif flipping from one side of the vines to the other. There is yet another fleur-de-lis motif at the corners of this border which is closer to a Type-B. Creswell mentioned Syrian influences on the façade but instead there are more motifs that resemble those found at the Mosque of al-Hakim.

Design Aesthetics

Despite its much smaller size, the mosque follows the same concept of an open courtyard surrounded by arcades with one small minaret on the side of the entry. The overall effect is balanced despite the tight composition. Here again the grouping idea of Ibn al-Haytham, with the use of similar elements, is used to create harmony. In the courtyard the repetition of the pointed arches, and the columns with their varying Corinthian capitals, create a pleasing rhythm. Interior walls are sparse with only inscription bands around the arches and medallions in between. The street façade is different and much more elaborate. As explained earlier, it is symmetrical on both sides of the entrance. It is rich with carved motifs and has balanced variety. The elements are correctly proportioned for the width and height of the façade.

Other Fatimid examples in Cairo are: the Mosque of al-Azhar Mosque (970) and the Mosque of al-Saleh Tala'i (1160). Careful examination of the design and wall revetments of those buildings revealed that they differ significantly from the Mosque of al-Hakim and the Mosque of al-Aqmar. As explained earlier, a discussion of the origin of the wall designs at al-Azhar is omitted and it suffices to say that it demonstrates other influences coming from Samarra. Several examples were analyzed from al-Hakim and al-Aqmar to show how they differed from Andalusian designs despite having floral motifs.

11.3.3- The Mosque of al-Saleh Tala'i

In 1154 the successor to the Caliphate was al-Fa'iz at the age of 4 years old. This caused the women of the palace to cut their hair and send it to Emir Tala'i ibn Ruzzik, the governor of Ashmunayn who responded by coming to Cairo to restore order. Asqalan had fallen a year before in the hands of the Crusaders and the Fatimids lost all control over Palestine. In Damascus, Nur al-Din rejected calls for the cooperation against the Crusaders since he was

an orthodox Sultan and was not in favor of any alliance with the Shiite Fatimids.[499]

Description

The mosque was built in 1160 outside the gates of Cairo facing Bab Zuwayla at the south end of al-Muizz Street. The mosque was damaged in the earthquake of 1303 and restored late in the fifteenth century. It originally had an open courtyard surrounded by arcades on only three sides with the fourth being outside on the northwest side. When it was rebuilt earlier in the twentieth century by the Comité de Conservation, a fourth arcade was added around the courtyard.[500] Creswell described the history of the mosque after Ibn Abd al-Zahir: "When there was fear that the shrine (*mashhad*) of Husain, seeing that it was at Asqalan, might suffer from an attack by the Franks, and it was decided to move it, al-Saleh Tala'i ibn Ruzzik built this mosque in order to inter it [i.e. the head of Husain] there. But when he had finished it the Caliph would not authorize his plan, saying that it could only be done in the interior of the Palace, and he built the present *mashhad* and it [the head] was buried there."[501]

It is necessary to rely on documented descriptions of the mosque since it was almost completely rebuilt and it was also flooded in recent years. Even after the water was removed it remained closed during restoration work. The mosque was hidden by buildings before the restoration of 1477/8 of Emir Yashbak. Creswell described the mosque as follows: "The whole mosque, with the exception of the sanctuary, has been taken down and rebuilt. Those blocks which were in good condition were numbered, so that they could be put back into position. But after the houses had been removed, it was found that the masonry of the first 6 m was in such an advanced state of decay, that entirely new material had to be used in rebuilding almost the whole of this part. As for the next 6 m, a certain amount of the original material has been put back into its original position, in the first six bays on the north-east side, the north corner room, the left panel at the back of the portico and the north-west sides of the other corner room, and the next bay to it on the south-west side."[502]

To continue his discussion of construction materials Creswell said the following: "During the reconstruction, it was found that although the outer half of the walls was of stone, the inner half was of brick. The arcades, except for

[499] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 275.
[500] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 76.
[501] Creswell, *Muslim Architecture of Egypt*, op. cit., V-I, 275.
[502] Ibid., V-I, 276.

the columns supporting them, are entirely of brick. Some fragments of the old cresting, found during the works, are kept in the south corner room. It is clear that each unit was stepped and undercut, as shown, and that the edges were emphasized by a plain border 2.5 cm wide, the slightly sunk part within being decorated with bold palmettes. In the center of each was a slit 10.5 cm wide. The total height was 1.04 m which, placed on a plain parapet about a meter high, gives a total height above the roof of about 2.05 m."[503]

Interior Analysis

The interior of the mosque was described by Creswell as follows: "Let us now cross the bridge and enter the *portico in antis* which has now been restored. If we look up we observe fragments of a contemporary ceiling which has been set in the new woodwork. In front of us is the main entrance, 2.14 m wide and 4.10 m high, closed by a modern bronze-plated door, made in 1935 in imitation of the original one, which had been transferred to the Islamic Art Museum between 1887 and 1899. The latter consists of two massive halves 17 cm thick, each composed of uprights and transverse pieces, joined by tenon and mortise, which frame three horizontal and four vertical panels arranged as shown. Each vertical panel is decorated with bands which interlace so as to form three octagons filled with rather minute arabesques, the horizontal panels with a closer network which derives from a six-pointed star. The outer face is decorated with a geometrical bronze plating, important as the earliest of its kind in Muslim Egypt."[504]

Creswell said the following about the sanctuary: "It consists of three arcades of seven arches each running parallel to the back wall, the first two aisles so formed being 3.41 m in width against 5.40 m for the aisle next the back wall. The present ceiling is entirely modern. The arcades are formed by very stilted keel-arches, resting on marble columns with various types of capital, mostly Corinthian, by the intermediary of nicely carved *tabliyas* or impost blocks formed of three layers of wood, the first square and very shallow, the second twice as thick and slightly longer, the third forming a splay-face termination; all are decorated with five-pointed leaves. The arcades are braced longitudinally by tie-beams set into the middle division of the *tabliya*, and transversely by tie-beams set in immediately above the top of the *tabliya*. When examined from a ladder these tie-beams are found to consist of a palm trunk lying as it were in a trough formed by three planks, two of which are nailed to its sides and the third underneath. The former are decorated with a row of five-pointed leaves which forms a continuation of the ornament on the middle part of the *tabliya*. At the point where the longitudinal tie-beams

[503] Ibid., V-I, 276.
[504] Ibid., V-I, 280.

enter the wall, the scheme is completed by what might be described as the side of a *tabliya*, which only projects a few centimeters from the wall."[505]

The interior ornamentation was described by Creswell by saying: "Each arch is decorated with a band of Kufic in stucco which runs round the edge, descends, turns at right-angles on reaching the *tabliya*, and rises to run round the next arch, exactly as in al-Aqmar. 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. But the finest parts of the decoration are the great fluted saucers of stucco ornament which occupy the spandrels. Owing to the height at which they are placed we have to look up at them at an angle of about 60; in order to correct the effect of foreshortening they are designed eccentrically, that is to say the medallion in the center, from which the flutes radiate, is placed below the true center with the most successful result, for they look perfectly normal when seen from below, whereas they are not so in reality as may be seen by looking at the plates sideways. This correction is comparable to the famous Greek refinements to be observed in the Parthenon."[506]

Window Analysis

The windows were described by Creswell by saying: "In the qibla wall are seven arched windows. The central one, which comes immediately above the mihrab, differs from the rest, for it is set on three sides in a rectangular frame of stucco ornament formed by bands of Kufic, the spandrels being filled with arabesque. The others have Kufic borders also, but they follow the arched shape of the window. The bottom edges of these borders are 5.36 m from the floor. The window at the extreme right is blind, the place of the grille being occupied by seven lines of inscription, remarkable for the fact that, although mainly in Kufic, some of the characters are in Naskhi, a peculiarity to be found occasionally in very late Fatimid textiles. With regard to the window grille already mentioned, which is preserved in the Islamic Art Museum, Marçais has pointed-out that its palmettes, as well as the palmettes intertwined with the Kufic borders elsewhere in the mosque, bear a very close resemblance to those of the stucco panels of the mihrab of the Great Mosque of Tlemcen, finished in March/April 1136. It will be noted that, although the original window grilles have been replaced in every case by a later one. They all retain their border of palmettes next their Kufic outer frame, and that these palmettes are like those of the window just mentioned. Here, then, is another example of North African influence under the Fatimids."[507] The design of the

[505] Ibid., V-I, 284.
[506] Ibid., V-I, 284.
[507] Ibid., V-I, 287.

windows described above is correct, In addition, there are several palmettes in the corners of the border surrounding the window above the mihrab.

The designs on window grilles and the arches of the mosque were attributed by Marçais to Almohad and Almoravid artists from the West. The grilles were a simplification of those inside the mihrab of the Great Mosque of Tlemcen built in 1085 as explained by Creswell. A grille example from the *maqsura* shows that it was based mainly of a scrolling vine design. Within it there is a motif that is similar to a fleur-de-lis in its lower part but looks more like a palmette in its upper section. The overall effect appears to be based on the same Fatimid repertoire.

Saucer Analysis

An analysis of photographs of the stucco saucers in the spandrels of the arches in the prayer hall was conducted. Creswell numbered 18 different designs and located them on the plan of the Mosque of al-Saleh Tala'i. They are all based on a raised and fluted, *shamssiya* design which is a symbol of the sun and its rays. This *shamssiya* is surrounded by interlaced floral and geometric designs. Of particular interest are number a5 and d2 because of their design layout. The first one which is a5, has a six-pointed star in the center with extended lines to create a rosette inside a circle. The sun rays of the *shamssiya* then surround this geometric design. The space between the larger circle of the saucer and the edges of the *shamssiya* are filled with interlaced and mirrored Type-A fleur-de-lis design. This design of the fleur-de-lis motif creates the outer border of the saucer. The second one inspected which is d2, also has a six-pointed star in the center but this time it is much larger and it fills the whole center circle. It is linear, meaning that the lines of the two equilateral triangles making up the star are intersected. A rosette is placed in the center of this six-pointed star which is surrounded by the *shamssiya*. The space between the outer circle of the saucer and the *shamssiya* is filled by a design of a modified Type-A fleur-de-lis motif with two additional fronds. This motif is attached to another smaller Type-B fleur-de-lis at the base. This means that the two motifs are connected at their bases to create a mirrored design. These fleur-de-lis motifs are very similar to the ones studied earlier at the Great Mosque of Córdoba.

Design Aesthetics

The mosque follows the same concept of an open courtyard surrounded by arcades but with no minaret. It originally had arcades on only three sides of the courtyard with the fourth being outside on the northwest side. The overall effect is balanced despite the simple composition. Here again the grouping idea of using similar elements is applied to create harmony. On the exterior façade the keel arches of the exterior arcade create the focal point of the building. In the courtyard, the repetition of the keel arches, and the columns, create a pleasing rhythm. The mosque, being free standing with four street façades, is different with its shallow recesses. Since the mosque was almost completely rebuilt it has no crenellations and it would be hard to imagine what it originally looked like.

11.3.4- Analysis

Scholars discussed the origin of Fatimid art and architecture to the point of contradiction. Their aesthetics, of course, went through a development stage. It started with a heavy influence from Samarra which changed drastically to show Western influence later on. The question now is, aesthetically speaking, what makes the architecture Fatimid? The architecture of this period uses one language while the ornamentation uses a totally different language. As Creswell points out, there are some elements which were used repeatedly in buildings but that can only be contributed to technique.

As major developments were taking place in Egypt and Syria the Muslim West was in turmoil. In the eleventh century the Berber were fighting among themselves for domination in Spain and al-Maghreb during the Taifa period. After the Almoravids took full control of Tlemcen in Algeria, they built the Great Mosque in 1136 during the reign of Ali ibn Yusuf (1106-1142). The plan is rectangular with a *sahn* except for a chamfered edge on the southern side. The prayer hall has 13 naves perpendicular to the qibla wall. The dome in front of the mihrab had supporting ribs with stuccowork in between. It was described as resembling the domes of the Great Mosque of Córdoba and the church of Cristo de la Luz in Toledo. The mosque is considered to be an example of the influence coming from al-Andalus and contributed to the development of the architecture in Egypt.[508]

[508] Marçais, *L'Architecture Musulmane D'Occident*, op. cit., 192-196.

The following was said by Creswell: “The Fatimid period is now fully recognized to have been a virile period for art and architecture, but chiefly in the field of decoration, for no great domes or vaults are known to have been built. Its chief glory lay in its ornamentation, which compels universal admiration by the boldness and variety of its designs. This ornament consists of decorative writings and of arabesque of a very high quality, sometimes worked into a decorative framework, sometimes not. Geometrical ornament at this time played quite a subordinate part, and the familiar interlacing star pattern, which in later times had ten, twelve, or even sixteen points, is only found in its simplest forms, the eight-pointed star. Unlike the Tulunid period, in which Mesopotamian influences predominate, the Fatimid period is noteworthy for influences from North Africa and, later on, from Syria; the old idea, partly due to historical misconception, that Fatimid architecture was strongly influenced by Persia, is contrary to observed facts, and must be given up.” He continued in another section and said: “Not the least important result of this study of the Fatimid period has been to establish the absence of that Persian influence so frequently asserted to dominate Fatimid architecture. We have seen that the Egyptian stalactite pendentive evolved in a manner completely different from that of the Persian, and that the composition of Fatimid mihrabs is quite different also, with the solitary exception of that of al-Afdal in the Mosque of Ibn Tulun, which may be described as the only mihrab in Egypt exhibiting Persian influence. North African Influence, on the contrary, is much in evidence, as might be expected under a dynasty which came from Mahdiya, and also in view of the fact that the North African pilgrim caravan passed through Egypt on its way to the Hijaz (which the Syrian and Persian did not). In the twelfth century Ibn Jubayr saw them camped in the derelict Mosque of Ibn Tulun. The principal examples of North African influence are the following:

(i) The monumental entrance.
(ii) Minarets placed so as to form salients at opposite ends of the main façade.
(iii) Domes fluted externally and internally.
(iv) Octagonal drums with concave sides.
(v) A domed pavilion placed in front of the entrance to the sanctuary.
(vi) Outer portico in front of sanctuary, completely open to the *sahn*.
(vii) Inscription friezes curved forward (like cavetto molding) so as to correct the effect of foreshortening.
(viii) Hoods with flutes alternately round and V-shaped in section (Umm Kulthum).

The outstanding example of Syrian Influence is the military architecture of Badr al-Jamali, who employed three Armenian architects, refugees from the Seljuk Turks who had captured their native city Urfa in 1086, to build the three splendid gateways described above and the wall connected with them."[509]

Architectural ornamentation in general shows what Gonzalez identified earlier as imaging and kinetic geometries. Specific floral motifs are identified as being developed in al-Andalus with a strong influence from Christian Spain as in the fleur-de-lis of Type-A and Type-B. As pointed-out, some scholars did not make a distinction between the different floral motifs and even mistakenly called them palmettes. Those types were clearly identified under the Fatimid buildings studied for this work to show that the influence came from Christian Spain. This influence persisted and even intensified under Mamluk rule. What was different in Fatimid art was their heavy dependence on human figures and animals with vegetal backgrounds. This was a new trend in the eleventh century developed in Egypt because of its Mediterranean exposure. Ettinghausen and Grabar reinforced that the influence on Fatimid architecture came from North Africa despite initially coming from the East as discussed earlier especially at the Mosque of al-Hakim.[510]

Back to the question of the aesthetics, it is clear that the architecture followed earlier prototypes developed in Egypt and North Africa. It used the ideas of Ibn al-Haytham in grouping the elements, the monumental entrance, the minaret, and the dome in an architectonic order. This, however, did not lead to the development of a pleasing visual relationship as the elements were separated by awkward proportions. The fluting of domes added some movement to the composition especially in cases of multiple mausoleum domes placed side by side as in Fatimid mausoleums. In smaller mosques, like that of al-Juyushi built in 1085 on the Muqattam Hill facing Cairo, the domes and the square minaret appear bulky with unpleasant proportions. The domes with their high octagonal drums will remain as the most distinctive element of Fatimid architecture. The ornamentation on the other hand, is very pleasing aesthetically. The use of floral, alongside human and animal motifs was done in a much more sophisticated manner. Unfortunately, many of the wooden and stucco panels were either destroyed or removed from their original locations. Judging by what remains in the examples discussed earlier, the ornamentation was used as a trim or to outline architectural elements. The minor arts of the Fatimid period on the other hand, whether in ivory, wood, rock crystal, or bronze exhibited a unique and structured aesthetic that was not paralleled in architecture.

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[509] Ibid., V-I, 290.
[510] Ettinghausen and Grabar, *Art and Architecture of Islam*, op. cit., 200.

11.4- The Ayyubids

During the Ayyubid period in Egypt (1171-1250) founded by Salah al-Din many important buildings were built. Being Sunni Muslims originally from Syria they established their control all over Egypt after abolishing Fatimid rule. In order to protect Cairo against the attacks of the Crusaders in 1176 he started the construction of the Citadel on the Muqattam hills. It is said that Crusader prisoners of war dug a large part the moat around the Citadel. The work was completed 1n 1183 the year Salah al-Din left the country for good. He was preoccupied fighting the Zangids in Syria and the Crusaders. After taking full control of Syria he was able to defeat the Crusaders in 1187 at the battle of Hattin. He later captured Jerusalem and took over the entire Latin Kingdom. After his death in 1193 in Damascus, his brother al-Adil took over Egypt. He was not able to rule for long and his son al-Kamil took over as governor of Egypt in 1200. Most of his construction work was inside the walls of the Citadel, he built new towers around old ones and when he became sultan after the death of his father in 1218, he built a palace complex.[511]

11.4.1- The Mausoleum of Imam Shafii

The mausoleum of Imam Shafii was built in 1211 as the most important Ayyubid building. In his effort to abolish the earlier Fatimid (969-1167) instituted Shiism in Egypt, Salah al-Din built the shrine for the Imam, the founder of one of the four rites of Islam, the Shafii.[512] The famous theologian and the founder of the Shafeyite, was born in Gaza in 767, however, he grew up in Mecca. He lived in Egypt intermittently between 804 and 811, finally settling there in 814. He died six years later at the age of 54, and was buried in the cemetery of Abd al-Hakam.[513]

The following was said by Creswell about the madrasa: “In 1176/7 Salah al-Din ordered a madrasa to be built near the grave of the Imam; it was completed in February 1180 according to an inscription of five lines, now preserved in the Museum of Muslim Art, which states that it was built for the Shafeyite rite. The magnificent wooden cenotaph of Imam Shafii, one of the finest in existence, was made during this very period, for an inscription, running along the upper edge of its gabled top, states that it is the work of Ubayd, known as Ibn Ma’ali, in the months of the year 1178/9.”[514]

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[511] Lyster, William, *The Citadel of Cairo, a History and Guide*, Palm Press (Cairo, 1993), 9-16.
[512] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 85.
[513] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 64.
[514] Ibid., V-II, 64.

Description

The building is larger than any earlier Fatimid shrine, it has a square plan, stonewalls, and a large lead covered wooden dome. Sultan al-Kamil erected the dome after the death of Salah al-Din. The upper level of the exterior wall has keel arch niches that include Andalusian style stucco designs. As it was intended, the building reinstated Sunni Islam in Egypt.[515]

The four exterior walls rise to a height of 6.30 m as measured by Creswell. He described the exterior as follows: “A pointed-arched window, set in a rectangular frame, rests on the torus molding in the center of each face, and two blind niches flank it to right and left. This storey is crowned by a band of simple geometrical ornament and a parapet, consisting of four long brick panels decorated with a geometrical ornament and a parapet, consisting of four long brick panels decorated with a geometrical interlacing pattern in stucco, set between five unevenly spaced brick piers or posts. The decoration of these panels appears to be entirely new work, but authority for it exists at the left extremity of the north-east side, where a fragment of the original work has been left untouched; even some of the beads have been preserved, low down to the left. It shows the closest relationship to the beautiful friezes which frequently crown late Fatimid mihrabs, e.g. Gami Ikhwat Sayyidna Yusuf, the Mausoleum of Sayyida Atika, and the Mashhad of Sayyida Ruqayya. On the south-east and south-west sides the post and panels have lost practically all their decoration. That on the other two sides has been partly preserved, and the part that has perished has been carefully restored. It is clear that two types of patterns were employed on each side, one for the two end piers and the central one, the other for the two intermediate piers. On the north-west, and presumably on the south-east sides, two piers decorated with arabesque alternate with three decorated with calligraphic ornament combined with arabesque, but on the north-east and the south-west sides the posts at either end were apparently decorated with geometrical ornament only, whereas the middle one resembled the first, third, and fifth on the north-west side. The post at the northern extremity of the south-west and north-east sides has been much restored in each case, but the post at the left extremity of the latter has been left untouched; its geometrical ornament has been almost entirely preserved, except at the top. It is easy to see that it consisted of three eight-pointed stars, formed by crossed squares, arranged vertically one over the other on the central axis and connected laterally with the outer frame by small squares, the whole design being formed by two interlacing bands, superimposed on a mesh of equilateral triangles. Some of the latter are filled in solid, others being left open so as to form hexagons in contact by their

[515] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 85.

points. Thus we have a curious example of a 45 degree pattern superimposed on a 60 degree one."[516]

The second storey was described by Creswell by saying: "It is set back on the first so as to leave a gangway 67 cm broad all around behind the parapet. This second storey is not set forward internally, it is merely built with thinner walls (about 1.70 m) on the inner edge of the massive lower storey. The corners are boldly cut off and in the center of each face so formed is a door, approached by a double flight of four steps. On passing through, a flight of fifteen steps runs up to right and left to the platform supporting the dome. These chamfered corners are not decorated in exactly the same way. Three appear to have been similar, if not identical, but the fourth (that at the north corner) is slightly more elaborate than the other three, loops being introduced, linking the side niches to the central one. All have been restored, but the original work can easily be distinguished from the dead-white restoration by its darker color. About three-quarters of the decoration of the north corner appears to be original. The four long sides of this storey are decorated with fluted keel-arched niches, flanked by engaged colonnettes, recalling those in the Mosque of al-Saleh Tala'i, except that they are much more elaborate. Four fluted saucers and two squares of ornament, the latter placed lozenge-wise, alternate between the keel-arched tops of these niches. Above these keel-arched niches runs a band of simple geometrical ornament, somewhat similar to that below the parapet of the lower storey. It is surmounted by a cresting consisting of elaborately decorated crenellations, stepped and undercut. The distance between the base of the dome and the center of the outer face of the cresting on each side is 1.60 m"[517]

The fluted keel-arched niches of the second level appear to have been restored during the Mamluk period. There is no reference to this fact except that the stuccowork here is completely different from the lower level. The designs on the borders of the keel-arches, the saucers, and below the stepped crenellations are of the same pierced stucco found on the minaret of the Complex of al-Nasir Mohamed finished in 1304. The work on the un-restored side was indistinguishable since it had deteriorated down to bare brick. In conclusion, the second storey of the mausoleum was restored during the reign of al-Nasir Mohamed therefore it makes sense to be bearing more Andalusian design elements because of his strong ties at the time with Jaime II the King of Aragón.

[516] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II,, V-II, 66.
[517] Ibid., V-II, 66.

Design Sources

The architectural origin of the exterior of the mausoleum was discussed by Creswell as follows: “The ‘Post and Panel’ Parapet is a version, in brick and stucco, of the familiar triforium parapets of Syrian and Byzantine churches. The latter, however, generally consist of stone posts and closure-slabs (*transennae*) decorated with geometrical ornament. Perhaps the earliest existing example of this kind of parapet is one found by de Vogué in a tomb at Dayr Sambil, excavated in the rock and dated by a Greek inscription ‘731, in the month of Panemus’. This date, of the Seleucid era, corresponds to July 420. He found a balustrade composed of slabs of stone, decorated with geometrical designs, set between stone posts. A fine example, not dated but possibly earlier, for Butler says that the Greek and Syriac inscriptions carved on the slabs composing it are believed to date from the fourth century, exists at Zabed in north-eastern Syria. Another example was to be seen, until 1873, on a bridge near Rome, called the Ponte Salaro, which was built by Justinian’s general, Narses, c. 566, on the foundations of a Roman bridge. Here, before 1873, could be seen square posts of stone or marble, set at intervals, with slabs of stone or marble fixed between them by means of grooves cut in their sides.”[518]

The stucco ornament was described by Creswell by saying: “The stiff Kufic lettering set in arched frames, to be seen on the first, third, and fifth posts from the right on the north-western side, at once recalls the stucco ornament of Western Islam, especially the upper arched frame of the third post which can be exactly matched in the earlier stucco ornament of the great gateway of the Qal’a of the Udaya at Rabat (Morocco) built in the second half of the twelfth century. The frieze above the archway of the inner face consists of thirteen similar motifs. There is constant evidence of this influence in Egypt throughout the thirteenth century; an explanation of it will be given when we come to study the work of Lajin in the Mosque of Ibn Tulun.”[519]

What Creswell was referring to at the Mosque of Ibn Tulun was the influence of the Andalusians living in Cairo which was already discussed under the Ibn Tulun section. It was also pointed-out that Torres already proved this and compared their influence to the work at the Great Mosque of Qairawan. Creswell discussed at length the Andalusian influence in the thirteenth century and he mentioned the horseshoe arches along with two types of corbels at the Mosque of Ibn Tulun never seen before this far east of al-Andalus.

[518] Ibid., V-II, 75.
[519] Ibid., V-II, 75.

Upon examining the posts of the parapets discussed earlier different designs were found. A few repeat around the exterior of the mausoleum but the most important one is on north-western side. The third post from the right has a combined floral and geometric design. The shallow carved stucco panel of the post is set up as a multi-lobed arch. The top third is filled with floral designs inside a pointed multi-lobed arch while the lower two-third has floral and geometric designs inside a second multi-lobed arch. The geometric design is basically an inscription that contains the word Allah and something else that was not readable. The letters inside the second large arch are extended to create a third smaller arch that is also pointed and multi-lobed. Because of this inscription the design is not symmetrical in the lower two-third of the post panel. The upper third has a split fleur-de-lis motif placed at the apex of the pointed multi-lobed arch. This is neither a Type-A, nor a Type-B design, but one of the many variations found in al-Maghreb. Since as Creswell pointed-out, this side was restored, it is hard to relate this carving technique to any from Spain or North Africa. The carving is too shallow with soft edges and the cuts lack precision. What is important here are the motifs used which are somewhat resembling Western examples, but could not be related to previous models from Córdoba or Madinat al-Zahra.

It is clear now that there is a Western influence at the Mausoleum of Imam Shafii, but because of the many restorations, it is hard to pin-point the exact source. It is important to reinforce what Creswell said about the strong Syrian influence. This building is a great example to use for comparison purposes with preceding Fatimid and following Mamluk designs. It is a mix of influences coming from the West and also coming from Syria. The most important point here is the lack of Christian influence. This was the time of the Crusades and Egypt was at war with Europe. Some prisoners of war were used during the construction of Ayyubid buildings but they were hardly skilled labor. How this influenced the development of the local Egyptian aesthetic is becoming more apparent as the motifs start exhibiting a different taste.

Design Aesthetics

The proportions of the building are awkward with the dome being too large for the rest of the building. What is important here are the stepped crenellations and the floral designs, which must have been inspired by models from al-Andalus. The façades, excluding the dome, have their own aesthetics. The crenellations, the blind arches, and the geometric patterns create harmony by the repetition of a triangulated motif. The patterns are rectilinear, except for the posts of the parapets. Those have floral designs that were discussed earlier. The façades are balanced but lack variety and are visually static. It appears that the mausoleum of Imam Shafii was one of the earliest

examples of the influence of Andalusian artisans arriving in Cairo, applying the aesthetics of Almohads. It was argued that this meant a return to classical forms which are simpler and lack detailing.

11.4.2- The Madrasa & Mausoleum of al-Saleh Najm al-Din Ayyub

Another example of the architecture of the Ayyubid period is the Madrasa and Mausoleum of Sultan al-Saleh Najm al-Din Ayyub built in 1243. He assumed power after the death of his father al-Kamil in 1238 and the power struggle that followed. He succeeded in taking over in 1240 but he could no longer rely on his family for military support. He relied on his army of Kurdish emirs to defend Egypt against the Crusaders and the looming attacks of the Mongols but he had to purchase a large number of Mamluks to serve as his bodyguards. His 1000 Mamluks were separated from the rest of the army and were garrisoned in barracks on the Nile island of Roda. They received their name of Bahri Mamluks because they were stationed at the river since *bahr* meant the sea of the large river.[520]

Description

The madrasas built in Egypt were typically either for the Shafii or Maliki rites but this one was built for all four rites: Shafii, Maliki, Hanafi, and Hanbali. It was the first of its kind and followed madrasa examples from Baghdad.[521] The building has a large dome and a minaret that dominates the street and a façade that has keel arch niches.[522] The wall of the street façade is capped with the Andalusian style stepped crenellations.

There is evidence that this madrasa and mausoleum were built by Christian Frankish prisoners of war, which would make it appropriate to compare to the mausoleum of al-Saleh Ayyub. Creswell described the building as follows: “This great madrasa consists of two blocks divided by the Haret al-Salihiya, the entrance to which is spanned by two arches joining the two halves of the building and supporting the minaret. At the present day all that remains of the southern block is the paneled western façade. The two arches joining this to the northern block still exist, together with a fine piece of coffered ceiling, badly blackened, and the minaret above. Of the northern block there still remain the paneled north-west façade and the great north-western and south-eastern iwans; the vault of the latter, however, has fallen except for the first meter or so at the springing. Nearly everything else has

[520] Lyster, *Citadel of Cairo,* op. cit., 17.
[521] Behrens-Abouseif, *Islamic Architecture in Cairo,* op. cit., 87.
[522] Ibid., 89.

disappeared. The façade, although much of it is hidden today by mean buildings, once formed the east side of the famous Bayn al-Qasrayn, now contracted in width and known as the Suq al-Nahhasin. The two wings of the façade are of unequal length, the northern being 37.94 m measured from the side of the main archway, and the southern 33.75 m"[523]

Minaret Analysis

The minaret is in fairly good condition and is topped by a *mabkhara*. This type of minaret was described by Abouseif as follows: "In Arabic the term *mabkhara* means 'incense-burner'. Its association with an architectural context is modern, originating with the Orientalist Richard Burton, who had been told that the Caliph al-Hakim burned incense in his minarets to perfume the mosque." She continued by saying: "As a specific architectural term, *mabkhara* was introduced by Creswell to designate a type of structure at the top of early minarets consisting of a ribbed helmet supported by an open circular or octagonal structure, such as on the minaret of Abu al-Ghadanfar, Zawiyat al-Hunud, Ibn Tulun, al-Hakim, Baybars al-Jashankir, Sanjar al-Jawli, Sunqur al-Sa'di, Qawsun and Tankizbugha. The *mabkhara* pattern for minaret top was, however, abandoned during the fourteenth century (its last surviving example is that of Tankizbugha in 1362), and replaced by a structure composed of a pavilion with eight columns crowned by a bulb on stalactites which became the characteristic top of late Mamluk minarets."[524]

The minaret of al-Saleh Ayyub is across al-Muizz Street from the Complex of al-Nasir Mohamed. The ribbed helmet rests on muqarnas with a narrow band of crown-arches. The eight-sided minaret shaft below has keel-arched hoods on top of long crown-arched windows. It is important to note that this arch should not be confused with a similar arch that will later appear on the minaret of al-Nasir Mohamed. The latter was inspired by the Aljaferia in Zaragoza and is not the same crown-arch used on *mabkhara* tops. This is analogous to the difference between the fleur-de-lis and the trefoil.

Interior Analysis

The mausoleum was described by Creswell as follows: "It is set against the north-east side of the Malikite iwan of his great madrasa in such a way that a little more than one-half of the side overlaps the iwan, the remainder forming a salient. It has two paneled façades, forming the salient which has one panel only, and the main façade, divided into three panels, on the Suq al-Nahhasin. To the left of the three panels is the entrance. A torus molding,

[523] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 94.
[524] Behrens-Abouseif, *Minarets of Cairo*, op. cit., 36.

which commences horizontally, then runs round the next panel, and so on, until it ends on the side façade where the latter touches the madrasa. This feature, which we have already observed on the façade of the Mosque of al-Aqmar, is, as we have seen, a common feature in the pre-Islamic architecture of Northern Syria. At the summit of the façade is a little modillion cornice surmounted by stepped and undercut crenellations. From the present ground level (which is about 1.5 m above the original) to the top of the cresting measures 11.35 m, In the lower part of each of the four pointed (almost keel-arched) panels is a window, with an arcuated lintel decorated in a style similar to those of the madrasa; the central window of the main façade is wider than the rest. Under the arched hood of each bay of the main façade is a twisted disk, but the side bay is treated differently."[525]

The interior of the mausoleum was described by Creswell as follows: "It is an almost exact square, averaging 10.90 m a side, and we observe that it is set askew to a very great extent to get the correct orientation. The thickness of the façade wall measured through the windows increases from 1.97 m to 5.34 m, an extreme example of this practice so common in Cairo but unknown, or almost unknown, outside Egypt. On the north-west side we have the three windows of the façade, on the north-east the entrance in the center and a shallow recess on either side of it, on the south-west side two windows, one commanding the façade of the madrasa, the other looking into the Malikite iwan."[526]

Window Analysis

The three windows on the street façade of al-Muizz of the mausoleum Creswell mentioned above were studied. They have similar motifs but different arrangements. They all have a wooden frame and a stone lintel with a relieving arch above it. The lintel of the window in the center has an amazing fleur-de-lis motif flipping up and down just like the later Mamluk crenellation. The motif is a hollowed out Type-B design filled with two more Type-B fleur-de-lis motifs that are interlaced. The whole arrangement also stems from a fleur-de-lis base in a highly stylized and creative manner that was not seen before. The alternating motifs are solid to create contrast and to emphasize the floral designs of the other carved ones. This lintel is wrapped in a narrow frame of inter-winding floral motifs with Type-B fleur-de-lis motifs at the corners. The relieving arch above has a rosette in the center with two more stylized fleur-de-lis motifs on both sides. The rest of the space is filled with scrolling stems and half flowers. A shallow relief band of different floral

[525] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 101.
[526] Ibid., V-II, 102.

motifs are placed along the voussoirs of the arch, in a battlement set-up with linear cusping below connecting them.

The other window on the left has a similar arrangement with a lintel, a relieving arch, and carved voussoirs. The designs on the lintel are arranged inside hour-glass shapes that are spaced equally apart to create lozenges in between. The lozenge centered on the window has a rosette with an interlaced Type-B fleur-de-lis motif above and another one mirrored below it. The hour glass shape has a four-petaled flower in the center that looks like a cross. Above and below, Type-B fleur-de-lis motifs are connected with interlacing scrolls. There are a total of six designs and two rosettes at both ends of the lintel however, this combination is not centered on the window. The lintel has a badly deteriorated border of scrolls shaped as an S. The arch itself has more scrolls with a stylized fleur-de-lis motif on one half but the other half is completely gone.

The voussoirs of this relieving arch have an extreme collection of design motifs. In Islamic design this would be considered an unusual mismatched group. It starts with a circle in the center that has a sun symbol with eight points. On both sides a six-pointed star set in a circle alternates with the word Allah placed inside a cartouche. The letters are stylized with a fleur-de-lis motif between the verticals. This inscription could easily be missed since it wraps a floral design. It is right handed as it is in the Arabic writing. The design was kept going from right to left giving the proof it is the word Allah. The existence of a cross in the center of the hour-glass in the lintel and the use of the Star of David in the voussoirs along with the word Allah is an odd combination. Again this reinforces the presence of Christian workers during the construction of the mausoleum. Go further with this, it can be concluded with confidence that the workers did not know Arabic as they inaccurately copied the word Allah. This is a reminder of inscriptions seen in Granada and in Sevilla at the Alcazar of Pedro the Cruel that were created by Christian workers to resemble Arabic.

The window on the right is similar to the previous two with a lintel, a relieving arch, and carved voussoirs. This window also has designs on the lintel that are arranged inside hour-glass shapes that are spaced equally apart to create a lozenge space in between. In addition, it has two circles on either ends of the stone lintel which have six-pointed stars filled with rosettes. The lozenge in the center has two interlaced Type-B fleur-de-lis motifs on opposite ends that wrap another stylized floral design. The hour-glasses on both sides of the lozenge have rosettes in the center wrapped with interlaced floral designs that are Type-B fleur-de-lis motifs below but more varied and stylized above. The design of the lozenge placed in the center is repeated with some

minor modifications on the outer ends of the lintel. It is important to note that the five designs on the lintel were centered on the window below unlike the window on the left. Above this lintel is a badly deteriorated band of scrolls. The relieving arch itself has floral designs with scrolls centered on a trefoil. The voussoirs have stylized fleur-de-lis motifs alternating with rosettes.

The floral designs discussed above are strikingly similar to the designs seen at the Great Mosque of Córdoba including the fleur-de-lis. This is the closest match found so far in Cairo to the examples from Spain. As discussed before, Christian captives were involved during the construction of the mausoleum but why do these designs look so Spanish? Compared to the models from Córdoba, the carving technique is very different and much less sophisticated. It is shallower with undetermined cuts that lack the precision of skilled workers. In conclusion, the Christian prisoners used here must have relied heavily on designs and patterns that they copied probably from drawings. Still there was room for creativity as the selection and the placement of the motifs were in some cases very unique.

Design Aesthetics

The proportions of the building are adequate with a tall façade and a large dome on a high octagonal drum. The minaret on the other side is short and wide with awkward proportions, and is not articulated except for the crown-arched openings. The main street façade has three keel-arched niches that create a nice rhythm and is generally harmonious. The exterior stone walls are plain except for muqarnas niches above the entrance to the madrasa, and the floral motifs above the windows on al-Muizz Street, which are the most important as they represent the design aesthetics of the period. Stepped crenellations cap the main street façade and are the most dynamic element of the building. It is not difficult to see that this small building was inspired by the Mausoleum of Imam Shafii. It is set-up in a similar way with a narrow façade and stepped crenellations framing a large dome.

11.5- The Bahri Mamluks

The Ayyubid period ended and the Bahri Mamluks[527] took over Egypt and ruled from 1250 to1382. They were mainly Kipchak Turks from today's southern Russia and originally had their barracks on the Rawda Island in the Nile (al-bahr).[528] Their architecture was based on Fatimid, Ayyubid, and other sources that evolved into an indigenous local style.[529] The influence on Egyptian architecture came from many sources; in the mosque of Ibn Tulun for example we saw echoes of the Abbasid style created in Samarra. During the later Fatimid period the architecture changed to become more diverse. Refugee monks from Edessa showed their skills with stones in the fortified walls surrounding Cairo, and Persian artists designed prayer niches in several mosques. Influences from North Africa were evident throughout the Fatimid and Bahri Mamluk periods. Craftsmen accompanied the Fatimid conquerors to Egypt and several of the thirteenth and the fourteenth century buildings showed Andalusian influences. This as explained before must have been due to refugee craftsmen fleeing the Reconquista in Spain and arriving onboard Catalan ships. Some elements like stalactite portals and *ablaq* or striped masonry came to Egypt from Syria with the Syrians. Craftsmen from all over the world were brought for the building of the mosque of Sultan Hassan, Anatolian and Chinese influences were evident in its wall patterns. Most of the Mamluks who ruled Egypt came from Central Asia, the Caucasus, and Eastern Europe.[530] All this created a rich atmosphere for innovation in architecture and the development of a new aesthetics.

History

A very influential figure in the history of the Mamluks was Shajar al-Durr. She was a Turkish slave girl given as a gift to Sultan al-Saleh Ayyub by the Abbasid caliph of Baghdad. She was beautiful and intelligent and consequently the sultan married her. In 1249 the Sixth Crusade of St. Louis IX attacked Egypt and captured Damietta on the Mediterranean coast. The Sultan al-Saleh Ayyub died as the Crusaders were approaching the city of Mansura on the road to Cairo. Shajar al-Durr concealed her husband's death and sent for his son Turan Shah in Syria. She gave orders from inside the sultan's tent where no one could see her during battles with the Crusaders.

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[527] The word Mamluk in Arabic means the owned. The Mamluks were bought as fighters in the army yet allowed to rise up in rank and be freed. Later under the Ottomans they were called Janissaries. It was common for Christian families in Eastern Europe to offer their children to join the ranks and serve in the army.
[528] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 70.
[529] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 15.
[530] Ibid., 18.

Turan Shah arrived in Egypt in 1250 just in time to see the victory of the Mamluks and the capture of the King of France. Instead of celebrating, he ordered his stepmother arrested and proceeded to remove the Mamluks from all positions of power. Later on the Mamluks attacked his camp and killed him after he ran out of his tent toward the Nile. This marked the beginning of the Bahri Mamluk rule in Egypt. Shajar al-Durr was named the Sultan of Egypt to legitimize Mamluk reign as she was the wife of the previous ruler, al-Saleh Ayyub. This caused the Friday prayers, for the only time in Egyptian history, to be called in the name of a woman. The Ayyubids wanted to gain Egypt back from the Mamluks so they prepared an army to attack Egypt. In addition, the Abbasid caliph objected to having one of his slave girls rule over such a rich province. The Mamluks resolved the situation by asking Shajar al-Durr to marry their commander Aybak. She agreed on the condition he divorces his current wife and the mother of his only son. Aybak led the Mamluk army into Palestine in 1251 and defeated the Ayyubids. After he returned to Egypt he was not able to rule the country as his wife kept control of the finances from her palace. He attempted to find another wife to replace her to have full control but she had him killed in his bath in 1257. His Mamluks were angry and decided to kill her but she offered the sultanate to anyone who would protect her. They all refused so she locked herself up in the Citadel's Red Tower. She had no food or drink for three days and finally surrendered. She was dragged in front of Aybak's ex-wife whose slave girls beat her with their wooden bath shoes until she died. Her naked body was thrown from the Citadel where it remained in the moat surrounding the walls for several days until it was finally buried. Emir Qutuz, a Mamluk of Aybak's, assumed control of the country and ruled from then on. Later in 1260, under Sultan Baybars, he led the Mamluk army into northern Palestine to defeat the Mongols under Genghiz Khan at the battle of Ayn Jalut.[531]

Cairo of the Mamluks grew quickly with the construction of numerous religious buildings. It became a metropolis with a large population of artisans and craftsmen. Lapidus explained: "The patronage of religious institutions also inspired auxiliary arts. Building parts, including mihrabs, portals, windows, screens, shutters, and cupboards, display splendid achievements in metal, wood, and stonework. Religious furniture, including *minbars* and *kursis* (Koran stands), inspired fine metal and woodwork. Marble paneling was an important decorative feature for the mihrab and qibla walls of mosques, and was also used for pavements and fountains. Other furnishings included candlesticks, Koran boxes, doors, windows, and glass lamps." She continued with her explanation: "Moreover, the tremendous proliferation of mosques, colleges,

[531] Lyster, *The Citadel of Cairo,* op. cit., 18-20.

khanqahs, hospitals, and mausoleums suggests social and religious concerns of a personal nature."[532]

The contact with Aragón was well documented and Atiya spoke of several embassies beginning in 1300. The first contact was between Jaime II and Sultan al-Nasir Mohamed as proved by a letter dated 6 April 1300 sent from Cairo. It discussed the safe passage of merchants, with their goods, and pilgrims from Aragón through Mamluk territory. This was the beginning of strong diplomatic relations that continued for 30 years during the fourteenth century. [533]

Mamluk art had a variety never seen before in Cairo and was due to several factors. Lapidus points out: "Egyptian metal and glasswares, decorated in the late thirteenth century with figural motifs, came to be dominated in the fourteenth century by epigraphy and the blazons of emirs. Before 1300 Mamluk glassware was decorated with animal forms, pictures of musicians, and heraldic symbols such as lions and eagles. After 1300 epigraphy and the blazons of sultans and emirs decorate bottles, goblets, bowls, basins, and beakers. Mamluk textiles, which at first favored vegetal, animal, and epigraphic designs, were restyled with emphasis upon mathematically precise bands of decoration based on repetition of motifs and short inscriptions. Much of this change of style may be due to the introduction of new looms with mechanical patterning devices. Ceramics give us important information about Mamluk taste. Bahri Mamluk ceramics, like Bahri glass and metalware, stress animal and bird decorations and figural and narrative representations of court life. Some fourteenth-century potteries follow metalwork designs and are decorated with inscriptions and blazons."[534]

11.5.1- The Mosque of Baybars

Growing up in Cairo I used to often visit the area around the mosque. It was an area full of shops and crystal manufacturers located around a high walled enclosure. The Mosque of al-Zahir, as it is called by the locals, sits in the middle of a large square with cars going around it to go from one street to the next. This mosque was built outside the walls of Old Cairo along the old Nile canal of al-Khalij extending east toward Heliopolis. Today the specialty shops are gone and the mosque is surrounded in every direction by residential high-rises. The canal of al-Khalij is also gone and it is now Port Saeed Street. During my last visit, the exterior walls were in real bad

[532] Lapidus, Mamluk Patronage, op. cit., 178.
[533] Atiya, *Egypt and Aragon*, op. cit., 17-19.
[534] Lapidus, Mamluk Patronage, op. cit., 180.

condition, the interior courtyard had rubble stone, and wild plants were growing everywhere. Recently restoration work has started on the mosque and hopefully it will be restored to its original glory.

