

# Architectural Elements in Islamic Ornamentation: New Vision in Contemporary Islamic Art

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## Abstract

Throughout history, Islamic Ornamentation was the most characteristic to identify Islamic architecture. It used in mosques and other Islamic buildings. Many studies were about the formation of Islamic art from pre-existing traditional elements and about the nature of the power which wrought all those various elements into a unique synthesis. Nobody will deny the unity of Islamic art, despite the differences of time and place. It's far too evident, whether one contemplates the mosque of Cordoba, the great schools of Samarkand or Al- Mustansiriya. It's like the same light shone forth from all these works of art.

Islam does not prescribe any particular forms of art. It merely restricts the field of expression. Ideology of Islam depends on the fixed and variable principles. Fixed indicate to the main principles of Islam that could not be changed in place and time including the oneness of God, while the variable depends on human vision in different places through time. It's called the intellectual vision inherited in Islamic art.

Islamic Ornamentation today is repeating the same forms, by which, it turns to a traditional heritage art. From this specific point the research problem started.

Are we able to find different style of ornament that refers to Islamic Art? Islamic ideology in its original meaning is a faculty of timeless realities. Islamic art derives its beauty from wisdom.

The aim of this study is to contextualize the concept and analyze the Islamic traditional ornamentation, focusing on the principles of Islamic ideology, which was behind the formation of a distinct identity and uniform architecture in Islamic cities and across time. Second step is about suggesting some of the Islamic architectural elements as new ornamental elements that have the same effect within the limit of Islamic ideology and principles, in order to present new ornamentation elements. Finally applying the new elements in models of artistic paintings as a practical application done by researcher to produce the new vision as a contemporary Islamic ornamentation.

**Keywords:** Islamic Ornamentation, Traditional Islamic Art, Contemporary Art, Islamic Architecture.

## 1. Introduction

By looking at the discernment at the extremely varied manifestations of Islamic art over vast expanses of space and time, the question arises as to the source of the unifying principles of this art. What is the origin of this art and the nature of this unifying principle whose dazzling effect can hardly be denied?

There is the same feelings and expressions within the same artistic and spiritual universe despite all the local variations in material, structural techniques, etc.

Ornaments and the origin of Islamic art depend on principles and ideology of Islam which brought this art. It's related to the world view of Islam itself, to the Islamic revelation whose radiations is directly the sacred art of Islam and indirectly the whole of Islamic art. The causal relation between the Islamic revelation and Islamic art, moreover, is borne out by the organic rapport between this art and Islamic worship. Between the contemplation of God as recommended in the Quran and the contemplative nature of this art, between the remembrance of God which is the final goal of all Islamic worship, and the role played by Islamic art in the life of individual Muslims and the community as a whole. This art could not perform such a spiritual function if it were not related in the most intimate manner to both the form and content of the Islamic revelation (Hosseini, 1987).

The creation of this artistic universe with its particular genius, distinct characteristics, and formal homogeneity underlying distinctions of a cultural, geographical or temporal nature requires a cause, for no effect of such immense dimensions can be considered as simple result of chance or the agglomeration of accidental historical factors.

All previous studies and research condense on the Islamic ornament itself by focusing on the style, type, lineage and color as a traditional art that belongs to the Islamic society long time ago. From this point the study problem

began.

### **Does Islamic Ornamentation belong to the past or it can be our day time creation?**

This study aims to focus on the possibility of creating Islamic ornaments with new different elements that reflect the ideology of Islam.

## **2. Research hypothesis**

Ho.1 Islamic ornaments must indicate the same form, type and style through ages.

Ho.2 there is a strong relationship between Islamic ornament and the term of tradition.

Ho.3 there is no relationship between Islamic ornament and the human vision towards it.