Description

Construction on the mosque started in 1267 according to Maqrizi. Along with the architects, al-Sahib al-Din ibn Hanna and Emir Alam al-Din Sangar al-Sururi were in charge of the construction. Baybars ordered marble columns and wood to be brought from his Mamluk lands to be used at the mosque. He even demolished buildings in Jaffa, including the citadel of the Crusaders, and had their wood shipped to Egypt. Creswell described the mosque as follows: “Although almost eviscerated, owing first to neglect and afterwards to misuse as fort, soap factory, bake-house, and rationing depot and slaughter-house for the British Army of Occupation, the mosque of al-Zahir Baybars still commands admiration by its simplicity of line, by the dignity of its monumental gateways, and the beauty of its rich stucco ornament. It consists of a great rectangle a little over 10,000 m square internally, enclosed by stone walls 10.96 m in height surmounted by a cresting measuring 1.30 m, with a projecting monumental gateway on three of its faces. The north-west gateway is placed in the center of that side, but the lateral entrances, instead of being in the center of the north-eastern and south-western façades, are placed so as to come opposite the center of the corresponding sides of the *sahn*. The interior arcades were six deep on the qibla side, three deep to north-east and south-west, and only two deep on the north-west side. This arrangement is nearly the same as that found in the Mosque of al-Hakim (5:3:3:2), but a novel feature appears in the arrangement of the iwan *qibli*, where there is a great clear space, three bays by three, in front of the mihrab which, as we learn from Maqrizi, was once covered by a dome of the same size as that over the Mausoleum of Imam al Shafii. The Arcades rested some on columns and some on piers, as shown, but very few of the latter remain.”[535] The plan of the mosque is closer to a square than a rectangle. In addition, there was an error in the original Creswell publication stating that the total internal area was a little over 100 m^2 which would make it smaller than an average apartment, checking the measurements he first took they were: 106.30, 105.94, 103.53, and 102.95 m. This would make it impossible for the mosque to be less than 10,000 square meters in total internal area.

The main gateway was described by Creswell as follows: “It is a handsome structure, 11.83 m wide, with a projection of 8.86 m. There is a fine entrance arch 3.95 m in span, with cushion voussoirs, once supported by a

[535] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 155-156.

pair of engaged columns, and flanked by a deep niche with a conch-shell hood, set in a shallow rectangular bay with a stalactite head framed in arabesque. In the spandrels directly above these niches is a fluted, keel-arched niche, with a circular medallion in the center and a band of guilloche running round its outer edge. Between these two panels and the apex of the arch are two sentences from the Quran, each set in a small frame composed of interlaced squares. The flanks are each decorated with three keel-arched panels with a circular medallion in the center of each hood. The wall surface above these niches is occupied by eight small raised squares of arabesque, placed lozenge-wise, and three large raised medallions decorated with an interlacing star pattern."[536]

The exterior walls were described by Creswell as follows: "The curtain walls measure 9.92 m in height from the top of the lowest level to the upper edge of the cyma-recta cornice, above which are three more courses (totaling 87 cm) once crowned by stepped crenellations, of which a few only have been partly preserved on the south-east side. The latter, where restored, measure 1.30 m, which gives 12.09 m as the total height, of 27 cm more, i.e. 12.36 m, if measured from the sill of the main entrance. This wall measures 1.65 m in thickness above the offset of 10 cm, on which it rests. One course below the sill of windows it is reduced to 1.52 by a slight bevel. It is composed on the outer side of dressed stone blocks, the courses averaging 30 cm in height, and on the inner side by *talatat*. The outer faces are much thinner than they ought to be, hence the amount of re-facing that has been found necessary. The west and north corners of the mosque are strengthened by rectangular towers; the northern is solid but the other forms the cage of a staircase leading to the roof. This staircase is lit by four little windows on its north-western side, but by two only on its south-western and south-eastern faces. It should be noted that these eight little windows are all covered by arcuated lintels, a Syrian feature to be seen in the fortifications of Badr al-Gamali. Each tower has been partly preserved to a height of four courses above the main cornice, and in the two outer faces in the lower part of what appears to have been a very narrow window set in a shallow recess. In the interior, high up in the north and south corners, is part of a vault of well-cut stone; each vault partly obstructs a window. Now Napoleon's plan shows a staircase in these corners running up the north-west and south-east walls respectively in one long straight ascent. Possibly this fragment of vaulting is a remnant of it. The east and south corners are also strengthened by towers, but they are solid and much smaller. At the north-west end each flank are two buttresses, 85 cm deep and 1.70 m wide, to receive the thrust of the arcades; one is beveled off below the cornice, but the other is carried through it to the summit of the

[536] Ibid., V-II, 156.

curtain wall. At the south-east end of each flank are six buttresses to receive the thrust of the arcades of the iwan *qibli*; four are beveled off below the cornice but the other two are carried through it to the summit of the curtain wall. In each of these buttresses, in the third course below the windows, may be seen the end of a column, let in as a bond; this is the last example of this technique in Egypt."[537]

It is important to note that during the thirteenth century the Mongols devastated Central Asia and the Near East. It was not until the battle of Ain Jalut on 3 September 1260 that the Mongols were finally stopped by Baybars. Many people took refuge in Egypt as a consequence influencing the development of some architectural design elements. Creswell specifically mentioned north Mesopotamian and Syrian influences such as: the stalactite portal, the ornament in the west gateway, the arcuated lintels, and the cushion voussoirs. At the end of his analysis he said: "The Mosque of Baybars, therefore, represents an Egyptian type, strongly modified both in plan and decoration by influences from northern Syria and northern Mesopotamia, due partly to the intimate connection between this area and Egypt under the Ayyubids, but chiefly to the vast number of refugees from these regions who had sought refuge in Cairo during the Mongol reign of terror. Finally, the influence of the Crusaders is shown in the buttresses with beveled tops."[538]

For the purpose of this work, the most important architectural elements in the Mosque of Baybars are the windows. Unfortunately they are badly deteriorated and only one is in a fair condition. Creswell had the following to say about them: "The curtain walls are pierced in their upper half with seventy-two pointed-arched windows, of which there are eighteen in each side. These windows had grilles on their outer and inner edges, in both cases flush with the wall surface. None has been preserved intact and, of the small fragments that remain, the finest and best preserved is the central one on the outer face of the curtain wall between the main entrance and the north corner. It is most fortunate that this one has partly survived, as it provides another example of a thirteenth-century scalloped arch in Egypt, related to the fragment of one in the Kamiliya Madrasa, but more elaborate. Similar scalloped-arched panels appear fifteen years later in the Mausoleum of Sultan Qalawun, where they form starting-points for the bands of ornament decorating the intrados of the arches joining the central octagon to the outer square. The grilles of the windows, judging from the fragments which remain, were evidently quite unlike those in Qalawun's complex, or those which Lajin added to the Mosque of Ibn Tulun, when he restored it in 1296. Although of stucco, they appear to have been closely related to the stone grilles which, in

[537] Ibid., 159.
[538] Ibid., 168-172.

the Madrasa-Mausoleum of Salar and Sanjar al-Jawli (1303/4), separate the corridor from the *sahn*. Another example of similar work may be mentioned—the stucco panel with which Baybars al-Jashankir, when he restored the Mosque of al-Hakim in 1304, covered over the Fatimid ornament on the right-hand panel of the substructure of the dome."[539]

Design Aesthetics

The concept of the mosque is an open courtyard surrounded by arcades with a minaret opposite the qibla wall above the main entrance. The minaret visually balances the dome above the mihrab and the horizontality of the long aisles behind the arcades. The overall effect is pleasant as it uses the grouping idea of Ibn al-Haytham. Harmony is created by the repetition of the pointed arches and the stepped crenellations along the exterior walls. The overall effect is harmonious but monotonous for the lack of strong visual elements. The ornamentation is limited to borders around the arches and windows, horizontal bands, and window grilles. The most striking part of the mosque is the prayer area in front of the qibla wall. It is highly dynamic because of the different vistas created by its 6 aisles. The views change dramatically as one walks around the prayer area. Light quality and intensity changes in a gradual manner from the main mihrab to the edge of the courtyard.

What was said earlier about the influences at the mosque is true. The stepped crenellations came straight from the Umayyad palaces in the Syrian Desert. Other elements were described earlier but what is important are the windows, and as mentioned, they are all pointed and have scallops. A typical exterior-wall window has stone voussoirs with stucco ornament in-fills. Few grilles remain, but there is one that has parts still hanging in a fairly good condition. Below the stone voussoirs, it has a narrow stucco band with triangulated geometric designs which outlines the ornamentation below. A wider area with interlaced floral designs including stylized fleur-de-lis motifs wraps the window opening. This area has designs that are deeply cut creating strong shadows. The scallops below have rosette like designs inside their clovers. Surprisingly in the wide floral area, there is a Type-B fleur-de-lis motif at the apex of the pointed-arch. This design is similar to the ones studied at the mausoleums of Iman al-Shafii and al-Saleh Ayyub. The influence here is again most certainly is from Christian sources.

[539] Ibid., 159.

11.5.2- The Complex of Qalawun

Sultan al-Mansur Qalawun came to Egypt from the Volga river valley, in today's southern Russia, when he was a little boy. He became a Mamluk of al-Saleh Najm al-Din Ayyub after his previous master died. He remained as such until the turmoil that followed when he had to leave Egypt with other Bahri Mamluks. He returned after it was decided that Sultan al-Adel was to be removed from power. He became the Sultan of the Mamluks in November of 1279.[540] It is known that the Catalans were busy expanding their trade in the Mediterranean especially with Egypt between 1260 and 1290 and had strong contact with the sultans including Qalawun.[541]

Sultan Qalawun built his complex containing a mausoleum, madrasa, and a *maristan* (hospital) in 1284 on the site of the demolished western Fatimid palace.[542] It is interesting to know that the *maristan* was still functioning until the nineteenth century, and today, a public hospital is located next to its remaining walls. The existence of an architect at the time is unknown but Emir Alam al-Din al-Shuja was the construction supervisor. We know that in many cases construction supervisors, in addition to communicating between the builders and the sultan, played an important role in the design process.[543]

Description

The complex was surveyed in detail by Creswell as it stood in 1956; major restoration work was completed in phases since that time so it is important to use his description as the main reference. He said the following: "These three buildings form a great L-shaped complex measuring roughly 100 m each way. The façade of Bayn al-Qasrayn (Suq al-Nahhasin) is formed by the south-eastern sides of the mausoleum and madrasa. It measures about 67 m in length, of which the mausoleum is responsible for 35 m, the entrance bay for 9 m, and the madrasa for 23 m. The mausoleum and madrasa are not on the same alignment, the latter being set forward about 10.15 m. A fine portal opens between them and gives access to a long passage (*dihliz*) which runs between them from front to back, completely separating the madrasa

[540] Maqrizi, *Kitab al-Suluk*, op. cit., 663.
[541] Feliu Separata, Gaspar, El Comercio Catalán con Oriente, In *Revista de Historia Económica*, Año VI – Otoño 1988 – No. 3, Centro de Estudios Constitucionales (Barcelona, 1988), 694.
[542] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 96.
[543] Rabbat, Nasser, Architects and Artists in Mamluk Society: The Perspective of the Sources. In *the Journal of Architectural Education*, Vol. 52, No. 1. Blackwell Publishing (Hoboken, 1998), 32.

from the mausoleum. This lofty passage, which has a wooden ceiling about 10 m above the pavement, opens into another, L-shaped with six cross-vaulted bays, which leads into the great court of the Maristan. The latter lies with its main axis running from north-east to south-west, forming the base of the ‘ L ’ to which I have compared the whole group. Although the Maristan was begun first, so little of it is left that it will be more convenient to describe this group in the order adopted by Herz, viz. Mausoleum, Madrasa, Maristan.”[544]

Façade Analysis

Before discussing the complex it is necessary to point out that Creswell described the Mausoleum and the Madrasa based on his field work at the time in the 1950’s. The Maristan, however, was in no condition to be described by him so he relied on accounts of Maqrizi and others. Since no verification of any pre-existing conditions at the Maristan was possible, it will have to be omitted from this work except for the fountains and the water pools that are still in situ. Creswell described the façade and said the following: “The façade which includes the substructure of the minaret, is 35.12 m in length and 20.25 m in height from the original ground level to top of the crenellations. Although scarcely noticeable in the photograph, it is slightly deflected at a point about 13 m from the north corner, as shown on the plan, the total deflection amounting to 80 cm. It is divided into eight shallow pointed-arched bays, two wide and six narrow, each framing three windows placed above each other except the two bays under the minaret. The axis of the mausoleum corresponds with the wide bay, nearest the entrance, which frames one window only, the lower part corresponding with the back of the mihrab which, in this case, does not form a salient on the façade. The other wide bay frames the window which lights a little room, next to the minaret, and the last two, directly under the minaret, are blank panels only. The pilasters dividing all these bays rest on engaged columns of varying diameter, some being so small that they look distinctly weak for the work they have to do. These columns have Corinthian capitals, and above them runs a continuous ogee molding; the lintels of the five rectangular windows, which form the lowest tier, come just beneath this molding.”[545]

The front façade described above faces al-Muizz Street, the main thoroughfare built by the Fatimids, extending between the city gates in the north and south. The entry to the complex is in the center with the madrasa on one side and the mausoleum on the other as he explained. The façade is well articulated and includes a horizontal inscription band. It was described by

[544] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 190.
[545] Ibid., V-II, 191.

Creswell as follows: “About a meter above it is the magnificent band of inscription (*tiraz*) which, although broken by the window over the entrance, continues right across the façade of the madrasa. This inscription must have been gilded, for Maqrizi tells us that when the Emir Jamal al-Din Aqqush, governor of Kerak, was named Director of the Maristan, he renewed the gilding of the inscription on the façade of the mausoleum and madrasa. These gilded inscriptions were known as *tiraz*. Herz has contributed some interesting information on the subject thanks to the close observations which he was able to make from scaffolding during the extensive works of restoration carried out under his direction. It would appear that the gilding was always done over a preliminary coat of red paint. In the Mausoleum of Sultan al-Ghawri, for example, the inscription is painted red and still bears considerable traces of gilding. Again, on the mihrab of the Madrasa of Sultan Barquq he found that the marble border still bore faint traces of red paint, on which glistened several particles of gold. The same remark applied to the mihrab of Sultan Hassan’s Madrasa. Qalawun’s façade is important as the earliest known example of this treatment in Egypt. The next earliest was the *tiraz* on the façade of the Madrasa of al-Nasir Mohamed alongside.”[546]

The façade of the madrasa was described by Creswell as follows: “Above this *tiraz* are five pointed-arched windows with stucco grilles, and above them again five more. The latter consist of two lights, divided by a column and surmounted by an oculus in the tympanum of the pointed-arch which frames the whole. A sixth window of the same type, but larger, occupies the upper part of the bay above the mihrab. There is a second ogee molding at the summit of the pilasters which separate the bays. The pointed-arches of the latter are flush with the façade, which rises above them for five courses and then terminates in a third ogee surmounted by a row of nineteen stepped and undercut crenellations of brick faced with stucco, all of which (except one) are decorated with bold arabesque designs, all different. This cornice continues round the corner for about 10.70 m, the next building (the Madrasa of al-Nasir Mohamed) being set back to nearly that extent, as shown on the plan. This flank is otherwise perfectly plain, except for the inscription panel high up under the cornice of the first storey.”[547] The stepped crenellation is the most pronounced element of the façade that is of Western origin. The use of the crenellations above the pointed arches of the niches creates an eclectic design. They are an exact match to the crenellations at the Great Mosque of Córdoba.

The windows of the street façade are arranged in three rows, on the top level there is the set created by two horseshoe arches topped by a round

[546] Ibid., V-II, 191.
[547] Ibid., V-II, 191.

window or an oculus, placed in a recessed pointed-arch as described above. This arrangement first appeared in Egypt at this complex therefore it is known as a Qalawun-set. The stucco window grilles have geometric designs of six-pointed and eight-pointed star patterns that are of Andalusian origin and were appearing in Egypt for the first time. The narrow horseshoe stucco window grille has two distinct designs: one with diagonal lines and a six-pointed star in the center creating a six-petalled geometric-rosette, the other is similar but without the rosette. This six-pointed star in the center of a geometric-rosette also appears inside the oculus to create a rose-window. These two stucco grille designs are not the same on all the narrow windows but have slight variations among them. The wider pointed-arched window has a stucco grille with eight-pointed stars in the center of larger rosettes. There are two stacked large geometric-rosettes connected with a six-pointed star in each window that extend to the edge of the window. Again there are other variations of this wide window model including twelve-pointed stars.

Mausoleum Analysis

The courtyard of the mausoleum was described by Creswell as follows: “Three steps, of which the last is formed by the enormous granite sill, lead up into a small domed vestibule, and after two more steps we pass into the court, which serves the mausoleum. It measures roughly 13 m in width and 10 m in depth. Four columns of rose granite with Corinthian capitals support eleven arches, braced by tie-beams, as shown. Six shallow brick domes, on spherical-triangle pendentives of the same curvature, and a tunnel-vault (on the north-west side) serve to cover the portico which runs round three sides, leaving the central part open to the sky. In Maqrizi’s day there was a basin here with a richly decorated fountain (*fisqiya*), and traces of a lobed basin are still (1956) visible in the earth. The walls of the open part are a little over 12 m high and they are faced with plain stucco, except for a band of ornament which runs round near the summit. The entrance to the mausoleum faces this open space; it is closed by a splendid grille of *mashrabiya*, 3.95 m in width, excluding the frame, in which opens a double door leading into the mausoleum. Above it rises up in all its glory one of the finest schemes of stucco decoration in Egypt. Its lower part serves to frame three rounded-headed windows, the central one being larger than those which flank it; its upper part frames a window of three lights similar to those of the façade. This upper portion is set in a rectangular frame with a cavetto molding topped with stucco crenellations, in outline like those of the façade. The total height is 17.60 m.”

The stuccowork outside the mausoleum described as one of the finest schemes marks the beginning of a new era. The entrance façade is almost

like a *pishtak* but without the typical projection. It is made of a large pointed arch topped with stepped crenellations. This design creates depth since it steps back as it goes up, into three recesses below the pointed-arch. The first plane is that of the double entry door to the mausoleum. The second plane is that of the three windows described above, which is separated by the first floral stucco band. The third plane is above a second floral stucco band and is stepped back into three planes from that of the one below it. This level has a Qalawun-set surrounded by beautiful stuccowork. The façade has a border of which the verticals are not continuous from the bottom upward but are broken by the second horizontal stucco band.

All the windows are doubled on the inside of the mausoleum: they have a stucco grille on the outside and stained glass on the inside. The three windows on the first level have semi-circular arches and stucco grilles of geometric designs. The larger window in the middle has incomplete large geometric-rosettes emanating from eight-pointed stars. This is another variation on the stucco grilles already discussed on the street façade. The two smaller windows on either side have stucco grilles of four stacked large geometric-rosettes emanating from six-pointed stars filling the whole window. The larger window has an inscription border with the word *al-falak* or the universe repeated around. The smaller windows have a border of inscribed equilateral triangles that in my opinion represent the word Allah. The second level has a Qalawun-set window with stucco grilles on all three lights that are exactly the same with intersecting diagonal lines that create small hexagons.

The first horizontal stucco band, just above the wooden lintel of the door on the ground level is made up of Type-B fleur-de-lis motifs connected by scrolling stems. The fleur-de-lis motif flips from right-side-up to right-side-down. The whole border is made of pierced stucco similar to the twelfth century work at the Great Mosque of Tlemcen. The border outlining the whole façade has more complex designs. On the left vertical, the border starts with a pierced Type-B fleur-de-lis in the center surrounded by half-palmettes and scrolling stalks. It has a wide outline following the contours of the fleur-de-lis and the other shapes, which creates a near-lozenge motif. This design is repeated on the right vertical but with the fleur-de-lis moved upward with more pierced leaves filling the center. This section of the border starts at the wooden lintel above the doorway and extends to the second floor. At that point it steps back and it starts again with a different design that extend all the way to the stepped crenellations. This section is broken-up in two parts to correspond with the second horizontal stucco band of the second level. The first part has a circular design with pierced floral motifs. The second part is turned on its side and has Type-B fleur-de-lis motifs alternating with another stylized type of fleur-de-lis. This motif has an outline of branches following its

shape and terminates in yet another smaller fleur-de-lis. This design, of one fleur-de-lis inside an outline terminating with another smaller fleur-de-lis at the top, is typical of stuccowork found at the Alhambra. A second narrower border is on the outside edge of the vertical band, which has a row of connected Qalawun-I fleur-de-lis motifs. The border on the right vertical at this level is similar but it is reversed to wrap around the façade. The top of the border, just below the crenellations, is set-up differently with palmettes and variations of the fleur-de-lis motif.

The windows of the first level have a continuous border of interlaced half circles around the three arches. In between the windows, there are more pierced and stylized variations of the fleur-de-lis motif. The second horizontal stucco band is located at the second level just below the Qalawun-set. It has unique and innovative floral motifs that were not seen before. For the purpose of this work, there is one motif in particular, that will be called a Qalawun-II fleur-de-lis. It is basically a scalloped spade with a Type-A fleur-de-lis, carved-out of the inside. This type appears on the horizontal band, to the left of the center window, and is replaced by another similar type on the right. The windows of the Qalawun-set on the second level are placed inside a pointed-arched recess that steps out in three levels as explained earlier. Each level or step has a different group of floral motifs that are arranged in multiple patterns. It is important to note that the idea of carving out a Type-A fleur-de-lis was very common at the Alhambra It was found in wall and ceiling designs interwoven with other kinds of floral motifs. It was also seen in carved wood panels at the Mosque of Ibn Tulun, which were attributed to Coptic artists by Marçais.

The pointed-arched recess on the second level starts with a border, around the three lights of the Qalawun-set, of a loosely arranged design. After carefully studying the different shapes of this border no specific fleur-de-lis motif was found. There are stems that scroll and become interlaced but the dominant shapes are either half palmettes or half stylized fleur-de-lis motifs. The floral designs are loosely symmetrical along an axis that runs in the center of the oculus. The second level of this tri-border is more organized with a hierarchy of motifs. It starts in the center of the pointed-arch with an outline of a Type-B fleur-de-lis that terminates in a small Qalawun-I fleur-de-lis at the apex. The inside of the larger fleur-de-lis outline has more floral motifs, actually a Type-B fleur-de-lis above another stylized fleur-de-lis that morphs into it in between the volutes. This composite motif design is repeated all around the border with more interlaced scrolling stems and half-lotus motifs in between. It was noticed that this composite design is not consistent along the border which must be attributed to recent restoration work. The design is wider in some areas and misaligned in others, with even a few skewed fleur-

de-lis motifs. The third border, the one furthest out away from the windows has a more complex pattern. It has two composite designs that alternate starting at the apex of the pointed-arch. Basically it is the outline of a large spade terminating with a small Qalawun-I fleur-de-lis at the apex. It has half-lotuses on either sides of a stylized palmette in the center. The second composite design is similar in its overall shape but lacks the stylized palmette. It has a stylized Qalawun-II fleur-de-lis at the base and at the top with more lotuses and half-lotuses on either side. The whole border is full of pierced stucco stems that are interlaced.

The stepped crenellations at the top of the entrance *pishtak* have flowing floral designs with palmettes, spades, and lotuses set symmetrically inside each one. There are two designs that alternate inside the crenellations that use the same repertoire discussed above. Every space is filled with a design that was specifically created for it. The flow direction on each crenellation is like a water fountain that flows from the center, up, and out. Again, the profile of this crenellation is the same as the one at the Great Mosque of Córdoba.

These flowing motifs create visual rhythm unseen before in Egypt. The layout of each one is logical and is perfectly proportional with the whole. This order creates visual movement of infinite scrolls and swirls that go up, down, and around. It cannot be accepted that this ingenuity in design can be sourced from Tlemcen! The fleur-de-lis motifs from North Africa are crude and appear sporadically by comparison. At Córdoba and Granada the fleur-de-lis is a dominant design motif especially at the Great Mosque of Córdoba. This level of sophistication was never before seen in North Africa and could only come from Spain. In addition to being the finest stuccowork in Egypt, it is also the strongest example of the influence coming directly from Spain at the beginning of the Mamluk period.

The interior of the mausoleum was described by Creswell as follows: “Internally the mausoleum consists of a great rectangle, roughly 21 m by 23 m and therefore not exactly square, in the midst of which are four piers and four columns, arranged so as to form an octagon on which rests a high drum surmounted by a dome. The four piers average 2.25 m square and the columns which, like those of the court, have been pillaged from some ancient edifice, are of rose granite, 7 m in height and averaging 90 cm in diameter near the ground. Their Corinthian capitals are surmounted by enormous double impost blocks of wood, the upper ones having carved splay-face sides matching the tops of the piers. In addition to the eight arches which form the octagon, there are eight more, two on each side, which join the columns and piers to the side walls, as shown. All are braced by tie-beams. The eight latter

arches divide the ceiling of the part surrounding the octagon into four rectangles and four irregular pentagons. These eight sections are covered by wooden ceilings, all elaborately gilded and decorated, but exhibiting two types; the ceilings of the rectangles consist of beams with panels between, as in the Great Corridor, whereas the ceilings of the pentagons have a series of octagonal coffers, the third example of this style. All the latter have been restored except the one in the north corner, which has been left untouched. These ceilings are about 15 m from the pavement. The octagonal drum rises 7 m above them; each face of it is pierced with a window of two lights with an oculus above, and the dome, about 11.60 m in diameter, which is set on the drum, rises about 9 m, so that its summit is 31 m above the pavement. The original dome was destroyed by Abd al-Rahman Katkhuda in 1776/7, presumably because it was in a dangerous state, and replaced by wooden ceiling. The present dome was constructed by Herz in 1903 on the model of that over the Mausoleum of al-Ashraf Khalil. The side walls are divided into two storeys; the lower consists of five shallow pointed-arched recesses, but their filling is not uniform. The central bay on the south-east side is of course occupied by the great mihrab, and the corresponding bay on the south-west side is occupied by the door into the Great Corridor, and the pointed-arched window above it. As for the four pairs of flanking recesses, they are occupied by rectangular windows with bronze grilles surmounted by pointed-arched windows, with stucco grilles filled with colored glass. On the north-west side the central bay is much wider (4.48 m against 2.95) as it frames the main entrance and the three round-arched windows above it. The two bays next to it also have rectangular windows with bronze grilles and pointed-arched windows above, but the outer pairs are blind. On the north-east side, however, the first recess, commencing from the left, is blank, the second, third, and fourth are converted by means of wooden screens into cupboards, and the fifth, which also has a screen, opens into a little room alongside the minaret. This storey terminates in a stucco cavetto, above which on each side are five windows of two lights, divided by a column and surmounted by an oculus. On approaching the windows next to the street we observe that the interior, in order to get the correct orientation towards Mecca, is set considerably askew with reference to the façade, the thickness of the wall increasing from 1.90 to 4.62 m, as shown."[548]

The wooden octagonal coffered ceiling at the mausoleum has been restored and repainted during the work completed in 2010. At first sight, it appeared as a simple design of octagons which is similar to the design at la Plaza de España in Sevilla albeit hexagonal, and at other places in Spain. These hexagons and octagons are placed side to side. This arrangement

[548] Ibid., V-II, 193.

creates honeycombs or sets of four octagons connected by a square. By closely examining the design at the mausoleum of Qalawun, it was revealed that the octagons are placed point to point. Each set of four octagons placed point to point creates a pointed cross in between. To add to the visual effect of the design yet another octagon is placed in the center of the pointed cross. The overall effect is a pattern of octagons filled with a pattern of pointed crosses. These pointed crosses with the octagons in the center, are exactly the same as the mosaic crosses of the floors of the Umayyad Khirbat al-Mafjar. This pointed cross motif survived from that period and is being reused at the Complex of Qalawun. This same octagonal coffered ceiling is also used at the Mosque of al-Nasir Mohamed at the Citadel which will be discussed later. It is well documented that Qalawun and his son had work done on their buildings simultaneously. This must lead to the conclusion that the crosses were deliberately placed at this building by a Christian, either Egyptian or European. It is clear that there was a design decision to place the symbol of Christianity at an inconspicuous location. This happened time and time again starting at the Great Mosque of Córdoba and intensified during the Mamluk period.

The interior of the mausoleum was described by Creswell as follows: “The decoration of the interior is very rich. A fine dado of marble and mosaic, 4.18 m in height, runs all round; the pilasters dividing the recesses are all provided with engaged columns at the corners, and between these columns is a fine panel consisting of an outer frame about 18 cm broad, within which is either a slab of variegated marble chosen for its beauty, or marble mosaic with a geometrical design, or a Kufic rectangle. Each of the piers on the south-western side is decorated so as to match the corresponding pier opposite. Immediately above the capitals of the engaged columns runs a splendid frieze, divided into two bands, 42 cm and 102 cm in width. The lower, which is gilt, is decorated with vine-scrolls, composed of large pentagonal leaves, each with a bunch of grapes in the center.[549] The upper band consists of a Naskhi inscription in large raised characters of stucco. The band, which had suffered very much, was restored by Herz, as shown, but a short length, quite untouched, still exists in the little room next to the minaret. The four great piers under the dome are decorated in exactly the same way as these pilasters, except that, whereas the wall surface above the gilt frieze is merely plastered, the piers have their upper part covered by planks of wood, painted with a conventional floral pattern, as shown, surmounted by a splay-face molding of wood. The arched frames of the five windows which occupy the upper storey of each of the side walls are all decorated with fine bold stucco ornament, similar to the window still preserved in the Maristan. The intrados of

[549] This is the *karma* design Flood referred to earlier.

the eight arches which connect the piers and columns with the side walls are decorated with fine bands of stucco ornament, as also are the eight arches which support the dome. These bands all spring from little scalloped-arched panels, in the same way as the bands of ornament on the ribs of the dome in the Mausoleum of Zayn al-Din, built thirteen years later. Each of the eight inner faces of the octagon above these arches is decorated with an oculus; the band of ornament which decorates the arris of these arches forms a small loop below the oculus and then a larger one which embraces it. The eight windows of the drum are similar, both in form and decoration, to the upper windows of the side walls. The octagon is adjusted to the circle of the dome by wooden stalactites, and although the present dome is of concrete, constructed by the Comité on the model of that which covers the Mausoleum of Qalawun's son Khalil, I cannot help thinking, on the strength of these wooden stalactites, that the original dome must have been of wood likewise. The mihrab, which is 7 m high and 4.5 m wide, is remarkable both for its size and elaboration. It is flanked by three pairs of columns, and the recess, which is very slightly horseshoed in plan, like the arch of the semi-dome, is decorated with four tiers of dwarf arcades, each little arch having a conch shell hood, cut out of a block of marble. The background between the columns, the great semi-dome above, and its spandrels are decorated with a geometrical mosaic of marble and mother-of-pearl, the latter being extensively employed. Above the two outer flanking columns on each side are three more tiers of dwarf arcades."[550]

The mihrab of the mausoleum of Qalawun is located directly in front of the main entrance on the same axis. It is not only beautifully adorned with rich materials but it is also carved out of the interior wall elevation. It has a horseshoe arch with joggled marble voussoirs. It steps back in a staggered arrangement and it steps up to the Qalawun-set above. This is the most intriguing mihrab in all of Cairo as it was designed as an integrated unit. It blends all the elements of the interior with its own structure including the two moldings and the inscription band in between that runs along the perimeter of the walls. It is amazingly eclectic in its ornamentation and its design is testimonial to the cooperation of craftsmen from several regions under the supervision of an architect. It has bands of carved blind arcades alternating with marble mosaics inlayed with mother-of-pearl and topped with a half-dome inlayed with the same. These arcades of small columns have carved conches that are connected by a band of richly carved white marble. The three lower arcades are filled with intricate geometric marble and mother-of-pearl inlays while the top arcade has larger color marble pieces. This type of intricate

[550] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 194.

geometric designs is new in Cairo and must have been introduced by European craftsmen.

The following was said by Abouseif about the marble mosaics of the interior of the mausoleum: “The style of the marble mosaics of the Qalawun mausoleum belongs to the cosmatesque tradition of decoration, which goes back to Roman times and was cultivated by papal patronage in eleventh century Italy. Interestingly, however, the southern Italian and Sicilian cosmatesque work often appears in association with geometric patterns of Islamic influence. Early medieval Alexandria and Constantinople seem to have been centers of this craftsmanship. We do not know what happened to this tradition in Egypt prior to Qalawun’s reign, and whether it was revived or continued in Qalawun’s complex.”[551]

By comparing the marble mosaics from the mausoleum with those of twelfth century Italy they were found to be very similar. This is, however, regarding floor tiles similar to those with geometric designs from San Benedetto in Piscinula, Rome. The Cosmatesco as it is called in Italy is based on accurately cut marble but without the mother-of-pearl used at the Qalawun mihrabs of the mausoleum and the madrasa. Cosmati is defined as follows: “Decorative work in marble with inlays of colored stones, mosaic, glass, gilding, etc., much employed in Italian Romanesque architecture, especially in and around Rome and Naples, twelfth-thirteenth centuries. Roman marble workers of this period were known collectively as the Cosmati from the name Cosma, which recurs in several families of marble workers.”[552] It would be difficult for me to generalize and say that all the marble work at the mausoleum and the madrasa are based on the Cosmatesco. Close examination of all the panels in both buildings revealed many variations. The work in both mihrabs is so meticulous with very small pieces of mother-of-pearl that makes it more of a new invention rather than a copy of twelfth century Italian craftsmanship. The Italians, alongside the Catalans, were major trade partners with the Mamluks and their influence is undoubted in the development of the aesthetics of the time.

In conclusion, the analysis of the interior of the Mausoleum by Creswell was summed by saying: “The general effect of the interior, with its soaring dome, the subdued light filtering through its stained-glass windows, the marble paneling and mosaic, the great gilt frieze, and the splendid stucco ornament of the arches and upper windows, is satisfying to the last degree. Notwithstanding one or two defects, e.g. the clumsy appearance of the piers and the scale of the stucco ornament, which is almost too fine for the distance

[551] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 139.
[552] Pevsner, *Dictionary of Architecture*, op cit., 82.

from which it must be observed, it still remains one of the finest domed interiors in Egypt, and there is a devotional feeling about it which enhances the effect."[553] What is said about the scale of the stuccowork is debatable. Since the designs were not intended to be fully seen from such a great distance, the intent must have been to add texture to the arches and windows. This is the same case with the mosaics of the dome above the mihrab at the Great Mosque of Córdoba and a number of other buildings.

Entrance Analysis

Another important part of the complex is the entrance which was described by Creswell as follows: "The entrance bay, which is slightly set forward, is 5.70 m wide. Its sill is now on a level with the street, but it was once 1.40 m above it, and the flight of five steps which gave access to it has been partly laid bare by excavation. It is flanked by two pilasters, supported, like those of the façade, on engaged columns, and covered above by an unmolded semicircular horseshoe arch, the first of this type in Egypt. Set back a little over a meter and a half within these pilasters is a second arch, pointed and almost imperceptibly horseshoed. It has joggled voussoirs, alternately black and buff (*ablaq*), and its spandrels are decorated with the curious motif of interlacing strap work that we have already studied in the last chapter. It frames the doorway proper and a window of two lights, resting on three columns and surmounted by an oculus. All this part is composed of alternate courses of bluish-grey and white marble. The window is specially deserving of notice as it is filled by an iron grille, clearly of French twelfth century workmanship, as may be realized by comparing it with the examples published by Viollet-le-Duc. It consists of upright and horizontal bars, to which little scrolls of hammered iron are fixed by collars. It is identical in type to the beautiful hammered iron screen which surrounds the Rock in the Qubbat al-Sakhra at Jerusalem, which screen must have been put there by the Crusaders in the twelfth century, when the Qubbat al-Sakhra was the chapel of the Knights Templar, as also the fragment of similar work in the Aqsa Mosque, now to be seen to the right of the *minbar*. The fragment used by Qalawun must have been loot, brought back from the wars of the Crusades which were then drawing to an end. Many fragments of Gothic workmanship, chiefly columns, are to be found in the monuments of Cairo during the next seventy years, but this grille is especially interesting as the earliest example. I must here remark that the two arches of this window, as well as the arches of double lights of the façade, are all round with a very slight return. This entrance, which is 2.39 m wide and 4.38 m high, is spanned by a lintel with a molded frame; it bears the inscription referred to above, and there is a huge

[553] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 194.

granite sill 80 cm wide. The splendid bronze-plated door is still in position, although a good many of the bronze plaques, especially the lower ones, are due to a restoration of the Comité. At the summit of the entrance bay are three narrow rectangular windows, the center one being surmounted by an oculus and those at the sides by a cross inscribed in a circle. This part is not faced with marble. The ogee at the summit of the façade continues across the entrance bay and round its pilasters, and above are two courses of masonry surmounted by ragged brickwork. The crenellations are lacking and it is not possible to say whether they were carried across at a higher level or not. The three narrow windows at the summit of the entrance bay do not conceal an upper storey. The space behind is roofed for 5 or 6 m only, after which it is open to the sky. It forms a long passage, immediately over the roof of the Great Corridor, flanked on the northern side by the upper windows of the mausoleum, and on the opposite side by the doors of the upper tier of students' cells which line the north side of the *sahn* of the madrasa."[554]

The splendid bronze-plated door mentioned above was in great condition when it was studied after the restoration of 2010. The door was polished and golden colors were shimmering in many spots. It has a border of six-pointed stars running on the sides, the top, and the bottom of the door leafs. Within it is a geometric pattern of large geometric-rosettes emanating from an eight-pointed star. This pattern is amazing in the way the lines are interlaced and the large rosettes are overlapped. This makes the eight-pointed stars appears at a fixed distance equal to the radius of the rosette. The spaces inside the lines of this geometry are filled with floral designs. There are two clear geometric shapes: the eight-pointed star and a six-pointed polygon. The latter is of unequal sides and is the created by the intersection of the lines creating the large geometric-rosettes. I have clearly identified Type-B fleur-de-lis motifs inside the polygons. They were only placed right-side-up inside the polygons as to emphasize their form. The Type-B fleur-de-lis appears in a fixed polygon location. Basically the upper polygon at the intersection of the lines extended from the eight-pointed star. There are also four fleur-de-lis motifs inside the eight-pointed star that are connected by scrolls. This motif from this point forward will be called: Qalawun-I fleur-de-lis. As explained earlier, it is characterized by a fleur-de-lis that is wider and shorter with the frond hollowed-out, and wider more solid volutes. This type will later appear in many Mamluk buildings in Cairo starting with the adjacent Complex of al-Nasir Mohamed. It is also very similar to the stucco fleur-de-lis motifs on the walls of the palaces of the Alhambra discussed earlier. Their visual impact is very strong as they symbolize the

[554] Ibid., V-II, 192.

Christian trinity and the cross. It is almost a hidden message on the door representing the identity of the makers of these designs.

The Mausoleum and the Madrasa are entered from al-Muizz Street through a great long corridor almost 4 m wide, 35 m long, and 10 m high according to the measurements by Creswell.[555] This corridor provides an entry to the complex as necessitated by the qibla orientation. Actually the qibla is facing the street so it would have been awkward to have an entrance on its side. This solution also provided for interior courtyards in front of both the Mausoleum and the Madrasa.

Minaret Analysis

The minaret of the complex has three levels; the lower two are square in plan and made of fine masonry. The top level was added by Qalawun's son al-Nasir Mohamed after the earthquake of 1303, it is round and made of brick.[556] Several elements of Andalusian origin appear in the minaret. There is a horseshoe arch niche with colonnettes supported by stalactites on the first level appearing for the first time in Egypt. The second level has a horseshoe arch niche with double windows inside; above it is an arcade of small tri-lobed blind arches similar to the ones above the mihrab at the Great Mosque of Córdoba. The top level added by al-Nasir Mohamed has lacy stucco carving similar to the ones on his minaret next door and of Andalusian origin.

The minaret was described in detail by Creswell by saying: "The minaret proper, which only commences at the roof level, rests on a solid mass of masonry at the north corner of the building, as shown in the plan. There are three storeys, the first being 8.47 m square, the last circular. Three inscriptions refer to this minaret: (a) on a slab embedded in the north-eastern face of the substructure, just below the parapet; (b) on a small marble slab embedded in the south-western face of the minaret, just above the entrance to the staircase; and (c) at the summit of the lowest storey on all four faces, just below the stalactite cornice. These inscriptions state that in 1303/4 Sultan al-Nasir Mohamed, the son of Qalawun, restored the upper part which had fallen as a result of the great earthquake of 17 July 1303. The word used (*'amara*) may mean restored or rebuilt, as van Berchem has pointed-out. Herz considers that only the crowning of the top storey is referred to, and that the three storeys are all part of Qalawun's work. Let us see if an examination of the structure will reveal to us the clear junction of two periods. The first storey is 13.90 m in height, the second 9.25 m, the top (by calculation from a photograph) about 14.50 m to the top of the finial; the roof level is 18.55 m

[555] Ibid., V-II, 192.
[556] Blair and Bloom, Art and *Architecture of Islam*, op. cit., 72.

above the original ground level; the total height, therefore, is about 56.20 m. The outer faces of the first two storeys are decorated with horse-shoe arched panels. Those of the lower storey frame a bull's-eye window and rest on columns with clock-form capitals and bases. Each has a slightly projecting sill resting on two rows of niches surmounted by an ogee molding. The arches of the second storey have cushion voussoirs, and high up in each panel is a narrow, double-arched window with a central column. This storey is crowned by a little blind arcade of scalloped arches. We reach the spiral staircase by a pointed-arched doorway on the south-west side and mount fifty-five steps in the first storey and forty-three in the second. The underside of the outer edge of the staircase is decorated with a fine molding. The first two storeys are of good masonry, similar to that of the main façade; this, however, stops at the exact level of the wooden gallery at the summit of the second storey and gives place to brick. The spiral staircase, which is 1.22 m wide with a newel 35 cm in diameter, continues two steps higher, and the fine molding under the outer edge continues throughout until it stops dead against the underside of the top step. Level with the top step but one are two stone blocks forming the beginning of another course of the outer cage, but the rest of the course and everything above it are of brick. The whole of the top storey is built of brick with timber let in to strengthen it, and its interior, instead of being occupied by a spiral staircase, is divided by three half floors of wood, reached by short ladders. It is obvious that the level of the wooden gallery marks the point where the work of Qalawun ends and that of al-Nasir Mohamed commences. The exterior of the top story is decorated with interlacing arcades which form a sort of network all around, in a fashion which, although much less elaborate, recalls the treatment of the Giralda at Seville, the minaret of the Mosque of Hassan at Rabat, the Kutubiya at Marrakesh, &c. The whole is terminated by an Egyptian reed cornice."[557]

By comparing the minaret of Qalawun with the minaret of the Great Mosque of Sevilla it was clear that what Creswell said about the interlacing arcades to be true. Of course the technique is very different at Qalawun and much less sophisticated. The interlacing at Sevilla is made of brick while at Cairo it is made of stucco and is more rounded. The idea of creating a lozenge shape between the arches is the same except that it is done using two rows instead of one as at Sevilla.

Madrasa Analysis

The side façade was described by Creswell by saying: "The flank, which forms a salient of 10 m on the façade of the mausoleum, is divided into

[557] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 195.

two panels treated in similar fashion to the latter, but the main façade of 23 m presents several variations. The two lower tiers of windows are grouped in five panels, the central one being blank on account of the mihrab; there is the rest of the splendid band of inscription and the same ogee molding, but there are no engaged columns. Another variation is also noticeable – only the two outer pointed-arched panels run the whole height of the façade, the central three enclose two tiers of windows only, and above this part the central one over the mihrab is larger than those which flank it. At the extreme left of the façade is a buttress with a beveled top, singularly Gothic in appearance."[558]

The interior of the Madrasa was described by Creswell as follows: "To enter the *madrasa* we must walk down the Great Corridor, and pass through the entrance, in the third to the left. This opens into a recess, with frontal arch and wooden ceiling, on the north-eastern side of the *sahn*, which measures roughly 20.50 m in length by 17 m in width. On either side of the entrance bay are three tunnel-vaulted cells for students, and there are two more tiers above, the lower being interrupted by the upper part of the entrance bay whereas the upper continues across above it. The whole of this façade above the first row of cells has been re-made in crude rubble with a small rectangular window to each cell. These two upper tiers are reached by a staircase in the north corner of the *sahn*, now filled with debris. The lower is served by a corridor which runs behind them and behind the upper part of the entrance bay just mentioned, and receives a very limited amount of light from windows which open into the upper part of the recesses on the left side of the Great Corridor. It also receives light from the window to the left of the main entrance bay. The cells of the upper tier are deeper, and are served by the open gangway which runs above the ceiling of the Great Corridor. The opposite side of the *sahn* was evidently occupied by students' cells also, but structural changes have taken place. Two cells still remain, and the windows of the second pair can be seen above, but the rest have clearly been cut away to make room for a triple-arched portico, probably due to Abd al-Rahman Katkhuda. On the north-west side of the *sahn* opens the great iwan, 8.22 m wide and 12.40 m deep, which has lost its frontal arch and original ceiling. To the right of it is a doorway which leads into a room of irregular shape open to the sky; this room may also be entered from the Great Corridor by a door in the sixth bay. To our right as we enter is the ruined staircase which served the students' cells already mentioned. On the other side of the iwan an entirely modern court of ablution has replaced a larger court which existed down in 1912. This court was of no great age, and it is probable that the great iwan was originally flanked on this side by a staircase to the students' cells and a room of irregular shape, just as it still is on the other side."[559]

[558] Ibid., V-II, 196.
[559] Ibid., V-II, 196.

The sanctuary of the madrasa was described by Creswell as follows: “On the south-east side of the *sahn* opens the extraordinary sanctuary. Instead of a great iwan with tunnel-vault, or a frontal arch with wooden ceiling behind, there is a triple-arched façade in two tiers, which opens into what resembles the nave of a basilica, for the interior, which is 17.5 m wide and 15.5 m deep, is divided like a basilica into three aisles by two arcades of four arches. The central aisle is about 9 m wide and the side aisles about 3.5 m. The arcades rest on columns of rose granite with Corinthian capitals, above which are plain impost blocks surmounted by a block with elaborate moldings. On this rests a rectangular pier about 4 m high with a splay-face cornice. The pointed-arches spring from this level, which is nearly double the height of the columns with their capitals (about 9.45 m against 5.15 m). These arches are braced with tie beams, and similar beams, set in much lower, immediately above the impost blocks, brace one arcade to the other. Above each arch is an oculus filled with a geometrical grille of stucco, arch and oculus being set in a shallow pointed-arched panel. A pilaster runs up between these panels, and attached to each is a slender octagonal shaft supporting a substantial corbel. A meter or so above this point the wall, until the Comité carried out work here, suddenly stopped at a roof dating from the worst Turkish period, say the first half of the nineteenth century. On the side next to the side aisles there are no engaged shafts, but there are nevertheless corbels at the same level. The side and back walls are pierced with three tiers of windows, of which the first two, one rectangular, the other pointed-arched as in the mausoleum, are placed in tall pointed-arched recesses. Those of the top tier are triple windows, in form and decoration like those of the mausoleum. The mihrab is smaller than that of the mausoleum and very narrow, and is flanked by a pair of columns only. The curved recess is similar and, although there are now only two tiers of blind arcades, there would appear to have been three; panels of marble take the place of mosaic between the tiers of arches. The arch and its rectangular frame are almost identical in treatment in the two mihrabs, but this one surpasses its fellow in interest, as both semi-dome and spandrels are decorated with gold mosaic – the third example in Egypt. The design consists of vine-scrolls laden with fruit, the grapes being executed in mother-of-pearl. Above is a slab with an Arabic inscription of four lines.”[560]

The mihrab of the madrasa differs greatly from that of the mausoleum in its design. For one its half-dome has colorful glass mosaics, glided mosaics, and mother-of-pearl of a flowering tree. This is a rare example of mosaic design and must have also come from Damascus. It has a horseshoe arch with joggled marble voussoirs like that of the mausoleum. The most

[560] Ibid., V-II, 197.

interesting part of the mihrab is the narrow band of carved marble at the base of the half-dome which has a row of trefoil in a similar arrangement to that of the fleur-de-lis motifs on the stucco façade of the mausoleum courtyard. The wall above the mihrab is completely different as it has carved stucco similar to that of the mausoleum. Unlike the mihrab of the mausoleum this one appears to be completely foreign to its surroundings. This is another proof that the workers of the complex were organized in independent teams under the supervision of an architect who coordinated the different phases of the project according to pre-drawn construction documents.

The interior walls have less ornamentation compared to the mausoleum but what is different here is the immensely detailed qibla wall. Creswell described the walls as follows: “There is no marble paneling, nor are there any engaged columns. The wooden band of inscription (*tiraz*) has entirely gone, except a much decayed strip in the window recess to the right of the mihrab. Elsewhere it has been replaced by an abominable and crudely painted band of woodwork, evidently of the first half of the nineteenth century. The intrados of the arches still retain fine stucco ornament similar to that employed for the arches of the mausoleum, and some strips run up the pilasters alongside the engaged shafts. But the finest piece of decoration is to be found on the end wall above the mihrab. There are three windows, the central one being of three lights; above the latter are the remains of an oculus, and the wall surface between these openings is splendidly decorated, as shown.”[561]

It is important to note that what Creswell described above was during his survey in the 1950’s. There were several restorations of the whole complex the last of which was completed in 2010 as mentioned earlier. The elaborate stuccowork starts on the second level above the mihrab niche. The mihrab level itself, which is the ground level, is devoid of any work and its wall surfaces are left plane. There are two windows on either side of the mihrab placed in a wall that was plastered over. This is above the wooden band, but below it, the stone courses were left exposed, and it is hard to tell if this was how it was originally.

The stuccowork above the mihrab, on the second level, has the same design logic of the mausoleum but using different motifs and a somewhat different carving technique. Many elements also came from Spain which were pointed-out in the analysis of the walls at the Alhambra like the Lizard-Tail motif. The focal point of the second level is the large horseshoe arch in the center with the Qalawun-set windows. It is unusual that the larger horseshoe

[561] Ibid., V-II, 197.

arch steps-in with a stucco band to a pointed-arch that wraps around the Qalawun-set. Two more pointed-arched windows are on both sides for visual balance and continuity with the lower level. The grilles on all the five windows, the two pointed-arches, the two horseshoe arches, and the oculus are of contemporary design. They have geometric designs and color glass that were based on the imagination of their creators. In addition, they were sloppily installed to the point that the new plaster used completely covered the edges of the carved stucco around them. The stuccowork itself, despite being restored, is in much worse condition compared to the mausoleum. The carving technique itself is deeper and more rounded with more interlaced and organic motifs. The two horseshoe arches have the equilateral triangles border which in my opinion is a stylization of the word Allah similar to the one on the façade of the mausoleum entrance discussed above. It is placed under the soffit of the arches and is carved in two parallel rows. On the face of the horseshoe arches another narrow border of Y-shaped motifs wraps the arches to the engaged columns. Above is the oculus with the same borders except that equilateral triangles border is wider and is in a single row. The area of the spandrel is filled with scrolling floral designs. This Qalawun-set window is surrounded by a wide border of floral designs, placed in between two narrow borders of the Y-shaped motifs, which creates the center pointed-arch. There are vine scrolls that wrap spades filled with stylized Type-A fleur-de-lis motifs. The next border out is the one creating the large horseshoe arch above the pointed-arch. It is the most intriguing of this façade because of its variety of motifs. Its center motif is two Lizard-Tails connected to create an ogee arch terminating in a Type-A fleur-de-lis. This in turns frames yet another Type-A fleur-de-lis that sits on vines following the contours of yet more smaller fleur-de-lis motifs. This is followed by a narrow border of Y-shaped motifs and another wider border of palmettes. The spandrels of this arch have deeply carved vine scrolls and anther narrow border that is disrupted because of sloppy restoration work. The rest was badly worn and the restoration did not bring out the edges of the carving which as a consequence made it impossible to analyze.

The windows on both sides of the Qalawun-set have pointed-arches that are set inside pointed-arched recesses. This is an unusual treatment as the recesses are much higher than the windows leaving a blind pointed-arch space which is filled with more ornamentation. This was done to align the arch of the center Qalawun-set with the other two since they are lacking the oculus. In addition, the same windows had to be aligned with the recesses on the street façade behind. The carved stucco inside the blind pointed-arch has interlaced geometric designs surrounding stylized fleur-de-lis motifs based around a hexagon with yet another stylized fleur-de-lis inside a six-pointed star. This is repeated on both sides to create symmetrical arrangement. The

border of the blind pointed-arch has the equilateral triangle representing the word Allah. The face of this blind pointed-arch has the Y-shaped narrow and the palmette wider borders. The window below has a wide border of triangles and stylized fleur-de-lis motifs. The face of its pointed-arch has small fleur-de-lis-motif outline that surrounds the whole window. The carved stucco treatment of the window on the other side is exactly the same.

The nave of the madrasa has pointed-arches that are decorated with carved stucco. Above each arch is another pointed-arched niche that has an oculus filled with a stucco grille of geometric designs based on a hexagon and a six-pointed star. Under the arches and in the spandrels, the same design repertoire discussed above is used. The same motifs identified in the façade of the mihrab are duplicated also as borders on the face, and under the arches. The borders includes the equilateral triangle, the palmette, and the stylized fleur-de-lis borders, however, their location on the arches alternates to create visual rhythm.

The general effect of the interior of the madrasa is very different from that of the mausoleum. Given the difference in building type, the madrasa is flooded in natural light by comparison. The madrasa, despite having four iwans, has the much larger qibla iwan which is shaped as a basilica plan. It has four levels of windows on three sides and is fully open on the side of the *sahn* with double-tiered tripe arches that are inspired by Gothic architecture. This monumental, yet light, entrance to the qibla iwan was never seen before or after in Cairo. Every area analyzed so far has its own unique design logic that serves its function accordingly. This adds to the eclecticism of the whole complex with elements and design ideas coming from East and West.

Architectural Origin

Concluding his survey of the complex Creswell discussed the architectural origin of the complex and said the following: “The façade of this building appears to have given previous writers who have discussed it an impression of Gothic or Crusader influence. To me the impression is of sturdy Romanesque rather than of Gothic. It is usually concluded that the alleged Gothic influence is due to the Crusaders, another hasty conclusion, as the architecture of the churches of the Crusaders in Syria, of which about two dozen still exist, presents many important departures from what we understand by Gothic in Europe. For instance they lack flying buttresses, plate tracery, triforiums and, with one solitary exception, windows of three lights; moreover the vaults, instead of being protected by a steep timber roof, are covered by stone slabs which rest directly on their haunches. In studying the façade of Sultan Qalawun there are two distinctive features to be examined in

this connection: (1) the buttress with a beveled top at the extreme left; (2) the windows of three lights and the recessed arches which frame them.

> 1- Buttresses with sloping tops are frequently met with in the churches of the Crusaders. They first appear in the Mosque at Ramla, built by Sultan Baybars I in 1267/8 after the taking of Jaffa, and also, as we have seen, in the mosque which he built at Cairo about the same time. That Qalawun's façade should also have a buttress is not surprising.
>
> 2- The windows themselves provide a difficult problem. Where can we match coupled round-headed windows, grouped within a pointed-arched frame composed of recessed arches without Gothic moldings, the tympanum being pierced with a bull's-eye?

Coupled round-headed windows are found as early as the ninth century at Ravenna, in the campaniles of Sant Apollinare in Classe, Sant Apollinare Nuevo (850-78), and San Pierre Maggiore (ninth-tenth century); at Milan, in the campanile of San Satiro (876), and at Ivrea, in the campanile of Santo Stefano (1029-42), but they are not grouped under a frame."[562]

Creswell continued looking at several buildings in Europe and in Syria and finally came to this conclusion: "In the Cathedral of Cefalù, built in the first half of the twelfth century, the western flanking towers have coupled windows with round-arched heads, set within a single pointed-arched frame without a bull's eye. This is very nearly what we want. In Santa Maria la Nuova at Palermo, built in the second half of the same century, we at last find what we are seeking. The tower to the right of the western porch has windows composed of two round-headed openings, divided by a column and set within two pointed-arched frames, one slightly recessed within the other, and with a bull's eye in the tympanum!!"[563] This is true but the two openings do not have horseshoe arches! This is a close match but how could the window set from Palermo be described as the being the same? It is imperative to find an exact match to assume that what he said is true. On the other hand horseshoe arches were abundant in Spain as well as the pointed arches. It is interesting to realize that for many historians the designer is always copying. There is no allowance for creativity and of mixing elements together. It is clear on the other hand that this Qalawun-set was inspired by windows from Spain. Why would a designer take a model from Palermo, add arches from Córdoba, and place them inside a Gothic pointed-arch to create a Romanesque design?!

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[562] Ibid., V-II, 199.
[563] Ibid., V-II, 201.

He concluded from the preceding analysis that it was because of the strong contact with the Christians that the complex of Qalawun had such strong resemblance to Christian churches especially in Sicily. He specifically said the following: “This interesting fact need not surprise us, for Sicily, of all the lands of Christendom, had the closest architectural relations with Islam. As Sicily was in the hands of the Fatimids of North Africa until it was conquered by the Normans in 1061, it has been the fashion to attribute those features of its twelfth-century architecture which are obviously oriented to the influence of the preceding dynasty. Nevertheless, a number of features may be enumerated which point to direct influence from Syria also, during the twelfth century. Take, for example, the cushion voussoirs of St. Maria dell Amiraglio, of the Cubiola, &c. The former building provides the earliest example in Europe of a feature which we have seen must be of North Syrian origin. The domes too, instead of being slightly pointed like all the Fatimid domes in Cairo, are hemispherical, which is a characteristic of many stone domes in Syria. Another really unmistakable example of Syrian influence may be cited: the continuous moldings of the Church of the Trinity at Castelvetranto.” He finished by saying: “The result of our investigation, therefore, is that the use of the sloping-topped buttress was a borrowing from Crusading architecture, first adopted by Sultan Baybars I and afterwards by Qalawun, and that the windows of three lights were due to a special kind of Romanesque influence, probably direct from Sicily.”[564] This analysis cannot be disputed as it is very plausible and convincing. It is important to establish where the influence came from as this Qalawun-set will become a common feature in Mamluk architecture from this point on. For the purpose of this work it is satisfying to conclude with Creswell establishing a strong Christian influence in the design of the complex.

The final investigation done by Creswell of the Qalawun Complex was that of the horseshoe arch. He said the following: “As a round horseshoe arch frames the entrance bay of the Qalawun Complex and both the mihrabs, and is also used for the panels which decorate the faces of the minaret, we must now discuss this feature, which here makes its first appearance in Egypt. We have already discussed its origin *à propos* of the Great Mosque of Damascus, the earliest Muslim building in which it appears. After this it is not found again in Syria, as far as my knowledge goes. Its true home in Muslim times is Spain and North Africa. It would appear doubtful if any alleged Visigothic examples can make good their claim to be such, but in any case it is used in the lower tier of arches in the oldest part of the Great Mosque of Cordóba. This part was commenced by Abd al-Rahman I in 786/7 and completed by Hisham I in 788. Gómez Moreno says that the level of the springing is a third of the radius

[564] Ibid., V-II, 201.

below the center, which gives a radial angle of just over 218.5 degrees. However, my measurements, made from a photograph, gives 215 degrees only, which is exactly that of the apse arch at Northern Dana. The horseshoe form soon became more pronounced; under al-Mansur, for example (977-1002), the arches over the doorways on the eastern side of the mosque are carried through 247 degrees. The horseshoe arch is ubiquitous in North Africa; it is in fact the most distinctive feature of the Muslim architecture of Tunis, Algeria, and Morocco, and its presence in the Qalawun complex must be regarded as a sign of West Islamic influence."[565]

The horseshoe arch was not used in Egypt during the Fatimid period at all in-spite of the strong contact with al-Maghreb. Not even during the Ayyubid period despite the heavy contact with the Crusaders. To suddenly appear in Cairo and continue to be used during the Mamluk period can only be due to another influence. Trade with the Catalans was flourishing during this period and it must have contributed to the large flow of Christian and Muslim Andalusians.

The last element, of importance for this work is the horseshoe mihrab plan. Creswell said the following: "A sporadic instance of a small recess, like a horseshoe in plan, has been found at Rome in the substructure of a villa known as the 'Sette Bassi'. The brick stamps show that it was built between A.D. 100 and 155. Apses, horseshoe in plan, are very prevalent in Asia Minor. It appears in Spain as early as the tenth century in the Church of St. Miguel at Escalada, which has three apses of horseshoe plan, taken out of the end wall. In the Great Mosque of Córdoba the mihrab, which is due to al-Hakam II (961-76), has this plan, as also has the mihrab of the Great Mosque of Qairawan. Hence it would appear that the horseshoe plan of Qalawun's mihrabs is another feature due to West Islamic influence."[566]

The horseshoe mihrab plan must have come from Córdoba but not Qairawan. If it has been established that most of the travelers during this period came by sea and not overland it should follow that the influence must have come directly from Spain. Again, travel between Egypt and al-Maghreb never stopped and it would be unusual for an influence to all of sudden appear without precedent during the reign of Qalawun.

It is clear from the preceding discussion that the Complex of Qalawun has strong Christian influence. It cannot be classified as coming from the Gothic or the Romanesque rather a unique new style of the Mamluks. Creswell did not analyze the floral designs of the interior walls, so he did not

[565] Ibid., V-II, 202.
[566] Ibid., V-II, 202.

come to any conclusions regarding their origin. It is clear from the previous analysis that the design motifs of the Type-A and Type-B fleur-de-lis came from Córdoba and Granada respectively. How is it possible that certain motifs from the eighth century suddenly reappear in the thirteenth? Yes it has been proven by many scholars that the Mamluk period had a strong Western influence, but why was it so selective?

Construction Analysis

The construction of the complex was described by Abouseif saying the following: “According to all accounts and also to the epigraphic evidence. Qalawun’s complex was erected within only thirteen months, which even by Mamluk standards is an astonishing speed for a monument of such dimensions. The inscription at the entrance dates the whole complex between June-July 1284 and July-August 1285. The hospital was the first part to be built, between June-July 1284 and November-December 1284. It took less than six months to complete. The mausoleum was erected between December-January 1284-1285 and April-May 1285, taking only four months to complete. The madrasa was built between April-May 1285 and July-August 1285, also in four months. These dates also give the sequence of the construction.”[567] By all accounts how was that possible? It cannot be imagined how such elaborate, detailed, and sophisticated complex could have been completed in thirteen months. The mausoleum with all its glorious stuccowork and marble mosaics was completed in only four month?!

Such speed in construction was explained by Abouseif as being possible by saying: “Qalawun’s dismantling of the citadel of al-Saleh to use it as a quarry for his own monument must have saved him considerable time and expense. Moreover, the emir Sanjar al-Shuja’i, who supervised the project, used hundreds of Mongol prisoners of war, and forced all builders in Fustat and Cairo to work exclusively on the project, using brutal means to extract maximum labor from the men. He even forced passerby to participate in the work, and as a consequence people avoided using the street.”[568]

In addition to the work completed under Qalawun his son al-Nasir Mohamed did substantial restoration of the complex which took five months and was completed in December 1325.[569] The total amount of time spent in construction including the restoration was 13+5=18 months. How was this possible given the level of sophistication seen at the complex? Abouseif said that Mongol prisoners of war were used along with local builders and even

[567] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 134.
[568] Ibid., 134.
[569] Ibid., 134.

passersby. For a licensed and widely experienced architect, this cannot be accepted as a fact even if it were reported in primary sources. It is obligatory at this point to do an analysis of construction techniques at the mausoleum and the madrasa as a whole.

The idea suggested earlier that Mongol or other prisoners of war, not to mention people off the street, were used for the construction of the complex must be ruled out completely. On the contrary and without a doubt, the work was carried out by very experienced and highly skilled labor. There is also a definite variance of techniques and aesthetics, which points to the presence of either several teams working simultaneously, or several phases of construction. In addition, a master architect, a *mi'mar*, was overseeing all phases of construction. With the help of scaled drawings, he must have had several assistant foremen and construction supervisors or *muhandis al-'ama'ir*. The existence of construction documents was discussed earlier and was corroborated by many scholars. It would have been impossible to create a detailed structure of such magnitude without them.

The material used for construction at the complex can be summarized as follows:

1- Rough stone.
2- Polished cut stone.
3- Rubble.
4- Heavy timber.
5- Wood.
6- Molded stucco.
7- Cut marble.
8- Carved marble.
9- Granite.
10- Color glass.
11- Tile and glass mosaics and mother-of-pearl.
12- Wrought iron.
13- Bronze and copper.

It is important to note that stone cutting, carving, and polishing takes a long time even using today's power tools. It cannot be imagined how long it took the workers to cut and fit all the pieces needed for the complex using hand tools. Even what Abouseif said about the use of pre-cut stone pieces from previous buildings cannot justify such speed. The stone blocks on the street façade were carefully and accurately cut to fit around the windows, recesses, and corners. Today, with the availability of pneumatic chisels it still takes a long time to carve a piece of marble or granite. The mihrab of the

Mausoleum of Qalawun, for example, has several rows of carved marble conches on colonnettes. In addition, several marble bands of carved fleur-de-lis motifs adorn the mihrab.

The construction techniques of the complex were discussed with Dr. Saleh Ibrahim, a civil engineer and professor at RWTH Aachen, Germany and Ain-Shams University, Cairo. He was asked, based on his knowledge of construction materials and techniques if it was possible to construct the Mausoleum of Qalawun in only four months as referred to in the sources. His answer was simple: “That would not have been possible using the technology available on this planet.” He continued by ruling out any alien involvement theory since no UFOs were found in Egypt! He explained that some ancient Egyptian stone cutting techniques were still being used today. For example, drilling holes to drive wooden wedges that are later filled with water, to allow the wood to expand and fracture the stone along score lines. He agreed that it was possible to build the skeleton of the complex in thirteen months but that would not have included the ornamentation and the finish work. He also insisted that it would have been impossible, to pull people off the street and train them to do such detailed and highly accurate work. Of course that was the premise from the beginning, that only highly skilled workers were capable of creating such a complex.

It is now due to briefly discuss the different technical processes required by the materials listed above. Rough stone was used at the complex based on inspections done at the site. It was used as the main building material in bearing walls, vaults, and shallow domes. It was covered on exterior walls by finished stone veneers and on interior walls by either stucco or marble. Consulting architectural engineer Mohamed Sherif, who specializes in the planning and construction of large scale projects, explained that for such a large complex to be completed in a short time, pre-fabricated elements should have been used. Elements satisfying this criterion are the columns and the stone blocks reused from other buildings. Still the stone had to be cut and fitted to particular locations, and the columns grouped based on their sizes. The columns were first erected on their foundations with heavy timber tie-beams supports. The formwork was then set-up in place to make the arches and vaults. This must be done simultaneously for each bay of columns to be tied together to create the structural frame of the interior. Once the mortar was cured the formwork was removed to allow for the spandrels and the remaining walls above to be constructed. The exterior bearing walls and the columns of the interior with their arches were all tied together using the tie-beams to create a rigid structural frame. Once this phase of construction was completed other infill elements followed, like the window openings with their frames and walls supporting the roof beams and the dome. This must all be accurately

done for the building to stand up and cannot be executed without a chief architect, supervisors and highly skilled workers.

Once the main frame was up, exterior and interior wall finishes could then be applied including stone veneers, marble, and stucco. This is a different process as in involves the creation of parts that were mass-produced, like the stucco pieces and the marble tiles. Elements like marble and mosaics had to be cut to exact sizes following pre-drawn patterns. Several motifs were identified earlier that were repeated around the complex. This standardization of sizes and shapes, which was the forte of Islamic architecture, contributed to the speed of construction. Other elements like doors and windows were the last to be placed on the structure, as they included more delicate materials like glass and finished woodwork. Wrought iron grilles were also installed last, as with the ones in the Qalawun-set above the main entrance, which Creswell described as being of French craftsmanship.

In conclusion, the scholarly assessment that the mausoleum and the madrasa were built in four months cannot be accepted as this is only possible for the skeleton without any of the exterior or interior finishes. It is mentioned that al-Nasir Mohamed did extensive restoration work at the complex that took five more months to complete. Comparing the stuccowork on the three buildings of the Mausoleum and the Madrasa of Qalawun, with that of the Madrasa of al-Nasir Mohamed they were found to be very much the same. The cutting and forming techniques were identical but the motifs were somewhat different following the same design logic. In addition, epigraphical evidence only points to a completion date without a mention of certain parts being kept free of any ornamentation. It only makes sense that the Complex of Qalawun was completed in phases to justify the birth of a new aesthetic, and such magnificent architecture.

Design Aesthetics

The Qalawun Complex set the aesthetic standards to follow during the Bahri Mamluk period and beyond. It was the first major project to be built inside the city walls on a main street. It adhered to the aesthetic rules of harmony set by Ibn al-Haytham and even invented new ones. First the street façade of the mausoleum is beautifully articulated with the recessed pointed arches wrapping the Qalawun-set windows. A rhythm is created with two large and six small niches supported on a pair of columns, it goes like this: 2-1-2-1-2. The small niches are not all exactly the same but each pair is of equal size. Within each niche there is more visual movement with the windows and their grilles. There is repetition of circles and half-circles and a nice contrast

between solid and void. There is also enough variety or *tanawu'* of surfaces with the flat and the curved and moulded stones. For the first time the horseshoe arch is combined with the pointed-arch to create a window set. It was explained earlier that Hegel said that Islamic architecture in Spain is characterized not by the pointed-arch but by the horseshoe arch. This is very true but on the other hand Gothic architecture is characterized by the pointed-arch which was common in Cairo. Here the two were combined to create a new window type which Creswell traced back to Palermo. As discussed earlier this could not have been possible as the horseshoe arch originated in Córdoba. He also said that the Gothic did not influence Mamluk work in Cairo as all the prototypes in Syria were not truly Gothic. This assessment is not true as he assumed that no Gothic elements were coming from the West. This window set of combined Gothic and Andalusian types became a model to follow throughout the Mamluk period. It initiated the eclectic taste in Mamluk design which contributed to the exuberance of the style.

The stepped crenellations above this ensemble create horizontal movement to offset the verticality of the niches. The architectonics of the façade are truly three-dimensional and are a departure from previous designs in Cairo which were flat with merely applied surface decoration. The street façade of the madrasa follows the same design rules but is much shallower and lacks the three-dimensionality. Behind the crenellations, the minaret rises from the corner of the mausoleum to a height over twice as high as the façade. The dome is centered on the cenotaph below is raised on a high drum which has the same pointed niches with the Qalawun-set. The minaret was placed at the corner to be visible from al-Muizz Street and to balance the length of the façade. The dome in nicely proportioned in size and is visible from the street opposite. It is clear that careful consideration was made it establish a well proportioned building with all of its elements visible from the street. The minaret acts as a marquee for the whole complex and is placed where it is most visible. The dome acts as a reminder of who is inside and how great he was. The madrasa on the other side is simpler and lacks the projecting elements of the mausoleum. The entrance to the complex is emphasized by projecting out from the mausoleum façade and by its large horseshoe arch. It has *ablaq* voussoirs and the French window grilles previously discussed which makes it stand out from the rest of the façade.

The interior of the mausoleum is dim because of the dark glass and the heavy grilles on its windows. The focal point is of course the dome above the cenotaph. The aesthetics follow the same rules but with different color and material schemes. Harmony is created by the repetition of panels of the Cosmatesco discussed earlier. The blue and gold inscription band wraps around the whole interior and acts a visual continuum. The same design

repertoire from the entrance courtyard discussed earlier is carried inside. The octagonal bays below the dome are richly adorned with the floral motifs that are now becoming a Bahri Mamluk standard. Harmony, variety, and balance of architectural elements are pulled together with the ornamentation on the walls, ceilings, and under the arches in a level of sophistication in design and execution never seen before in Cairo.

The interior of the madrasa is set-up around a courtyard with four iwans as previously discussed. The most striking qibla iwan is also the most aesthetically pleasing. It is harmoniously designed with the arches and windows repeating around the space. Natural light coming in from the windows and the courtyard creates a rhythm of its own. The use of shades and shadows is controlled by the number and the location of windows on the upper level. The arches and columns are well proportioned and they contribute to a soaring feeling similar to that of Gothic cathedral. The feeling of openness created by the main nave and the two side aisles is emphasized by the arcades. There are arches seen within arches in varied proportion with the mihrab arch being the focal point. As on the exterior, the repetitive motif is the circle and the half-circle.

The same design concept is carried all around the complex with a variance based on the function of the space. The elements of Islamic design and the rules of aesthetics are applied with the new eclectic style. This complex is a culmination of a design effort organized by a master architect working with plans and details. The consistency of the design logic is evident despite the different materials used and the many workers involved. The new style is now established keeping with the principles of Islamic aesthetics by Ibn al-Haytham and other Muslim philosophers.

11.5.3- The Complex of al-Nasir Mohamed

Husam al-Din Lajin was bought by Sultan Qalawun as a young boy. He climbed the Mamluk ranks quickly and was sent to Damascus as a representative of the sultan. He was very popular there to the point that when al-Ashraf Khalil, the son of Qalawun was pronounced sultan, he became worried and removed him from Damascus. He was given a different post but later Sultan Khalil decided to kill him. He tried to escape but failed and was brought to the citadel to be hanged in front of the sultan. He was spared after other emirs persuaded Sultan Khalil not to kill him. Later Lajin conspired with the same emirs who helped him and killed Sultan Khalil. He had to hide at the Mosque of Ibn Tulun to avoid being captured. Khalil’s younger brother Mohamed was made a sultan even though he was just a little boy. The emirs

later gathered and decided to remove him and make Lajin sultan of Egypt and Syria in 1296.[570] He vowed to restore the Mosque of Ibn Tulun where he hid, and did so during his reign. His work at the mosque was fully discussed earlier under the section of the mosque.

Lajin was killed in January 1299 during prayer and it was decided to restore Mohamed at still the young age of 14. This was done in February but the power remained in the hands of emirs Salar and Baybars al-Jashankir. They had too much control to the point that the young sultan had to leave Egypt in 1309 to Kerak, leaving Baybars to replace him as sultan. This failed miserably and Mohamed returned in 1310 to reclaim his throne now for the third time. He became Sultan al-Nasir Mohamed and ruled Egypt and Syria until his death in 1341.[571]

At the age of 25 al-Nasir Mohamed was ruthless and one of the strongest leaders of Egypt. He killed all the emirs of his father to take full charge of the Mamluk Sultanate. He was not interested in military aggression instead he concentrated on internal affairs. During his third reign which started in 1310, Egypt prospered and grew to the peak of the Mamluk Sultanate. He married Khwand Tulbay, a great-great-granddaughter of Genghiz Khan to reinforce the peace treaty with the Mongols.[572]

Al-Nasir Mohamed had to strengthen his position by buying more Mamluks. He bought more slave worriers than anyone else before him. The royal Mamluks were quartered at the Citadel in the Northern Enclosure. They were housed in 12 barracks each capable of holding 1000 soldiers. They formed separate areas or districts that were self contained with training ground. In addition, they had their own markets, schools, mosques, and hamams.[573]

The military strength of the Mamluks stemmed from their equestrian abilities. Al-Nasir Mohamed owned 4,800 horses that he, it is said, had known by name and pedigree. He had over 800 veterinarians and grooms to care for them, and exercise them daily in pastures on the Nile banks. The horses were kept in the royal stables in the Lower Enclosure of the Citadel. The sultan built a hippodrome next to the stables just outside the Lower Enclosure to be a training ground for Mamluk cavalry. Lyster described it by saying: “It was an artificially raised platform surrounded by a wall, containing a playing field, grandstands for spectators, royal pavilions and extensive gardens. Proficiency

[570] Maqrizi, *Kitab al-Suluk*, op. cit., 821.
[571] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 234.
[572] Lyster, *The Citadel of Cairo*, op. cit., 24-29.
[573] Ibid., 25.

in horsemanship was a prerequisite for success in the Mamluk army; soldiers practiced daily in the hippodrome to perfect complex cavalry maneuvers. A major portion of their training involved equestrian games performed before large crowds of Mamluks. Horse races and polo were popular spectator sports among Egypt's military elite, but they also had a direct relevance to the battlefield, where a mastery of horsemanship was essential for victory."[574]

Description

Al-Nasir Mohamed finished his madrasa and mausoleum complex in 1304 during his second reign. The periods of his second and third reigns between 1299-1309 and 1310-1341 benefitted from good and strong relations with Jaime II the King of Aragón. As explained earlier, this helped in easing the blockade enforced against Mamluk ports, after the fall of the Kingdom of Jerusalem in 1291. The plan of the madrasa is cruciform and has four iwans intended for the teaching of the four rites of Islam, like that of his father Qalawun. This four iwan concept was introduced in Egypt for the first time by al-Nasir Mohamed.[575] The basilica plan was more common up to that point as seen at the adjacent madrasa of his father. The cruciform plan appeared earlier in Iran and was the standard used for madrasas there.

The madrasa was described by Creswell as follows: "The Madrasa of al-Nasir Mohamed occupies an oblong piece of ground which runs back obliquely from the Suq al-Nahhasin, between the Qalawun complex and the Madrasa of Sultan Barquq. It comprises four great iwans arranged cruciform fashion around an oblong court measuring roughly 14 x 23 m. In the east corner between the arms of the cross is the mausoleum of the sultan, a domed interior a little over 9 m square, with traces of a court behind it, as in the case of Qalawun alongside."[576]

The street façade has a Gothic portal made of white marble. The portal was brought by sea from a church in Acre. [577] The wall itself is topped with the stepped crenellations that are quickly becoming a symbol of Bahri Mamluk architecture. Above is the minaret, its lower part has a square plan and stucco ornamentation. Near the top of this section there is an arcade of tri-lobed blind arches in the tradition of Córdoba. The stuccowork has geometric designs of star motifs showing influence coming from Spain. The rim above has stalactites that act as a cornice for this section of the minaret. The top section has ribbed keel-arched niches made in the prevailing local tradition.

[574] Ibid., 31.
[575] Blair and Bloom, Art and *Architecture of Islam*, op. cit., 77.
[576] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 235.
[577] Blair and Bloom, Art and *Architecture of Islam*, op. cit., 77.

The façade was described by Creswell as follows: “This building, as Briggs justly remarks, suffers from its situation between the Mausoleum of Qalawun and the Madrasa of Barquq. Its façade does not attain its full development, owing to Qalawun’s minaret which overlaps it. As it is, the total length of it is only 21.42 m instead of about 30 m. Its height from the original ground level to the top of the stepped crenellations is 13.23 m. Three shallow vertical recesses run the whole height of the façade and terminate in stalactite heads set in rectangular molded frames as in the Madrasa of Zayn al-Din. Each frames a tall narrow window, two of which light the mausoleum and one the iwan *qibli*. The latter has two windows, the second of which is lit by a light-well behind Qalawun’s minaret. The three visible windows are covered by lintels with relieving arches above, each lintel being decorated with a band of inscription, and the arches with arabesque. A band of inscription in an ornamental frame runs right across the façade at a height of 7.25 m from the old ground level. Above it are two windows, that to the right is just above the mihrab of the mausoleum, that to the left occupies the center of the panel of stucco ornament above the mihrab of the iwan *qibli*. The most remarkable feature of the façade is the Gothic portal which, as we have seen, was taken from a church of the Crusaders at Akra by Sultan Khalil and transported to Cairo by sea, to be employed later in this building. It is obvious that the door posts, the joggled lintel of marble of two colors, and the panel with the Arabic inscription have been inserted in it. The stepped crenellations which crown the façade measure 1.41 m in height. Behind them, to the right, may be seen the octagonal zone of transition of the mausoleum, the dome of which has disappeared; to the left is the upper part of the iwan *qibli*, and in the center, over the doorway, rises the square shaft of the minaret.”[578]

The following was said about the interior by Creswell: “On entering we find ourselves in a passage nearly 13 m in length and a little over 3 m in width which divides the mausoleum from the iwan *qibli*, both of which can be entered from it. Enough remains of the wooden ceiling to show that it consisted of transverse beams with narrow coffers between, the whole resting on a cornice of shallow niches, just as in the Great Corridor of the Qalawun complex. At the far end are two doorways; the right-hand one, which has been walled up, led to the forecourt of the mausoleum, that to the left, which is 1.42 m in width, opens into the *sahn*. A sad spectacle of ruin presents itself: in front of us is the north-western iwan, of which the roof and frontal arch are restorations of the Comité; to right and left are the lateral iwans, roofless and without frontal arches. At the back of the north-west iwan is a recess 1.72 m deep, running the whole height, which when I first saw it was open at the top. I believe it to have been an air shaft (*malqaf*), as in the Kamiliya Madrasa. It

[578] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 235.

has since been erroneously roofed over by the Comité together with the whole iwan, whereas it ought to have been given a wind-catcher hood. In this same recess, high up, is a window which still retains the greater part of its ornamental stucco frame, consisting of a band of Naskhi inscription with an outer border like a tassel fringe. Four other recesses, two at the back and one on each side, were doubtless cupboards closed by wooden doors."[579]

The recess Creswell described at the north-western iwan has since been restored and the roof built by the Comité de Conservation was removed. The *malqaf* was recreated to catch the wind again. During the visit to the madrasa in 2010 the air flow throughout was evident. The arch in front of the recess had its brickwork exposed as evidence of an earlier restoration. The pointed-arched window is long and narrow with an inscription border on its recess and a floral design frame on its face. The recess is concave and it has a narrow border of scrolling half palmettes just below the inscription band. Above the Kufic inscription is a wide floral band composed of palmettes that are connected with vines and alternate between two types. The first is a larger palmette having the shape of a fleur-de-lis meaning it has the palmette in place of the frond with the two volutes below. The other one is just a simple palmette but has another smaller palmette below it connected by more scrolling vines. This stucco border is very similar to the ones discussed at the Complex of Qalawun in style and in technique. It can even be said that the stucco molds used here were probably left over from the work done there. This window was the only one found with ornamentation around it.