## **3. Research methodology and analysis**

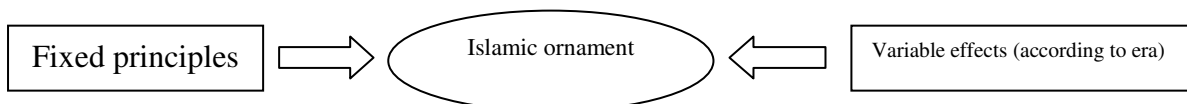
This research includes analytical descriptive study in the Islamic ornaments through place, time and the different expressions in results affiliate.

Vision and philosophy of this study will be substantive analytical in the approach within the limits of the research problem on one hand, and based on assumptions derived from objectives, on the other hand. This led to conduct the study in four levels as follow:

- Ideology of Islam and its effect on Islamic ornamentation
- Traditional elements of Islamic ornaments
- New vision of ornament elements.
- Practical Application
- Conclusions and Recommendations.

## **4. Ideology of Islam and art:**

The most important principle in ideology of Islam depends on the fixed and variable (Fig. 1). The fixed indicate to the main principles of Islam that could not be changed in place and time including the oneness of God, while the variable depends on human vision in different places through time.



**Fig 1:** The effect of Ideology of Islam on Ornamentation

Islamic societies have been conceptualized almost completely in terms of the determinative role of religion. Only under Islam, its Orientalist version, does religion appear as an organizing force, shaping all aspects of society (Haideh, 1999).

Ornaments and the origin of Islamic art depend on principles and ideology of Islam which brought this art. It's related to the world view of Islam itself, to the Islamic revelation whose radiations is directly the sacred art of Islam and indirectly the whole of Islamic art. The causal relation between the Islamic revelation and Islamic art, moreover, is borne out by the organic rapport between this art and Islamic worship, Between the contemplation of God as recommended in the Quran and the contemplative nature of this art, between the remembrance of God which is the final goal of all Islamic worship, and the role played by Islamic art in the life of individual Muslims and the community as a whole. This art could not be perform such a spiritual function if it were not related in the most intimate manner to both the form and content of the Islamic revelation (Hossein, 1987)

The connection between art and spiritual methods is more firmly established and clear since the beginning of Islam. In the Islamic cities which throughout the ages have produced most of the objects of Islamic art. Islam was able to create an ambience that was Islamic in both form and content. One in which the religious and spiritual principles were imprinted upon the matter that surrounds man in his daily life and has such a profound effect upon the attitude of his mind and soul.

## 5. Fixed Islamic effects on ornament

### 5.1 Principle of Unity

Unity is the heart of the Muslim revelation. Just as all genuine Islamic art, whether it's in Alhambra or Paris Mosque provides the plastic forms through which one can contemplate the divine( Fig. 2). Unity manifests itself in multiplicity. All the sciences that can properly be called Islamic reveal the unity of nature. One might say that the aim of all the Islamic sciences and, more generally speaking, of all the medieval and ancient cosmological sciences is to show the unity and interrelatedness of all that exists, so that, in contemplating the unity of the cosmos, man may be led to the unity of the divine principle, of which the unity of nature is the image (Hossein.1968).

Islamic art is fundamentally derived from tawhīd that is from an assent to or contemplation of divine unity. The essence of al-tawhīd is beyond words; it reveals itself in the Koran by sudden and discontinuous flashes. Striking the plane of visual imagination, these flashes congeal into crystalline forms, and it is these forms in their turn which constitute the essence of Islamic art (Burckhardt, 1967).