The other alcoves were described by Creswell when he said: "The lateral iwans are of unequal size, the south-western being 5.59 xc 6.30 m deep, the north-eastern 5.65 xc 5.30 m. Three tunnel-vaulted students' cells are still preserved to the left of the former, but the cells which must have occupied the other side have disappeared and a house has been built on their site. This house continues round the back of the iwan over room D. The space between the side of the iwan *qibli* and the flank of Qalawun's Mausoleum is occupied by a jumble of mean rooms, a staircase, a latrine, and an open area which serves as a light-well. Everything is comparatively modern, except one room, which may perhaps be eighteenth century. The north-eastern side of the *sahn*, in so far as it has been preserved, does not correspond exactly with the opposite side, apparently on account of the court behind the mausoleum, which has necessitated a passage of access. A cell has been arranged between this passage and the iwan. On the other side of the iwan are three doors, two of which have been walled up; they must have served three cells, of which the partition walls and back walls have disappeared. Their place has

[579] Ibid., V-II, 236.

been taken by a fairly large room, between which and the side of the Madrasa of Barquq is an empty space. An upper storey was to be seen to the right of the iwan in 1925 but it was roofless and in an advanced state of ruin. It has since disappeared. The south-east side is the only part of the *sahn* which still retains any decoration, and even here very little is left. The remains of a Kufic inscription still runs along the top edge, and there were evidently two windows one above the other on the right side of the iwan, each set in a fluted keel-arched niche with an outer rectangular frame of Kufic. On the left side the upper window which opens into the empty space above the entrance passage still exists, but the lower was blind for the courses of masonry behind its position, as seen from the corridor, run continuously. The two top windows presumably corresponded to the third tier of students' cells which must once have run all round the *sahn*. The iwan *qibli* is a little over half a meter deeper than the north-western, and its frontal arch is 11 cm greater in span. Its roof level is 12.85 m above the stone still next the *sahn*, from which one may conclude that the sides of the *sahn* were of this height all round. If so there must have been three tiers of students' cells."[580]

Mihrab Analysis

The mihrab was described by Creswell as follows: "The mihrab of the iwan *qibli* is very large; the niche is flanked by two greenish columns from the Wadi al-Hammamat and the semi-dome is decorated with superb stuccowork, in the middle of which is a window. The border of this frame resembles a tassel fringe, as does the similar frame in the north-western iwan, but the two fringes are not identical, as may be seen on comparison. The bare space all round this window, where the ornament has been destroyed, may be more recent than the time of Prisse d'Avennes (1877), for his plate shows the ornament as complete. It is quite possible, however, that he has restored it conjecturally, for his drawing is not a very reliable document, e.g. he has quite forgotten to show the window to the left of the mihrab, and the air-shaft recess to the right. The whole mihrab measures 2.78 m in width and about 10 m in height. Curiously enough, although there is no sign of decadence, it is the last stucco mihrab in Egypt. A short length of wooden frieze remains on the back wall, at the level of the springing of the mihrab arch."[581]

The mihrab was described by Abouseif by saying: "The only remaining decoration in the madrasa is the carved stucco mihrab. It is visibly smaller than that of the mausoleum and included within a larger arched panel, also carved in stucco. An arched window above the mihrab has a stucco grille of a later date, which disturbs the decoration of the mihrab wall. It seems as if this

[580] Ibid., V-II, 236.
[581] Ibid., V-II, 236.

window was originally blocked from within to make room for the stucco decoration and was reopened at a later date. The conch of this mihrab has no parallel in Cairo. Its high relief carving displays pierced bosses resembling repoussé metalwork on a ground of complex arabesques recalling Iranian stucco of Tabriz style. The artistic connection with Tabriz may be related to al-Nasir Mohamed's marriage to a Mongol princess following his entente with the Ilkhanid court during his reign. Persian craftsmen worked in Cairo and influenced the decorative arts. However, at the time when the madrasa was completed, diplomatic relations between Mamluks and Mongols had not yet developed. Unless the couch was decorated a least a decade later, the craftsman who carved this mihrab would not have come by diplomatic arrangement, but rather as a refugee."[582]

It is important to compare the two descriptions above of the mihrab of the madrasa by Creswell and Abouseif. The stuccowork on this mihrab is identical to that of the façade of the mausoleum of Qalawun. The motifs are somewhat different but they are predominantly based on the fleur-de-lis. It is said with confidence here that the stuccowork was done by the same team working on the Qalawun complex. It also follows that the two were executed at the same time which supports the idea that the three parts of the Complex of Qalawun were not completed in 4 months each as suggested by Abouseif. Again the mention of unskilled Mongol workers creating such meticulous detailing is unacceptable. What Creswell said on the other hand, is more factual and cannot be disputed.

The mihrab starts with two greenish columns with reddish Corinthian capitals without acanthus leaves. They support the pointed-arch of the mihrab through a wooden band acting as impost blocks. A floral design border, on the face of the pointed-arch, wraps the niche of the mihrab. The border is made of an outline of connected multi-lobed arches alternating with flipped semi-circular arches. Both outlines are filled with floral motifs including, palmettes, spades, and lotuses. The designs are pierced like the ones at the Complex of Qalawun. The border is terminated at the top edge by a carved-out pearl band. The underside of the arch has a similar band of floral designs. On the face of the hood of the mihrab, a border of Qalawun-I fleur-de-lis motifs frames the beautifully designed repoussé like stuccowork. There are similar designs on the interior metal doors of the qibla iwan of the Complex of Sultan Hassan the son of al-Nasir Mohamed. This is the first and last occurrence of this repoussé like stuccowork in Cairo. There is one main fleur-de-lis like repoussé in the center surrounded by more bosses of varying shapes. They are mainly of two types, one resembling a cut-off Lizard-Tail and another

[582] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 155.

resembling an ivy leaf. In between there are more stucco floral designs including fleur-de-lis motifs. There are amazing designs that are arranged that propagate from the center of the hood. There is one design in particular that is indicative of the artist's ingenuity. It is located inside a mirrored design of a pointed-arch on both halves of the hood. The one on the right is less detailed and is almost an outline of the one on the left without the details inside. The pointed-arch on the left has a frame of a hollowed out pearl-band which is also used in many other areas. What's amazing here is the Type-A fleur-de-lis that is in the center. It is basically two motifs that are mirrored with one shared frond. The volutes on the lower one are slightly larger so the effect is of a fleur-de-lis nested in another fleur-de-lis. This clever arrangement is proof of an imaginative mind that is independent of any copying. No similar designs were found anywhere else during this extensive study of Mamluk architecture.

The mihrab façade has a larger pointed-arch that is composed of three bands of stuccowork. The first is an inscription band with floral designs in between the letters, the second is a band of the familiar Qalawun-I fleur-de-lis motif, and the third is a wider pierced stucco floral design band. The latter is another example of the creativity of the artists. It is composed of a row of connected and pierced Type-B fleur-de-lis motifs that alternate with another outline of a similar shape. They are wrapped by interlaced vines that create pointed-arches scrolling outward at their apex. This ensemble is crowned by a row of ivy leaves that seem to be carved out of the plain wall beyond. This is done in the same repoussé spirit of the mihrab hood. Again, this shows extremely high design sensitivity to the aesthetics of the overall mihrab wall-façade by visually linking all the parts together. The area in between this border and the window above the mihrab is filled by yet more motifs including, lotuses, half-palmettes, vine scrolls, and pierced grapes or the karma discussed earlier. More hollowed out pearl bands act as dividers between the different areas of the mihrab façade and even surround the pointed-arch window.

The Madrasa and the Mausoleum have since been beautifully restored and opened to the public in 2010. The lateral iwans are now roofed and received their arches back. The house Creswell mentioned, at the back of the madrasa, was removed and only a partial wall was left to insure the structural integrity of the adjacent wall.

Minaret Analysis

The minaret was described by Creswell by saying: "The minaret, which begins as a square shaft of brick, averaging 4.74 m a side, is placed immediately over the entrance passage a little behind the Gothic portal, and

so set that its sides follow the orientation of the interior of the madrasa and mausoleum. One side touches the flank of the iwan *qibli* and another, the side of the octagonal drum of the mausoleum, and it is therefore slightly oblique to the façade. The square shaft measures 11.74 m to the roof of the iwan *qilbi*, or 15.20 m to the cornice of the façade. It is surmounted by an octagonal storey, about 8.5 m in height, above which is a slenderer octagonal storey of about 3 m, with an extinguisher top, both being of lath and plaster. All four sides of the lower storey were-covered with superb stucco ornament, of which the south-eastern side is still in splendid condition and the north-eastern less so; on the south-western side the band of inscription is well preserved but little else, and the north-western side is almost bare. It is arranged as follows: in the lowest register are four vertical strips, decorated with rich centralizing patterns and divided by three elaborate keel-arched panels, the central one being open and those that flank it blind. A fine Kufic inscription runs across at the springing of the arches. Above is a field of beautiful arabesque with one circular and two lozenge-shaped medallions set in it. This is surmounted by a blank arcade of nine trefoil arches, and above this is a round-ended panel with part of the bold Naskhi inscription in the name of al-Nasir Mohamed which begins on the north-east side. The first two storeys are crowned by elaborate stalactite cornices, the lower of which resembles the treatment which we shall find a few years later in the minaret of Baybars al-Jashankir, except that the cornice of the latter forms an octagon, whereas here it forms a figure of sixteen sides. I cannot believe that the second storey is of the same date as the lowest, as nothing the least resembling the treatment of the keel-arches is found until at least forty years later. The extinguisher top is presumably eighteenth century. This minaret is inaccessible today, but I re-examined it on the 18th October 1958. Thanks to the Comité, I was able to reach the roof of the dome from the top of the Madrasa-Mausoleum of Sultan Barquq alongside, and thence descend by means of a ladder to the roof of the entrance passage, which is on the same level as the entrance of the minaret. It is a plain rectangular opening on the north-western side, measuring 0.97 x 2.10 m and spanned by a massive beam and a relieving arch of brick. The wall is 86 cm thick. Internally, instead of a spiral staircase winding round a newel, as is usual in stone minarets, there is a spacious square interior with a wooden staircase running round, of which the lowest part is now destroyed. Was this space over the entrance passage once a room? I doubt it, for one side is partly formed by the drum of the dome on which there is no sign of the marks of a roof, moreover such a room would have rendered the window of three lights useless. It south-western side is formed by the side of the iwan, which rises about 2 m above the floor. A staircase 85 cm wide runs up alongside this wall and gives access to the iwan roof. Even forty years ago, when this building was less ruined than it is now, it was impossible to say where the staircases were which gave access to the upper tiers of students'

cells and the roof of the entrance passage, but I was then able to climb on to the roof of the iwan, as far as I can remember, from ruins since cleared away, between it and the Mausoleum of Qalawun. It was then that I measured the minaret."[583]

Carefully studying the minaret of al-Nasir Mohamed resulted in several conclusions. The stuccowork was discussed with Antonio Puertas from the University of Granada. He did not agree with other scholars who said that it had designs copied from the palaces of the Alhambra in Granada. As explained earlier, the minaret has stuccowork only visible on two sides, the south-eastern and the north-eastern, with the other two being plastered over. We will start with the side facing al-Muizz Street which is the south-eastern. The lower part of the minaret, which will be called the original, starts with a floral design band and ends with a floral design band just below the later muqarnas section. The lower band acts as a ledge for a row of three arches divided by four ornamental panels. These arches are very unusual and were never used like this before in Cairo. The center one is flanked by two engaged columns framing a squared recess and is fully open, with a top which was called earlier a Crown-arch starting with the minaret of Ibn Tulun. The other two crown-arches are similar but smaller with small engaged columns acting as supports. They are both filled with geometric stucco grilles based on hexagons generated from six-pointed stars forming large linear rosettes. The center window which has the crown-arch starts with a keel-arch curving downward to straight vertical sides which turns into two long S-shapes, an S on the left and a flipped S on the right, then turns back horizontally to the side walls to complete the S-shape. The other crown-arches of the niches on either sides start with a pointed-arch and go down to two unequal lobes on the left then go horizontal to the side column. This of course is mirrored on the right side to complete the arch. Comparing these three crown-arches, with the ones at the same level and location on the north-eastern side, they were found to be quite different. The one of the niche is closer to a traditional multi-lobed arch and the one of the center window, which is now completely blocked with plaster, goes from the keel-arch of the crown, down to two lobes instead of the two S-shapes. The remainder of the north-eastern side was plastered over so it is missing the second arched-niche. This variation in design points to a high level of improvisation using a loosely set palette of motifs. Again these are highly skilled artists spreading the wings of imagination.

This new crown-arch appearing in Egypt is different from the other types appearing on *mabkhara* tops with the exception of the minarets of al-

[583] Creswell, *Muslim Architecture of Egypt*, op. cit., V-II, 238.

Hakim's mosque which were built by Baybars al-Jashankir, an emir of al-Nasir. This crown-arch can only come from Spain as similar types are found at Zaragoza. The most obvious one is at the Palace of Aljaferia built during the second half of the eleventh century by Abu Ja'far. The one being referenced is in the mihrab prayer hall of the palace. It starts with a keel-arch at the top then it goes down vertically, then horizontally to the left, down again vertically and then out to a large S that connects with the concave impost block of the column below. This outline is of course mirrored on the right side to create the arch. Barrucand said the following of this arch: "The large mihrab in the two-storey, octagonal, centrally-planned room keeps closely to the Córdoba model. What is new is the mixture of linear forms employed in the lower-storey arches, flanking the mihrab: rounded lobes are combined with angular forms, a motif that was to play a major role in later Hispano-Islamic architecture."[584] This type of arch is found not only in the mihrab area as a blind arch, but also framing openings, in the arcades, and in the stuccowork. It is an important design motif at the palace and is a distinctive feature that is representative of the aesthetics of the Aljaferia. The Zaragoza mihrab crown-arch has floral stucco designs in the spandrels and rests on two engaged columns. This is the exact same set-up on the minaret of al-Nasir Mohamed. Comparing the Zaragoza mihrab crown-arch to the other examples found in Cairo namely, Ibn Tulun, al-Hakim, Abu al-Ghadanfar, al-Saleh Ayyub, Sanjar al-Jawli, Baybars al-Jashankir, Sunqur al-Sa'di, and Qawsun, revealed no equal in arch outline, proportion, spandrel designs, or engaged columns. Why this particular arch suddenly reappeared in Cairo during the fourteenth century can in no way be attributed to an influx of Andalusians as was indicated by several scholars.

Zaragoza fell to the Christians in 1118 and the new rulers occupied the palace making minor alterations.[585] It became part of Aragón which had Barcelona as its main port on the Mediterranean coastline. The contact between Egypt and Aragón was discussed earlier including the trade links between Alexandria and Barcelona under Qalawun, the father of al-Nasir Mohamed. There is only one explanation for the reappearance of the crown-arch created in the eleventh century on the fourteenth century minaret of the Complex of al-Nasir Mohamed and that is the presence of Catalan and Aragonese artists and architects in Cairo.

The four panels in between the crown-arches which Creswell called strips are filled with floral motifs placed inside in symmetrical pairs. The two panels closer to the center crown-arch window have curved lozenge outlines filled with several types of stylized fleur-de-lis motifs but with a Qalawun-I at

[584] Barrucand, *Moorish Architecture*, op. cit., 118.
[585] Ibid., 118.

the top. The panels also have grape-leaf motifs that are surrounded by scrolling vines and half-palmettes. The two other panels that are further out are also symmetrically designed but without the curved lozenge outlines. They are more loosely designed with interlaced vine scrolls around ivy-leaves, lotuses, and half-palmettes. The four panels are based on a central vertical axis which divides the floral designs into two symmetrical halves. All the panels and the arches are surrounded by the same hollowed out pearl band of seen on the mihrab of the madrasa inside.

Above this ensemble of niches and panels, runs the Kufic inscription with three blind keel-arches above that are aligned with the crown-arches below. The muqarnas like filling of the arches is exactly the same found at the Mausoleum of Imam Shafii. In addition, the pierced stucco around the keel arches is very similar to that found on the borders of the second storey of Imam Shafii.[586] This led earlier to the conclusion that the mausoleum must have been restored by the same workers of this complex. Some sources testify to a restoration project by Sultan Qaytbay at the mausoleum in the late fifteenth century and other work in the second half of the eighteenth century but nothing else.[587] Those projects had to do with the interior and the dome but not the stuccowork. Even the Comité de Conservation would not have changed what was already on the second storey of the mausoleum. The sources agree that the keel-arches and their stucco ornamentation are of Andalusian origin even though no keel arch was found in Spain with such treatment.

This section of the minaret, above the Kufic inscription band and below the gallery of blind arches, is a rectangle with the keel-arches placed at its lower side. At the top side of the rectangle, there is a saucer in the center and two squares at each corner filled with a floral design roundel. In between, there are the two lozenges Creswell mentioned above with two more small roundels filled with geometric designs below them. The field between these geometric shapes is filled with floral designs mainly containing several types of the stylized fleur-de-lis motif that are placed as an organizing element, and the half-palmettes with scrolling vines. Of particular interest are the floral roundels inside the squares as similar ones were seen at the Alhambra in Granada. One could not say that the roundels were copied from the palaces of the Alhambra but rather inspired by them. On the minaret, the design starts with a six-pointed star in the center with rose-buds filling the space between

[586] The design of the border itself of a waving, flipping, paisley-like or half-palmette shape is not new and goes back to soffit stucco work at the Mosque of Ibn Tulun. What is similar here is the carving technique which is unique to the Qalawunid Dynasty.
[587] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 87.

the points of the star. The rose-buds are elongated with a simple outline filled with a Type-A fleur-de-lis. Larger palmettes are placed above the rose-buds alternating with more stylized palmettes placed inside outlines. The overall effect is of a dynamic rosette constantly rotating. At the Alhambra, similar roundels appear at the corner of stucco borders with eight-pointed stars in the center, and a looser scalloped design around instead of the simple circle outline at al-Nasir Mohamed. Similar Type-A fleur-de-lis motifs are also found inside the roundels at the Alhambra. The north-eastern side of the minaret has only one similar roundel since it is missing a large portion of the stucco decoration.

Above this rectangle of stuccowork we find the blind arcade of pointed-tri-lobed-arches which are filled with geometric designs. Those designs are based on the hexagons and are similar to the blind stucco grilles below of the blind crown-arches. Above is the *naskhi* inscription band Creswell mentioned above with the floral band above it, terminating this original section of the minaret.

All the previously seen motifs of the mausoleum and madrasa of Qalawun and the mihrab and window of the madrasa of al-Nasir Mohamed are incorporated in the design of the stuccowork on the minaret. Of course the Type-A, Type-B and Qalawun-I fleur-de-lis are used, in addition to the equilateral triangle and hollowed out pearl band borders.

Design Aesthetics

As this complex was built after that of Qalawun the father, it shared many of the design elements developed earlier. It adhered to the aesthetic rules of harmony set before. The street façade is simpler and is not three-dimensional but flat instead. It has few windows and only three narrow niches topped with muqarnas. The focal point of the façade is of course the Gothic portal. The stepped crenellations above add the rhythm needed to make the façade harmonious. The overall effect is more static and lacks the vibrancy seen next door at the Complex of Qalawun. On the other hand, the proportions of the building elements are quite successful. The minaret is placed above the entrance with the dome of the mausoleum next to it. This was done to make them visible from the street and to create grouping. The minaret is the most pronounced with its magnificent stuccowork. The façade, the dome, and the minaret are very different yet are visually pleasing because of the variety they create. The overall effect is balanced despite the static façade and the plane dome drum.

The interior with its four iwans is simple and devoid of surface ornamentation. The vaults of the iwans are similar in height and width and are well proportioned. The courtyard appears static and lacks the rhythm created in buildings discussed earlier. This is due to the lack of repetitive elements like arches and columns. The strongest visual element of the interior is the stuccowork of the qibla iwan. Its geometry is both conceptual and kinetic without trying to convey a message or make a statement.

It is important to note that the emirs of al-Nasir Mohamed created their own buildings and followed the same design aesthetics discussed here. Their work was extensively analyzed by Dr. Chahinda Karim from the Islamic Art and Architecture program at the American University in Cairo. In other Bahri Mamluk buildings we see Andalusian elements of horseshoe and tri-lobed arches, stucco geometric designs, and stepped crenellations. These elements appeared in the *khanqah* (Sufi school) and madrasa of Emir Sanjar al-Jawli 1304. Also they were used at the Khanqah and Mausoleum of Sultan Baybars al-Jashankir 1310. The courtyard of al-Maridani 1340 has an arcade topped with stepped crenellations. The mosque of al-Nasir Mohamed built at the Salah al-Din citadel in 1335 is of special importance because it does not only have stepped crenellations in its *sahn* (courtyard) but also *ablaq* voussoirs in a double tier of arches, the same application coming straight from the Great Mosque of Córdoba.

The policy of peace followed by al-Nasir Mohamed provided great wealth to the country but created a whole generation of Mamluks who never had to fight a major war. After his death the emirs were ill prepared to fight and neglected military training to the point that the hippodrome he built at the Citadel was in ruins. Lyster said the following: “The emirs instead competed with each other for political and cultural preeminence. Their lust for power was matched only by their love of luxury and grand buildings with which they continued to beautify Cairo.”[588]

11.5.4- The Funerary Complex of Emir Sanjar al-Jawli

The complex was built in 1303-4 by Emir Sanjar al-Jawli who began his career in Syria during the reign of al-Zahir Baybars. He became an emir during the second reign of al-Nasir Mohamed, during the time when Salar and Baybars al-Jashankir were sharing power. He remained one of al-Nasir’s favorite emirs even though he spent eight years in prison. He held the post of governor of Gaza where he built a big hospital and other foundations. His

[588] Lyster, *The Citadel of Cairo,* op. cit., 31.

control extended to Hebron and other cities in Greater Syria. He was also responsible for conquering al-Karak from the Crusaders.[589]

Description

The complex has two ribbed domes over two mausoleums, an adjacent courtyard, and a square minaret following the Qalawun model but with octagonal top levels which Abouseif described by saying: "The rectangular shaft of the minaret, made of stone, is more slender and elongated than its predecessors. Its decoration recalls Qalawun's minaret, each side having an arched panel resting on muqarnas and flanked with colonnettes. One of its windows is framed with a horseshoe arch, and another one has a triple composition. Also, the style of the muqarnas atop the rectangular shaft recalls Qalawun's minaret. The upper structure is slender and made of brick. The octagonal elongated section is crowned with a cornice of muqarnas beneath the circular pavilion with a ribbed cupola. A special feature of the minaret is the portal at the entrance of its stairway above the roof of the mosque. It has a tri-lobed arch and two small *maksalas* or benches on both sides. Only the minaret of Bashtak, built in 1340, has a portal to its staircase."[590]

Design Aesthetics

The street façade has the earliest use of the fleur-de-lis crenellation. This is a stylized version of the fleur-de-lis motifs discussed earlier. A similar motif is used in the stone screens of the courtyard. The complex is compact with all of its main elements placed close to the street façade. The two ribbed domes are similar in size and construction with one offset slightly backward. They balance each other with the minaret being the focal point of the group. The minaret is placed behind and visually relates more to the domes instead of the façade. Proportionally speaking, the domes and the minaret relate well to each other, however, the façade appears to be too short. There is a nice rhythm created by the pointed arches of the arcade of the façade and the crenellations above. There is enough variety created but also a mismatching of elements and shapes. There are keel, pointed, tri-lobed, and horseshoe arches. The lower part of the minaret is almost exactly the same as that of Qalawun. There is little inventiveness here and it appears that this complex is simply following the aesthetic principles already established.

The interior was described by Abouseif as follows: "The funerary compound consists of a cross-vaulted corridor, a kind of portico before the funerary chambers overlooking an open courtyard. The view on the courtyard

[589] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 156.
[590] Ibid., 159.

is screened by a set of large pierced stone panels, which are a most remarkable feature in this monument. Each of the four screen panels is carved with an individual intricate floral design, one of them showing grapes. Pierced panels of smaller size are set between the arches in the walls of the corridor as a decorative device, and others are used as window grilles in the living units. The stone screens and panels of this building are unprecedented and they became the prototype of the stone parapets that henceforth characterized minaret balconies, replacing the former wooden ones, as already shown in this minaret. We may assume that the minaret here was the first to have such parapets. The next stone parapets are on the minarets of al-Nasir Mohamed at the Citadel."[591]

Inspecting the stone screens described above revealed that each one has a row of stylized fleur-de-lis crenellations. The screens themselves have floral designs that vary from one panel to the next. The floral motifs here are new and do not follow the previous models discussed at the Complex of Qalawun and the Complex of al-Nasir Mohamed. This might be due to the fact that stone is much more difficult to carve compared to stucco and required design innovation. The style of the stone carving on the screens set the prototype for similar applications in other Mamluk buildings like the Mosque of al-Nasir Mohamed at the Citadel.

11.5.5- The Funerary Khanqah of Sultan Baybars al-Jashnakir

Sultan Baybars al-Jashnakir was the *jashnakir* for the sultan or his taster before he became sultan himself. Following al-Nasir Mohamed's second reign, Baybars took over the throne while the sultan was away, as a result he was killed when the sultan returned. The sultan also closed the funerary khanqah that al-Muzaffar Baybars built in al-Jamaliyya. He confiscated its assets and erased the name of Baybars from the foundation inscription. Al-Nasir Mohamed reopened the khanqah in 1326 after he built his own khanqah at Siryaqus.[592]

Description

The khanqah is described as being the oldest in Cairo. It was preceded by the one built by Salah al-Din, which has long disappeared, and by the Khanqah of Aydakin al-Bunduqdar, built in 1283-4, during the reign of Qalawun of which only the founder's mausoleum is still standing.[593] Built in

[591] Ibid., 161.
[592] Ibid., 161.
[593] Ibid., 163.

1307-10 it has a mausoleum and a courtyard with two opposite iwans. The dome is plain since it was rebuilt, and the minaret is square with round upper levels. There are no visible remains of crenellations on the exterior walls but stepped crenellations surround the courtyard.

The interior of the mausoleum was described by Abouseif when she said: “Contrasting with the sparsely decorated khanqah and its bare mihrab, the mausoleum’s walls, floor and mihrab are lavishly decorated with black and white inlaid marble. The option for black and white instead of polychrome marble decoration is as subtle as it is striking. The conch of the mihrab is inlaid with a radiating motif, which, unlike the façade niches, starts from the apex rather than from the bottom of the conch. The pavement of inlaid marble shows a row of seven mihrabs parallel to the qibla wall. Maqrizi reports that the marble of Baybars’ khanqah and residence originally belonged to the Fatimid caliph’s palace and was found in an underground cache in the neighborhood. An epigraphic band in wood runs along the walls and frames the mihrab.”[594]

Design Aesthetics

The mihrab itself is bold in design because of its high contrast of black and white marble. It has a row of colonnettes supporting conches similar to the mihrabs of the Complex of Qalawun. It has a border on the rim of the mihrab arch capped by stylized fleur-de-lis crenellations. The face of the arch has joggled voussoirs in black and white marble with similar stylized motifs.

The exterior of the khanqah is in fair condition with a rebuilt dome. The elements of the street façade are simple with the entrance portal being the most dominant. It is fairly static except for the muqarnas above the entry, the inscription band with its fluid letters, and the stepped crenellations above. The design follows the same condensed scheme of previous urban projects with the minaret closely placed next to the dome of the mausoleum. The windows and arches of the dome and minaret are mainly keel-arched and create a nice rhythm because of their logical repetition. This ensemble of elements is balanced with the minaret being the focal point. The interior courtyard on the other hand is aesthetically pleasing with its opposing tall iwan vaults. The side walls between the iwans have closely spaced doors and windows on three levels. The second and third levels have keel-arched conches above the windows which create a nice rhythm. Each iwan is placed in the center of the wall and is nicely balanced by the side walls. The whole design of the courtyard is tied together by a trim piece moulding that runs above the

[594] Ibid., 166.

windows and wraps the arch of the iwan. The overall effect is harmonious and is keeping with the principles of Mamluk design.

11.5.6- The Mosque of al-Nasir Mohamed at the Citadel

The site of this mosque differs substantially from the complex constructed by al-Nasir Mohamed on al-Muizz Street. It is located inside the south-eastern citadel walls on a prominent site facing the Mohamed Ali Mosque built during the later Ottoman period. It was originally built in 1318 replacing an earlier mosque but it was substantially rebuilt in 1335 according to Maqrizi.[595]

Vision of the Sultan

Al-Nasir Mohamed had an ambitious building program, Abouseif described it as follows: “He was spurred by an urban vision that inspired him to redesign and conceive the capital in the global terms of a cityscape rather than just an accumulation of individual monuments. He was the first to combine monumental religious patronage with far-reaching urban planning and design. His urban transformation program began in the 1320s, once he had fully consolidated his authority, more than a decade after the end of his second reign in 1309. The extensive use of Corvée and prisoners of war, and a high budget, supported the magnitude of his building program. Although his schemes might have disregarded financial considerations and imposed a heavy toll on his successors as commented by Ayalon, Cairo continued for centuries to make use of the monuments, hippodromes, streets and infrastructure he established. Civil engineering projects formed a substantial element of his building program. Crossed by a number of new bridges, the Khalij was no longer Qahira’s western boundary but, rather, the link to its western bank, which could now easily merge with the main city. More than sixty *hikrs* or leaseholds, consisting of orchards and new territory on the west bank of the Khalij left behind the Nile bed, were granted by al-Nasir Mohamed to his emirs for urban development. Al-Nasir pushed forward the urbanization of the western bank of the Khalij by digging in 1325 a new canal connecting the Nile with the old one, which it joined north of Baybars’ mosque. This canal led Nile water to the village of Siryaqus about thirty kilometers north of Cairo, and it nurtured the Khalij at the same time. Between the two canals, al-Nasir dug the Nasiriyya pond, which attracted the construction of new aristocratic mansions. The sultan chose Siryaqus, a village near his hunting ground, to

[595] Ibid., 173.

build a major *Khanqah* with this mausoleum and a pleasure complex with a hippodrome."[596]

Abouseif continued and said: "The sultan orchestrated his metropolitan building scheme with his emirs, whom he urged to build, encouraging them with legal privileges on the land with material support. This enabled him to transform the Birkat al-Fil or Pond of the Elephant into an aristocratic residential area, which included the mosques of the emirs Ulmas (1329-30), Qawsun (1329-30) and Bashtak (1336). The old Qatai' north of Fustat had already been upgraded by Sultan Lajin in 1296 after a long period of neglect, when he renovated the mosque of Ibn Tulun and enlarged its waqf and founded a hippodrome in its vicinity. Nearby, along Saliba Street, the emir Sanjar built his funerary complex in 1303-4 and a palace behind it on the hill of Qal'at al-Kabsh. In the citadel, al-Nasir replaced the old mosque and the palace with new ones. For the construction of the Hawsh, which comprised private apartments overlooking a pasture ground for cattle and sheep, land had to be carved out of the Muqattam rock. The sultan's project, however, to supplement the aqueducts by conducting water from the Nile up the Citadel through a canal dug in the Muqattam hill and hydraulic installations had to be abandoned due to insurmountable difficulties."[597]

Relevant work by the emirs of al-Nasir Mohamed who shared the same aesthetics as evidenced by their designs will be discussed later. Those emirs were: Sanjar al-Jawli, Sunqur al-Sa'di, Saif al-Din Qawsun, al-Malik al-Juqandar, Ahmed al-Mihmandar, Ulmas al-Hajib, Altinbugha al-Maridani, Aslam al-Baha'i al-Silahdar, and Aqsunqur al-Nasiri.

Description

The mosque of al-Nasir Mohamed at the Citadel being without a madrasa or a mausoleum followed the plan of a *sahn* surrounded by *riwaqs* as seen at the Mosque of Ibn Tulun and the Mosque of al-Hakim. This hypostyle plan was built using Pharaonic red granite pillars brought from Upper Egypt along with other smaller Corinthian and Coptic columns. The arcades around the courtyard are double-tired with pointed-arches below supported on the columns with smaller upper semi-circular arches above. The taller Pharaonic columns were used to support the arches of the inner arcades while the shorter Corinthian columns were used around the courtyard to support the double-tiered arcade. This set-up is capped with the familiar stepped crenellations seen before at his complex on al-Muizz Street.

[596] Ibid., 55.
[597] Ibid., 56.

The mosque was described by Abouseif as follows: “The façades diverge from the contemporary urban style. They lack the *tiraz* inscription band as well as the recesses that would include the windows. The large rectangular windows pierced along the lower part of the façade are now walled. Another row of arched windows are pierced in the upper part of the walls. The mosque has four arcades parallel to the qibla wall in the main *riwaq.* It has four entrances, one next to the prayer niche and three axial ones with portals that all look different. The projecting main portal lacks the stone benches (*maksala*) that were common in all urban mosques since the time of the Khanqah of al-Muzaffar Baybars. It is relatively plain, consisting of only a recess crowned by a ribbed conch on muqarnas. The projecting northern portal has a tri-lobed recess, and the southern, also projecting, has a pointed-arch filled with a sunrise motif in *ablaq* masonry. All three portals are relatively low-profile structures, which may be explained by the fact that the mosque was integrated as an element within a wider architectural composition. The masonry reveals two stages of construction on the façade walls, confirming that in 1335 the mosque was heightened but not broadened. Moreover, the base of the two minarets is lower than the roof level, which is against the rule of Mamluk minaret architecture, suggesting that the actual structures belonged to the original construction. The designer put the emphasis above rather than below the roof level by covering the dome with green glazed tiles and decorating the two minarets with tile mosaics, leaving the façade relatively plain.”[598]

The mosque was discussed by Blair and Bloom as follows: “The interior was once richly decorated with a high marble dado, but it was removed and shipped off to Istanbul in the sixteenth century. The stone minarets, which stand at the north-east corner and over the north-west portal, are the most unusual feature of the mosque. The former has a rectangular base, a cylindrical second storey, and an open hexagonal third storey; the latter has a cylindrical lower shaft decorated with vertical zig-zags carved in deep relief, a cylindrical second storey decorated with horizontal zig-zags, and a deeply fluted third storey. Both are crowned with fluted bulbous cupolas and decorated above the third storey with glazed tiles in light blue, manganese purple, and white. This unusual decoration was part of the second campaign on the mosque when the walls were heightened, the roof rebuilt, and the upper shafts of the minarets clad in brick and glazed tile. The techniques of brick and glazed tiles, as well as the shape of the bulbous finials, are clearly foreign to the Cairene tradition. Al-Maqrizi reports that a builder from Tabriz worked on the Mosque of Qawsun in Cairo (1330) and modeled the minarets there on those of Alishah at Tabriz; and traces of glazed decoration on

[598] Ibid., 175.

several buildings in Cairo indicate that Tabrizi tile workers had a workshop there during the 1330s and 1340s. The taste for brightly colored decoration was already evident in Cairo in the late thirteenth century. Qalawun's tomb, for example, had been lavishly decorated with multicolored marble paneling, marble mosaic, and turquoise blue glass colonnettes in the arcades of the mihrab. The prosperity of Cairo during the reign of al-Nasir Mohamed encouraged craftsmen to emigrate there; Persian techniques and motifs became more accessible with the rapprochement in Mamluk-Mongol relations in the 1320s."[599]

Design Aesthetics

The two minarets of the mosque were foreign to the prevalent types in Cairo. They are oddly constructed as well with one projecting from the corner of the qibla wall and the other being integrated with the entrance on the opposite wall. In addition, there was a lack of interest in using them as a model to follow in later mosques built by the Mamluks. If the idea of design copying promoted by many scholars was true, then it should follow that all the minarets built after this date should have been the same. Of course this did not happen, on the contrary, minarets developed into octagonal shapes. Another point Blair and Bloom raised was the existence of a Persian tile workshop in Cairo. It is true that multi-color tiles were used in many buildings in Cairo, including the courtyard of the madrasa of Sultan Hassan, the son of al-Nasir Mohamed, but the tile on the dome was a unique appearance. Also, the marble work at the Mausoleum of Qalawun was clearly of the Cosmatesco type and did not follow Persian models. This must lead to the conclusion from this argument that the Persian influence was not as founded as the Western influence in Mamluk architecture. As it was already explained, many Andalusians were living in Cairo along with the recent arrivals from Aragón.

This mosque was built inside the walls of the Citadel therefore was not seen from the street in its entirety and did not relate to an urban setting. In layout, it did not differ however, from other mosques with open courtyards surrounded by arcades built inside and outside the walls of Cairo. The mosques of Ibn Tulun, al-Hakim, and Baybars are almost identical in their treatment of the exterior walls with windows to allow for light and cross ventilation. The exterior walls at the Citadel are, however, less articulated and look foreign compared to their predecessors. They follow the rules of defensive architecture with their high windows and the high, deep, and round battlements. The interior on the other hand is highly articulated and full of splendor. The courtyard with its forest of columns that are of almost every

[599] Blair and Bloom, Art and *Architecture of Islam*, op. cit., 80.

type available in Egypt are surprisingly harmonious. The rhythm created by the lower pointed-arched arcade with the upper gallery of smaller arches is unmatched anywhere in Cairo. This is a level of sophistication of a hypostyle prayer hall that is unique in Mamluk architecture. It is in keeping with the high style developed at the Qalawun Complex. Despite the removal of the marble wall paneling, the *ablaq* voussoirs compensate with their own visual contrast of light and dark stone. The proportion of short and tall columns is cleverly controlled and works well with the heavy stone blocks of the surrounding walls. The elements of the interior are nicely matched despite their variety. The three main protruding elements of the mosque, the two minarets and the dome, match each other despite being foreign to the rest of the mosque. The dome above the mihrab, is visible from within the courtyard as well as from afar, so are the two minarets. The aesthetics of the mosque from the outside are not Mamluk but are definitely so from the inside. The same proportional language and articulation of solid and void developed at the Qalawun Complex are continued with the columns and arches of the interior.

It is important here to point-out the design elements coming from the West which include:

1- The stepped crenellations above the walls of the courtyard.
2- The geometric grille designs on the perimeter windows.
3- The fleur-de-lis motif.

The stepped crenellations are similar to those found on the façades of al-Nasir Mohamed and Qalawun in Cairo but without the carved stucco designs. The window grilles also have designs similar to those found at the Complex of Qalawun including the six-pointed star, hexagon, and the larger geometric rosettes. The fleur-de-lis was not as apparent at the Citadel mosque which reinforces the fact that it was a favorite motif of the Andalusians, including the Christians, and not the Persians.

The mihrab of the Mosque of al-Nasir Mohamed at the citadel is very similar to those of the madrasa and mausoleum of Qalawun. It uses the same carved marble colonnettes with fluted conches, and the Cosmatesco designs. In addition, there are two more shallow marble niches on both sides of the main mihrab with similar Cosmatesco work. They have strips of marble that are capped by floral designs similar to the ones at the main mihrab.

The present decoration is the work of the Comité de Conservation, however, it is similar to the original marble work shown in photographs.[600] The

[600] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 178.

most important motif in the cavity of the mihrab is the fleur-de-lis. There is a band of Cosmatesco marble of the Qalawun-I fleur-de-lis motif which is just below the half-pointed-dome of the mihrab. It acts as a transitional zone separating the carved marble work below from the Cosmatesco work above. Just below this band there is another narrow carved marble band of a floral design similar to the fleur-de-lis motif but without the volutes. The two leaves below the frond are pointed and curve slightly downward. These leaves connect at their tips from one to the next creating a circle in between or a reversed volute. This design will become the new crenellation design for the Complex of Sultan Hassan the son of al-Nasir Mohamed.

The ceilings of the *riwaqs* around the courtyard are wooden, and have a coffered octagonal pattern. It is the exact same coffered ceiling with pointed crosses found at the mausoleum of Qalawun. The coffered ceiling above the qibla is almost original with badly deteriorating paint while in the other areas it is unpainted and appears to be more recently restored.

11.4.7- The Funerary Mosque of Emir Ulmas al-Hajib

Emir Ulmas was the chamberlain of al-Nasir Mohamed. He completed his mosque in 1330, in the quarter of Hadarat al-Baqar to the west of the Citadel. It is dated by an inscription above the door to 1328-9, and the completion to 1329-30. Ulmas was executed three years after the completion of the mosque. It was reported that he imported marble for his mosque from Syria and Anatolia and from other overseas places.[601]

Description

The mosque has an open courtyard surrounded by arcades. Abouseif described the layout as follows: “As was the case with the mosques of al-Maridani and Aqsunqur, the funerary mosque of Ulmas exemplifies the adjustment of the classical hypostyle or *riwaq* mosque to the urban environment. In other words, if shows the modifications or the loss of symmetry that this plan underwent when it had to be fitted in a given urban plot. However, this is the only one of the three to include the founder’s domed mausoleum, and the second known Friday mosque in Cairo, after the mosque of Emir Husayn built in 719/1319, to include the founder’s mausoleum. Although little has survived from the mosque of Emir Husayn, its hypostyle plan and the location of the mausoleum behind the prayer hall are recognizable.”[602]

[601] Ibid., 180.
[602] Ibid., 181.

Design Aesthetics

The street façade is divided with niches that include windows and are capped with muqarnas. The niches are similar in width and repeat at varied intervals to create a nice rhythm. The entrance vault is the focal point of the façade and balances the asymmetrical design. The inscription band and the fleur-de-lis crenellations offset the verticality of the niches. There is enough play to create a three-dimensional street front. The small ribbed dome is placed close the edge of the building and is visible from the street in a typical Mamluk fashion. The interior courtyard is simple with decoration only around the pointed arches. It is harmonious but static because it lacks depth and has fewer arches and windows since it is compact.

The most important element of the mosque is the fleur-de-lis crenellations visible on the exterior walls, with some remaining around the courtyard. The stucco floral designs of the interior are similar to the ones found at the Complex of Qalawun and the Complex of al-Nasir Mohamed. The minaret was reconstructed in the eighteenth century therefore it does not represent Mamluk architecture.

11.5.8- The Mosque of Emir Altinbugha al-Maridani

Emir al-Maridani started his career as the cup-bearer of al-Nasir Mohamed. He became an emir of a thousand and chief of police of the city. He later married the sultan's daughter and built his mosque in 1339-40. After a short crisis during the reign of the next sultan al-Mansur Abu Bakr, his career proceeded successfully under al-Ashraf Kujuk and al-Salih Ismail. He finally died when he was governor of Aleppo in 1343.[603]

Description

The mosque was described by Abouseif by saying: "Like the sultan's mosque in the Citadel, al-Maridani's mosque is built with a *riwaq* plan, a dome above the mihrab and three axial entrances. Due to urban constraints, however, the plan is not perfectly rectangular; the northeastern corner, between Tabbana Street and a lane, is chamfered. It is, however, less irregular than the plan of Ulmas' mosque due to the absence of a mausoleum. The minaret stands next to the main portal which is not opposite the prayer hall but in the northern wall. The façade wall between the main portal and the corner beneath the minaret indicates that substantial consolidation work must

[603] Ibid., 183.

have been executed here at a later date. The inscription band, the crenellation and the corner colonnette are missing in this section. The stone minaret is the earliest known to have been built with an entirely octagonal shaft surmounted by an octagonal pavilion crowned with a bulb on muqarnas. The *mu'allim* al-Suyufi, who built this mosque, also designed the minaret of the madrasa of Aqbugha attached to al-Azhar mosque. The restored bulb at the top of al-Maridani's minaret is repeated on the wooden pulpit inside, which is original."[604]

The street façade was described by Abouseif as follows: "Unlike the mosque of al-Nasir Mohamed in the Citadel, the façade on the main street, which corresponds to the mihrab wall, is paneled with window recesses. Following the fenestration device of Qalawun's complex, the lower windows are rectangular and the upper ones have a double-arched composition, which corresponds to a single-arch *qamariyya* within. Only the northern and eastern façades and a section of the southern façade are paneled with window recesses – i.e. the most visible parts. The remaining walls, which correspond to the three minor *riwaqs*, are plain and blind. The *tiraz* band, however, which starts on the northern façade, continues along the eastern wall and further to the end of the southern wall."[605]

Design Aesthetics

The street façade of this mosque is simpler and less three-dimensional than the ones discussed earlier. It strength, however, comes from the detailing of the shallow niches and their windows. The niches are capped with the familiar muqarnas but right above them, are unusually oversized stepped crenellations. The double-arched windows in each niche are amazing in their design and execution. They are very impressive as seen from the street level. They are slightly horseshoe with a column in the center similar to the Qalawun-set but without the oculus. Their grilles have asymmetrical geometric designs based on the sixteen-pointed star which expand into a larger rosette. Each pair of windows shares one full rosette split in half along the center column. The bottom inside corner of each window has yet another sixteen-pointed star rosette that is split even more to one-fourth. This creates amazing visual dynamics visible from afar. The windows vibrate with their rosettes than seem to turn inside one another. This is a clever way of adding visual interest and rhythm to an otherwise mundane street façade. The minaret balances the exterior walls with its pleasing proportions. It set the new prototype for Mamluk minarets in being octagonal rather than square.

[604] Ibid., 184.
[605] Ibid., 185.

The courtyard is harmonious with its narrow and tall pointed arches supported on columns from all over Egypt. An important feature of the mosque is the turned wooden screen which separates the sanctuary from the courtyard. It was unique in Mamluk architecture and was not used often to screen areas.

11.4.9- The Mosque of Emir Aqsunqur al-Nasiri

Emir Aqsunqur was the son-in-law of al-Nasir Mohamed and he held the office of master of the hunt and governor of Gaza and Tripoli under him. He also married the widow of his sultan after his death. He reached the top of his career under al-Muzaffar Hajji before his assassination in 1347.[606]

Description

Built in 1346-7 it has an open courtyard with arcades, a round minaret and stepped crenellations on the exterior walls. Abouseif described the mosque by saying: “The main façade is not parallel to the courtyard, but protrudes onto the street, forming a triangle whose base is along the façade of the western arcade. The minaret stands at the southern side of the angular façade and heralds the mosque at a distance to the onlooker coming from the Citadel. The monumental minaret, entirely cylindrical, seems to have had originally four instead of the usual three storeys. This has been recorded on a smaller scale with a reconstructed top, it is still an impressive tower.”[607]

Design Aesthetics

The façade is simple and flat, it has the familiar shallow niches with muqarnas and stepped crenellations. It appears bulky and less harmonious with very slow rhythm. The minaret of this mosque is one of the few that follow the round shaft model of the Mosque of al-Nasir Mohamed at the Citadel. It is unusually tall for such a façade and appears out of proportion. The interior has polychrome marble and *ablaq* voussoirs. The walls also have stucco *bukharias* with stylized fleur-de-lis handles. The interior has no distinct features and the courtyard has the typical rhythmic arcade.

[606] Ibid., 187.
[607] Ibid., 187.

11.5.10- The Mosque and Khanqah of Emir Shaykhu al-Umari

The Emir Shaykhu al-Umari was bought by al-Nasir Mohamed and had a great career. He rose quickly through the ranks to become one of the leading emirs during the reign of Sultan Hassan the son of al-Nasir Mohamed and the grandson of Qalawun. In 1351 Sultan Hassan was removed by Emir Taz, but restored to power in 1354 by the help of Shaykhu. He became the commander in chief and grand marshal shortly afterward. He was cruel and mystical and in 1357, when he was more than fifty years old, he was killed by the royal Mamluks.[608]

Description

Built in 1349-57 it is divided into two building across Saliba Street. Each building has a courtyard with arcades surrounded by stepped crenellations. Also there are two identical octagonal minarets one for each building. They are plain and devout of ornamentation except for simple round molding and limited muqarnas. The street façade has Qalawun-set windows with grilles of geometric designs.

The following was said by Williams about the mosque: “The interior plan of the building follows that of a congregational mosque. Immediately to the left as one enters the courtyard a small *mashrabiya* enclosure extends from the wall. This contained water jars, and probably dates from the mid-eighteenth century. An interesting feature of the sanctuary is the way the qibla wall is bent in a diagonal away from the street. Another is the stone *minbar*, the carved geometric decoration of which has been eroded, but its nature is suggested by what remains along the balustrade. The tight geometric patterns of the railing, however, suggest that this *minbar* was a mid-sixteenth gift to the mosque. The carved stone *dikka* is handsome. An inscription dates it to 1555/963. The mihrab, with radiating courses of red, white, and blue stone and marble paneling, are the type favored in the mid-fourteenth century; however, the glazed tiles of the lowest register seem to have been imported from North Africa or Spain, and embedded at a later date.”[609]

Design Aesthetics

The two buildings are less condensed and follow a more relaxed grouping of elements as they are spread across Saliba Street. The minarets were discussed above but despite their lack of ornamentation, they do look

[608] Williams, Caroline, *Islamic Monuments in Cairo: The Practical Guide*, The American University in Cairo Press (Cairo, 2008), 54.
[609] Ibid., 55.

Mamluk because of their octagonal shapes and proportion. The façades are harmonious with the familiar shallow niches and muqarnas. The Qalawun-set windows are placed at equal intervals inside each niche and create a slow rhythm. The buildings are topped with plain stepped crenellations. The eastern dome above the mausoleum of Akmal al-Din is placed close to the street and is visible from afar. The courtyard of the mosque has arcades of pointed-arches which alternate between wide and narrow which breaks the rhythm around the fountain. The courtyard of the khanqah is more harmonious because the stacked windows of the different rooms are equal in size and are repeated in a nice rhythm.

Illustrations of the tiles described above, made in 1858 by Prisse d'Avennes, or Idriss Effendi as he called himself were carefully studied.[610] No photographs of these tiles were found and the interior was not accessible at the time of this work. Older photographs taken by myself in 1998 were examined, however, the tiles were not located. Most probably they have fallen off due to moisture damage. Indeed the tile designs appear to be Andalusian and actually look similar to the ones found on the walls of the Alhambra. The design of the panels d'Avennes illustrated show almost an exact match with some of the wall tiles examined in Granada. The basic layout is a square grid filled with twelve-pointed stars expanding into larger rosettes. In between, there are crosses surrounded by other geometric designs. The familiar stepped crenellation tops the polychrome tile layout. Similar illustrations by d'Avennes at the same mosque show tiles depicting Ottoman designs. Consequently, the dating of this tile is questionable as these illustrations were not consistent around the mosque of Emir Shaykhu.

11.5.11- The Madrasa of Emir al-Sayfi Sarghitmish

Built in 1356 it has an open courtyard and four iwans and a mausoleum with a bulbous dome. It has an octagonal minaret and stepped crenellations over the exterior walls and the courtyard. The madrasa is attached to the northeast wall of the Mosque of Ibn Tulun. It is well documented that Ibn Khaldun taught at this madrasa during the reign of Sultan Barquq. Williams described Emir Sarghitmish and said: "This Mamluk renowned for his beauty was acquired by Sultan al-Nasir Mohamed and grew up in the corps of *jamdars*, or 'keepers of the wardrobe.' His prominence dates from the reigns of al-Nasir's minor sons, when Sarghitmish took an active part in the battles waged on their behalf. In 1354, supporting the Emir Shaykhu, he was one of

[610] Scanlon, George, *Prisse d'Avennes, Islamic Art in Cairo, from the Seventh to the Eighteenth Centuries*, The American University in Cairo Press (Cairo, 2007), 108, 109.

the principal agents in the reelection of Sultan Hassan, and after Shaykhu's assassination he became the *emir kabir*, the 'great lord' or grand marshal. He was virtual ruler of Egypt for Hassan, who, chafing at this, had Sarghitmish thrown into prison and murdered in 1358. He is buried in the domed tomb chamber that projects most visibly into the street."[611]

Design Aesthetics

The current dome over the mihrab was reconstructed by the Comité de Conservation in 1940. The Minaret was described as being a good example of the form to which the minaret of Salar and Sanjar was heading. The base of the minaret is square leading-up to a triangulated area of slanted equilateral triangles. The upper half has a colonnaded pavilion topped by a bulbous dome.[612] It is one of the most visually pleasing minarets seen so far. It has nice stripes of *ablaq* along its lower shaft and repetitive muqarnas below each balcony.

The street façade is flat except for slight recesses filled by plain pointed-arched windows. This is topped by stepped crenellations, however, the overall effect is static and lacks the vibrancy of other Mamluk buildings. The other original dome is placed close to the edge of the building and is visible from the street. The interior courtyard of the madrasa is better designed and follows the aesthetics of Mamluk architecture. The pointed arches of the iwans have nice reddish *ablaq* with the many small windows of the rooms creating a fast rhythm on their side walls.

Some important features of the interior are the carved marble medallions or *bukharias.* The designs inside each one follows the same rules of floral motifs discussed earlier. Instead of fleur-de-lis handles these *bukharia*s have more stylized budding motifs.

11.5.12- The Complex of Sultan Hassan

The largest complex built by the Bahri Mamluks, or any Mamluk sultan ever, was the madrasa and mausoleum of Sultan Hassan. After the death of al-Nasir Mohamed in 1341, his emirs struggled for control of the Mamluk state, while his sons devoted themselves to the pleasures of their harem. Being the seventh son of al-Nasir Mohamed, Hassan was declared sultan in 1347 at the age of 11. He was deposed and later reinstated; the complex was started during his second reign from 1354 to 1361. He tried to follow the example of his father by killing his strongest emirs to have full control. He was

[611] Williams, *Monuments in Cairo*, op. cit., 44.
[612] Ibid., 45.

killed by them, however, in 1362 before the complex was finished.[613] Blair and Bloom said the following about the economy of the time: “The financial reserves accumulated by al-Nasir Mohamed had already been depleted, and the economic problems of the regime were exacerbated by the arrival of the Black Death in Alexandria in the autumn of that year. Approximately one-third of the population, estimated at two-hundred to two-hundred-fifty thousand, is thought to have died, and subsequent epidemics of pneumonic plague kept the population from regaining its earlier level.”[614]

Description

The placement of the building on the site facing Rumayla Square was described by Blair and Bloom as follows: “The architect of this building ingeniously resolved the problem of maximum urban visibility and religious orientation toward Mecca. On the exterior the tomb’s visibility from the citadel, seat of Mamluk power, was maximized by having three sides of it project from the main building and by framing it with two other minarets, of which only the southern one retains its original form. Putting the tomb behind the sanctuary meant that worshippers had to pray directly toward the tomb. The complex Hassan represents a culmination of many elements in earlier Cairene architecture, but its size and largely freestanding position made it exceptional.”[615]

Specialists from all over the Islamic world were invited to work on this massive project. When it was built, the building covered an area of eight thousand square meters; it had a cruciform plan with four iwans, a mausoleum, an orphanage, a hospital, a bazaar, water tower, baths and kitchens.[616] The architect of the building was identified from the stucco Kufic inscription band in qibla iwan as Mohamed ibn Biylik al-Muhsini. He was described as *shadd al-‘imara* or the creator of the architecture and was identified as a major emir of the Mamluks. He was mentioned by Maqrizi as being born in Egypt with a long career under al-Nasir Mohamed. He was also appointed as the governor of Cairo in 1330. He was responsible for the construction of the hippodrome of al-Zahir Baybars. He was appointed by Sultan Hassan as one of his ten ‘emirs of thousand’ who were descended of Mamluk emirs. When he was placed in charge of the construction of the complex he was well versed in construction projects and civil engineering. He

[613] Lyster, *The Citadel of Cairo*, op. cit., 32.
[614] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 81.
[615] Ibid., 84.
[616] Ibid., 82.

was held in a very high status given the importance of the building. He was also responsible for writing and designing the inscription of the madrasa.[617]

The construction of the complex was discussed by Abouseif by saying: "The construction of the mosque of Sultan Hassan, which occupied an enormous site for several years, posing unprecedented challenges to the builders and other craftsmen from various regions, was not perceived by contemporary chronicles as an outstanding event in the daily life of Cairo's population that was worthy of being documented. Neither did they associate this greatest monument of the time with any exalted cause, not even with the end of the Black Death, the horror of which they had reported a few years earlier. This attitude suggests that during its construction the mosque of Sultan Hassan was perceived as the sultan's monument rather than a collective cause of the people of Cairo, quite unlike the way medieval cathedrals were perceived in their cities. Only later, after the sultan's brutal death and when the mosque's architectural significance was established, did it become an attribute of Cairo and a symbol of its glory."[618]

What is amazing about this complex is its height since it has several floors full of rooms for students. The street façades rival twentieth century high-rise buildings.[619] The height of the arches over the four iwans of the madrasa was unmatched. The impact of employing specialists from all over the Muslim World is apparent with Anatolian, Chinese, Persian, and Andalusian elements used throughout. What is important in this building is the persistency of the Andalusian influence, and the stylistic transition from Bahri to Circassian aesthetics. The influence from al-Andalus is seen in windows of the mausoleum, which are horseshoe arches joined as Qalawun-sets. The crenellations here are the new fleur-de-lis type discussed below and mark a change in Mamluk architecture. In addition, other elements are noted in later sections especially the tile designs above the entrances to the four madrasas from the Alhambra.

The exterior was discussed by Blair and Bloom as follows: "The exterior façade is articulated with regularly spaced, shallow vertical niches and crowned by a deep muqarnas cornice once surmounted by crenellations. The extraordinary portal, rising thirty-seven meters above the current street level, is crowned by a superb muqarnas semi-dome and flanked by spiral-cut pilasters and vertical panels. The unfinished state of the carving on many of

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[617] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 204.
[618] Ibid., 17.
[619] The tall façades were treated with vertical slits for windows in a Chicago-like style, however, this design preceded the work of nineteenth century architects like H. H. Richardson by several hundred years and must have inspired it.

the panels shows that large decorative elements were cut to size before they were erected, while small ones were carved in place. The portal's height would have been accentuated by the two minarets that were intended it to surmount it, but three months before the patron died, one of them collapsed, killing three hundred people in its fall. This event was seen as an augury of the collapse of the sultan's power, and construction was halted. The carved stone decoration around the portal is of the highest quality and includes such Chinese motifs as chrysanthemums and lotus flowers."[620]

Minarets Analysis

The minarets are on the south-eastern side of the complex framing the mausoleum façade. Abouseif said the following about their location: "The positioning of the mausoleum between two minarets was a further novelty, adding a new dimension to the Cairene art of juxtaposing the dome and the minaret. With two more minarets planned to flank the portal, as in Seljuk Anatolian buildings, Sultan Hassan's mosque would have had four minarets, an unprecedented number in Cairo. The northern minaret collapsed in 1659 and was replaced by the present structure in 1671-2."[621]

Of great importance is the original southern minaret as it represented a new Mamluk prototype. This is one of the earliest minarets of the Qalawunid period, to break away from the Umayyad square-plan tradition. Earlier of course, there was the example of the round minaret of the Mosque of al-Nasir Mohamed at the Citadel which had foreign aesthetics. In addition, there were a few minarets that followed the octagonal-plan mainly of the emirs of al-Nasir Mohamed. The minaret of the Mosque of Emir Shaykhu al-Umari (1349-57) and the minaret of the Madrasa of Emir al-Sayfi Sarghitmish (1356) were built earlier but they lacked the visibility of the Complex of Sultan Hassan to impact the future development of minarets. The new minaret starts with a square plan base that connects to an octagonal shaft through a triangulated transitional zone. It has three levels of balconies, small on the first level, but continuous wrap-around on the second and third levels. The top has an open pavilion of tri-lobed arches on columns, capped by a bulbous dome that is surrounded by an inaccessible balcony. Each wrap-around balcony has rows of muqarnas and a balustrade above. The balustrade has posts with open ornamental panels in between that alternate between geometric and floral designs. The second, third, and dome levels have similar balustrade designs. The geometric panels on the second level are made-up of two crosses rotated at 45 degrees to form an eight-pointed star rosette. The floral panels have a fleur-de-lis with a hollow circle in the center surrounded by an arabesque

[620] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 82.
[621] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 206.

design of vines. This fleur-de-lis must have been conceived as an echo of the crenellations around the mausoleum and the courtyard. This motif will be called a Flying fleur-de-lis from now on, because the volutes were eliminated, and the two fronds were raised to resemble the spread-wings of a bird. They are closely placed around the courtyard to create a flipped negative image of a trefoil.

Façade and Portal Analysis

The northern and southern façades were described by Abouseif as follows: “The cornice of carved muqarnas, which boldly projects about 1.5 m at the summit of the entire façade, is a tour de force of masonry, and a singular occurrence in Cairene architecture. It is not symmetrical, however. On the southern side the cornice does not continue along the entire façade, and its muqarnas is in a different style. Also, the window recesses of the southern façade lack the muqarnas crest of the northern recesses. Both the southern and northern façades are characterized by their extraordinary fenestration. Six recesses pierced with eight vertical rows of windows correspond to four storeys of cells each with two superimposed windows. This configuration, which gives the façades a contemporary look, was a further outstanding feature, which added a new dimension to the art of fenestration in Mamluk architecture. However, it was not to be repeated elsewhere (See my footnote above on the Chicago Style). Both façades have an oculus set in a recess above two superimposed windows, corresponding to the middle of the northern and southern iwans. The northern and main façade is 150 m long. The southern façade displays a series of corbels in its lower part, which suggests that they carried a roof. It might have covered a market along the walls of the mosque. This is confirmed by Evliya, who mentions beneath the mosque about fifty shops built of stone. The west side of the complex includes the annexes with a waterwheel, latrines and ablution fountains, and a row of arcaded units, which could be shops connected with the weapon market.”[622]

The façades of the mausoleum are strikingly different with niches having Qalawun-set windows. They follow the same tradition found on the façade of the Complex of Qalawun on al-Muizz Street. Some new features were introduced here like the pointed horseshoe arches and the joggled voussoir relieving-arches. Those voussoirs have a crown of a simpler version of the Type-B fleur-de-lis motif. The volutes were eliminated to simplify the construction process since small scrolls of stone could easily break. This is the new Flying fleur-de-lis motif described earlier. This exact motif is repeated in the joggled voussoirs around the Complex of Sultan Hassan especially in

[622] Ibid., 207.

the madrasa. The muqarnas cornice described above was crowned by a crenellation of this new type. This is not the first time for this crenellation to appear, since similar motifs are found on the buildings of the emirs of his father, al-Nasir Mohamed. This is, however, the first time the Flying fleur-de-lis crenellations are used on such a grand scale. Earlier use was traced to the exterior walls of the Complex of Sanjar al-Jawli (1303-4) and the Mosque of Ulmas al-Hajib (1330) both were emirs of al-Nasir Mohamed. It is very hard to establish the date of its first appearance as many buildings of this period are missing their crenellations. For the purpose of this work it is important to note that it appeared on few buildings prior to the construction of the Complex of Sultan Hassan but appeared on the majority of the buildings constructed afterward during the Circassian Mamluk period.

The description of the exterior was continued by Abouseif as she said the following about the main entrance: “The gigantic portal of Sultan Hassan 38 m high, is visible from Rumayla square and the Citadel due to its projection and its askew position in relation to the rest of the façade. It turns towards the Citadel at an angle of 17 degrees from the façade to reveal its grandeur and novelty. Neither the muqarnas vault nor the carved decoration of the portal was completed. The portal design consists of a magnificent rectangular arabesque-carved frame doubled by another external frame of interlocking bands framing carved rectangles. The arabesque frame has been completely carved on the sides except for the upper line above the portal vault, where a layer of stone facing has not been put in place. Its pattern is akin to the illuminations designed by Abu Bakr, known as Sandal, in a Koran manuscript of 1313. This is not the only evidence of an influence of Sandal’s work on the decoration of Sultan Hassan’s mosque, as will be shown below. The interlocking framing bands were outlined in the lower part of the walls and only a fragment has been carved. Similarly, the opulent chinoiserie floral motifs are outlined with thin carved lines still to be elaborated. They are the only instance of chinoiserie in Mamluk architecture. Chinoiserie had already been introduced into the Mamluk decorative arts some decades earlier, in glass and metalwork. It also appeared in contemporary book illumination. Deeply carved marble medallions outside and inside the portals recall a Seljuk Anatolian decorative tradition. On each side of the portal recess, slender marble slabs, one with a floral meander of Gothic style and the other with enigmatic architectural representations that do not quite fit with the rest of the wall, must have been spoils from a Gothic monument, most likely from Antakia, which belonged to the mosque’s estate, and which still included at that time Christian monuments and its entire ancient walls, as the waqfiyya indicates. The side walls of the portal recess are decorated with a pair of marble niches with a muqarnas conch of Anatolian style. The geometric patterns that fill the niches beneath the conch are also inspired by Sandal’s

illumination of al-Muzaffar Baybars' (al-Jashnakir's) Koran. Above the niches are inlaid marble slabs with Koranic phrases in Kufic script from the Sura of Victory, *surat al-fath*, which are also inscribed in carved panels of square Kufic above the niches. This sura is also inscribed in the prayer iwan."[623]

The origin of the portal was explained by Abouseif by saying: "With its twin minarets, the design of this portal with the profile of the muqarnas vault reveals an Anatolian Seljuk inspiration, in particular the portal of the Gök madrasa in Siwas, built in 1271. The big gap between the dates of the two monuments naturally excludes an attribution to the same craftsmen. Moreover, the dimensions of Sultan Hassan's portal are so much greater than its Anatolian predecessor that it is difficult to believe the latter could have been a source of inspiration. The similarity, which is in the general design rather than in the details, may have been transmitted by a drawing. This seems to be confirmed by the fact that the portal of another Anatolian madrasa, the Khatuniyya in Qaraman, built more than a century later, in 1382, is also the style of the Gök madrasa."[624]

In addition to the elements described above on the façade of the portal there are specific designs that originated from al-Andalus. There are two roundels on both sides of the entrance, inside the square recesses at the door level. The roundel on the right-side of the entrance starts in the center with a ribbed rosette surrounded by a sixteen-pointed star that is surrounded by two more interlaced stars. Each point of the interlaced sixteen-pointed stars has a floral motif placed at its tip. The familiar Type-A fleur-de-lis alternates with another stylized rose-bud motif. The two motifs are aligned so the fleur-de-lis is higher with an extended stem. This arrangement creates a scalloped outline effect surrounding the roundel. Comparing this design with the one on the side of the minaret of the Complex of al-Nasir Mohamed it was found to be similar. The one at the Complex of Sultan Hassan, however, lacks the beautiful stucco detailing of the latter roundel since it was made of carved stone. Comparing this same design with others from the walls of the Alhambra resulted in a much better match. The center of the roundel at Sultan Hassan has a ribbed sixteen-pointed star exactly like the twelve-pointed ribs of the stucco star in la Sala de las dos Hermanas at the Alhambra.[625] In addition, the placement of the fleur-de-lis at the tips of the star is the same as it is at la Sala de las dos Hermanas with lines of the center star being interlaced to create more stars. The roundel at the Alhambra lacks the floral designs of the field of the roundel of the Sultan Hassan and has the stars instead.

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[623] Ibid., 209.
[624] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 209.
[625] Jones, *Plans and Details of the Alhambra*, op. cit., pl. XXXVII, No. 4.

On either sides of the portal above the two roundels analyzed above, there is a vertical border of stucco floral designs. It is made of connected panels equal in size and aligned to the stone blocks behind. It has a slightly modified Type-A fleur-de-lis motif with two nibs placed inside a split-palmette with another smaller combination above it. This design alternates with a simpler stylized rose-bud motif surrounded by an outline resembling a lozenge. Again, this is the same border combination found at the previous Qalawunid group of buildings.

The side niches of the portal have two slim columns with muqarnas capitals with floral impost blocks containing stylized fleur-de-lis motifs. At both sides of the columns there are two stone *bukharia* designs. This is a one-sided instead of the typical two-sided design found at many buildings around Cairo. The first one on the left, has a rose-bud in the center with a stylized palmette above it, both are surrounded by interlaced outlines of vines. The tip of the *bukharia* has a rose-bud crown similar to the ones found on roundels of the façade. This stone *bukharia* is deeply carved-out with straight cuts. The one next to it has the design drawn but without being carved. The other two on the right-side of the entrance are not complete with one only partially carved. Above the conch of the niche there is the inscription described above. It includes peculiar symbols with one being a stylized Type-B fleur-de-lis placed inside a circle. This is similar to the application on the other side of the portal.

Interior Analysis

The interior of the madrasa was described by Blair and Bloom as follows: “Superb bronze doors, illegally removed by Sultan Mu’ayyad to his mosque at Bab Zuwayla, opened to a cruciform vestibule with a raised platform at the rear and a stunning muqarnas vault above. The vestibule gives access to a long double-bent passageway which leads to the center of the complex, a magnificent court paved in marble with a decorative fountain in the center. On each side of the court is a soaring iwan, and the corners of the building between the arms of the iwans house madrasas for the four orthodox schools of law. Each has its own smaller court surrounded by four or five stories of rooms for students. The south-east iwan is spanned by an enormous vault which contemporaries believed surpassed the Sasanian arch at Ctesiphon, considered one of the wonders of the world. Just the wood used to construct the centering for this arch cost one hundred thousand dirhams, of more than the cost of an ordinary mosque. The iwan served as the prayer hall of the complex, and the mihrab and surrounding qibla wall are paneled in marble slabs of contrasting colors. To the right of the mihrab is a marble *minbar*, much praised contemporary, and in front of it is an equally fine *dikka*,

or tribune, for the official charged with repeating the daily prayers so that all worshippers could hear and follow the service. Around the iwan at the springing of the vault is a superb stucco band with a large Koranic inscription carved in monumental Kufic against a floral arabesque ground. Doors flanking the mihrab lead to the tomb beyond the qibla iwan; that on the right is original and of exceptional workmanship, plated with bronze and inlaid with silver and gold."[626]

The interior of the madrasa was also described by Abouseif as she said: "A bent passage leads to the courtyard, passing beneath the wing of the madrasa dedicated to the teaching of the Maliki school. The four monumental iwans fully dominate the courtyard of the mosque, with no living units to share the inner space. Unlike previous madrasas, where living units overlook the courtyard, the residential space here is totally separate from that of the public Friday mosque. This separation may be related to the double function of the complex, as a madrasa dedicated to the academic community and a Friday mosque accessible to the general public. Only the entrances of the four wings of the madrasa, placed at the corners between the three minor iwans, are enhanced by their polychrome marble inlaid lintels. The onlooker in the courtyard of the mosque does not perceive the impressive four-storey structures, which dominate the facades, concealed behind the inner walls. The dwellings were conceived as an outer shell. Above the four iwans, beneath their apex and the crenellation, an empty space marked by a horizontal molding that runs along the entire courtyard, might have been intended to contain an inscription. The monumentality of the main iwan has been acknowledged by Mamluk historians to have no parallel, and to exceed the proportion of the vault of the Sasanian palace at Ctesiphon. The iwan is parallel to the marble dado, which is much lower on the lateral walls than on the central one, thus emphasizing the qibla. The mihrab, which is flanked by a pair of columns with capitals of Gothic style, has a conch carved and inlaid with a triple sunrise motif. The minbar is made of marble, like that of Aqsunqur, but without inlay work. Its glory is, rather, in its bronze door with geometric star compositions. The bench for the *mu'adhhins* is carried on marble columns, also displaying an unusual polychrome zigzag design. The stucco inscription band, which runs along the entire upper wall of the sanctuary, is unparalleled in Mamluk mosque interiors. It is a revival of Kufic script in monumental epigraphy in a style borrowed from the chapter headings of Bahri Mamluk Koran manuscripts, which was inspired from Baghdad. The ground of scrolls against which the text is set, however, includes Chinese lotus flowers that do not feature in the aforementioned illuminations, but this pattern was used for the first time in illumination in a Koran manuscript dated

[626] Blair and Bloom, *Art and Architecture of Islam*, op. cit, 83.

1356 – i.e. to Sultan Hassan's reign – but which was donated in 1369, probably illegally, by Sultan Sha'ban to his mother's madrasa. A signature on the edge of the inscription band attributes the work to Abd Allah Mohamed al-Yamani Abd (?). The *nisba* 'al-yamani' suggests either a Yemeni craftsman or a craftsman who worked in Yemen. Although stucco was a major decorative medium in Rasulid architecture in contemporary Yemen, no comparable inscription band is known to me. In the Hanbali madrasa there are some loose epigraphic stucco slabs written in Kufic, which contain fragments of the text inscribed in the iwan; they could be templates for the monumental epigraphy of the mosque. Comparable but less elaborate Kufic inscription bands are in the iwans of the madrasas; the one in the Hanafi wing names the sultan and the supervisor of the construction works. The test of the Koranic inscription of the sanctuary, a fragment from the Sura of Victory, LXVIII, 1-6, which begins with 'We have given you a glorious victory so that God may forgive you your past and future sins…', and which is also fragmentarily applied in inlaid marble on the portal, must have been selected by the patron to celebrate the recovery of his throne following the years of humiliation. The Koranic text is preceded by the formula '*a'udhu bi-'l-llah min al-shaytan al-rajim*', which was not common in the epigraphy of this period."[627]

The four iwans of the madrasa are of a size never seen before or after in Cairo. An important point of the courtyard is the airflow and the amount of natural light. Visiting the madrasa of Sultan Hassan at different times of the year one is immediately aware of the temperature difference between the outside and the inside of the courtyard. During the hot summer months, the interior of the madrasa was considerably cooler than the outside. This was not only due to the open courtyard and the fountain in the middle, which is a common feature in many Islamic buildings, but because of the many air-shafts and perimeter windows that allow for cross ventilation. The air-shafts are also light-shafts and contribute to the natural light of the inner passages. The great height of the iwans prevents shadows from being cast on the interior which is a common problem in other buildings with short iwans.

The Kufic inscription band described above at the qibla iwan is filled with carved stucco work that is very similar to the type found at the Complexes of Qalawun and al-Nasir Mohamed. It is flat with pierced straight cuts that are by now a familiar Cairo style. There are more stucco roundels similar to the ones discussed earlier appearing in this Kufic inscription band. There are a total of three that are placed in the center of the inscription on each side of the iwan. The three are identical in design and in size and follow the same layout of the ones discussed above. This roundel starts with a

[627] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 213.

similar design to the ribbed rosette in the center but has a six-pointed star layout. There is a build-up using vines that are connected to create another larger six-pointed star. The same idea of placing floral motifs at the tips of the star is employed here with stylized fleur-de-lis motifs alternating with other stylized floral designs. More floral designs are used to fill the empty space of the roundel in between the two six-pointed stars and the outer circle. The inscription band itself is filled with floral designs including stylized fleur-de-lis motifs, half-palmettes and lotuses. The top of the band is crowned by a stylized carved stucco Type-B fleur-de-lis crenellation. Below it, we have the now familiar outline of another fleur-de-lis motif that has yet another fleur-de-lis motif at its bottom center. This is the same design idea used on the façade of the entrance to the mausoleum of Qalawun, the mihrab of his madrasa, and the mihrab of the madrasa of al-Nasir Mohamed. In addition, the overall set-up of the band above the inscription is exactly the same as the border surrounding the stucco work on the façade of the mihrab of the madrasa of al-Nasir Mohamed. On the outer faces of the qibla iwan, there is a narrow band of winding and flipping paisley-like or half-palmette similar to the one around the keel arches of the minaret of al-Nasir Mohamed and the second storey of Imam Shafii. This band is replaced by another border of standing and stylized Type-B fleur-de-lis motifs, above and below the Kufic inscription, on the three inside walls of the qibla iwan. The inscription band itself has a continuous design of swirling vines that extend on both sides of the stucco roundels in the middle of each wall.

The basic design palette of stucco motifs is the same seen at previous Bahri Mamluk buildings. Its application at the madrasa of Sultan Hassan shows the ingenuity and the inventiveness of its creator. The argument by Abouseif, Bloom, and others that this was design by copying is unacceptable. The stucco work was not, and cannot be of Persian origin. There are more elements here that were inspired by the walls of the Alhambra as seen at other Bahri Mamluk buildings. This is the climax of the new Mamluk aesthetics fully realized and developed in Cairo.

Tile and Marble Analysis

A new feature of the interior is the polychrome tile designs adorning the entrances to the four madrasas. Tile was used before in Cairo, as seen on the minarets and dome of the mosque of al-Nasir Mohamed at the Citadel, but never before like this. A typical madrasa entry façade has courses of *ablaq* black and white marble with a joggled voussoir lintel and a relieving-arch also with joggled voussoirs above it. The stone-lintel above each door is surrounded by a frame of polychrome tiles. Abouseif wrongly described the entrances as having: “Polychrome marble inlaid lintels”. Closely examining the

tile designs around the lintels revealed that they differ in design but are similar in technique. Some parts of the frames were missing their tiles and their designs were not discernable. The first one analyzed was the entrance to the Hanafi madrasa which has the words of "*al-Mulk Lelah*" in the center of the relieving-arch which is also made of tile. The frame of the lintel itself is composed of blue, green, yellow, dark-red, and white tiles. The white is used mainly in the background around the other colors. The basic design motif is a twelve-pointed star rosette with only its half showing. The space in between the rosettes is filled with Y-shaped blue tiles. The stars are composed of dark-red in the center surrounded by blue to make a larger star and finally the yellow and the green to make the rosette. The half-rosettes are arranged in a horizontal row above the lintel, which continues on the vertical sides, but flip upside-down below the lintel. The other entrance analyzed was that of the Shafii madrasa. The arrangement here is similar but with the word "A*llah*" in the middle of the relieving-arch. The lintel tile frame is composed of six-pointed star rosette tile motifs. The rosettes are whole and are arranged horizontally with dark-red five-pointed stars in between. The colors are the same, but have different emphasis, with the green being more dominant compared to the blue of the previous example. The white is also used as a background and as outline for the rosettes and the geometric shapes. The other two entrances have similar designs with some minor variations in shapes and composition.

Comparing these tile designs to the wall tiles at the palaces of the Alhambra revealed that they were almost identical. In Granada, the twelve-pointed star was a favorite design motif, along with the larger rosette as evidenced by the many variations found there. In addition, the same tile color-palette was used, of course with some variation due to local pigments. The cutting technique and the design logic is exactly the same. The usage of white tile as a background and as a rosette outline was also carried over from the walls of the palaces.

The joggled marble voussoirs in the lintels, above each door and above the relieving arches, were ingeniously interlocked using Flying fleur-de-lis motifs in black and white corresponding to the *ablaq* stone colors. The blocks used were monolithic with the motifs carved-out to create the structural interlocking. The motifs on the face and on the bottom of the lintels had no grout lines to indicate a facing. They were carved-out in a way that made it impossible to create a tongue-and-groove fit on the visible sides of the blocks. Trying to understand how those pieces were fitted together through analysis and discussion with local engineers led to no conclusion. Some of those blocks were connected in a way that was not comprehendible for architects using current technology. This in itself, is worthy of an extensive study but it

suffices to say that this type of joggled voussoirs using monolithic interlocked blocks was very rare. The more common type used stone veneers on the face and bottom of lintels and arches, or whole blocks carved only on the face of the lintel. The most important element to appear here is the new Flying fleur-de-lis motif in joggles, which will become very popular in later Mamluk buildings.

Mausoleum Analysis

The interior of the mausoleum was described by Blair and Bloom by saying: “The tomb chamber, a simple square, is the largest domed mausoleum in Cairo, measuring twenty-one meters on a side and thirty meters to the top of the walls. At its center is a wooden screen enclosing a raised marble cenotaph, but only Hassan’s two young sons were buried there; the sultan’s body was never recovered after his assassination. All four walls are paneled with marble; above is a wooden band carved and painted with the Throne Verse (2:225), the well-known Koranic passage dealing with God’s majesty. Wooden muqarnas pendentives, lavishly painted and gilded, once supported a bulbous wooden dome, but the present dome is a restoration. This lofty chamber was once illuminated by hundreds of glass lamps, specially commissioned for the building.”[628]

Analyzing the elements inside the mausoleum revealed them to be inconsistent and did not represent a specific direction. This can be attributed to the new dome and the restoration work done during the Ottoman period. The marble work on the wall and in the *mihrab* is similar in design and technique to the rest of the complex.

Design Sources

It has been established that workers from all over came to build the complex. In addition, the architect was overseeing construction and dictated his aesthetics on the complex. The workers, as usual, were divided into teams to work on separate areas with some independence in applying design motifs. Blair and Bloom traced the origin of the elements of the complex and said: “Features such as the four-iwans plan with dome behind the qibla iwan, the portal framed by minarets, and the domed vestibule, are innovations in Cairene architecture. Some scholars have traced these features to particular monuments in Central Asia and Anatolia, but it seems far more likely that the immediate models were the now lost imperial construction of the Ilkhanids in north-western Iran, such as Ghazan’s funerary complex at Tabriz and

[628] Blair and Bloom, *Art and Architecture of Islam*, op. cit, 83.

Uljaytu's complex at Sultaniyya, where many of these same features were found in one building. The Ilkhanids had been the major power in the early fourteenth century and their monuments still represented the imperial ideal. With the collapse of the Ilkhanid state in 1335, the imperial building tradition there came to a halt. In the ensuing turmoil and plague throughout the Middle East, artisans would have gravitated to Cairo bringing with them techniques and motifs, such as muqarnas vaults, square Kufic inscriptions, and chinoiserie, already popular elsewhere. Ibn Khaldun, the great philosopher of history, who arrived in Cairo in 1382, twenty years after Hassan's death, wrote that large cities and high monuments were built only by strong royal authority, and he cited examples of the pyramids and the iwan at Ctesiphon. Sultan Hassan, the weak and ineffectual ruler of Egypt, sought to make his mark with an equivalent monumental construction; his stunning architectural achievement belies his political ignominy."[629] As was shown earlier, Abouseif and Bloom discussed Anatolian and Persian design influences but never mentioned sources from the West which were apparent in many areas of the complex. The tiles analyzed above were never discussed by either one of these authors.

The Fleur-de-lis and the Gothic

Most of the Flying fleur-de-lis crenellation above the building cornice is gone with the exception of the remaining ones above the mausoleum and the courtyard of the madrasa. The use of this type was new in Cairo and was never used before the Mamluk period. It is difficult to determine why, it all of a sudden appeared in Egypt. Doing extensive research on the use of crenellations in churches from the thirteenth to the fifteenth centuries in Spain, online using ARTstor, and at the Museu Nacional d'Art de Catalunya (MNAC) in Barcelona, resulted in important discoveries. The tempera and gold leafed wood altar piece titled Annunciation and Three Kings of the Epifany, from the church of Sant Vicenç of Cardona dated 1347-60 has floral crenellations similar to the new Mamluk type. The crenellations of the altar piece are made of wooden trefoils in an arrangement that could have easily inspired the Mamluk type. In addition, Cardona is only 90 km away from the port of Barcelona and could have been easily accessed by travelers from Alexandria. A closer example of a floral crenellation was found at the Great Mosque of Córdoba which was created in the fourteenth century after the fall of city in the hands of the Christians. This is above the wall section at the Puerta de los Deanes which was restored in 951 and again in the fourteenth century.[630] This

[629] Ibid., 84.

[630] Fernández-Puertas, Antonio, Mezquita de Córdoba, el Trazado de la Portada Interior de la Bab al-Wuzara, la Puerta de los Deanes (S. VIII), su Trazado Interior y Exterior. In *Archivo Español de Arte*, LXXXII, 326 (Madrid, April-June 2009), 124.

crenellation was based on the fleur-de-lis motif despite the apparent difference. The design is more linear with a narrow frond and volutes. It is clear from these two examples that the floral crenellation design went through a development phase. First in the altar pieces, the trefoils were spaced apart as to not create a negative outline of any recognizable shape. On the contrary, the fleur-de-lis motifs at the Puerta de los Deanes were placed closer together to create other floral outlines in between. During the Gothic period many buildings had crenellations shaped as crosses. Some examples can be seen at: Bruges Town Hall in Belgium, Freiburg-im-Breisgau the Exchange in Germany, and the Ca d'Oro in Venice.

The question now is: why did the fleur-de-lis crenellation suddenly appear everywhere in Cairo in the fourteenth century, and become a symbol of later Mamluk architecture? It is important to look at what was happening in Europe prior to its appearance. Hamlin said the following about how Gothic architecture was influenced by the East: "The Crusades had a great educational value. Pilgrimages had entailed travel and had brought to the West a considerable knowledge of the East; but they were individual—their effect was bound to be a matter of limited scope based largely on hearsay. The Crusades, however, were mass movements, and for the first time since the Fall of Rome travel became a common and accepted part of living. The Crusades, too, took various routes to the East—some went over land via the Danube route and the Balkans, some went by sea from France or Italy;--but distances were great and travel was slow, and the actual business of the Crusades, the re-conquest of the Holy Land, was delayed and hindered and finally defeated by the national and feudal rivalries of the most important of the crusading lords, as well as by the cupidity of the Mediterranean ship - owners of Venice and Constantinople. The result was that the Crusade, the Fourth, took it upon itself to halt long enough to capture the city and set up a western dynasty, which ruled for seventy years. Thus, noble and solider alike were brought in touch not only with the lavish architecture of Constantinople and the ideals of greater personal luxury which there held sway, at least among the rich, but also with the Saracenic work of Sicily, and from time to time with the highly developed Mohammedan architecture in Egypt and of Syria. Necessarily, too, in the course of these long journeys and wars, there was a tremendous interchange of knowledge among the Crusades themselves, and the Crusades acted as a sort of gigantic melting pot despite the rivalries which cursed and destroyed them. The returned Crusader had knowledge not only of the far lands which he had seen, but also of his neighbors in Europe, which was a new thing and naturally added to the feeling of individual responsibility, as it developed curiosity."[631]

[631] Hamlin, *Architecture through the Ages*, op. cit., 282.

It is now clear that the fleur-de-lis crenellation was originally a Christian symbol representing the cross, as it was used on churches of the Gothic period beginning in France in the twelfth century. This coincided with the capture of Jerusalem in 1099 and the beginning of Christian rule. The Crusades continued during the period of the development of Gothic architecture which lasted from the twelfth to the sixteenth centuries. Heavy travel must have influenced church aesthetics in the Holy land as explained above. Obviously, the new crenellation-type went through a period of development and was used on coastal churches of the Levant in Antioch, Tripoli, and Acre. It is hard to pin-point a single building and say with authority, that it influenced earlier buildings during the reign of al-Nasir Mohamed, despite Creswell earlier citing many examples in his analysis of the Complex of Qalawun. In conclusion, since the Mamluks were originally Christians from Eastern Europe and the Black Sea area, they must have strongly associated with the fleur-de-lis as a symbol of the cross. As reported earlier many Mamluk converts remained secretly Christian. For the Mamluks, a symbol like the fleur-de-lis did represent a double meaning of power and Christian linage.

Design Aesthetics

The aesthetic principles used at the Complex of Sultan Hassan have harmony, variety, balance, and proportion. They are applied, however, with a new sense of scale. Unlike the buildings studied so far, which are either viewed up-close from a narrow street inside the city walls or from a distance as in an open square, the complex being free-standing facing the citadel on one side and the city on the other, had to respond to sightlines from both directions. This problem was solved by Mohamed ibn Biylik al-Muhsini, the architect, with ingenuity as the main organizing factor of the architecture became the massing. Each volume of the different functions was pushed in or out, shifted and slanted to respond to a particular sightline. Of course the main view was that from the Rumayla Square and the citadel. All the elements of Bahri Mamluk architecture were incorporated but with a different logic. The exterior façade's articulation with niches is used but only as surface ornamentation. The long side façade is broken up with window slits that create a fast rhythm to add visual dynamics to an otherwise mundane wall. The massing of the building elements has taken over to respond to a much larger scale. The mausoleum façade is symmetrical with the large dome in the center and the two minarets on either side. Originally the minarets were of the same size before the collapse of the one on the northern corner. To emphasize their architectural form and height, each corner below the minaret was rounded and fluted. To create a visual effect of lightness, the wall cornice is projecting out on muqarnas and is capped by the fleur-de-lis crenellation.