#### 5.1.1 Unity in Multiplicity

There are two typical forms of the arabesque; one of them is geometrical interlacing made up of a multitude of geometrical stars, the rays of which join into an intricate and endless pattern. It is a most striking symbol of that contemplative state of mind which conceives "unity in multiplicity and multiplicity in unity" (Burckhardt, 1967)

### 5.2 Principle of Eternity

This ornamenting concept represents in drawing the idea that God is Eternal. It is an indefinite existence without a start or a finish (Baer, 1998). Islamic ornament is an arrangement in line with the principle of eternity in decoration can be seen (Fig. 3). The stars and hexagon was decorated with vegetal motifs which were placed as if they are continuing in four directions from the center: upwards, downwards, to the right and to the left. The following example clearly represents this ornament style, which is the foundation of the eternity principle and gives the impression that the starting and ending points are not known

### 5.3 Principle of Abstraction

According to the essence of this principle, which is also described as "escape from realism", objects in a work of art are not depicted as they actually look, but they are represented differently after being stylized. The goal of making such a change is not to distort objects and depart from the truth but to apply a different interpretation (Fig. 4).

Islam opposes the production of art works and architectural designs that depict figures of animals or human beings. According to Islam, all living creatures with the ability of locomotion fall in the domain of God and should not be replicated in any form such as art (Akkach, 2005).

Unity itself alone deserves representation; since it is not to be represented directly, however, it can only be symbolized and at that, only by hints. There is no concrete symbol to stand for unity, however; its true expression is negation, not this, not that. It remains abstract from the point of view of man, who lives in multiplicity (Hossein.1968). So, Islam rejects portraiture for the theological reasons.

Islamic architects pegged their creativity on evoking their inner beliefs through the use of abstract forms that produced magnificent works of art. They progressively developed alternate architectural styles that used Islamic art to create unique works (Ghasemzadeh, 2013).



Fig. 2: Every ornament based on a unite which derived from the contemplation of divine unity

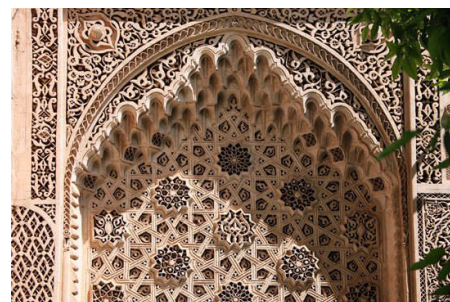


Fig. 3: Ornament continues in four directions

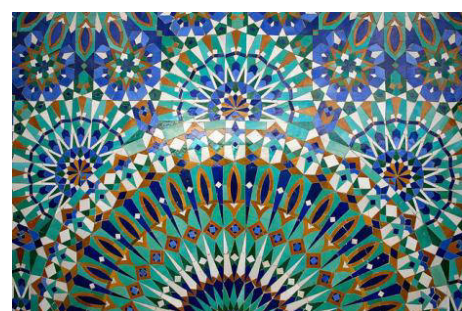


Fig. 4: Abstraction, the main principle of Islamic Art

#### 5.4 Principle of Recurrence and Rhythm

Ornament involves many regular shapes placed inside circular forms that are not marked with definite contours but can be recognized when looked at them; these shapes inside the circles then fluently turn into star shaped polygons. As circles decorate the work of art with a rhythmical repetition, different arrangements formed at the connection points also create motifs with more circles and polygons (Etikan, 2011).

Islamic art concentration on geometric patterns draws attention

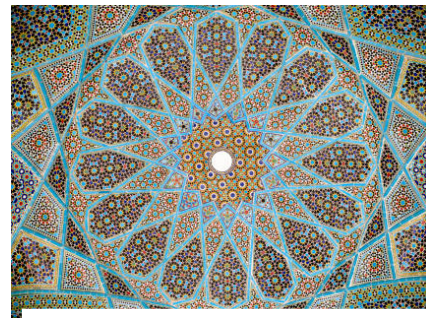


Fig. 5: Many regular shapes placed inside circular forms.

away from the representational world to one of pure forms. Poised tensions and dynamic equilibrium, gives structural insight into workings of the inner self and their reflection in the universe (Fig.5).