This projection creates a strong terminus for the walls and frames the elements above, the dome and the minarets, so they would appear floating above the building. The slanted monumental portal also emphasizes the volume of the entrance and increases the visual impact as viewed from the citadel. Even the courtyard has limited ornamentation and the emphasis is on the sheer size of the great vaults. The architecture of the complex is hence a tour de force in the manipulation of masses and volumes. It is articulation on a scale never seen before in Cairo as it was a reflection of the vision of the architect. The rest, is simply applied surface ornamentation that adds texture to the otherwise bare walls. Of course the work on the complex was not completed but judging by the courtyard, the inscription band is sufficient in adding visual interest to the walls.

The aesthetics of the complex marked a new direction for Mamluk architecture. The new elements developed became fully realized at the Complex of Sultan Hassan. Later buildings continue the development of this new style which became more Circassian and less Bahri Mamluk.

11.5.13- The Madrasa of Umm al-Sultan Sha'ban

The madrasa was built in 1368-9 by Sultan Sha'ban for his mother Khwand Baraka. She was the concubine of Husayn, one of the sons of al-Nasir Mohamed. She married Uljay al-Yusufi after her husband died in 1362.

Description

The interior was described by Williams as follows: "The internal plan is that of a cruciform plan, although it was built to teach only two *madhhabs*, the Shafii and the Hanafi. The qibla iwan is flanked by two tomb chambers with lofty domes. They are both rather unusual for the time period in that the domes rest on simple squinches rather than on tiers of stalactites; the walls are plain, not marble covered. Each tomb chamber has a window opening onto the qibla sanctuary. The wooden shutters are quite fine, with large polygons of bone in carved leaf forms alternating with small ones of mosaic inlay. The large tomb chamber on the left is where Khwand Baraka and a daughter, Khwand Zahra, are buried. In front is an irregularly shaped room that was probably used for storing large Qurans or for special Quran recitations. The smaller tomb on the right, with no decoration and no mihrab, is the final resting place of Sultan al-Ashraf Sha'ban and his son al-Mansur Hajji (1377-81). There is no Quranic law requiring the separate burial of men

and women, but by the end of the fourteenth century the custom had become established."[632]

Design Aesthetics

The madrasa follows the condensed grouping of façade, ribbed dome, and minaret with a second ribbed dome on the opposite side. The new elements of fleur-de-lis crenellation, and octagonal minaret with muqarnas are incorporated into the building. The minaret is pleasantly adorned with muqarnas below the balconies and zigzag designs on the upper shaft. It has floral crenellations at the top level above the pavilion and just below the bulbous small dome. The street façade has Qalawun-set windows capped with muqarnas in the niches. This composition is harmonious with a slow rhythm because of the tight spacing of the niches. The entrance to the madrasa has polychrome joggled voussoirs crowned with Flying fleur-de-lis interlocks in the relieving arch above the doorway. There are two panels on either side of the joggled voussoirs that are filled with marble inlays with yet another stylized Flying fleur-de-lis in the upper half. In addition, there are more floral designs in the lintel supporting the door opening.

11.5.14- The Madrasa of Emir Uljay al-Yusufi

The madrasa was built in 1373 by the strong Emir Uljay who started his career under Sultan Hassan and later became commander-in-chief of the army under Sultan al-Ashraf Sha'ban. He later married Khwand Baraka, Shaaban's mother and Sultan Hassan's sister. After she died in 1373 a disagreement over her estate resulted in the killing of Uljay. He jumped in the Nile and drowned as he was fleeing from the sultan's men. His body was recovered and was buried in his mausoleum, in June of the same year.[633]

Description

The plan of the madrasa is an open courtyard with four iwans. The façade has Qalawun-set windows placed side-by-side in wide recesses and it is capped by trefoil crenellations. It has a round minaret with a pavilion and a bulbous dome. The dome rests on petals as if it were a rose-bud. It also has trefoil crenellations above the pavilion. In addition, rich muqarnas is below each of its balconies. The twisted-rib dome has three horseshoe arches topped by a triangle of three round windows in its octagonal transitional zone. Williams said the following about these windows: "Between the stepped

[632] Williams, *Monuments in Cairo*, op. cit., 81.
[633] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 221.

shoulders of the transition zone is a new window form for this time period. From this point on the standard fenestration for domes becomes three round windows, one over two, above three arched windows."[634]

The interior was described by Abouseif by saying: "Like the façade, the interior of Uljay's madrasa is characterized by an unprecedented density of windows pierced in symmetrical arrangement. The windows seen from the street belong to the second iwan and to the mausoleum, both opposite the sanctuary, revealing the whole interior to the passerby. To the viewer within, the diaphanous walls convey a special character of the inner space."[635]

Design Aesthetics

This building was constructed at the end of the Bahri Mamluk period. It was a culmination of design effort in shaping Mamluk aesthetics. This development was described by Williams as follows: "The style of Mamluk architecture has been set. The main dramatic and visual interest of a Mamluk façade lies in the careful positioning of contrasting shapes and masses such as the vertical thrust of the minaret, the hemispherical counterbalance of the dome, the horizontal mass of the façade, and the rectangular outline of the portal. The difference in each building lies not so much in new shapes and forms for individual features of the structure, but in their placement, their relationships to one another, and the effect of the building as a whole on its site."[636] This is true but it is important to consider the fact that most Mamluk buildings were constructed in the city on small lots and on tight streets. This of course forced the building's main parts: portal, façade, dome, and minaret to be placed closely together. Other Bahri Mamluk buildings built outside the city, like the Mosque of Sultan al-Zahir Baybars has its parts more spread-out due to the large size of the site.

At the madrasa of Emir Uljay the composition is more condensed to the point of lacking harmony. The dome is too narrowly placed on the building which makes it awkward. The façade is flat and lacks articulation despite the windows and the *ablaq* horizontal bands. There is still a high level of improvisation that many authors fail to accept. The exterior wall crenellations are yet another variation of the fleur-de-lis that is more of a trefoil. The building exterior is fairly static despite the inclusion of all the familiar design elements. The courtyard is also less aesthetically pleasing despite its tall iwans and many windows. There is lack of harmony and more of a busy and crammed effect. The proportion of the large arch of the iwans is also odd by

[634] Williams, *Monuments in Cairo*, op. cit., 83.
[635] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 223.
[636] Williams, *Monuments in Cairo*, op. cit., 84.

Mamluk standards. A key element contributing to the exuberance of Mamluk architecture was the high level of sophistication in stucco, stone, and marble ornamentation. This is missing here with the lack of the technical quality seen elsewhere.

The high aesthetic and technical superiority in detailing which characterized Mamluk architecture was only paralleled in the West during the Umayyad and the Nasrid periods in Córdoba and Granada. This was a high contributing factor in the exuberance of buildings of the Bahri period. This will shift, however, in the forthcoming Circassian period. The aesthetics which reached their climax at the Complex of Sultan Hassan will be further developed into a new Mamluk style.

11.6- The Circassian Mamluks

The Circassian or Burji Mamluks[637] took over in the fourteenth century. The emirs struggled after the death of Sultan Hassan in 1361, for the control of the sultanate by creating larger armies. As a result there was a high demand for new Mamluks that depleted the population in the steppes north of the Black Sea. So the emirs in Cairo looked elsewhere for a new source and they started buying Circassians from the Caucasus. They became known as the Burjis because they were quartered at the Citadel. They showed a preference for their own race so they neglected the interests of the Mamluk state in favor of their fellow Circassians. As their numbers swelled in the army they became disruptive under Barquq. He was the first to kill his own emir and display a total disregard for Mamluk order. After the death of Sultan Hassan and the brief continuation of the reign of his family, Barquq ruled through Sultan Hajji for six years, who was an infant great-grandson of al-Nasir Mohamed. Finally in 1382 Barquq was fully in charge and was enthroned inaugurating the Circassians rule. [638] They were connected not by bloodlines like the Bahris but by clientage. The successors of Barquq were his Mamluks and Mamluks of his Mamluks. Trade between Egypt and Aragón was very intense during this period, and almost never stopped despite the many blockades dictated by the pope. As explained earlier, the 1360's was a period of heavy trade in the Mediterranean between Alexandria and Barcelona.

The architecture of this period was described by Bair and Bloom as follows: "Architecture of the Circassian period is distinguished by several notable developments, some already present at the end of the earlier period. As space became increasingly scarce, buildings became taller in relation to

[637] Burji is derived from the Arabic word burj meaning tower. The towers at the Citadel overlooking the city were used as barracks for the Mamluks.
[638] Lyster, *The Citadel of Cairo,* op. cit., 32.

their area. Funerary complexes remained the major building type, but as orthodox opinion against the construction of tombs moderated, tomb chambers became increasingly important and central in the plan. Some continued to be the major material of construction, but as wood and marble became increasingly scarce, inventive techniques had to be found to use the limited supplies to greatest advantage. Surface ornament, both on the exterior and the interior, became increasingly elaborate and shows the impact of designs developed and used in the other arts. Moldings are particularly fine, and their subtle sequencing around portals, windows, zones of transition, and domes is a hallmark of the Circassian style."[639]

Damascus and Cairo were compared by Blair and Bloom as follows: "Syria, which had been ravaged by the rivalries of warring Mamluk emirs, fell an easy prey to Timur, who attacked such major cities as Aleppo, Homs, and Damascus in the winter of 1400-1. His brief campaign was not aimed at annexation but was meant to collect booty and demonstrate his superior power and prestige. Although Aleppo submitted without a struggle and was spared, Damascus was pillaged and burned to set an example of Timur's might. Timur left Syria in the spring, sending any artisans and qualified workmen who were left in the city to Samarqand. This mass deportation was one of the greatest catastrophes in the history of Damascus, and fifteenth-century buildings there, such as the al-Qali minaret (1470), are more ostentatious than innovative. Damascus patrons desired showy façades, loaded with polychrome and carving and dripping with muqarnas to conceal uninspired structures."[640]

What Blair and Bloom said about Syria helps in explaining why the architecture in Cairo is far more superior and very different. In addition, Cairo, being the seat of the sultan took the lion's share of endowments and large construction projects. Also the argument presented by scholars like Dr. Nasser Rabat of the Aga Khan Program of Islamic Architecture at the Massachusetts Institute of Technology, in saying that the architecture of Egypt and Syria is the same must be rejected. In a discussion of this issue with him in London, during the conference on the Arts of the Mamluks in 2009, he insisted that the Mamluks in Egypt and Syria used similar motifs, materials, and construction techniques despite all the evidence to the contrary. The architecture in Damascus is crude and lacks the sophistication found in Cairo. Even by using the argument of Blair and Bloom that the workmen were deported by Timur, why didn't the sultans use other sources of labor like the Corvée? This is an important point since it reinforces the hypothesis of this

[639] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 85.
[640] Ibid., 87.

work, of the strong connection between Egypt and Spain that influenced the architecture in Cairo but not in Damascus.

Abouseif reinforced this point of view when she said: “Syrian architecture remained faithful to its original schools and at the same time comparatively conservative, retaining Ayyubid traditions in the architecture of domes, minarets and portals to the end of the Mamluk period. The stylistic discrepancy between Syrian and Cairene architecture is best exemplified in the two mausoleums built by Khayrbak for himself in Aleppo and Cairo at the end of the Mamluk period, both of which follow their respective local tradition.”[641]

11.6.1- The Complex of Sultan Barquq

Built in 1384-6 it was the first of the Circassian period which was started by Barquq as explained. Abouseif described him as follows: “He was a Circassian purchased in the Crimea and sold to the Emir Yalbugha al-Umari, who killed Sultan Hassan. He was trained in the barracks of the Circassians in the Citadel, and held the office of commander-in-chief of the army during the period of rebellion and conspiracies under the rule of the last two sultans of the Qalawunid dynasty, who were both children. He eventually deposed Sultan Hajji and ascended the throne in 1382. A rebellion in Syria, however, supported by the Turcomans at the frontiers, challenged his rule, and brought back Hajji to the throne in May 1389. Barquq managed to recuperate his throne in February 1390, and to keep it until his death nine years later. He also succeeded in averting an invasion of Syria by Timur. Barquq favored the recruitment of Circassian instead of the Turkish Mamluks.”[642] During his reign (1382-1399) the relationship with the Christians was at its best and had no conflicts. As explained earlier, he personally encouraged trade with the Italian Republics and the Catalans.

The persons involved in the construction of the complex were discussed by Abouseif as follows: “The supervisor of the construction works was the Emir Jarkas al-Khalili, the master of the stables, whose name is recorded in a foundation inscription, and the master builder was the *mu’allim* Ahmed al-Tuluni, mentioned in the chronicles. Jarkas himself stood on the construction site to oversee the transport of the stone blocks carried on carts from the Muqattam hill.”[643] As explained before Ahmed al-Tuluni was a member of a family of construction professionals. His name referred to his

[641] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 66.
[642] Ibid., 225.
[643] Ibid., 225.

origin from the West and not as a descendent of the Tulunids. This was due to the fact that many people from al-Maghreb were living in the Mosque of Ibn Tulun prior to the restoration work of Sultan Lajin.

Description

The complex has an open *sahn* with four iwans. It is located next to the Complex of al-Nasir Mohamed on al-Muizz Street, almost sharing the same exterior wall. The building is crowned by Flying fleur-de-lis crenellations very similar to the ones at the Complex of Sultan Hassan. Abouseif described the exterior and said: "The complex has only one façade (43 m wide, 18.2 m high), adjoining the madrasa of al-Nasir Mohamed on the southern and the Ayyubid madrasa of al-Malik al-Kamil on the northern side, with no room for a sabil-maktab. The architect, however, made the best use of the space available to display a successful composition of minaret and dome."[644] The minaret is very dominant as it is very close to the building's exterior edge and is visible from a great distance. It is placed next to the dome and is seen as emerging from its side. The current dome is made of concrete but follows the same outline of the original stone dome as shown by a nineteenth century photograph taken just before the reconstruction.

Minaret Analysis

The minaret was described by Abouseif as follows: "The octagonal stone minaret (currently c. 52.8 m high above street level), like its predecessor of Umm al-Sultan Sha'ban, is carved in the middle section, and also inlaid with marble, which is a unique case. The pattern of the carving consists of intersecting circles, which curve at their summit to form loops connected to a horizontal linear molding."[645]

The minaret is one of the most architectonically ordered in all of Cairo. It has a pleasing visual relationship with the dome and the Flying fleur-de-lis crenellations. The minaret has three levels and a bulbous dome top sitting on a pavilion of carved piers. There is an engaged column in each pier that has an acanthus leaf capital rising up to the muqarnas of the balcony above. The arches between the piers are very unique as they are made of muqarnas and create crown-arches similar to the ones from the Aljaferia in Zaragoza. The balcony above has a balustrade of posts with panels in between that have stylized fleur-de-lis motifs. The balcony of the pavilion level is similar with a balustrade of posts and carved-out panels. The shaft of the minaret of the level below has the concentric circles inlaid with white marble described

[644] Ibid., 227.
[645] Ibid., 227.

above. The balustrade of the balcony below is similar to the upper two levels. Comparing the existing minaret with a photograph from the nineteenth century revealed that the balustrade just described were not there. The ones shown in the photograph are simple wooden railings. In addition, the white marble inlays are quite different in their arrangement. This appears to be restoration work done by the Comité de Conservation, however, it was neither referenced by Abouseif nor Blair and Bloom

Portal and Interior Analysis

The portal was described by Abouseif by saying: “It has a tri-lobed muqarnas vault and bears a lower marble inscription band that displays unusually ornate calligraphy. The frontal wall of the vestibule is decorated with a marble inlaid panel of Syrian style similar to that of Sultan Hassan’s vestibule, albeit less complex. It must have belonged to the polychrome marble, which according to Maqrizi, the sultan brought from Syria for his mosque. This frontal wall is recessed and crowned by a fine tri-lobed muqarnas vault on a pair of muqarnas pendentives. A cupola roofs the vestibule, another analogy with Sultan Hassan’s mosque, but this one is made of brick.”[646]

Right above the entrance, the space of the portal niche is filled with a large *ablaq* design with an oculus in the center similar to the one found at the mausoleum of Sultan Hassan. The oculus itself has a wooden grille filled with geometric designs and a twelve-pointed star in the center radiating into a larger rosette surrounded by interlocking geometric shapes. The lintel and the relieving arch above the door also have joggled voussoirs similar to the ones above the four school entrances at the madrasa of Sultan Hassan. The fleur-de-lis motif in the voussoirs is yet another variation of the new Flying type discussed earlier.

Describing the interior Abouseif said: “The interior also recalls at first glance the mosque of Sultan Hassan with the entrances to the living quarters of the madrasa placed at the corners of the courtyard. However, the main iwan here is different. Instead of a vault, it is roofed with a flat wooden ceiling. The iwan has a tripartite composition, with a large central nave connected to each of the lateral naves through three arches supported by a pair of ancient Egyptian granite columns. This layout was used earlier in the madrasa of Qalawun, and slightly later in the mosque of Abd al-Ghani al-Fakhri (1418). The latter, however, has only a double arch on each side. The central nave of the prayer hall (17.6 x 17.6 m) is the largest single-roofed space with a

[646] Ibid., 228.

wooden ceiling in Mamluk architecture. The acquisition of the kind of timber necessary to build such a ceiling could not have been easy; the remarkable carpet-like decoration, lapis-painted and gilded, emphasized its singularity. Its general design, consisting of a central medallion surrounded in geometrical arrangement by smaller ones, recalls that of the Mamluk carpets of the late fifteenth century and early sixteenth centuries; some of the medallions include mushroom-like patterns, which can be found only on carpets. Four corner medallions include the Koranic phrase (XVII, 84) “Each man behaves after his own fashion”, which is traditionally inscribed in the apex of domes. The decoration was redone by the Comité.”[647]

The pointed-arches in the nave of the prayer hall are slightly horseshoe and have *ablaq* voussoirs. The uniqueness of the ceiling between these arches doesn’t only stem from being flat inside an iwan, but also in the richness of its floral designs. The wooden ceiling has a large sixteen-pointed star in the center. It has concave ribs which are filled with stacked fleur-de-lis motifs alternating with other floral designs. The layout is based on a lozenge grid filled with medallions, eight-pointed stars, and crosses. The crosses appear in pairs around the center medallion, separated by roundels inside eight-pointed stars having mushroom-like motifs. The crosses have eight-petaled rosettes in the center surrounded by eight-pointed stars. Each of the four arms of the cross, has a trefoil outline with a stylized Flying fleur-de-lis motif at its center. These crosses are also arranged in intersecting rows across the whole wooden ceiling. The appearance of crosses in a gilded ceiling is another discovery and is a reminder of the hidden crosses in the gilded mosaic ceiling in the dome above the mihrab of the Great Mosque of Córdoba. It is clear that either Christian workers or recent converts to Islam were involved in the construction of the Complex of Barquq. This is yet another hidden message interwoven into this ceiling design to reinforce other less apparent Christian symbolism in Mamluk architecture.

Continuing her description of the interior Abouseif said: “The other iwans are vaulted and built of stone, as in Sultan Hassan’s mosque. The western shows intricate joggled masonry resembling the pattern of lintels. The four entrances to the madrasa premises are set in recesses crowned with round arches with chevron-carved voussoirs. Their door openings are enhanced with arched lintels elaborately inlaid with black and white marble.”[648]

The entrances to the living areas of the four madrasas have simple lintels above the doors yet have innovative marble inlays. Unlike what

[647] Ibid., 229.
[648] Ibid., 229.

Abouseif said, the doors have different designs and their relieving arches are not true. The stylized Flying fleur-de-lis motif found in the joggled voussoirs of the entrance portal is used here again. The entrance to the left of the qibla iwan has marble inlays creating an image of a relieving arch. The motifs flip upside-down in the middle of heart shapes, creating a floral border that outlines the arch. This is done using black and white marble inlaid in the stone of the entrance façade. Above this relieving arch design, there is a wooden window grille with a roundel design. It is made of fleur-de-lis motifs alternating with a spade around a circular inscription. This layout is very similar to the marble and stucco roundels at the Sultan Hassan Complex.

The courtyard and the marble work were described by Abouseif as follows: “Unlike Sultan Hassan’s mosque, the courtyard has a Koranic inscription band running along its four walls above the iwan arches, which includes the date 788/1386. The octagonal domed fountain was reconstructed by the Comité. The polychrome marble and wood decoration of the prayer hall follows the conventions of the Bahri period. The inlaid marble floor of the sanctuary, however, displays an unusual row of mihrabs, which have their parallels only in the mausoleum of al-Muzaffar Baybars. These are filled with marble mosaics. The dado of the mausoleum is high and displays tiers of marble roundels, probably from slices of ancient columns. This is the earliest use of such roundels, which are common on pavements. The wooden transitional zone of the dome recalls that of Sultan Hassan. At the top of the walls and below the wooden epigraphic band, a frieze of painted wood attracts attention; it is composed of a sequence of niches filled alternately with a suspended mosque lamp or a flower.”[649]

The floor marble follows the same convention of the Bahri Mamluks especially the Cosmatesco tradition of the Qalawunid Dynasty. The mihrab is much simpler in design compared to the ones of the Bahri Mamluks but the Flying fleur-de-lis is used as a dominant motif. It is carved out of marble and it is repeated across the face of the mihrab cavity. It is mirrored and appears also as a negative outline. The overall design resembles a woven fabric of stylized Flying fleur-de-lis motifs in white and gray. Above this, there is a faint inscription band, a narrow floral band, and a row of colonnettes supporting trefoil arches. In between the arches a Qalawun-I fleur-de-lis is placed inside a vine outline. The pointed arch of the mihrab conch has the familiar interlocking voussoirs in black, white, tan, and reddish brown. The overall effect is austere and lacks the richness of previous mihrabs of the Qalawunid Dynasty.

[649] Ibid., 229.

Blair and Bloom agreed with Abouseif regarding the influences coming from the Qalawunid period but also pointed-out the differences by saying: "The plan is similar to that of the nearby madrasa built by Qalawun a century earlier, but the building incorporates features developed in Hassan's complex such as the monumental entrance and vestibule, cruciform plan, and court façade. The materials and decoration, however, differ significantly from those of the earlier foundation and set the style for Cairene architecture in the first half of the fifteenth century. Bronze, marble, wood, and even stucco had become dearer and scarcer, and techniques were developed to use them sparingly for the greatest effect. The doors inside Barquq's complex are not faced with bronze, but decorated with a central bronze medallion and quarter-medallions in the corner, in a design reminiscent of contemporary leather book-bindings. Thin strips and chips of colored marble made up the requisite marble paneling, which was sometimes replaced by stone for crenellations, moldings, and vaults. For screen-work, turned wood was often replaced by 'matchwood,' grooved splinters jointed together, as on the windows of the façade. The mihrab is framed by prismatic columns which have been trimmed to provide thin marble strips for paneling; the blue Pharaonic or Ptolemaic votive colonnettes, Egyptian faience bosses, mother-of-pearl, bitumen, and glass paste in the niche stand in for the marble mosaic of earlier times."[650]

It is hard to trace the causes of this austerity in design despite good commercial ties with the West. It would be hard to speculate on previous points of view by other scholars, but stucco work for example almost disappeared from Cairo after the construction of the Complex of Sultan Hassan. This would lead to the conclusion that most of the new design elements were developed at the Complex of Sultan Hassan as several scholars have stressed. The assessment by Blair and Bloom, that the use of certain materials like marble became more conservative cannot be accepted. There was never a shortage of marble or granite in Egypt. In addition to the abundance of the ready to use parts from buildings of antiquity, there were many quarries to the east and south of Cairo. As it is well known, the columns in many Islamic hypostyle prayer halls were reused from Pharaonic, Greek, Roman, and Christian buildings. This is normal as large stone blocks with Pharaonic engravings were found in the city walls of Cairo.

Design Aesthetics

There was a shift in aesthetics, developed at the Complex of Sultan Hassan and promoted at the Complex of Sultan Barquq, to become the new style of Circassian Mamluk architecture. The street façade is a case in point

[650] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 87.

as it only has shallow recesses with small and simple windows. The articulation comes from the logic of the massing of design elements. In addition to repetition, the architectonics of the complex have variety. On one end of the façade, the portal projects out in a *pishtaq* with the tall tri-lobed arch of the entrance. On the other end, the round dome is visible near the edge of the building with the octagonal minaret right behind. This grouping of dome and minaret on one side and the portal on the other, creates a balanced composition with the rest of the façade and the fleur-de-lis crenellations acting as visual connectors.

The courtyard follows the same idea of the four iwans from the madrasa of Sultan Hassan, however, its scale and proportion are quite different. The qibla iwan is innovative in having the flat wooden ceiling discussed earlier. The symmetrical arcades, of three arches on both sides of the main nave, as a concept, are closer to the qibla iwan of the madrasa of Qalawun. The tall columns create an upward feeling and with the arches enhance the feeling of height. The wood and marble detailing is rich and rivals the best of the Bahri Mamluks despite the lack of stuccowork. The complex is harmonious and follows the aesthetic principles of Islamic architecture going back to Ibn al-Haytham.

11.6.2- The Funerary Khanqah of Sultan Faraj ibn Barquq

Sultan Faraj, the son of Sultan Barquq, was not as successful as his father. He led a failing campaign against Timur in Syria after the sacking of Aleppo in 1400. In 1412 he was deposed and later assassinated because of his mismanagement and oppressive taxes in Egypt and Syria. His complex took 11 years to complete which is a long time by Mamluk standards. Abouseif explained this by saying: “Notwithstanding the fact that this period witnessed the most severe economic and political problems that the Mamluks had to face, the architecture of this monument is one of the most original and outstanding of the Mamluk sultanate. This is also attested by Ibn Taghribirdi, who considered it as second only to Sultan Hassan’s mosque, in construction and skill (*khushunat al-‘amal wa ‘l-imkan*). Only the relatively long period it took to complete the building reveals the critical situation at that time.”[651]

[651] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 231.

Description

Built in 1400-11 it has an open courtyard surrounded by arcades. Flying fleur-de-lis crenellations are used around the courtyard and above exterior walls. It has two large stone domes and two minarets with square plans and round upper levels. Blair and Bloom described it by saying: "Barquq's son Faraj (r. 1399-1412, with interruptions) erected an enormous complex in the desert to the east of the Fatimid city walls. The site, which had been a hippodrome in early Mamluk times, began to be used as a cemetery in the early fourteenth century, but under Faraj major efforts were made towards integrating the area into Cairo's urban fabric. For example, the procession beginning the pilgrimage to Mecca was rerouted through this district. The sultan ordered a large residential area constructed; it included baths, bakeries, grain mills, lodging for travelers, and a marketplace, but all that survives is the khanqah. The open site in an outlying district allowed for a large, freestanding, and symmetrical building like the Mosque of Baybars. The building is an open square, measuring seventy-three meters to a side. The main façade on the north-west has twin entrances, twin drinking-water dispensaries and elementary schools (Arab. *sabil-kutab*), and twin minarets at either end. Corridors lead to a spacious open court, whose sides are occupied by porticos with four stories of cells and dependencies behind. Hypostyle halls three bays deep stand on the north-west and south-east, the latter serving as the prayer hall. The small dome over the bay in front of the mihrab is flanked by the twin domes of the mausoleums. Measuring just over fourteen meters in diameter, they are the largest stone domes in Cairo and masterpieces of Mamluk engineering. On the exterior they are decorated with horizontal bands of zigzags which are exactly coordinated to the structure and contract as the stones diminish in size toward the top. This system replaced the arbitrary ribs of earlier examples and became the most popular type of decoration for Cairene domes. The enormous thrusts of the domes are absorbed by massive masonry zones of transition, which are visually lightened by an ingenious arrangement of concave and convex moldings. On the interior the domes are painted in red and black with patterns simulating marble, which would have been too heavy and too expensive to use. Matchwood grilles in geometric patterns screen the entrances. The northern tomb contains the bodies of Barquq, Faraj, and his son, while that on the south contains the bodies of Barquq's daughters and their nurse. An arcade to the north connected the modest tomb of Barquq's father, Sharaf al-Din Anas, to the complex."[652]

[652] Ibid., 87.

Design Aesthetics

During the field visit of the funerary khanqah, the sheer size was more impressive than anything else. It appeared large from within the courtyard with the two domes and the two minarets at opposite sides. The proportion and the placement of each element are architectonically pleasing. The deep qibla *riwaqs* create a nice interplay of light and shadow and contrast the other shallow *riwaqs*. The architect of this complex applied the same rules used today to plan and organize building spaces and elements to make them harmonious. He followed today's notion of the purity of building forms allowing the architecture to be expressive. There was also a definite lack of interest in surface ornamentation which resulted in almost bare walls. The exception to this can be seen inside the two mausoleums which have polychrome marble paneling on their qibla walls. The northern mausoleum is where Faraj and Barquq are buried while the southern mausoleum has the female members of the family. Both mihrabs inside the mausoleums have the familiar *ablaq* joggled voussoirs with the one of Barquq's and his son having the Flying fleur-de-lis motif crowning the interlocks. The motif is also seen in the spandrel of the mihrab arch and the painted dome above.

It is not acceptable to see this funerary khanqah compared with the Complex of Sultan Hassan as the two are completely different. Despite its size, Hassan's complex lacks the sophistication of the unity of the forms seen here. It also lacks the pleasing symmetry and visual balance of Faraj's khanqah. As explained earlier, in many parts of Hassan's complex the elements and the ornamentation appear to be mismatched especially inside the mausoleum. The building stands as a culmination of many elements used before and marks a new unity in the use of building forms resulting in a purification of Mamluk aesthetics.

11.6.3- The Funerary Complex of Sultan al-Muayyad Shaykh

Sultan al-Muayyad ruled Egypt after the death of Sultan Faraj starting in 1412. Blair and Bloom explained how he succeeded the throne as follows: "Faraj's reign was notable for the uninterrupted struggles between the sultan and his emirs; he was deposed in May 1412 and killed several weeks later. After a brief reign by an Abbasid caliph,[653] whose line had been reestablished in Cairo by Baybars I in an attempt to add prestige to the new Mamluk regime, the sultanate passed to the former viceroy of Damascus, Shaykh al-Mahmudi, who took the regal name al-Muayyad (r. 1412-21). This pattern of a usurper

[653] The Abbasid caliph was al-Musta'in who remained in power for only six months. Ibid., 239.

followed briefly by his son who was overthrown within a few years was repeated throughout the Circassian period. According to the contemporary historian al-Maqrizi, al-Muayyad had been imprisoned in Cairo while still an emir, and he vowed to transform the infested prison into a place of prayer and study. This vow also provided a good excuse to acquire a valuable piece of downtown real estate. The large pious foundation, which included a congregational mosque, three minarets, two mausoleums, and a madrasa for the four rites dedicated to Sufi students, was begun in 1415; it remained unfinished at the sultan's death."[654]

Description

Built in 1415-20 it has and open courtyard surrounded by arcades. It has Flying fleur-de-lis crenellations around the courtyard and above the exterior walls. The street façade has Qalawun-set windows and *ablaq* stonework. Its main entrance has the original bronze doors which were removed and brought from the Complex of Sultan Hassan by Sultan al-Muayyad. It has two octagonal minarets that were built on top of the two towers of the southern city gate of Bab Zuwayla.

This is one of the rare buildings where we have the signature of the architect: it was signed on the minarets by Mohamed al-Qazzaz. Blair and Bloom described the complex by saying: "Measuring eighty-five by eighty-two meters, it stands at the southern end of the *qasaba* adjacent to the Fatimid gate, Bab Zuwayla, which supports two of the three minarets the building originally had. The main portal opens at the north end of the principal façade on the *qasaba*. Revetted in alternating courses of black and white marble, it consists of a deep recess crowned by a tri-lobed muqarnas vault, the whole inset in a rectangular frame rising above the cornice. Known in Persian as a *pishtak*, this feature was ubiquitous in Iranian architecture and had already been used on the north portal of the complex of Faraj in the northern cemetery. The doorjambs and lintel (a Pharaonic block of pink granite) are framed with a white interlaced band inset with red and turquoise paste. The portal leads to a rectangular vestibule, with two recesses on the axis covered with tri-lobed muqarnas hoods, like that of the portal. The center is covered with a folded groin vault rising to a recessed cross. This elaborate type of vault probably originated in Syrian military architecture, but its decorative possibilities were developed in the religious architecture of Jerusalem and particularly Cairo in the fifteenth century. The vestibule leads to the courtyard, which was originally surrounded by four halls, an arrangement much like that of the complex of Faraj, but only the hypostyle prayer hall on the qibla side

[654] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 88.

survives.[655] Three rows of eight marble columns support a lavishly decorated wooden ceiling, but the major decorative emphasis was reserved for the qibla wall: a high dado of two registers of white and black marble and porphyry is surmounted by a frieze of paired colonnettes made of turquoise blue glass. The window surrounds are inlaid with patterns of joggled voussoirs and arabesques; the area around the mihrab is decorated in the same manner but with particularly fine detail."[656]

Behind the grand portal which was the last of its kind to be built in the Mamluk period, one passes through the vaulted vestibule. It has the groin vault described above, with a large carved-out Greek cross in the center of its folds. It is not surprising to see such a conspicuous cross in such a prominent location. As shown earlier, the crosses were not easily discernable in Mamluk buildings. By now, and at this point in the history of Mamluk architecture, the crosses must be addressed as an integral design motif. The cross of Sultan al-Muayyad has the exact same shape of the one found in the ceiling of the qibla iwan at the Complex of Sultan Barquq. They both have a rosette in the center albeit Barquq's has eight petals and Muayyad's has twelve petals. They both have arms with chamfers of 30 degrees. In conclusion, this must have been a common prototype of the Greek cross motif, since it was repeated in wood and in stone.

Interior Analysis

The mihrab has polychrome marble joggled voussoirs in two folds. Each one is adorned with stylized Flying fleur-de-lis motifs. The cavity of the mihrab has the familiar marble inlaid flipping fleur-de-lis discussed earlier at the Complex of Sultan Barquq. Also the arches above the window niches, on both sides of the mihrab, have joggled voussoirs crowned by Flying fleur-de-lis interlocks. The whole qibla wall is richly adorned with polychrome marble. The complex was described by Sakhawi as the most lavishly decorated monument ever to be built after the Great Mosque of Damascus.[657] This goes against what Blair and Bloom said about the scarcity of materials during this period of Mamluk rule.

The wooden ceiling above the mihrab in the prayer hall, is decorated with floral designs. It is filled with roundels of fleur-de-lis motifs similar to the ones from the palaces of the Alhambra, the Complex of Sultan Hassan, and

[655] The arcades of the courtyard have since been reconstructed by the ministry of culture. The building was not accessible at the time of this writing after the completion of the reconstruction work.
[656] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 89.
[657] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 244.

the Complex of Barquq. The whole ceiling design appears more eclectic and reflects the assimilation of different motifs by what had been a collaborative workforce.

Design Aesthetics

By now Mamluk architectural design has become more unified with the assimilation of many design sources but above all the motifs coming from the West. The courtyard is harmonious with the repetition of the elements of its hypostyle prayer hall and follows previous models. The street façade is typical Circassian with shallow recesses capped with muqarnas. The *pishtak* portal is on one end of the building with the zigzag dome right above it. The articulation is subtle with less rhythmic effect. Of course the two minarets are far removed from the composition but are visually connected from afar. This is, on the contrary, apparent from the roof top as the ensemble appears cohesive. As discussed earlier, the two minarets are among the finest in Cairo despite their odd tower bases. Aesthetically speaking, they relate more to the city gate and the southern city entrance.

There is evidence of Andalusian influence at the complex. Abouseif described a pair of windows in the prayer hall by saying: “An interesting feature in the prayer hall is the presence of a pair of blind windows with stucco grilles in the upper part of the wall adjacent to the mausoleum. The carving of their grilles is in the Andalusian or Moroccan style; one is geometric, the other floral, both of high quality.”[658] Unfortunately the complex was not accessible for the verification of this assessment.

11.6.4- The Funerary Complex of Sultan Barsbay

Sultan Barsbay was one of the most influential leaders of the Circassian Mamluks. He was described by Abouseif as follows: “Barsbay began his career as a Mamluk of Barquq, and he served under his son Faraj. He was promoted during the reign of al-Muayyad serving as governor of Tripoli and great secretary (*dawadar*) before he ascended to the throne in Rabi’ II 825/April 1422. His reign was marked by the threat of increasing European power in the Mediterranean, but he managed to avenge the sack of Alexandria in 1365 by seizing Cyprus, which remained under the control of the Mamluks to the end of their rule. Like his predecessor, he led a campaign in southern Anatolia to contain the Turcomans. In an attempt to improve the economic situation of the empire, battered by his military campaigns in Cyprus

[658] Ibid., 244.

and Diyarbakr, Barsbay took an active and controversial role in trade policy; he transferred the entrepôt of the Indian trade from Aden to Jeddah, to the great advantage of the Mamluks, and, internally, he introduced a monopoly in the sugar trade, extending state control over commerce."[659]

Beside the monopoly over sugar and cotton he created in 1423, he did the same with spices in 1428. He had several commercial treaties with the Venetians, the Florentines, and only one short lived with the Catalans. Alfonso V was expanding in the Mediterranean and did not care to stop corsair attacks on Mamluks ports. Despite this, in 1429 a commercial treaty was concluded with the king of Aragón which did not hold for very long. Catalan merchants from Barcelona continued to trade with the Mamluks, however, not as intensely as the Italians. This was discussed earlier in full detail including the content of the trade agreement.[660]

In addition to the funerary khanqah built in the northern cemetery, another complex was constructed in the city. It was a funerary complex built in 1423-4. It has an open courtyard with four iwans, and a minaret with a square base and round upper levels. Abouseif said this about the complex: "The sultan acquired a prestigious place in the heart of the city as his master Barquq has done earlier. However, the monument has no outstanding architectural features. Ultimately Barsbay preferred to be buried in the cemetery in a monument of more architectural ingenuity and less philanthropic significance."[661]

Description

The madrasa, *khanqah*, and mausoleum of Sultan Barsbay were built in 1432 in the northern cemetery. He had four mausoleums built with three surviving domes.[662] To the east of this complex the tombs of Barsbay's brother and other emirs and scholars of his were placed. Three mausoleum domes are visible in this cemetery: one for his parents, the second for his brother Yashbak and the third for another emir. Abouseif said: "The main structures have survived except for the hospice of the zawiya. The khanqah with the dwellings and the sabil located on the southern side of the mosque are in a ruined condition. The complex displays interesting and innovative features. It was built on both sides of the cemetery road, which was already becoming a street with urban character. The eastern side is occupied by the

[659] Ibid., 251.
[660] Ashtor, *Levant Trade*, op. cit., 286.
[661] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 252.
[662] Idem., *Islamic Architecture in Cairo*, op. cit., 140.

mausoleum, and the attached mosque is adjoining further south by the khanqah and flanked to the east by the graveyard."[663]

The interior of the mausoleum was described by Abouseif as follows: "Unlike the bare walls of the mosque, the mausoleum chamber is paneled with an elaborate polychrome dado and a frieze of fine marble mosaic of the same quality displayed in the sanctuary's pavement. Also the mausoleum's floor is paved with exquisite polychrome marble."[664] The mihrab has the familiar polychrome joggled voussoirs with the Flying fleur-de-lis crowning the interlocks. The cavity of the mihrab has geometric designs of inlaid marble.

Dome Analysis

The stone domes over the building have geometric patterns that must be attributed to Andalusian origin. The dome of the Barsbay mausoleum, which is the largest, has a row of eight-pointed stars on the lower part and change to seven-pointed, then six-pointed stars, and then five-pointed stars toward the top. Each star is filled with a small rosette of a respective number of petals. The other two remaining domes are different with more typical stars. The one on the north side has twelve-pointed and ten-pointed stars in whole and in halves. The dome on the east side has eight-pointed and twelve-pointed stars. This treatment of geometric designs on domes is an adaptation of similar designs from the tile patterns on the walls of the Alhambra. The interlacing of the star motif on domes is new to Mamluk architecture and was only seen before on flat walls. The architect here was faced with the problem of fitting a two-dimensional design on a three-dimensional surface. The domes of Barsbay appear to have pleasing proportions of size in relation to the geometric pattern. The interlacing travels across the whole surface of the dome in an ordered pattern. The smaller domes have more pronounced stars that jump across the dome.

The following was said about the domes by Abouseif: "The sultan's mausoleum has the earliest masonry dome to be carved with a geometric star pattern. As observed by Kessler, the quality of the two smaller mausoleums included in the adjoining graveyard indicates that the sultan's dome was built first, in an experimental phase, and that techniques had improved by the time the smaller domes were carved. On the sultan's dome the geometric composition has not been successfully adapted to the diminishing surface area of the dome towards the apex, and the continuity of the design appears

[663] Idem., *Cairo of the Mamluks*, op. cit., 255.
[664] Ibid., 256.

disrupted. In the two other mausoleums, the geometric star composition is more evenly spread on the domical surface."[665]

This is completely untrue as evidenced by the analysis above. On the contrary, the dome of the mausoleum of Barsbay set the prototype for the two smaller domes and future domes in Cairo. The main difference is the depth of the carving. It is shallow on the large dome and deep of the smaller domes. The deep carving makes the designs more visible from a distance since a larger shadow is cast by each carved edge. This would make the smaller domes appear to be richer in design because of the added texture.

Design Aesthetics

The street façade is typical Circassian which means it has simple windows and shallow recesses. The portal has a tri-lobed arch and is placed on one end of the building with the dome on the other. The reconstructed minaret is located behind the dome to be visible from the street level. The dome appears out of proportion in relation to the building since it is too large. The aesthetics here must be discussed in light of adjacent domes. It appears from the current placement, that there was an intention to group the domes together. They range from small, to medium, to large with the dome of Barsbay being the largest. This is design harmony created by repetition at its best. The domes appear to be visually connected from afar even though they are physically separated into several buildings. This shows the ingenuity of the architect in creating visual grouping and pleasing proportions.

11.6.5- The Funerary Complex of Sultan Inal

The Council of Barcelona was persistent in trying to resume trade relations with the Mamluks and in 1438 they succeeded in having King Alfonso V agree to appoint Muntros as the Catalan consul in Alexandria. The council also asked the king to stop corsair attacks on Mamluk ports and ships in the Mediterranean. Despite this new commitment the attacks continued, however, it was not clear who was responsible for them. The Catalan merchants resumed their trade with the Mamluks and ever since there was always an influential consul in Alexandria. Because of this new peace, the Mamluks started expanding in the Mediterranean by attacking Rhodes since they were supported by the King of Aragón.[666]

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[665] Ibid., 256.
[666] Ashtor, *Levant Trade*, op. cit., 309-311.