The starting point of Islamic art was in the purity of essential relationships which lie beneath the visual surface of our world. The significance from the Islamic standpoint is that, in the effort to trace origins in creation, the direction is not backwards but inwards. Whereas the experienced world, the world of manifestation, is of necessity in the three dimensions of space, the paradisiac world, or world of motivating intelligences, exists only two dimensionally, the principle being that as archetypes are released from the limitations of existentiality so also is their confinement within the dimensions. In other words, as the intuitive mind, or the soul, of an individual seeks sources and reasons for its existence it is led inward and away from the three dimensional world towards fewer and more comprehensive ideas and principles.(Critchlow, 1976)

#### 5.5 Principles of Symmetry

Another decoration principle of Islamic art is symmetry. Symmetrical arrangements were mostly used in architecture (Fig.6). They were often considered in the plans and decorations of buildings. In the works of art in which geometric motifs were used, symmetrical decoration is noticeable at a first glance. At the balcony ornaments of the Alhambra Palace, this principle is evident (Fig.7). In this decoration, which involves the use of floral motifs, geometric shapes and written script together, if the particular section of the structure were vertically divided into two pieces from the middle, the ornament on each piece would be similar (Etikan, 2011).



Fig 6: Symmetry in architecture of Al-Mustansiriya school, Iraq



Fig.7: Symmetry in Islamic ornamentation

### 6. Traditional elements of Islamic ornaments

The Islamic interest in evermore complex and varied ornament eventually led to the development of several remarkable traditions of multiple-level design. This form of ornament augments a bold primary motif by incorporating smaller scale secondary elements into the background areas. The antecedents for this type of Islamic design can be traced back to the ninth century. While these early geometric examples are rare, in time the Islamic fascination with multiple-level ornament found wide favor within each of the three principle modes of Islamic artistic expression: floral design, calligraphy, and geometric pattern. The tradition of multiple-level floral designs reached maturity during the fourteenth century (Bonner, 2003).



### 6.1 Geometric ornament:

Geometrical patterns facilitate connectivity between different sections of a building. They also add an aesthetic value to the structure (Vernoit, 2000).

Geometrical pattern and symmetry, which comprise the main visible body of Islamic art, lead naturally to abstract notions of pattern symmetry. These are the two most profound and wide ranging notions that the human brain can conceive. The potential of Islamic art for offering such experience arises from the fact that it relies primarily on geometry and on explorations of pattern and symmetry. The dominion of geometry, as the wisest through the ages have proclaimed, is supreme. The harmony of the Universe can only truly be experienced in the purest perfections of geometrical form (Abas, 1995). Islamic geometric patterns developed along two separate historic paths: that of the eastern regions of Persia, Khurasan, and Transoxiana, and that of the western regions of Morocco and Andalusia (Fig. 8).

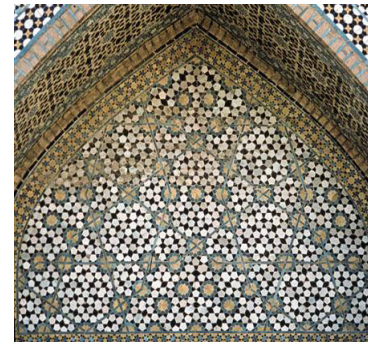


Fig.8: Ornament tile patterns, Alhambra

In the eastern regions, the techniques used to create this distinctive form of geometric pattern reached maturity during the fifteenth century. In the far western regions of the Islamic world, maturity came a full century earlier. Although it is not known for certain, the methods used in creating multiple-level geometric patterns appear to have developed independently in both regions. What is certain is that these developments represent the last great outpouring of inspired creativity in the long and illustrious history of Islamic geometric pattern making (Bonner, 2003).