Sultan al-Ashraf Inal al-'Alai was bought by Barquq, manumitted by his son Faraj, and chosen to be governor of Edessa and Safad by Barsbay. He was later made governor of Gaza, great secretary, and in the end the army's commander in-chief by Sultan Jaqmaq. He was in charge of the second and third campaigns against Rhodes by Sultan Jaqmaq. He faced fierce resistance and decided to retreat and go back instead of losing his soldier.[667]

Description

Built in 1453-61 it has a large courtyard with adjacent quarters. It has one of the most sophisticated minarets in Cairo with an octagonal base and round upper levels. Beautifully carved design details adorn all sides of the minaret. Above the entry portal, the exterior walls have remains of fleur-de-lis crenellations. Abouseif described the complex by saying: "The funerary complex of Sultan Inal in the northern cemetery is an odd building. The main façade of the mosque, which overlooks the main road, is separate from the mausoleum dome and the minaret that stand respectively to its northern and southern sides, connected to it by an enclosure wall. The bases of both the minaret and dome and the enclosure wall are of the same height, and substantially lower than the roof of the mosque, which clearly indicates that the complex was built in more than one stage; in fact, it was built in three phases. The mausoleum and minaret were built first; a khanqah or complex of living units for Sufis was inserted in the second stage, and the mosque was the last structure to be added. Today the whole complex is in a semi-ruined condition."[668]

Minaret Analysis

The minaret was described by Abouseif as follows: "It displays a profusion of carvings, anticipating the taste of the Qaytbay period; its middle section displays a three-dimensional zigzag pattern. It is interesting to note that the initial funerary enclosure, although only a *turba*, included a minaret."[669]

The minaret has an amazing level of carving sophistication. Its surface is divided in sections that are filled with floral and geometric designs. It has the familiar bulbous dome above a round shaft filled with zigzag designs. Its lower octagonal part has a blind keel arch on each side. Each blind arch is framed by three engaged columns. Alternate sides have small balconies with pointed-arched openings. In addition, there is a rectangular panel below each

[667] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 267.
[668] Ibid., 267.
[669] Ibid., 269.

arch. There are additional carved panels in the squared base and in the transitional zone. The stone carving is deep as it creates shadow patterns visible from a distance. It makes the minaret surface appear three-dimensional because of its texture. Despite its height, the minaret has pleasing proportions.

Design Aesthetics

Despite that most of the complex was in ruins during the last field visit for this work, the site and the arrangement of the buildings were impressive. The plan is logically organized with all the spaces arranged in relation to a linear system. This layout relates to the street façade which faces the qibla direction. The plan of the building could easily pass for a contemporary building drawn by a twenty-first century architect since it was planned according to the function of each space. The minaret and the dome of the mausoleum are placed at each end of the street façade to frame the main building façade. These are the aesthetic principals of proportion and variety based on the massing of architectural volumes. The Complex of Sultan Inal shows further refinement of the Mamluk architectural style. It shows lesser emphasis on surface ornamentation and more attention to architectural forms. This was caused by the new found open space in the northern cemetery. Inside the city, the buildings were more condensed and the reliance on surface decoration was required to show opulence and the power of the patron.

11.6.6- The Funerary Complex of Sultan Qaytbay

Sultan al-Ashraf Qaytbay, who reigned from 1468 to 1496, was confronted not only by the threats coming from Europe in the Mediterranean but also from the Ottomans, who were expanding in Eastern Europe and western Asia. Their successful campaigns were a result of new fighting techniques. Instead of relying on the traditional cavalry divisions, they started using rifles and artillery. The Ottoman's superior fire power and strict military discipline made them feared by Muslims and Christians alike. As they were waging, and wining wars against Venice, Hungary, Poland and Iran they also attacked the Mamluks in northern Syria. These attacks were minor clashes for the sultan in Istanbul but a major challenge for Qaytbay. In addition, he was faced by internal rebellion and financial collapse in Egypt and Syria. He proved to be a great politician who maintained the prestige and stability of the Mamluks during his reign.[670]

[670] Lyster, *The Citadel of Cairo,* op. cit., 37.

Mamluk Disorder

Internally, the problems that started with Sultan Barquq continued and had a negative effect on the Mamluk hierarchy. The lack of hereditary rule instated by the Circassians made it impossible for the royal Mamluks to transfer their loyalty to another leader. They were removed from important posts by every new sultan and replaced by loyal Mamluks. They continued to serve in the army but as they formed their own interest groups they posed a threat to the stability of the system. By the mid fifteenth century any new sultan had to play off the different groups if he wanted to stay in power. Another problem was the induction of new inexperienced Mamluks into the system simply because they were loyal to the sultan. They found themselves in high positions before they had developed discipline and communal loyalty. Because of the lack of experienced and competent emirs among them, they became rebellious and unruly, constantly demanding higher wages and the dismissal of unpopular leaders. If their demands were not met, the Mamluks would riot, loot, and block the sultan in his Royal Enclosure at the Citadel.[671]

The greed of the Mamluks led to endless demand for more money which resulted in the depletion of financial resources. In addition, the plague of 1477 wiped out over 2,000 royal Mamluks. The cost of each was 1,000 Dinars which was equivalent to the annual pay of 30 artisans. During the fifteenth century, the plague also devastated the agriculture. Complete villages were eliminated leading to a breakdown of the irrigation system. The land dried-up and there was no place for the crops to grow. The revenues from agriculture were cut in half compared to the days of the Bahri Mamluks. The sultans relied on heavy taxation, devaluation of the currency, and state monopoly over trade and industry. This was seen earlier with the monopoly over sugar, cotton, and the spice trade instated in 1428 by Sultan Barsbay. These solutions were temporary and Egypt's financial stability continued to decline sharply.[672]

Qaytbay's Vision

Despite the financial deficit, Sultan Qaytbay had the largest building program of any Mamluk sultan. It is well documented that in Cairo alone there are 38 monuments attributed to him. He ordered Emir Yashbek to widen the streets of Cairo and demolish as many illegally built structures as necessary. Renovation work later started on façades of older mosques. Doors were replaced, ornaments were polished, and walls were repainted. Construction on a new area added to the city started in 1475 which was named Azbakeya

[671] Ibid., 36.
[672] Ibid., 36.

after emir Azbak.[673] This area was founded around Birkat al-Azbakeya which was a large lake outside the city walls. It became surrounded by houses of the Mamluk elite and later became a focal point of the downtown area in the nineteenth century.

Sultan Qaytbay was able to finance his large building program by controlling the spice trade between Europe and the Orient. Lyster explained by saying: “European mercantile states such as Venice, Genoa, and Catalonia, were compelled to buy all their Indian spices, aromatics, drugs and dyes from the Mamluks at exorbitant prices. The Mamluk monopolies on these valuable commodities forced the newly emerging nation states of Europe to seek alternative routes to the East that bypassed Egypt completely. The Mamluks were therefore indirectly responsible for the resulting discovery of America by Columbus in 1492. When the Portuguese found the sea route to India around the Cape of Good Hope six years later, Lisbon became the new capital of the spice trade and the Mamluks were again facing bankruptcy.”[674] In 1497 the Portuguese were led by the cruel Vasco de Gama who terrorized the coasts of Africa and the Arabian Gulf. His vicious attacks on Muslim ships resulted in Portuguese monopoly over maritime trade in the Indian Ocean.

Catalan Connection

When Ferdinand and Isabella took power in 1479, Alexandria was a lost important trade partner. No relationship existed at the time with Barcelona at the other end of the Mediterranean.[675] Starting in 1484 the King of Aragón attempted to revitalize the economy of Barcelona by improving trade with Alexandria. In 1485 the Catalan consulate had to be re-established in Alexandria. In the end, under Sultan Qaytbay, Barcelona had permanent political representation to guarantee the flow of merchants and goods down the Nile to Cairo.[676]

Of course Granada fell in 1492 during the reign of Sultan Qaytbay despite the many requests made by the Nasrids for his help. As soon as the armies of Ferdinand and Isabella advanced on the city, Sultan Boabdil sent an envoy to Sultan Qaytbay asking for his military support. He was reluctant to help because of the good trade relations with the Catalans. He sent his

673 Abd al-Tawwab, *Qaytbay*, op. cit., 182.
674 Lyster, *The Citadel of Cairo*, op. cit., 38.
675 Suárez, Relaciones con Egipto, op. cit., 509.
676 Ibid., 511.

famous letter which included threats more than anything, to arrest Christian pilgrims going to Jerusalem in case the population of Granada was abused.[677]

Ironically, it was also reported that the son of Ferdinand II the King of Aragón, Sicily, and Naples, resided at Qaytbay's court.[678] In October 1483, Fabri visited the palace of the son in Cairo with a number of Mamluks. He described it as being large with gardens full of beautiful beasts and rare animals. The following day he mentioned meeting renegade Christian Mamluks from different nationalities, who were accompanied by many from Sicily, Aragón, and Catalonia.[679]

Design Foremen

Sultan Qaytbay had several emirs in charge of his building program. It is also documented that he had several architects responsible for the design of his projects. He first had Ibn al-Kawiz in 1469 who was replaced after his death by Ibn al-Tuluni in 1481. This is evidenced by the varied designs especially those of the minarets, that many architects were involved in the building program.[680]

One of Qaytbay's earliest buildings was his palace at the Citadel. It has since been demolished but it was described by a European ambassador in 1483 according to Lyster as follows: "The palace is built of beautiful stone and is surrounded by courtyards, and gardens. In the middle is a rectangular basin, filled with fresh water and small fish. The walls are paneled in black, white and pink marble, and are decorated with moldings, knots, geometric shapes and arabesques, as well as mosaics and other things difficult to explain. The floors are covered with rich carpets and cushions of silk and velvet. The sultan sat in this place, his legs folded like a tailor, playing chess with one of his courtiers."[681]

Description

The Funerary Complex of Sultan Qaytbay was built in 1472-4. It was a large project which Abouseif described by saying: "It included a substantial quarter with structures on both sides of the street, most of which have vanished. Today the mosque, a maq'ad or loggia, and another funerary mosque dedicated to the sultan's deceased sons, the remains of a gate and a

[677] Abd al-Tawwab, *Qaytbay*, op. cit., 173.
[678] Behrens-Abouseif, European Arts, op. cit., 50.
[679] Fabri, *Voyage en Egypte*, op. cit., 430-431.
[680] Abd al-Tawwab, *Qaytbay*, op. cit., 185.
[681] Lyster, *The Citadel of Cairo*, op. cit., 37.

sabil, a drinking trough for animals, a hall and an apartment building are extant. According to the very detailed waqf deed, however, this quarter also included a stable, a waterwheel and a number of dwellings. The waqf deed also refers to the mausoleum of a relative of Qaytbay nearby."[682]

The remaining mosque was described by Abouseif as follows: "It combines moderate dimensions with excellent proportions and exquisite stone carving. The elaborate portal has groin-vaulted tri-lobe recess with *ablaq* stones and carved muqarnas. The sabil-maktab occupies the northeastern corner, with a double arch on the northern side and a triple one on the eastern. The minaret stands on the western side of the entrance. The mausoleum protrudes into the street on the southeastern corner of the mosque, adding a third façade to the mausoleum, thereby increasing its visibility from the north and adding light to the interior through the pair of superimposed windows in its northern projection. The minaret is a jewel of late Mamluk architecture and carved masonry; a twisted band surrounds the neck of the bulb like a necklace. The dome's design turns upside down the concept initiated in Barsbay's star domes. Here the design is conceived around a central star that radiates from the apex down to the base, instead of a row of stars departing from the base towards the apex. The basic geometric design is rendered in plain relief lines, whereas the arabesque filling consists of grooved stems and leaves, so that their design is accentuated by shadow lines. The brightness of the geometric lines thus contrasts with the darker grooved arabesques, conveying a multi-layered appearance to the carved decoration. The entire transitional zone of the dome, which is at least as high as the cylindrical section of the dome before it curves, is framed with a carved molding that underlines its composition. The undulating steps at the corners are beautifully carved."[683]

There are fleur-de-lis motifs placed in the joggled voussoirs of the lintel above the main entrance, in the typical Mamluk manner seen so far at many buildings. What is interesting here is the placement of a large red marble Flying fleur-de-lis motif in the middle of the center lobe of the tri-lobed portal. What's interesting is that the motif is flipped, doubled, and reversed in white marble. This creates a strong focal point for the portal with a unique design of a triple Flying fleur-de-lis motif inspired by the crenellations used at many Mamluk buildings.

[682] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 275.
[683] Ibid., 276.

Dome Analysis

The dome above the mausoleum was described by Blair and Bloom as follows: “The exterior, however, is the masterpiece of carved masonry domes, comprising two networks of contrasting arabesque and geometrical interlace perfectly fitted to the decreasing domical surface. While the two systems evolve from common centers, the contrast between the two is heightened by the differing surface treatment: the geometric interlace is left plain while the surface of tendrils, trefoils, and split leaves is grooved with a beveled cut. Such intricacy of design, refinement of execution and elegance were attempted again only on the other dome to the west in the complex. The treatment of the zone of transition derives directly from that inaugurated at the nearby complex of Faraj ibn Barquq, but the sequence of concave and convex moldings is more intricate, and many of the surfaces are carved. The triangular spaces on either side of the windows are filled with roundels carved with Qaytbay’s distinctive epigraphic emblem.”[684]

The dome of the mausoleum of Qaytbay is an example of the influence coming from al-Andalus. The architecture of the complex was described as being of consolidation rather than innovation when compared to the work of al-Nasir Mohamed.[685] The dome is innovative in its design despite using motifs appearing before in Mamluk buildings. The Type-B fleur-de-lis is back, this time in carved stone instead of the stucco found at the buildings of the Qalawunid dynasty. The dome has a sixteen-pointed star at the apex which surrounds the top with a lattice of lozenges. Below it, is a row of elongated lozenges filled with mirrored Type-B fleur-de-lis motifs. This row opens up to another row of six-sided polygons connecting to five-pointed stars. This in turn connects to a row of nine-pointed stars filled with Type-B fleur-de-lis motifs arranged in a circle inside the star. The dome terminates with a row of ten-pointed stars with their halves hidden into the drum. What Abouseif said about the designs of this dome starting at the top for the first time in Mamluk history cannot be accepted. It still follows the same rules set before with the Barsbay dome with rows of stars decreasing in size as they go up. This is a physical necessity since the diameter of the dome decreases as it goes higher. What’s new here is the reintroduction of the Qalawunid floral design repertoire. What makes the designs of this dome appear more visible is the depth of the carving which is deeper than before. The effect of deep carving was discussed earlier in comparing the three domes of Barsbay. The most important design development is how the stars of the domes are interlaced. There is enough variety of shapes to ensure that every area of the dome surface is covered. It goes from lozenge, to elongated lozenge, to six-sided

[684] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 92.
[685] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 144.

polygons, to five-pointed stars, to nine-pointed stars, to finally ten-pointed stars. This arrangement shows that the designer finally figured out how to apply surface ornamentation to a convex shape.

Crosses at the Entrance

Two marble panels were mentioned by Abouseif near the mausoleum entrance: “Outside the mosque, in the lower part of a wall, near the entrance to the mausoleum, is a curious marble panel, carved with a double arch filled with arabesques and vegetal motifs. At first glance, the panel appears as if it belonged to a Christian building because the arabesques, which are different in each of the two arches, are designed to suggest the profile of an Armenian cross; however, the floral patterns, which are consistent with the style of the period, and the name Mohamed al-N-sh-t-y’ (?), which is carved on one of the pair of the posts that flank the panel, point, rather, to a workshop of Qaytbay. The masonry indicates that this wall is a later addition and that the panel was originally a balustrade in an open platform overlooking a hall adjoining the mosque to the west. This hall, which is filled with cenotaphs of a later date, faces with a triple pointed arch a small courtyard and a ruined unidentifiable multistoried building on the opposite side.”[686]

It is not surprising to see crosses in these panels as was demonstrated before that the cross was used as a design motif starting with the Umayyads in Syria. It was used extensively in mosaic floor designs at Khirbat al-Mafjar and elsewhere. The Armenian cross is, however, a new type that was not used in Cairo before. It is important to note that a Type-B fleur-de-lis is placed at the apex of the arch and several stylized fleur-de-lis motifs are placed around the cross. The motif is also used in halves to delineate the cross and to create vine scrolls. This is yet another testament to the involvement of Christian artisans.

Design Aesthetics

The Complex of Sultan Qaytbay has a less architectonic façade because it is flat with only simple arched windows. What is lacking in façade articulation is made-up for in the grouping and the massing of architectural elements. The dome of course is the focal point of the ensemble with the magnificent minaret balancing it. The minaret is a culmination of several years of design development and has become the prototype to follow even in Cairo’s contemporary mosques. Other elements that were developed here continue to be used today like, the balcony of the upper level and its wooden

[686] Idem., *Cairo of the Mamluks*, op. cit., 277.

awning. What is innovative at this complex is that all the elements project from one larger mass which is that of the main building. This is the same aesthetic principle first seen with the Bahri Mamluks at the Complex of Sultan Hassan. It has been perfected since and is now fully realized as representative of Mamluk aesthetics.

The reappearance of Andalusian design elements during the reign of Sultan Qaytbay must be attributed to the renewed contact between Alexandria and Barcelona due to the heavy trade with the Catalans. It is difficult to explain why the elements appearing here disappeared from previous buildings. There are many parallels with the period of al-Nasir Mohamed which must be attributed to good relations with the Catalans and the movement of people and goods in the Mediterranean.

11.6.7- The Mosque of Emir Yashbak, al-Quba al-Fedawiya

The mosque was built in 1480-2 by Emir Yashbak near Abassiya Street in the middle of a large park. It is surrounded by streets on three sides with the one on the eastern side named al-Quba al-Fedawiya Street. The bulbous dome dominates the site and is visible from Abassiya Street despite the tall buildings now surrounding it. This is the first Mamluk building I have ever seen since it was located in an area near my home. I used to frequent the park surrounding it and I vividly remember the name of the dome and the street it faces. Unfortunately it was neglected for many years as it was built away from the center of Mamluk Cairo. Even recently, as Islamic buildings were undergoing major restoration work it did not get any attention.

Description

Abouseif described the site by saying: “In the month of Dhu ‘l-Hijja just after Qaytbay departed on pilgrimage in 884/1480, Yashbak pulled down some buildings including a cemetery to the north of Husayniyya, and conducted water to create a pond surrounded with gardens ‘for the view’. He then built a sabat or elevated causeway roofed with a trellis that led to a domed mosque and several markets. On the desert side, further east, he built a funerary complex with a madrasa and a Sufi foundation.” She continued in another section and said: “The domed mosque is all that survives today of Yashbak’s quarter. Ibn Iyas referred to it as a Friday mosque. Although not mentioned, it most likely had a minaret, probably free-standing.” Yashbak died

before he had a chance to complete the building and Sultan Qaytbay ordered its completion in 1481.[687]

The interior of the mosque of Yashbak has the largest Mamluk brick dome ever built measuring 14.3 m in circumference. The interior is richly decorated with carved, painted, and gilded stuccowork. The patterns used are new in Mamluk designs and appear to have been inspired by book illustrations. Abouseif explained: "The decoration of this mosque represents a revival of stucco wall decoration, in a style quite distinct from that of the Bahri period. The mosque of Qaytbay at Rawda was also decorated with stucco. The pattern of the painting inside the dome may have inspired the exterior carved decoration of the dome of Qanibay Qara at the Citadel."[688]

Design Aesthetics

The building exterior is simple with rectangular and arched windows. The rectangular windows have lintels and relieving arches with the familiar black and white *ablaq* joggled voussoirs and the Flying fleur-de-lis motifs. The focal point is of course the dome which is framed by modified Flying fleur-de-lis crenellations. Here they are doubled with four wings. The dome itself is plain and is free of any carving. The aesthetics of the façade have some of the familiar Mamluk elements but is characterized as being harmonious but austere.

The interior is much more elaborate with the dome and its clerestory windows dominating the space. Close inspection of the floral designs on the walls of the interior revealed that they are very distinct and unusual in the Mamluk repertoire. In some parts they remotely resemble some of the scrolls of previous stuccowork including the fleur-de-lis motif. It is clear that the design principles of these patterns is foreign to Cairo and is difficult to link to other buildings.

11.6.8- The Mosque of Qadi Abu Bakr ibn Muzhir

Abu Bakr was a bureaucrat in Qaytbay's court and was referred to as his private secretary; his mosque was built in 1479-80.

[687] Ibid., 282.
[688] Ibid., 283.

Description

The mosque has a courtyard with four iwans. The exterior walls have fleur-de-lis crenellations and an octagonal minaret next to the main entrance. It has a *mihrab* niche adorned with Cosmatesco work and fleur-de-lis motifs. Abouseif described the mosque by saying: “The architecture of this small monument is typical of the period, and yet, as is often the case, it displays original and individual features. The plan is a variation on the qa’a pattern. Rather than the oblong qa’a, its format is almost square, with the two major iwans facing the central space with a triple arch supported by a pair of columns. This plan is similar to that of the mosque of Barsbay in the cemetery, and the mosque of Shaykh Maydan (1465). It was also repeated in the mosque of Janim al-Bahlawan (1478) in Surujiyya Street, and in the mosque of the Sufi Shaykh al-Dashtuti (1506). The arched recesses in Abu Bakr’s mosque are framed by a molding that runs along the whole interior. As on contemporary portals, it is composed of a double band interlocking into loops, like a chain. The spandrels of the mihrab arch and the windows were decorated by ‘Abd al-Qadir al-Naqqash, who used a new marble-inlaid design and signed his name in a mirror composition, as he did also in Qijmas’ mosque, built the same year. The mihrab has a flamboyant conch with a sunrise motif of inlaid marble in red, black, and white, which radiates to include the spandrels. The lower part of the niche is decorated with intricate geometric patterns in polychrome marble mosaics and turquoise glass paste, which is a real surprise in a monument of this period and points yet again to a revival of traditional craft.”[689]

Design Aesthetics

The street façade is simple with shallow recesses with the minaret being the focal point above the fleur-de-lis crenellations. It is harmonious and balanced but lacks articulation. Inside, the mihrab is amazingly adorned with Flying fleur-de-lis motifs that are placed in the interlocking voussoirs in a typical Mamluk manner. The designs spread into the spandrel with stylized fleur-de-lis motifs in red, black, and white. The overall effect is tight and dense. It shows innovation in the use of familiar design motifs.

[689] Ibid., 286.

11.6.9- The Funerary Mosque of Emir Qijmas al-Ishaqi

Emir Qijmas was governor of Alexandria in 1470, he was appointed as master of the stables in 1475, and he died in 1480 in Damascus where he was governor.

Description

The mosque was built in 1479-82 it has an open courtyard with two iwans. It has a small dome and an octagonal minaret. The exterior walls have Flying fleur-de-lis crenellations. The location of the mosque was described by Abouseif as follows: “His funerary mosque is located in the quarter called al-Darb al-Ahmar, to the southeast of Bab Zuwayla. It is one of the most interesting monuments of the late Mamluk period, both in terms of architecture and decoration. It is popularly known by the name of ‘Shaykh Abu Hurayba’, who was buried in the mausoleum in 1852.” She continued describing the building and said: “The brick dome rests on a masonry transitional zone articulated with triple prisms at the corners. The middle section of the stone minaret is bare of decoration, unlike its contemporaries. The simplicity of the upper structures contrasts with the lavishness displayed in the dense and innovative decoration of the façade, mainly in the stone carvings and polychrome marble inlay of the lintels of the windows and the portal recess. In the main façade, a rectangular recess crowned with muqarnas includes two tiers of three windows, the upper one being arched. The intricate inlaid marble patterns of the lintels have no equivalent precedents in Cairo. The engaged colonnettes at the corner of the façade are carved with registers of various alternating designs, which is a novelty of the Qaytbay-period. The style and quality of the carving recalls that of Qaytbay’s dome. A remarkable feature of the façade is the chain molding, consisting of two bands intercepted with loops that run around carved panels. This type of carved panel became a standard feature of late Mamluk façades.”[690]

Design Aesthetics

The mosque follows the dense and compact prototype of inner city Mamluk designs. The minaret is visible from afar and is the focal point. It is octagonal and has nicely carved muqarnas under each balcony. The dome is not as significant and lacks detailing, it is actually not visible from the street since its size is not proportional to the height of the exterior walls. The overall design is harmonious with enough repetition and variety.

[690] Ibid., 289.

The *ablaq* black and white joggled voussoir of the relieving arches above the windows are more elaborate here compared to previous designs of the same period. They are symmetrical on both sides of a *bukharia* on the western façade. The lintels below have elaborate *ablaq* fleur-de-lis designs that follow several patterns.

11.6.10- The Funerary Complex of Sultan Qansuh al-Ghawri

Sultan Qansuh al-Ghawri was the last strong Circassian Mamluk ruler of Egypt. He was purchased in the northern Black Sea area by Qaytbay and was called al-Ghawri after the barracks where he was stationed. He fought the Ottomans in 1484 and held several offices in Syria and Anatolia afterward. Abouseif described his reign as follows: “The reign of Sultan al-Ghawri marks the finale of Mamluk pious and artistic patronage. Despite the miserable economic and political situation of the Mamluk state, the sultan pursued to the very end of his reign a passion for regal pomp, spending considerable funds and confiscating properties to build representative buildings.”[691]

Description

The complex was built in 1502-4 it has two buildings facing one another across al-Muizz Street. It has a large dome above the mausoleum and a square minaret. The exterior walls have Qalawun-set windows and doubled fleur-de-lis crenellations. Abouseif said the following about the mausoleum: “The sultan’s mausoleum was designed to be more than just a royal funerary chamber; it was to shelter relics of the Prophet and a Koran volume said to have belonged to the Caliph Othman, which would bestow on it the status of a pilgrimage site. These holy relics had been kept hitherto in the building called Ribat al-Athar, which allegedly had fallen into disrepair.”[692]

The layout was described by Abouseif as follows: “The funerary complex has a remarkable layout as a double architectural composition, with two blocks straddling the main street in the heart of medieval Cairo. The western block consists of a mosque with its minaret; the eastern one is a funerary complex, which includes the mausoleum, a hall called khanqah, a maq’ad, a graveyard and a sabil-maktab. The façades of the two buildings display two projections, that of the minaret buttress on the southwestern corner and that of the sabil-maktab on the opposite one.” She continued by saying: “The dome had to be pulled down in Shawwal 917/January 1512 and must have been rebuilt immediately. A year later, in Safar 919/April-May

[691] Ibid., 295.
[692] Ibid., 295.

1513, it was pulled down again and rebuilt by Rabi' 1/May-June of the same year. The sultan himself sat on the roof of the madrasa under a canopy to supervise the works. Both buildings are built above shops connected to markets stretching along the side streets. A wooden roof linked the two blocks and provided shade for the street, as is shown in an engraving by David Roberts and mentioned in the waqf deed. This roof must have concealed the view of the minaret and the dome to a passerby coming from the north. Timber was an expensive imported commodity; al-Ghawri had to acquire wood from the Ottomans to build military ships to protect Mamluk interests in the Red Sea."[693]

Design Aesthetics

The dome is not a part of the mosque as explained earlier since it collapsed and was never rebuilt. The top part of the minaret was rebuilt in the nineteenth century and it remotely resembles the original. It has a larger bulbous dome surrounded by four smaller bulbous domes. The original is said to have been four-headed and was the first of its kind. The minaret with its square shaft does look odd in the context of Mamluk architecture. The rest of the complex is consistent with previous designs of the Circassian period. The façades have the typical *ablaq* bands, the tri-lobed portals, and a yet another variation of the Flying fleur-de-lis crenellations. The windows have the familiar joggled black and white voussoir lintels and relieving arches. The overall impact is more relaxed with less ornamentation, however, richer than the ones discussed of the same period. The inscription band on the façade adds texture and ties the horizontal elements of the façade together. Despite the familiar Mamluk elements there is a lot of innovation in design. The aesthetic principles used are the same but with new variations of technique.

11.6.11- The Mausoleum of Emir Azrumuk

Built in 1503 in the Northern Cemetery it is fairly compact but has a unique dome covered with large fleur-de-lis motifs. It was described by Williams as follows: "Azrumuk's dome is nicely carved, and its decoration of blue faience blobs is unique. He was an emir of a thousand under Sultan Qansuh."[694]

The dome of this mausoleum is amazing in its ornamentation as it is made entirely of fleur-de-lis motifs. It starts with a variance of the Type-B fleur-de-lis near the drum and moves upward to a Flying fleur-de-lis that

[693] Ibid., 297.
[694] Williams, *Monuments in Cairo*, op. cit., 249.

becomes smaller as it goes higher. Each motif has a blue faience blob placed in the hollow space of the frond. The motif is mirrored in an interlaced diagonal pattern. This is the same pattern seen in marble in Mamluk mihrab niches starting with the Complex of Sultan Barquq in the city. It is the climax of the fleur-de-lis in Mamluk design as it is now the only motif used on this dome. The crenellations are also innovative in their design as they have the Flying fleur-de-lis with a rose-bud placed horizontally, to create the outline of the wings of yet another silhouette of a mirrored Flying fleur-de-lis. The remainder of the building is simple and follows the same aesthetics of Circassian design.

The proportions of this mausoleum is typical in being condensed. It is taller than its width and appears to be out of proportion. The building is simply a base for the dome with an entrance. Despite its small size the façades are highly articulated with windows and ornamental carvings.

11.6.12- The Funerary Mosque of Emir Qanibay Qara

Emir Qanibay was a Mamluk of Qaytbay and he was appointed master of the stables under his son in 1497. He maintained this position under Sultan al-Ghawri until his death in 1515.

Description

The mosque was built in 1506 it has a long façade on Rumayla Square with Qalawun-set windows and is capped with fleur-de-lis crenellations. It has a square minaret with twin pavilions and twin bulbous domes. It has the triple horseshoe arch windows in the transitional zone of the dome. The mosque was described by Abouseif by saying: “Elevated above Rumayla square, the monument reveals a spectacular façade (41.6 m long and c. 18 m high), making full use of the ample space available, to command the panorama of the Rumayla square and the hippodrome. To the south of this building, facing the mosque of Sultan Hassan, was the aqueduct established in the Bahri period. Considering Qanibay’s office as the master of the stables, and his quality as a great horseman who excelled in the art of the spear, the location of his funerary mosque near the great hippodrome was probably not a coincidence. His first mosque was also in the vicinity of a hippodrome.” She continued by saying: “The masonry dome occupies the southeastern quarter of the façade. It is carved with an overall pattern of lobed lozenges filled with arabesques. The design is less complex and the quality of the carving shallower than that of Qaytbay’s dome. The minaret, a good reconstruction by the Comité in 1916, stands on the other side of the façade on the left-hand

side of the portal, between it and the sabil-maktab. It has a rectangular shaft with a double-headed upper structure. The double bulb was used earlier in the minaret of Sultan Janbalat's mosque, built in 1500 and destroyed during the French occupation. It might not have been the first such case since, as mentioned earlier, Ibn Kathir described one of the minarets of Sultan Hassan as having a double top. Sultan al-Ghawri's minaret at al-Azhar mosque and the earlier minaret of Qanibay at Nasiriyya also display this device. The sabil-maktab was reconstructed in 1939, on the basis of old photographs."[695] The minaret is most unusual with its plain surfaces; it has pointed horseshoe arch windows with two colonnettes inspired by the minaret of Qalawun.

Design Aesthetics

This mosque has a horizontal façade that is balanced by the dome and the minaret. It has subtle articulation with shallow recesses that are capped with muqarnas. Despite being a departure from the massing of building volumes seen earlier at the Complex of Qaytbay, the façade of this building sets the aesthetic prototype for future Neo-Islamic buildings of the nineteenth and even the twentieth century. The elements found here are similar to their Circassian and Bahri predecessors but are simplified. The building is harmonious with enough variety to add visual interest. The crenellations are Flying fleur-de-lis with the horizontal rose-buds seen at the mausoleum of Emir Azrumuk.

11.6.13- The Funerary Complex of Emir Qurqumas

Emir Qurqumas was an emir of Qaytbay who was master of the stables during his reign. During the reign of al-Ghawri he was appointed commander-in-chief of the army. The complex was built in 1506-7 as one of the largest in the northern cemetery.

Description

The complex has a mosque with an open courtyard surrounded by four iwans. Its long façade has the Flying fleur-de-lis crenellation which also surmounts the walls of the courtyard. It has a large dome and an octagonal minaret typical of the Circassian Mamluk prototype. Abouseif described the complex by saying: "It is in the northern cemetery; the mausoleum was the first structure to be erected, as indicated by its inscription with the completion date Dhu 'l-Qa'da 911/April 1506. The inscription at the main entrance dates

[695] Behrens-Abouseif, *Cairo of the Mamluks*, op. cit., 305-306.

the completion of the complex to Rajab 913/November 1507. As usual in this period the complex consisted of a Friday mosque with a Sufi service." She said the following about the layout: "It appears at first glance similar to that of Qaytbay's complex, with the minaret on the right-hand side of the portal, the sabil-maktab on the left and the mausoleum dome protruding at the southern end of the eastern façade. As in Qaytbay's case, the mosque was connected on its northern side with residential structures. Here they consist of an apartment building with eight units built on two stories, which today are in a ruined condition. The south side extends to include a residential hall, described as a qasr in the waqf deed." She also said: "The main façade of Qurqumas' complex extends over a length of c. 107 m adjoining Inal's buildings. Together the two façades are almost 200 m long. The dimensions of the minaret, which is over 25 m high from the roof, are similar to Qaytbay's. The inner side of the mausoleum is 10 m long, and the inner height to the apex of the dome is c. 30 m."[696]

The interior was described by Abouseif as follows: "The interior of the monumental mausoleum chamber, connected by a pair of windows with the mosque, conforms to contemporary funerary architecture. The stone mihrab is, as usual, decorated differently from the mihrab of the mosque. Unlike the mosque, the mausoleum has no marble dado. However, the waqf deed mentions an inscription band of marble and stucco and a marble pavement, which no longer exist. The inscription band includes excerpts of the famous poem *al-Burda* by the Mamluk poet al-Busiri, which is a hymn to the Prophet, it was originally gilded. The mosque and mausoleum, built on the second floor above storerooms and ablution fountains, commanded a panoramic view of the cemetery and the city further west." In conclusion she said: "The architecture of Qurqumas' complex, with its diaphanous walls, interacted with the bright desert environment. The bold fenestration on an unprecedented scale, combined with the loftiness of the building, displays a masterly manipulation of light. This architecture of luminosity was the final development of Mamluk architecture."[697]

Minaret Analysis

The minaret is one of the last to be built in the Mamluk period and shows the level of perfection reached in stone carving and architectonic balance. There are innovative elements used like the deep folds with lozenge designs on the second level. Other familiar elements are the screens of the balustrades with their fleur-de-lis motifs. Interestingly enough the Greek pointed cross makes an appearance inside square panels in the transitional

[696] Ibid., 309.
[697] Idem, *Cairo of the Mamluks,* op. cit., 312.

zone and the octagonal shaft right above. It has an eight-pointed star in the center surrounded by other geometric designs. This is yet another proof of the presence of Christians among the team of artisans working during the Mamluk period and for Qurqumas. Another feature discussed earlier is the crown-arch. It is located on the first level right below the keel-arched hoods. This arch earliest appearance was on the minaret of Abu al-Ghadanfar as explained earlier. It has since been found on numerous minarets, albeit neglected to be mentioned by scholars. Williams listed it as a type appearing in the Fatimid and Ayyubid periods. [698] This type of crown-arch was already discussed and it was distinguished from the Zaragoza crown-arch which appeared on the minaret of al-Nasir Mohamed. A similar arch was used sparingly by the Ottomans who continued the use of many Mamluk elements. Similar arches were found, however, on the minarets of the Fatimid Mosque of al-Hakim. Those arches are in the portion of the two minarets attributed to a reconstruction during the reign of al-Nasir Mohamed by his Emir Baybars al-Jashankir, after the earthquake of 1303.[699] The rest of the wall surfaces on this level of the minaret of Qurqumas are beautifully ornamented with carved floral and geometric designs.

Interior Analysis

The interiors of the mosque and the mausoleum are the best naturally lit of any Mamluk building. They represent a rapid development in Mamluk design compared to earlier buildings like those of the Qalawunid dynasty which were poorly lit and lacked fenestrations. The flood of natural light replaced the elaborate surface designs of the Bahri Mamluks. The mausoleum of Qalawun for example, has many windows but because of the exterior stucco grilles and the interior stained glass screens, the amount of natural light is minimized. In contrast, the Complex of Qurqumas has roughly the same amount of windows but they are much larger and have no grilles, and no screens. Whether increasing the amount of natural light was a design intent, or a consequence of cost saving by the elimination of the elaborate grilles and screens, is hard to verify.

Design Aesthetics

This complex was one of the last to be built during the Circassian Mamluk period. Its plan is long and arranged logically according to the functions of the spaces. The aesthetic principles of Islamic design of harmony, variety, balance, and proportion are all applied. The exterior is distinctly Circassian with the architectonic massing of the volumes adding to the

[698] Williams, *Islamic Monuments in Cairo,* op. cit., 26.
[699] Behrens-Abouseif, *Islamic Architecture in Cairo,* op. cit., 64.

vibrancy of the complex. The articulation of architectural elements is beautifully done with a hierarchy of components. The dome rises from the corner of the mausoleum in a progression toward the sky. The minaret is placed on the other side with its own square base that projects out and goes all the way to the ground. The balcony of Qaytbay with its wooden awning is also found here and is placed at the corner between the dome and the minaret. The repetition of arches and windows of the two level residential units spread horizontally to anchor the complex to the ground. In the end Mamluk architecture has come close to modern times with aesthetics that will be duplicated over and over again.

11.7- Analysis of Mamluk Design

In this survey of the monuments in Cairo we saw how Islamic architecture developed and how it was influenced by many sources. The most exuberant period was that of the Mamluks, it witnessed extensive building activity that was unmatched anywhere in the Middle Ages. Before the arrival of the Spanish artisans the architecture lacked the accurate detailing and beautiful stucco design patterns common in al-Andalus. These designs first appeared at the Complex of Qalawun and evolved into stone designs appearing on domes in later Mamluk architecture. The Bahri Mamluk period was a period of innovation and assimilation of design sources. The Circassian Mamluk period saw the rise of a local Egyptian style based on the perfection of design elements. The Spanish Artisans must have started adapting local elements and modified their own to give Mamluk architecture its vibrancy. This vibrancy was unmatched in the history of Islamic architecture in Egypt and marked a golden age for the Mamluk city of Cairo.

The following was said by Abouseif about the development of Mamluk aesthetics: “Inspired by the heritage of the Egyptian capital, where the Fatimids had already pioneered the design of street-adjusted mosque façades, the Mamluks developed a sensitive handling of architecture to enhance street vistas; at the same time they created new aesthetics concepts and architectural solutions that reflected their assumed role in history. Baybars ushered in the new era with Syrian inspirations in his madrasa, and with the novel and spectacular combination in his mosque of a large dome and three gates surmounted by minarets. The essential features that were to characterize the metropolitan style throughout Mamluk history were already established by 1285 in the complex of Sultan Qalawun. Within three decades the Mamluks had created a new, distinctive architecture in the capital.”[700]

[700] Behrens-Abouseif, *Islamic Architecture in Cairo*, op. cit., 72.

The Complex of Qalawun was the beginning of the Mamluk style as many new features were implemented in it. It cannot be accepted that the aesthetics of the complex were a continuation of their Fatimid and Ayyubid predecessors. The complex marked historically unmatched innovation in design and execution. As was shown earlier, the floral design motifs were quite different from the ones applied by the Fatimids. A new typology of the fleur-de-lis motif was presented in order to directly link the architecture to Córdoba and Granada rather than Damascus and Tlemcen. The Mamluks without a doubt, developed their own design repertoire which was heavily influenced by the intense exchange with Al-Andalus through the contact with the Catalans.

The techniques of decoration were discussed by Abouseif as she said: "Stone-carving was the medium of façade decoration and inscriptions. Carved stucco, widely employed for interior decoration of the Bahri period, was also used externally on brick domes and minarets. Its use receded when stone substituted brick. Some decorative features, such as the keel-arched niche with radiating hood, remained a constant decorative element from the Fatimid period to the end of the Mamluk period; whereas the early ones were decorated with stucco, they were later carved in stone."[701]

Stone carving is of course much more durable than stucco but it is also more difficult to manipulate. The designs that were made in stucco were not duplicated in stone and other variations had to be developed. The fleur-de-lis motifs carved in stucco at the Complex of Qalawun and the Complex of al-Nasir Mohamed namely, Type-A, Type-B, Qalawun-I, and Qalawun II, are quite different from the stone flying type. Even the almost Type-B appearing in stone on the dome of Qaytbay is not quite the same. The Lizard-Tail disappeared completely when the ornamentation shifted to stone. When stuccowork reappeared in Cairo in buildings like al-Quba al-Fedawiya, the design vocabulary had already shifted and the fleur-de-lis was not to be seen.

On the use of blazons in Mamluk architecture Abouseif said: "It is interesting to note that, although the blazon had a political significance in material culture as a symbol of the Mamluk status, its positioning in architecture was not canonized, and appears rather haphazard. In Baybars' madrasa, the panther is set in the tympanums of the façade windows, as were later blazons as well. However, Qalawun's façade does not display any, although he was reported to have had a blazon, which, according to Michael Meinecke, was the fleur-de-lis. The blazon could be carved in various locations on the façade: in a portal niche, within an exterior or interior

[701] Ibid., 90.

inscription band, painted on a ceiling, or integrated in other decorative elements, such as the stucco grilles of windows, marble slabs and woodwork; in the late Mamluk period, the royal blazon was often placed in the spandrels of the portal arch. In Qaytbay's funerary mosque it appears in the window lunettes, and in iwan arches. On the mausoleum of the emir Tarabay, we find the tripartite epigraphic blazon, which is the form reserved for the sultan, but instead of including the sultan's name it contains the *shahada*, the formula stating that there is no God but Allah and Mohamed is His Prophet."[702]

It is true that the heraldic type fleur-de-lis used by Qalawun did not appear at his complex in Cairo but hundreds of other types of fleur-de-lis motifs were found adorning his walls. Even the bronze entrance doors have designs based on the fleur-de-lis. Was this a coincidence? Of course not! This was a deliberate act on the part of the designer to use the emblem of Qalawun everywhere in his complex. The clearest analogy of this can be found on the walls of the Alhambra with the emblem of the Nasrids: '*Wa la ghalibu illa-Allah*'. The motif did not need to be an exact match to what was used on coins, but had to be modified to fit the context of the architecture. This is also true with the complex of his son al-Nasir Mohamed next door, which is also filled with the fleur-de-lis motif. At the complex of his grandson Sultan Hassan, the motif appeared in crenellations as yet another testament to the emblem of the family. Once the workshops in Cairo became acquainted with the new design repertoire, adaptation happened quickly and the fleur-de-lis showed up in buildings whether the patron used it as an emblem or not. The fleur-de-lis became the emblem of not only a few sultans, but of the whole Mamluk dynasty. Allen, who spoke of the fleur-de-lis and its use by Mamluk sultans was referenced earlier. He said that it appeared on coins of al-Nasir Mohamed, al-Muzaffar Hajji, al-Ashraf Sha'ban, Ali, al-Saleh Hajji, Barquq and his son Faraj. Almost all of those sultans used the fleur-de-lis in their buildings in one form or another. This is yet another proof that the motif did not have to be an exact match compared to its heraldic original.