### 6.2 Floral ornament:

Floral ornaments are stylized to the point of losing all resemblance with nature and obeying only the laws of rhythm. It is a real graphic of rhythms, each line undulating in complementary phases, and each surface having its inverse counterpart (Fig. 9). The arabesque is at the same time logical and rhythmic, mathematical and melodious, and this is most significant for the spirit of Islam in its equilibrium of love and intellectual sobriety (Burckhardt, 1967). On the other hand, the background to the primary floral ornament provides the area for the further inclusion of a smaller, secondary floral device that is of near identical style. In this type of ornament, leaf and flower motifs were combined with branches, but it is not clear. Actual plant was used to form it in a way that stylistically distinct with multiple-level floral design (Bonner, 2003).

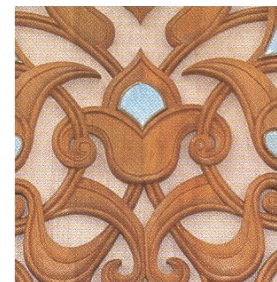


Fig. 9: A wooden floral motifs, Prophet's Mosque, Saudi Arabia

### 6.3 Calligraphy ornament

Arabic calligraphy is a fascinating art form giving rise to expressions that combine spiritual meaning with aesthetic beauty. Calligraphic expression is a fundamental decorative element of all forms of Islamic art (Fig. 10), ranging from Architecture to ornamental designs, and has been widely used throughout historical and modern times (Massoudy, 1981).

The heart and soul of all Muslims have become refreshed by the majesty, harmony, rhythm, and flow of calligraphic forms which have surrounded Muslims living in traditional Islamic society and which have unveiled their beauty upon the pages of Qurans, on walls of mosques and other forms of architecture.

Traditional calligraphy as the central sacred art of Islam is a gift from the truth at the heart of the Islamic revelation from which this sacred art derives. It remains so for all Muslims whether they are themselves aware of the truth or whether they remain content with external forms, and that furthermore, "He is now even as He was" (Hossein, 1987).

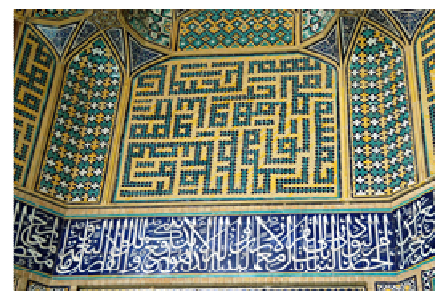


Fig. 10: Arabic calligraphy of Islamic ornaments

#### 6.4 Al Muqarnas

Muqarnas is a three-dimensional decoration of Islamic architecture (Fig 11). The dome in Muqarnas is a truly Islamic creation without precedent in any civilization whether made of wood, stucco, brick, or stone, Muqarnas vaults were among the characteristic features of medieval Islamic architecture from Iran to Spain (Tabbaa, 1985). The Muqarnas was, and still is, used in domes, niches, arches, and almost flat decorative friezes. In each instance the module as well as the depth of the composition is different and adapts to the size of the area involved or to the required purpose, in ceilings it serves a clear architectonic aim or at the very least provides the structural illusion of ascending movement culminating in a small cupola. The Muqarnas is at the same time a linear system and an organization of masses. It's is a roofed like a staircase with facets and a flat roof. Every facet intersects the adjacent one at either a right angle, or half a right angle, or their sum, or another combination of these two. The two facets can be thought of as standing on a plane parallel to the horizon. Above them is built either a flat surface not parallel to the horizon, or two surfaces, either flat or curved, that constitute their roof. Both facets together with their roof are called one cell. Adjacent cells, which have their bases on one and the same surface parallel to the horizon, are called one tier. The measure of the base of the largest facet is called the module of the Muqarnas. (Dold, 2005).



Fig. 11: Muqarnas at Masjid-I-Shah, Isfahan, Iran

#### 7. New vision of ornament elements

The history of ornament is succession of individual problems to solve by a combination of knowledge and intuition, Ornament can and does evolve from simple to complex and from complex to simple. Any small group of objects with a shared motif or pattern can suggest a sequence, but only knowledge of the context can tell us whether that sequence is real. Local tastes and traditions, economic and social stratification, and the idiosyncrasies of artists and workshops, ensure that many different evolutions go on at the same time. They may influence one another or coexist without interacting at all. Often they appear to run in opposite directions. The more complex and cosmopolitan the society, the more strands its network of traditions is likely to have, and the more difficult it is to guess the whole picture from a few examples. This can be true even of one's own culture, where all the evidence is theoretically available.

Some patterns stay fashion for centuries, even millennia. Like language, religions. Successful patterns not only survive cultural change but lend themselves to the kind of experiment that makes them a positive expression of change. Details of the process may be lost, but the broad outline is usually traceable giving more evidence of fruitful experiment, or have shown themselves more adaptable to changing tastes (Trilling , 2003).

From this opinion the study is about to have some proposals for a new vision toward the Islamic ornament within the broad outline of the Islamic fixed principles considering the variable effects of place and time ( Fig. 12).

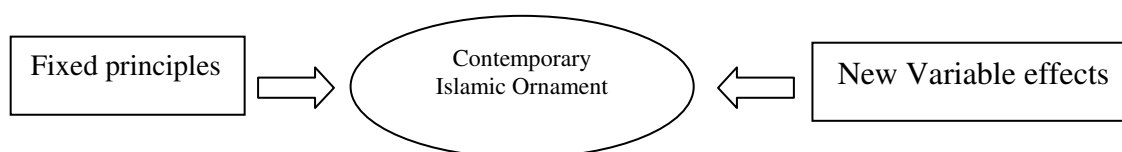


Fig. 12: Updated variable effects in order to reach contemporary Islamic ornamentation

#### 7.1 Symbolism of Islamic Architecture

Symbolism in Islamic architecture seems to be of a similar nature, with forms whose potential can be activated in particular circumstances, and whose import is not the less powerful for not being precisely circumscribed (Brend, 1991). The symbols and signs used in Islamic buildings did not always carry a religious message or meaning. Some of the forms were unclear and unspecific in meaning. The only design that contained an easily understood message was calligraphy. The symbols used in architectural designs were either an expression of cultural or religious beliefs. Buildings underwent constant repairs and refurbishment that depended on prevailing trends. This means that sometimes the symbols used were just for aesthetic purposes.

Islamic architecture provides an insight into the beliefs and practices of Muslims throughout history. It adapts and responds to varied cultures and traditional practices upheld by different Islamic generations without

interfering with their spirituality (Ghasemzadeh, 2013).

### 7.1.1 Islamic Dome

The dome placed over a cubic space is sometimes simply a convenient means of roofing and sometimes an awe-inspiring symbol of heaven above the earth (Fig 13), which carries the further message of all – powerful oneness of Allah. At what might be called an intermediate stage between these cases, the dome can symbolize the power of a ruler, whose power derives from Allah. The celestial dome may therefore be used over a majestic audience chamber (Brend, 1991). By which, Muslim architects spent much attention and love on the form of arcades. No wonder that the Arab name for arcades—*rawq* or *riwâq*—is almost synonymous with beautiful, graceful and pure. Islamic art developed a great variety of arch forms, of which two are most typical: the Persian arch in the shape of a ship's keel, and the Moorish arch in the shape of a horseshoe with a more or less accentuated point namely static calm and lightness. The Persian arch is generous and gracious and the Moorish arch, its extreme width is balanced by the rectangular frame: a synthesis of stability and amplitude; there is in it breathing without movement; it is the image of a space expanding inwardly (Burckhardt, 1967).



**Fig.13:** Dome is an inspiring symbol of heaven above the earth

### 7.1.2 The Minaret

The most characteristic architectural form is the minaret (fig. 14). Though the standard function of the minaret is to provide a location for the call to prayer, it is evident that its meaning extends far beyond this, on the one hand, the minaret is not absolutely required for the call to prayer: and on the other, minarets are sometimes found extra tall, or in pairs, or in multiple and reduced form. It is a matter of experience that a minaret acts as the external sign which informs the wanderer of the location of a religious building; it appears that symbolism gathers round this signpost function, so that the minaret in an esoteric sense can represent the axis of universe (Brend, 1991).