It is now clear that the fleur-de-lis crenellation was originally a Christian symbol of the cross as it was used in churches of the Gothic period beginning in France in the twelfth century. This coincided with the capture of Jerusalem in 1099 and the beginning of Christian rule. Obviously the new crenellation type went through a period of development towards the end of the Bahri Mamluk period.

Another device which appeared frequently in Mamluk buildings was the pointed Greek cross. It was used extensively in Umayyad mosaic floor

[702] Ibid., 94.

designs at Khirbat al-Mafjar and elsewhere. It appeared on the wooden ceilings of the mausoleum of Qalawun, the Mosque of al-Nasir Mohamed at the Citadel, and the Complex of Barquq. It was also carved out in the center of the groin vault of the entry vestibule of the Complex of al-Muayyad Shaykh. In addition, there are the two crosses inscribed in circles inside the large horseshoe arch above the main entrance to the Complex of Qalawun. Interestingly enough, the Greek pointed cross made an appearance inside square panels on the walls of the minaret of the Complex of Qurqumas. There was even an Armenian cross at the Complex of Qaytbay appearing in two panels on the exterior wall.

There are other elements that appeared in Mamluk architecture which were originally from Spain, like the stepped crenellation, the horseshoe arch, and the geometric star design inside a large rosette. They contributed greatly to the development of Mamluk architecture but were not as influential as the fleur-de-lis, which became the symbol of not only the Qalawunid dynasty but all of the Mamluk period. Even today the motif is still used in traditional fabric designs and upholstery reflecting a historical reference to their period.

11.8- Ottoman Decline

Constantinople was conquered by the Ottomans in the afternoon of 29 May 1453. It only took the army a number of hours starting at dawn to take the Byzantine capital. The victorious Mehmed II toured the city entering the Church of Hagia Sophia and declaring it the city's congregational mosque. He also announced that the city will become his capital. It remained to be called Constantinople but it popularly became Istanbul. He vowed to establish Islamic rule over the lands stretching from the Euphrates to the Danube rivers as well as all of the Byzantine Empire.[703]

Events in the Mediterranean were fast developing and the conquest of Cyprus in 1571 by the Ottomans was of great significance since it left only Crete in the hands of the Christians. Their ships were attacked repeatedly and could not travel in the Levant without Ottoman approval. A large naval presence with plenty of bases along the sea lanes allowed for the domination of the Eastern Mediterranean. Between 1470 and 1571, the Ottomans were able to defeat Venice and Rhodes and take control of most of the important islands. After their successes around the Eastern Mediterranean and later in the sixteenth century the control of the Christian West over Mediterranean trade was greatly eroded.[704]

After the fall of Egypt in 1517 the trade route linking the Black Sea, Istanbul, Asia Minor and Alexandria became prominent and only had few Christian ships. Treaties were instated to facilitate trade with the West in Ottoman Mediterranean waters but the impact on the Italian Republics was severe. Genoa declined rapidly and shifted trade routes west toward Spain. To weaken the power of Venice the Ottomans encouraged trade with other nations namely: Florence, the French, and the Catalans. The Mediterranean was seized by the Ottomans from Dalmatia to Morocco by their large navy. Trade was encouraged in the Black Sea, and the link of Egypt, Greater Syria with Asia Minor and the Balkans along with urban development helped create a new Mediterranean controlled using Ottoman subjects including: Jews, Greeks, Turks, and Armenians.[705]

At the beginning of the sixteenth century a new power was rising in the West. The Portuguese were starting to use their technically advanced navy to challenge the Ottomans. Their interests in trade with India resulted in the discovery of the route of the Cape of Good Hope and led to conflict with the

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[703] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 213.
[704] Pryor, *Geography, Technology, and War*, op. cit., 178-182.
[705] Ibid., 188-191.

Ottomans in the Arabian Sea.[706] Around the same time the interests of Spain and Portugal shifted to the New World and the wealth provided by trade with the new colonies. The technical superiority of naval Portuguese power led the way for the future development of economic strength in the rest of Europe. Other powers emerged with the new struggle between Britain and France over the control of the Mediterranean which continued until the British occupation of Egypt. This happened in 1882 during the rule of the Mohamed Ali family which extended until the Egyptian revolution of 1952.

The Architecture

Hagia Sophia, now called Aya Sophia by the Turks, was transformed into a mosque by the addition of four narrow minarets. Later they became known among scholars as pencil-shaped minarets. Nothing else was done on the exterior which remained intact. The interior was also kept as it was except for covering mosaics of the Virgin and other Christian images with stucco. Large saucers having the names of Allah, Mohamed, Omar, and Abu Bakr, written in gold, were added to the interior piers. Later-on in 1935, the mosque was made into a museum. During a visit in 2002, it was noted that the interior was restored, and the mosaics with the image of the Virgin were exposed to their original condition.

Ottoman architecture was described by Blair and Bloom as follows: “The period before the conquest of Constantinople had already shown a strong preference for cubic volumes covered by hemispherical domes, but the presence of Hagia Sophia, with its massive dome looming above the skyline, undoubtedly provided further inspiration and impetus in this direction. Ottoman architecture has at times been disparaged for apparently consisting of an endless set of variations on a Byzantine theme, but its true creativity lies in such self-imposed restrictions as maintaining the integrity between the inner and outer profiles of the dome, rather than separating them as in Iranian architecture. The canon of classical Ottoman architecture of the sixteenth century consists of a rather limited range of forms combined in a limited number of ways. As practiced by such masters as Sinan, the achievement of classical Ottoman architecture lies in the calculated solution of problems and the meticulous execution of details, with carefully controlled harmonies and dissonances. When practiced by his less talented successors, Ottoman architecture often became repetitious and dull, as the classical canon was fossilized. Ottoman public buildings are imposing, important, deliberate, and

[706] Hess, Andrew, The Evolution of the Ottoman Seaborne Empire in the Age of the Oceanic Discoveries, 1453- 1525. In *The American Historical Review,* Vol. 75, No. 7. American Historical Association (Bloomington, 1970), 1915.

reserved; rarely are they inventive or playful, for the Ottoman scheme of things architecture was far too serious a business for levity."[707]

Sinan was appointed as chief court architect in 1538, he was described by Blair and Bloom as follows: "As a Janissary, as well as an architect and engineer who could assist in the design and construction of bridges and fortresses, Sinan accompanied Suleyman on campaigns in Europe and the Middle East and undoubtedly became familiar with the great architectural monuments of the Islamic and pre-Islamic past. He is credited with designing buildings from Buda in Hungary to Mecca in Arabia, and these structures, whether or not by the hand of the master, were instruments in a concerted Ottoman policy of establishing sovereignty through the erection of buildings in a distinctively Ottoman style with hemispheric domes and tall thin minarets. The design and supervision of these works in the provinces by court architects in the capital were made possible not only by the Ottoman system of central administration but also by the development of imperial standards and a system of architectural representation. Thus it could be expected that the plans drawn up in the capital would be reasonably executed in the provinces by local talent or that materials could be ordered in one part of the empire for use elsewhere."[708]

For 300 years between the defeat of the Mamluks in 1517 and the arrival of Napoleon in 1798, Cairo was an Ottoman provincial capital. The city exported fine products such as large wool carpets to Istanbul and the rest of Europe. This period of Egyptian history was considered one of decadence and stagnation. The Ottoman governors of Cairo did not sponsor large projects for lack of funds and lack of interest. Most of them wanted to be buried in Istanbul therefore they erected their buildings on large parcels which were still available. Mamluk architecture changed and new design elements were introduced. Blair and Bloom said the following: "Notable changes include the introduction of a provincial version of the Ottoman pencil-shaped minaret in place of the multistoried Mamluk type and a preference for domed rather than hypostyle mosques. By the late Mamluk period, stone domes were associated almost exclusively with funerary architecture, but within a decade of Turkish conquest they were introduced into mosques, as in the mosque of Suleyman Pasha erected on the Citadel in 1528. Such features as its open court, slender minaret, and central dome flanked by three semi-domes were directly inspired by the architecture of Istanbul, although the interior decoration with marble paneling follows local traditions. Indeed, these marble revetments were briefly in vogue at the Ottoman court in Turkey immediately following the conquest of Egypt. In general, however, court taste was imitated

[707] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 213.
[708] Ibid., 219.

in provincial capitals, and glazed tile became a common revetment in Egypt under Ottoman rule. The Mamluk mosque of Aqsunqur (1347), for example, was redecorated in 1652 when the Janissary Ibrahim Aga Mustahfizan built his mausoleum next to the entrance; the extensive blue and green tiles along the qibla wall and in the mausoleum have given the building its sobriquet, the Blue Mosque."[709]

Mohamed Ali

Despite Napoleon's attempt to take Egypt from the Ottomans, in 1801 the French were defeated and expelled. The 10,000 soldiers sent by the Ottoman sultan to save the country saw Cairo as a conquered city. When the governor Khurshid Pasha failed to pay their salaries, they went mad and attacked the streets. They took-over private homes, robbed merchants, molested women in public, and kidnapped prominent Egyptians for ransom money. The bulk of the Ottoman troops was made-up of 6,000 Albanian mercenaries led by Mohamed Ali.[710]

The Mamluk-Ottoman struggle for power continued and Mohamed Ali tried to win it. He was appointed governor of Cairo after vowing to uphold the law and consult with the leaders of al-Azhar before taking any action. The previous governor, Khurshid Pasha refused to leave the Citadel so Mohamed Ali mounted artillery on the Muqattam Hills and bombarded the Citadel until the governor fled never to come back. His appointment as the new governor was approved from Istanbul by Sultan Selim III. His full control over Egypt was still shaky because he depended on the civilian leadership and the Mamluk Beys for financial support.[711]

The situation changed when Sultan Selim III was deposed in 1807 by a revolt of the Janissaries. A year later, Mohamed Ali took advantage of this event and declared Egypt independent. He exiled his former civilian allies and confiscated their wealth. In 1811 he invited the 24 Mamluk Beys and their 400 men to a banquet at the Citadel. After they were fed and entertained they mounted their horses heading down to the gate of Bab al-Azab only to find it locked. They were trapped and attacked by the Ottomans who opened fire until they were all dead. Only one Mamluk survived, Amin Bey, because he heard gun fire as he was heading down to the gate. He jumped with his horse over the walls of the Citadel to escape the massacre. The horse was killed but he was unharmed and headed to Upper Egypt to disappear there.[712]

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[709] Ibid., 251.
[710] Lyster, *The Citadel of Cairo,* op. cit., 55.
[711] Ibid., 55.
[712] Ibid., 56.

Mohamed Ali tried to revive the Egyptian economy which was based on agriculture and trade with the Europeans in the Mediterranean. He worked on integrating Egypt into the global economy of the nineteenth century. Blair and Bloom said: “He founded military academies and schools for medicine, veterinary medicine, pharmacy, applied chemistry, midwifery, agriculture, arts and crafts, civil engineering, administration, and languages and translation. At the suggestion of Mohamed Ali, the Marseillais architect Pascal Xavier Coste, who had lived in Egypt since 1818, rebuilt the fortress of Aboukir. By the 1830s a new Ottoman-Mediterranean architectural style combining Greek, Italian, and Spanish elements began to replace the Mamluk and Ottoman styles favored earlier. New buildings included barracks, dockyards, office buildings, schools, hospitals, palaces, and mansions; the *mashrabiyya* windows of earlier structures were replaced by sashes of framed glass panes with shutters. Nevertheless, for his mosque in Cairo, Mohamed Ali chose a version of the Ottoman style of Istanbul rather than the Beaux-Arts style current in Egypt.” [713]

Mohamed Ali obtained large revenues for his reforms from the reorganization of the Egyptian economy. He nationalized all the available agricultural land by 1816 and monopolized its produce. He bought the crops from the peasants at the lowest price and sold them in European markets at the highest price. A massive program of irrigation using conscripted peasants from all over the country, added a million acres of land for farming. As a result he was able to introduce long-fiber cotton in 1821 and became a major cash producing crop. He also built over 30 textile factories to reduce foreign imports and compete with the Europeans in the global market. All production was controlled by a government monopoly in which raw material was supplied and the finished product was bought at a fixed price. He also founded military factories to reduce his dependence on foreign weapons and ammunitions. In addition, he constructed shipyards in Cairo and Alexandria to build a strong Egyptian navy. His chief aim was to make Egypt strong militarily to insure his independence from Istanbul. Everything else in the whole country was subordinate to this goal. To insure his control over the country he created a centralized bureaucracy in Cairo. To supply the manpower needed to fill newly developed positions, he introduced the first secular educational system in Egypt. He built schools of engineering, military, science, medicine, languages and translation under European expertise. His plans and ambitions were self-centered as they impoverished the population. The peasants were burdened with high taxes and government monopoly. Also over a third of the workforce was employed in public works or in the military unwillingly. His aim

[713]Blair and Bloom, *Art and Architecture of Islam*, op. cit., 310.

was not to bring benefits to the people but to use them as servants in his personal domain of the Nile Valley to achieve his own glory.[714]

11.8.1- The Mosque of Mohamed Ali

Construction of the mosque started in 1830 inside the walls of the Citadel. Lyster described the reason for its being and said: “The mosque of Mohamed Ali was not intended as a gesture of submission to the sultan, but as a symbolic challenge to his authority. By building a mosque in the grand Istanbul manner, Mohamed Ali was making an equally grandiose claim to the leadership of the Ottoman Empire. According to Ottoman architectural protocol, only the sultan was allowed to build a mosque with more than one minaret, yet the Mosque of Mohamed Ali boasts two, each 82 meters high, which boldly proclaim the independence of the Egyptian pasha.”[715]

Description

The mosque was described by Lyster as follows: “A raised platform for the mosque was first erected on the site of the Mamluk palace complex using debris from the Hall of Justice and Qasr al-Ablaq. The building was designed on the grandest possible scale by a Bosnian architect brought from Istanbul. Its 52 meter-high dome, supported by four semi-domes and four massive interior piers, covers a prayer hall which measures more than 1,800 square meters. Despite its gigantic size, the Mosque of Mohamed Ali is an unimaginative copy of the great mosques of Istanbul; it never achieves the soaring grace or the flowing lines of the religious buildings of the Ottoman capital. The decoration, ranging from the alabaster facing to the European-inspired frills, is overwrought and often gaudy. Consequently, the mosque ranks low in the estimation of historians of Islamic art. One remarked in the 1940s: ‘It is disfigured by details characteristic of the epoch in which it was built, when lack of taste was conspicuous at the courts of both Louis Philippe and Queen Victoria’. The building nevertheless remains the great show mosque Mohamed Ali always intended it to be. Its imposing size and spectacular setting make it one of Cairo’s most famous monuments. For all its artistic defects, the inner domed prayer hall, with its lofty vaults and hundreds of hanging lamps, remains breathtaking.” [716]

In addition, Blair and Bloom described the mosque by saying: “The Mosque of Mohamed Ali, which covers over five thousand square meters, is

[714] Lyster, *The Citadel of Cairo,* op. cit., 59.
[715] Ibid., 66.
[716] Ibid., 66.

the largest mosque built in the first half of the nineteenth century. The design is often attributed to Yousef Bushnaq, a Greek from Istanbul, but all that can be said about the architect is that he was somewhat familiar with both Ottoman and contemporary European architectural practice. The general scheme – a square forecourt (55 by 57 meters) preceding a square prayer hall (45 by 57 meters) covered by a central dome and four semi-domes resting on four great supports – repeats that of the Shehzad, Ahmed, or Fatih mosques in Istanbul, but few if any of the subtleties in the models were understood. For example, the massing and articulation are comparatively crude and uninspired, for the block-like walls contrast sharply with the rounded forms of the roof, without the migration of arched windows and tympana typical of Istanbul mosques. The corner turrets are elongated and fussy versions of Mamluk *mabkhara* minarets, while the 84 meter minarets are themselves unusually attenuated. The marble (or alabaster) revetment on the lower walls has yellowed and pitted, and the structure was poorly engineered. The domes showed cracks by the end of the century and were replaced in the 1930s. Nevertheless, the building is one of the most popular tourist sites in Cairo. The Orientalist painter Eugene Fromentin (1820-76) said it was 'Baroque in style, but very luxurious… The interior is utterly sumptuous.' On the north-west side of the court is a stubby tower surmounted by a pavilion decorated with a Gothic tracery and Moorish arabesques. It houses a clock presented to the sovereign by Louis Philippe in 1846 in exchange for the obelisk erected in the Place de la Concorde in Paris. Mohamed Ali's white marble cenotaph lies to the right of the entrance in the west corner of the mosque behind a gilded bronze grille."[717]

Lyster said that the architect of the Mohamed Ali mosque was Bosnian but Blair and Boom said that he was Greek. His name, Yousef Bushnaq is obviously not Greek and is clearly Bosnian so he was probably a Bosnian who lived in Greece before moving to Istanbul. During a visit to Sarajevo in 2006, it was observed that all the mosques built during the Ottoman period followed the model set by Sinan in Istanbul. Based on what was found, Bosnian architects at the time followed the same design rules inside and outside the city. The more recent buildings however, were designed by Austro-Hungarian architects and were either Neo-Mamluk or Neo-Andalusian. Early twentieth century Bosnian architecture rejected the Ottoman domination and looked to Egypt and Spain for inspiration.

[717] Blair and Bloom, *Art and Architecture of Islam*, op. cit., 311.

Design Analysis

The Mosque of Mohamed Ali is visible almost from any point in a radius of 25 km around the citadel. It is located at a high point inside the walls which makes it the only building fully visible from below. The design of the mosque has nothing to do with Egyptian architecture. It neglects the almost 270 years of exuberant Mamluk architecture. It does not relate to Mamluk architecture and it is a bad replica of the Ottoman models in Istanbul. The mosque has, however, some Mamluk design motifs that persisted over the years and are visible in the details of the interior. The fleur-de-lis motif is used as crenellations above the door of the minbar. The door itself has bronze roundels reminiscent of the Bahri Mamluk period. The window grilles also have small fleur-de-lis motifs in their wrought iron semi-circles. This was most certainly due to the persistence of local workshops which worked on wood and metal for the mosque. The alabaster used on the interior and the exterior, is a native Egyptian stone and was cleverly selected for its color and quality. It was arranged in a way to take advantage of its natural texture and visual impact. The beautiful alabaster veins were carefully matched to create a rich pattern on the walls and columns of the interior. This was done in lieu of the traditional Mamluk marble and stucco ornamentation. It is actually the best and most innovative feature of the mosque as it took advantage of a local material to match the ornamentation of the Mamluks. The rest of the interior, including the domes, is gaudily painted with pure nineteenth century European motifs as a reflection of the prevalent eclectic style of the city.

Design Aesthetics

The mosque follows the Ottoman aesthetic principle based on the repetition of the half-circle as a motif to create harmony. This is achieved using domes, half-domes, and the arches of the windows and the arcades. The four high perimeter walls of the square plan act as the base for the crown made by domes and half-domes on each side. It starts at the top with the central dome, surrounded by four shallower and larger half-domes buttressing the wall just below its octagonal drum. In addition, four smaller domes are at each corner of the perimeter wall between the half-domes. The two pencil-shaped minarets, with the thin turrets that have tiny domes, frame this crown of domes. All the domes were refitted with shiny tin in the mid 1990s. The dome is the dominant motif and it creates different rhythms. The design logic is a progression of small, medium, and large domes. The interior has this same logic with the addition of clerestory windows that dramatically affect the light ambiance. As mentioned earlier, the motifs and the color scheme on the interior of the domes is totally foreign to Cairo and represent European aesthetics. The design of the mosque follows the ideals developed by Sinan

to create imperial architecture that represents the power of the sultan through the use of sheer size dominating hilltops, and dome architectonics.

11.8.2- Cairo of Khedive Ismail

Mohamed Ali's rule was seen as a high point in Egyptian history, however ironic that might be. The architecture and the arts hit their lowest point since the beginning of Islamic rule. From this point on Egyptian architecture lost its identity and was following French Beaux-Arts models well into the 1920s. The Europeans started flocking to Egypt after the opening of the Suez Canal in 1869, and many of them settled in large cities like Cairo, Alexandria, Ismailia, Port Said, and Suez. They started businesses and created large department stores to sell imported European products. The architecture of the city of Cairo was again influenced by Spanish sources when a wave of Italian and French architects designed buildings that were influenced by the Romantic period.

The Khedive Ismail (1863-1879), the grandson of Mohamed Ali had the dream of making Egypt a part of Europe, "l'Egypte fait partie de l'Europe." Because of this he had a major redevelopment plan for the city of Cairo. His first act was to improve the communication system by creating the postal service, extending the telegraph and railway throughout Egypt and the Sudan. He built hundreds of new schools, including the first for girls; he supported newspapers and expanded the government press. He also founded the Khedival library, the Egyptian Antiquities Museum, and the geographical society. Ismail increased agricultural production, developed new industries and encouraged European investments. The construction of the Suez Canal was his most ambitious and most expensive project. This grandiose undertaking resulted in thousands of European bankers, businessmen, and technicians to flood into Cairo looking for opportunities as mentioned before.[718]

In 1868 Khedive Ismail began the largest new development scheme in the city's history. He started to build a new city west of the old medieval Cairo dubbed "Paris by the Nile" by many and "Paris of the Orient" by the Europeans. It had broad streets lined with modern buildings designed by European architects, equipped with gas lighting, and piped water.[719] He was inspired after a visit to the 1867 Exposition Universelle de Paris and talked to Baron Haussmann about transforming Cairo afterward. Khedive Ismail erected the Abdeen Palace, the new seat of government replacing the

[718] Lyster, *The Citadel of Cairo,* op. cit., 67.
[719] Ibid., 69-70.

Citadel, which was modeled after the Palace of Versailles, on the edge of a large square which used to be a lake. Many big lakes were filled-in to create large parks that were filled with rare imported trees. In 1872 he inaugurated Mohamed Ali Street connecting the Citadel with the main train station in the heart of the city. The layout created by Ali Pasha Mubarak, the head of the Ministry of Public Works in 1868, to follow the Paris plan of Baron Haussmann continued to be implemented and expanded until the early twentieth century. Many of the new areas around the city were not filled up with buildings for many years. The plan of the city was not complete with new buildings until there was a frenzy of construction activity during a construction boom from 1897 to 1907 and again in the 1920s.[720]

The building guidelines developed by Ali Pasha Mubarak did not dictate a specific architectural style but had requirements to maintain high quality construction. This cleared the way for European architects to be inventive and the center of Cairo became an eclectic architectural hub. In addition to French and Italian architects many Austrians designed buildings in the downtown area. Some of those famous names were: from Austria, Antonio Lasciac and Marcel Dourgnon, from Italy, Mario Rossi and Francesco Battigelli, from France, Leo Nafilyan, and finally Franz Pasha.[721]

The Suez Canal was completed in 1869 and the crowns of Europe led by the French empress Eugenie came to Cairo to celebrate the event. [722] All these ambitious projects of Khedive Ismail, including a palace for dignitaries and an opera house, resulted in the bankruptcy of the country which paved the way for the British occupation of 1882, to protect their interest in the Suez Canal. Despite the occupation which actually helped the economy regain strength, the Europeans continued to flock to Egypt and establish themselves in profitable enterprises. Khedive Ismail dream of a Paris by the Nile was fully realized as many areas of the city continued to develop along European stylistic trends. Cairo totally lost its architectural identity and became a center of eclectic design mainly Beaux Arts. It was only in the 1920s that a new sense of a regional style started to emerge. This was due in large part to the newly found exoticness of the East through the discovery of inspirational sources in Orientalists' paintings and publications on the Alhambra of Granada. The Neo-Islamic style hit Cairo and its newly founded suburb of Heliopolis. This turned into a frenzy of Mamluk revival in buildings of the center of Cairo. The center of the new suburb of Heliopolis was lined with Neo-Islamic buildings full of Andalusian and Mamluk design elements. Amazingly enough some buildings even followed the aesthetics of the "Estilo

[720] Hawas, Sohair, *Khedivian Cairo,* Architectural Design Center (Cairo, 2002), 15.
[721] Ibid., 29.
[722] Lyster, *The Citadel of Cairo,* op. cit., 69-70.

Sevillano". In addition, the Neo-Mamluk style was born which spread in Cairo, and by Austro-Hungarian architects to Central and Eastern Europe.

Unfortunately the plan of Khedive Ismail created a new Cairo that was eclectic in style and lost the identity created by Mamluk architecture. A large area of the city known as Khedivian Cairo continued to improve and expand to the present day. This area is bordered by the Nile in the west and Port Said Street in the east behind the Abdeen Palace. To the north, it is bordered by Galaa' Street and includes all of Garden City to the south. On the bright side, Cairo was transformed from a medieval city with dark and narrow streets, to a modern metropolis that bustles with activity and continues to grow.

12- Conclusion

It is not easy to conclude a study covering such a large geographical area. There must be a common thread linking everything together. The Mediterranean acted as the conveyor of knowledge between the countries in the north, south, east, and west. It is amazing to discover how cultures become associated consciously or unconsciously with certain visual symbols. The fleur-de-lis for example, travelled across the Mediterranean from Spain to Egypt and its use became widespread during the Mamluk period.

It was important to be curious about what caused the exuberance of Mamluk Cairo, starting in the thirteenth and ending in the sixteenth century. Yet despite the extensive material available, only conflicting conclusions were found. Many authors spoke of the contact between Egypt and Europe in the Middle Ages, but did not agree on whom and what caused this design excellence. At the center of this design exchange was, of course, Spain. In the Middle Ages it was the link between the Muslim world and the rest of Europe. It acted as a source of knowledge as many books were translated from Arabic to Spanish and other languages, and transported to the rest of Europe. By the twelfth century, Muslim maritime traffic was reduced to only the North African coast, while the trans-Mediterranean traffic had fallen in the hands of the Italian Republics.

Compared to Aragón, the county of Barcelona had reached a higher degree of civilization, and was distinguished by institutions that were quite liberal. During the Middle Ages, and because of its port on the Mediterranean, it was easy for the Catalans to communicate across the sea with places as far away as Alexandria. In the second half of the thirteenth century, Barcelona reached a high level of commercial prosperity only previously enjoyed by Italian cities. It shared with them the wealth brought by the lucrative trade with the port of Alexandria. Barcelona was filled with diverse people from many countries and it distributed goods all over Spain and to the rest of Europe. In addition, Barcelona had consuls in every major port in the Mediterranean to handle and facilitate trade.

Spanish style fashion set the trend for European courts in the Middle Ages. Men wore loose clothing that hung from their shoulders like the red cape discussed earlier, found at the Museu Tèxtil i d'Indumentària. Similar capes having the same fleur-de-lis motif must have been worn by merchants travelling between Barcelona and Alexandria. Embroidered fabrics were traded by the Catalans and should have had similar designs. This of course was in addition to other products like imported glassware and examples which

were made in Cairo with a technique proven to have come from Barcelona. During the Mamluk period, all these products circulating in Cairo and Alexandria provided a visual source of inspiration for architectural design.

Good trade relations continued between the Mamluks and the Catalans despite the embargos instated by the Popes. Common interests were stronger than religious differences. During the early times of Mamluk rule in Egypt Jaime I, king of Aragón established the earliest consulate in Alexandria. In 1262, Sultan Baybars approved the new consul and the building of a *fonduq* (alhóndiga) near the port for the Catalan merchants. Of special importance were the good trade relations with Jaime II during the long interrupted reign of al-Nasir Mohamed especially from 1299 to 1309, and from 1310 to 1341.

Earlier in the analysis of the architecture of the Qalawunid Dynasty, the many design elements coming from al-Andalus were pointed-out. It was explained that the stuccowork at the Complex of Qalawun and the Complex of al-Nasir Mohamed were exactly the same. Despite what other scholars said, it was concluded that al-Nasir Mohamed must have been responsible for the work done at both sites. This was proven by analyzing the design motifs and the carving techniques. It was concluded that given what the sources said about the speed of construction, the building process must have been phased out. The last phase of construction was under al-Nasir Mohamed when he was building his own complex. During the same period, other elements from al-Andalus also appeared, like the crown-arch of the minaret of al-Nasir. This type of arch was different from the other types appearing on *mabkhara* tops with the exception of the minarets of al-Hakim's mosque which were built by Baybars al-Jashankir, an emir of his. This crown-arch can only come from the Aljaferia in Zaragoza as it was explained. This brings us to the point of why did the use of these elements suddenly appear and become widespread during the Qalawunid Dynasty? The Andalusians were coming to Cairo from the times of the Umayyads but the horseshoe arch only made an appearance during the reign of Qalawun?!

It was said earlier that trade with the Catalans in the Mediterranean was intense during the reign of Qalawun and more so during the reign of his son al-Nasir Mohamed. Prior to this period trade was controlled by the Italians yet the architecture in Cairo had very few elements coming from al-Andalus. Assuming that because of the fall of Córdoba in 1236, and the fleeing of Spanish artisans to Cairo, the horseshoe arch, the Type-A and the Type-B fleur-de-lis, should have been heavily used in Cairo around that time. The Type-A actually appeared around 1003 at the Mosque of al-Hakim despite the bad relationship between the Umayyads and the Fatimids. The Type-B appeared around the same time in the Mihrab of al-Afdal at the Mosque of Ibn

Tulun, but their use was limited and was secondary to other motifs. It was difficult to find any of them on Fatimid and Ayyubid buildings. It took almost 50 years from the fall of Córdoba in 1236 to the construction of the Complex of Qalawun in 1284 for the horseshoe arch and the floral motifs to be widely used as primary design elements.

Sultan al-Nasir Mohamed deliberately encouraged the good trade relationship with Jaime II, as he was a good customer for the Mamluks. During his third reign, trade was phenomenal, and the country enjoyed a period of incredible affluence unknown in the history of medieval Egypt. He succeeded in creating an irreparable breach in the blockade imposed by the Pope. There is strong evidence that European artisans were working in the court of al-Nasir Mohamed in Cairo. They were mainly living at the Citadel in an area called Khazanat al-Bunud which enjoyed a privileged status. The Europeans were allowed to live there with their families and have their own taverns and even a chapel for Christians. These areas were dismantled in 1343 by al-Malik and the workers were moved to the area around the mosque of Ibn Tulun. As a result they picked up the family name of al-Tuluni.

An important and hidden element at the Mosque of Ibn Tulun, in the small room next to the prayer hall behind the main mihrab, was the wooden corbel or ménsula. It was shaped as a locust-head and it was a clear indication of a direct influence from al-Andalus. This type of corbel was found allover Muslim Spain including later Mudéjar designs as it persisted in churches up to the thirteenth century. As unusual as this corbel was, it was explained earlier that the whole room with the locusts disappeared. Luckily they were photographed so we have a record of what they looked like. Unfortunately this was a one-time occurrence during the reign of Sultan Lajin. This is used as evidence of Spanish artisans working in Egypt at the time who most probably were Christians.

During the reign of Barsbay and despite his large building program, Andalusian design elements actually subsided. Very little was found at his funerary complex except for the geometric star designs on the domes. He created a monopoly over sugar and cotton in 1423, and he did the same with the spices in 1428. He had commercial treaties with the Venetians and the Florentines but not with the Catalans. King Alfonso V was expanding in the Mediterranean and was not interested in stopping corsair attacks on Mamluk ports. Catalan merchants from Barcelona continued to trade with the Mamluks, however, not as intensely as before. Why did this negatively affect the architecture of Barsbay? It is clear that the Andalusians were living in Cairo long before his reign, so how did the Catalans fit into this? The importation of skilled workers was confirmed by many sources. Therefore, it

can be deduced that there were contracted workers arriving on Catalan ships and staying in Cairo for the duration of construction projects. They were the skilled artisans and master architects who did the wonderful work seen around the city during the Qalawund Dynasty.

The Council of Barcelona persisted in trying to resume trade relations with the Mamluks. In 1438 they succeeded in having King Alfonso V agree to appoint a new consul in Alexandria. The council also asked the king to stop corsair attacks on Mamluk ships and ports but despite this new commitment the attacks continued. In the meantime, Catalan merchants resumed their trade with the Mamluks and ever since there was always an influential consul in Alexandria. In 1487 trade between Egypt and Spain flourished after the fall of Málaga in the hands of Ferdinand and Isabella. As a consequence, many ships went to Alexandria, dramatically increasing the movement of people and goods. Obviously this was in addition to the ships sailing from Barcelona as confirmed by the written documents of Ferdinand of Aragón.

Sultan Qaytbay had the largest building program of any other Mamluk sultan. He was able to finance his building activity by controlling the spice trade between Europe and the Orient. He sold Indian spices, drugs, and dyes to Venice, Genoa, and Catalonia at very high prices. This forced the Europeans to look for alternative routes by sending out Columbus in 1492, and Vasco de Gama in 1497. This led to the discoveries of the New World and the route of the Cape of Good Hope to India. Without financial power and faced with bankruptcy, the Mamluks declined quickly and were easily defeated by the Ottomans in 1517.

Design elements from al-Andalus were revived during the reign of Qaytbay including the long forgotten stuccowork which appeared on the interior walls of the Quba al-Fedawiya. Most importantly is his mausoleum dome that has the most striking Andalusian designs albeit carved in stone. The Type-A fleur-de-lis is used as a primary motif combined with geometric designs. The intersecting star designs appear on many of his wooden minbars including the one at the Victoria & Albert Museum in London. There is evidence of European workers working in his court and specifically Catalans. This was proven by Carboni who found an enameled glass lamp having the name of Qaytbay made with a technique only used in Catalonia. It was not an import, as he explained but a local imitation of Catalonian enameled glass.

We must come to the conclusion that the reappearance of Andalusian design elements during the reign of Qaytbay must be attributed to the renewed prosperity of Egypt due to the heavy trade with the Catalans and the workers coming on their ships. It is difficult to explain why the elements

appearing here disappeared from previous buildings. There are many parallels with the period of al-Nasir Mohamed which must also be attributed to good relations with the Catalans. One might make the assumption that good trade with the Europeans provided the sultan with the means to hire good Andalusian craftsmen. Barsbay who reigned between al-Nasir Mohamed and Qaytbay had the means, like they did, but his buildings did not show the exuberance seen with the other two. As explained, he traded with the Italians but not the Catalans!

The cross appeared in Mamluk architecture either as a symbol, like the fleur-de-lis, or hidden, as in the ceiling designs at the Mausoleum of Qalawun, at the mosque of al-Nasir Mohamed at the Citadel, and at the Complex of Barquq. It was conspicuously represented on the walls of the Mausoleum of Qaytbay as an Armenian cross, in the groin vault of the vestibule of the Mosque of al-Muayyad as a Greek cross, and on the minaret of the Complex of Emir Qurqumas. Why would a Muslim refugee from al-Andalus put two crosses above the main entrance of the Complex of Qalawun? The appearance of the cross in Islamic buildings is the strongest evidence of the employment of Christian workers. Aside from the heavy contact with the Catalans and the Aragonese, we know that the contact with the Castilians was limited. This was due to the fact that the Muslims were in control of Mediterranean ports leaving Castilla with limited sea access. It must be added, that most of the artisans in Cairo during peak trade times with the Catalans, must have been a mix of Muslims and Christians.

The Complex of Qalawun marked the beginning of the Mamluk style. It cannot be accepted that the new Bahri Mamluk architectural identity, was simply an evolution of Fatimid and Ayyubid aesthetics. The architecture was historically unmatched in design innovation and sophisticated execution. As shown earlier, the floral design motifs were quite different from the ones utilized by the Fatimids. A typology of the fleur-de-lis motif was created for this work, which was used to directly link architectural ornamentation to Córdoba and Granada rather than Damascus and Tlemcen. The Mamluks, without a doubt, developed their own design repertoire. It was heavily influenced by the intense exchange with artisans from Granada and Barcelona coming on Catalan ships.

The evidence of the direct Catalan influence on Mamluk architecture can be summarized as follows:

1- Andalusian design elements: The horseshoe arch, the stepped crenellation, the ménsula, the fleur-de-lis, and the crown arch. The appearance of these elements in the architecture of the Qalawunid

period was wide spread. In addition, the pointed and the horseshoe arches were combined in a new window set as a testament to the merging of Gothic and Andalusian design. As pointed-out earlier, these elements, except for the stepped crenellation, did not appear in Cairo for 50 years after the fall of Córdoba in 1236. The horseshoe arch appeared after trade with the Catalans was established.

2- Intense trade periods: Heavy trade with the Catalans coincided with the most exuberant designs and the strong use of Andalusian elements. This was true during the Qalawunid dynasty and the reign of Qaytbay.

3- Historical accounts: Specific mention of Catalans living in Cairo by Fabri and others was cited. The accounts included the son of Ferdinand II, the King of Aragón, who was living in the court of Qaytbay.

4- Catalan workers: The strongest evidence of Catalan workers living in Cairo under Qaytbay was provided by Carboni in the form of a mosque lamp made using a Catalan technique. He proved that it was not an import and that it was made in a local shop.

After the Ottomans controlled the Mediterranean, they shifted trade to the east along the coast of the Levant and into the Black Sea while the Portuguese expanded their control into the Indian Ocean. This resulted in the loss of Egyptian control over the spice trade going into Europe and the economic decline that followed. Also Spain shifted the interest to the new colonies in the New World and Sevilla became the dominant port for ships entering from the Atlantic. This resulted in 300 years of sterile designs in Cairo until Khedive Ismail was in power and transformed the whole city.

The architect of the Mohamed Ali mosque, Yousef Bushnaq, was a Bosnian who was trained in Istanbul and was sent to Cairo to work on the project. He was asked to make the mosque colossal like those he learned to design in Istanbul. During a visit to Sarajevo in 2006, it was observed that all the mosques in the city built during the Ottoman period, followed the model set by Sinan, the state architect. The mosque of Mohamed Ali is a perfect example of the deficient architecture of the period preceding it.

The construction guidelines developed for Khedivian Cairo by Ali Pasha Mubarak did not dictate a specific style, as a result, European architects were inventive and the center of the new city became eclectic. Of course there were many Islamic buildings inside and outside the walled city to

be inspired-by. In addition, Andalusian design elements were incorporated since the thirteenth century and as a consequence became part of the Neo-Islamic in Cairo. Khedive Ismail was more open than his grandfather, Mohamed Ali, and reestablished stronger ties with Europe. Despite this, the architecture lost its identity because the direct link with al-Andalus via the Catalans was lost. Only the exuberant Mamluk architecture was viewed as being representative of Cairo which led to the birth of the Neo-Mamluk.

To clarify here is a definition of styles:

1- Neo-Andalusian: It is a style consisting of design elements developed in Islamic-Spain and contains the horseshoe arch, the stepped crenellation, the eight-pointed star, and geometric tile designs.

2- Neo-Mamluk: It is a style developed in Egypt containing the fleur-de-lis crenellation, the pointed-horseshoe arch, the octagonal minaret, the muqarnas conch and portal, the carved dome, and stucco or stone floral designs. In addition, muqarnas keel-arched niches and windows are used despite being developed earlier.

3- Neo-Islamic: It is a style developed in several countries and contains any combination of Islamic design elements including the ones listed above under the other two styles.

What made Mamluk design exuberant in the Middle Ages was based on the use of a set of architectural elements that were organized using aesthetic principles developed by Ibn al-Haytham. Many of those elements came from al-Andalus and were reapplied using new combinations. The strong trade relations with the Catalans accelerated the development of the new Mamluk style. The lack of contact with rich design sources in al-Andalus hindered the imagination and resulted in less impressive architecture. Cairo is a case in point as the architecture preceding the reign of Mohamed Ali is very similar to that of the period following his death. What was built in between did not evoke the imagination and as a consequence was not revived. When he needed to build a mosque for himself he followed strict Ottoman design principles despite the emerging European eclecticism around the city. That style did not have the exuberance of Mamluk architecture and did not result in Neo-Ottoman buildings. Only the Neo-Mamluk lives-on and is seen around the world. All this leads to one point which is: Great design is the result of diversity in thought and ideology. Sterile architecture, like the Ottoman's, was the result of limiting the freedom to be expressive and experimental.

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14- Appendix

14.1- Chronology

362 Roman occupation of the Iberian Peninsula.

450 Suevi kingdom in the northwest of the Iberian Peninsula.

476 Visigothic kingdom in the Iberian Peninsula and France.

585 Suevi defeated by Visigoths.

587 Visigoths conversion to Catholicism.

622 Hijra to Medina and the foundation of Islam in the Arabian Peninsula.

661 The beginning of the Umayyad caliphate in Damascus.

711 The invasion by Muslims of the Iberian Peninsula.

713 The annexation of Sevilla by Musa Ibn Nusayr.

732 Defeat of Muslims at Poitiers.

750 The beginning of the Abbasid caliphate.

756 Caliphate of Córdoba is founded by Abd al-Rahman I (al-Dakhil).

767 Baghdad becomes Abbasid capital.

770 Kingdom of Galicia founded.

786 Building of the Great Mosque at Córdoba.

990 Fatimids conquer Egypt.

1025 Cluniac monks at San Juan de la Peña.

1030 Break up of the Umayyad Caliphate.

1047 Building of Aljaferia at Zaragoza.

1085 Alfonso VI captures Toledo.

1086 Almoravids cross the Straits.

1094 Christians capture Badajoz.

1099 Crusaders take Jerusalem.

1143 Portuguese independence.

1147 Portuguese capture Lisbon.

1147 Almohads capital at Sevilla.

1171 Ayyubids control Egypt.

1187 Salah al-Din captures Jerusalem.

1212 Christian victory at Las Navas de Tolosa.

1236 Christians capture Córdoba.

1238 Building of the Alhambra at Granada.

1248 Christians capture Sevilla.

1249 Portuguese capture Faro.

1252 Alfonso X of Castile.
-84
1260 Sultan Baybars – Bahri Mamluks.
-77
1279 Sultan Qalawun.
-90
1288 Ottoman empire founded.

1296 Sultan Lajin.
-99
1299 Sultan al-Nasir Mohamed.
-309
1310 Sultan al-Nasir Mohamed.
-41
1347 Sultan Hassan.
-51
1354 Sultan Hassan.
-61
1364 Extension of Alcázar at Sevilla by Pedro I.
-66
1382 Sultan Barquq – Circassian Mamluks.
-89
1399 Sultan Barquq.
-99
1422 Sultan Barsbay.
-38
1468 Sultan Qaytbay.
-96
1483 Spanish Inquisition.

1492 Capture of Granada and expulsion of Jews from Spain.

1492 Columbus voyage to the Indies.

1494 Treaty of Tordesillas between Spain and Portugal; the division of the New World.

1498 Vasco de Gama discovers the sea route of the Cape of Good Hope.

1517 Ottomans defeat the Mamluks.

1609 Expulsion of Muslims from Spain.

1810 Mexico and Chile declare independence.

1830 Mosque of Mohamed Ali.

1868 Cairo of Khedive Ismail started.

1882 British occupation of Egypt.

1952 Egyptian revolution and expulsion of King Farouk ending Ottoman rule.