There is no one methodology for understanding the long catalogue of minarets, but it is clear that most contemporary mosques no longer involve the makings of a place of worship and collective social activities, but rather they are in the service of a monument symbolizing power as culture, habits, climates and traditions. Within such a context it becomes apparent that legitimizing narratives for building minarets are simply based on religion or historicity, but on sheer appearances, taken at face value, constructing a social and political reality based purely on themselves (Roose, 2009).



**Fig. 14:** Minaret Symbolism is Islamic Architecture



### 7.1.3 Islamic Arch

Islamic architecture uses arches a lot in the design of entrances and wall pillars.

Muslims mastered art of using the arch in construction more than any other cultural group (Fig.15). They inherited previous arch designs from the Romans and the Greeks and created new shapes of the arches such as the horseshoe arch and the pointed arch. It was used as a structural and decorative element in their buildings (Ghasemzadeh, 2013).



Fig 15: Islamic Arch, Cordoba

### 7.1.4 Islamic house

Islamic house used to provide privacy by the in word looking and the use of wooden special forms of windows which has different details and terms all around Islamic countries, such as Al Shinasheel in Iraq (Fig16) and Al Mashrabia in Egypt (Fig.17), which usually used occur to privacy.

Between the architecture of a mosque and that of a private Muslim house, there is a difference in plan but not in style, for each Muslim dwelling is a place of prayer: the same rites are celebrated here as there. In general, Islamic life is not separated into a sacred and profane domain, just as the community is not divided into consecrated clergy and laymen: each Muslim with a sound mind and morality can act as Imam. This unity of life manifests itself by the homogeneousness of its frame: whether it's the interior of a mosque or that of a private house, its law is equilibrium, calm and purity. Its decoration must never contradict the idea of poverty (Burckhardt, 1967).

In fact, ornament in Islamic architecture, in its rhythm and regularity, helps to create a void by dissolving the raw body of wall and pillars and thus enhancing the effect of the great white surfaces so characteristic of Muslim interiors (Burckhardt, 1967).



Fig 16: Islamic house (shanasheel), Iraq

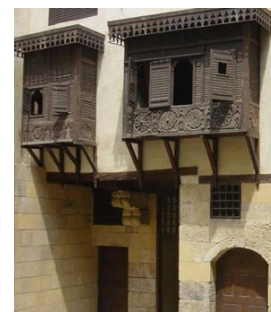

















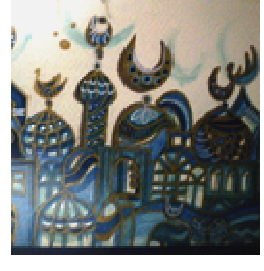
Fig. 17: Islamic house with (Mashrabia), Egypt

## 8. Practical Application

The following are six paintings done by the researcher, showing the possibility of using and the flexibly in formation the suggested Islamic architectural elements, such as Domes, Minarets and the traditional Islamic houses with the special wooden widows, as an application of new elements in Islamic ornamentation.

	Painting	Detail - 1	Detail - 2	Detail - 3
1				



2				
3				
4				
5				



## 9. Conclusions and Recommendations

Islamic Ideology influenced the art in different times and different places. Ideology of Islam contains fixed principles and variable effects according to era. Fixed principles effect on art by prohibition of drawing and sculpture, which resulted in refraining from using figurative and naturalist ornaments in Islamic art, and gives the unity and identity of the Islamic art.

- Variable effects depends on human vision in different places through time, and allowed Muslim artist to create conceptions of Islamic ornamentation which was mainly involved by floral, geometric shapes and various art of calligraphy. On the other hand, it gives the ability to provide new elements within the main limits of fixed principles.
- The study found that Islamic ornamentation is not a traditional heritage art, with fixed elements and forms. It's a dynamic art that could present new elements depending on the variable effects of the era indicated by the human vision in place and time.
- All the ornamental elements are based on the principles of infinity, abstraction, symmetry and repetition, arabesque and bordering. These principles established a unity of ornamenting in every area of decoration in Islamic art despite differences between materials, production techniques, etc.
- The study took an advantage of the possibility to introduce new elements in line with the fixed principles, by using the most symbolism elements in Islamic architecture, such as the domes, minarets and the Islamic houses and finds that these elements has the ability of formation as an ornamentation.
- The new suggested architectural elements were applied on artistic paintings as a practical application. Therefore, the study recommended graphics specialists to stand on this conclusion and work on these elements within the principles of recurrence, rhythm and symmetry, in order to reach a contemporary Islamic ornamentation.

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## References

- Abas S., Salman A. (1995), *Symmetries of Islamic Geometrical Patterns*, World scientific publishing Co. Pte. Ltd, Singapore.
- Akkach, S. (2005), *Cosmology and Architecture in Pre modern Islam: An Architectural Reading of Mystical Ideas*. Albany: State University of New York Press.
- Baer, E. (1998), *Islamic Ornament*, Edinburgh University Press, Edinburgh, pp. 160.
- Bonner Jay (2003), *Three Traditions of Self-Similarity in fourteenth and Fifteenth Century Islamic Geometric Ornament*, Meeting Alhambra, Isama- Bridges Conference Proceedings , pp. 1-12
- Brend Barbara (1991), *Islamic Art*, British Museum Press, Great Britain.

- Burckhardt Titus (1967), *Perennial Values in Islamic Art: Studies in Comparative Religion*, World Wisdom Inc. Vol. 1 (3).
- Critchlow Keith (1976), *Islamic Patterns: An analytical and cosmological approach*, Thames and Hudson Ltd, London.
- Dold-Samplonius, Y., Harmsen, S.L. (2005), *The Muqarnas plate found at Takht-i Sulayman: a new interpretation*. *Muqarnas*, JSTOR, Vol. 22, pp.85-94.
- Etikan Sema (2011), *The Principles of Ornament in Islamic art and effects of these Principles on the Turkish Carpet Art*, Religion and Science Publications, Vol. 3(2), PP. 87-95.
- Ghasemzadeh Behnam, Fathebaghali Atefeh (2013), *Symbols and Signs in Islamic Architecture*, *European Review of Artistic Studies*, vol. 4 (3), pp. 62-78.
- Haideh Moghissi (1999), *Feminism and Islamic Fundamentalism: the limits of postmodern analysis*, Zed Books Ltd, London, UK. & NY, USA, pp.32.
- Hossein Nasr Seyyed (1987), *Islamic Art and Spirituality*, State University of New York Press, Albany, NY.
- Hossein Nasr Seyyed. (1968), *Science; Civilization, Islamic; Science, Medieval; History; Islamic Empire*, Cambridge: Harvard University Press.
- Jones, F. Bedford (1856), *The Grammar of Ornament*, Day and Son, London.
- Massoudy, H., Nitzer, I. (1981), *Calligraphie arabe vivante*. Flammarion. Paris, pp.191.
- Roose Eric (2009), *The architectural representation of Islam*, ISIM/Amsterdam University Press, Amsterdam.
- Tabbaa, Yasser (1985), "The Muqarnas Dome: Its Origin and Meaning", *International Journal of Middle East*, Vol. 3, pp.. 61-74.
- Trilling James (2003), *Ornament: A Modern Perspective*, University of Washington Press, Canada
- Vernoit, S. (2000), *Islamic Art and Architecture: An Overview of Scholarship and Collecting*, *Discovering Islamic art: scholars, collectors and collections 1850-1950*, London: I. B., Taurus.

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