

AESTHETIC INTERPRETATION FOR ISLAMIC GEOMETRY IN INTERIOR DESIGN

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ABSTRACT

The aesthetics of Islamic interior design consist of a dynamic system arising from abstract ornamentation in conjunction with visual inscriptions based on geometric patterns. Such a system conditions the experience of a building at both the perceptual and cognitive levels. Although several studies have discussed the history, semiotics, structure, mathematical laws, constitutive variants, and global philosophical motivations of Islamic geometrical pattern, substantial questions still remain unaddressed, particularly within visual aesthetics. Hence, the objective of this paper is to discuss the aesthetic phenomenology of Islamic geometry within the context of interior design, and its purpose and logic in terms of the language of material expression. A literature review was conducted to explore the issue of representation in Islamic design, while a qualitative research methodology based on the content analysis was employed. The paper explores the issue of representation in Islamic design and aims to study the Islamic interior's aesthetics by identifying appropriate interpretation methods for its abstract geometric ornamentation. The paper identifies four generic categories for the purposes of this interpretation: purely decorative geometry, metaphoric geometry, kinetic geometry, and conceptual geometry. In conclusion, the aesthetic of Islamic interiors forms a projective aesthetic space as it induces projective behavior through a system of visual metaphor.

Keywords: Islamic interior design, abstract geometric ornamentation, Islamic geometry, representation, aesthetics.

1 INTRODUCTION

Islamic interior design was developed to respond effectively and dynamically to people's physical, environmental, social, physiological, and religious requirements [1]. Islamic interior design works as a platform to deliver the messages of the culture of Islam, conveying Islamic identity and values. It is an intuitive form of design that aims to comprehend the eternal essence of creation through the layers of meaning that inform its expression and which contribute to the observer's perception of its aesthetic [2], [3].

Islamic interiors have been built throughout a vast geographical area with multi-ethnic and cross-cultural inhabitants and a long artistic tradition encompassing many styles of design. During the early period and the conception of traditional Islamic decorative designs, there was a rapid communication of new styles within the Islamic world, and these came to express and symbolize the defining ideology of the community [4], [5]. This design tradition combines fine arts and crafts. It is never self-expressive or idiosyncratic because of the necessary and specific skills that constitute the essence of Islamic design. Therefore, there is a remarkable similarity between artworks from very different geographic regions. The similarities are so pronounced that it is sometimes tricky for experts to tell where a given piece belongs [2]. Islamic interior design is characterized by a complex interplay between the decorative treatment of interior features within a building structure that uses structural analogies and conceptual resonances arising from the interwoven semantics of its geometrical patterns and the textual pictures of its inscriptions. Its aesthetic is developed out of this interplay or dialogue [6].

The interior design environment is conferred with sense and meaning through the semantic content of its physical elements, such as proportion, symbols, colors, and lighting



[7]. One of the most useful features to help interior designers understand the aesthetic impact of Islamic interiors is the abstract geometric ornamentation whose construction is based on science and mathematics [2]. The ornamentation traditionally used in Islamic interiors developed from a specific pattern system that consisted of a mixture of calligraphy and geometric and floral designs [8]. These patterns work as one of the most significant applications of visual metaphor within Islamic interiors, reflecting the concept of unity arising from diversity that can be identified as a basic tenet of Islam. The patterns, either singly or combined, adorn all types of surfaces, forming intricate and complex arrangements. They not only work as a platform to transmit Islamic values, but they also provide a sense of aesthetics in the interior space [8]. In lavishly extended geometrical designs covering most of the interior features, abstract inscriptions shape the aesthetic system of the entire interior design. The location of each inscription is carefully chosen to fit into the morphological scheme and the function of the architecture. They present imagery and poetic metaphors that create a highly animated textual world that coexists with the visual world of the interior forms [5], [9].

The present paper discusses the issues of representation and the figurative in Islamic design. It relies on the phenomenological analysis of abstract geometric ornamentation as one of the most significant applications within Islamic buildings in the formation of Islamic interior aesthetics. The paper identifies four generic categories for the purposes of this interpretation: purely decorative geometry, metaphoric geometry, kinetic geometry, and conceptual geometry.

2 REPRESENTATION IN ISLAMIC DESIGN

In Islamic interior design, direct representation can take the form of pictorial expressions of an inscription's content, such as figurative paintings, frescoes, vault paintings, and iconography. These may represent, for example, religious subjects, or scenes of hunting or battle. Representation in Islamic interior design depends on a general visual configuration fundamentally dominated by abstract geometric ornamentation and calligraphy [10]. The geometric ornamentation, essentially, refers by the sense of order reflected in its physical manifestation to the perfect harmony of all creation as a founding structural principle. Within it are developed visual symbols that are enigmatic in many cases. They mysteriously hide their meaning by denoting or representing their object without describing it. They allow, in a sense, uncertainty in the definition of their exact function [6], [11].

2.1 Symbolism and interior design features

The real difficulty arises when we try to explain the development of the symbolism expressed in the features of Islamic interior design and to provide a substantial argument for such an explanation. Scholars explain this general or vague phenomenon of symbolism by linking geometric forms and calligraphy texts through a particular, literal type of correspondence. However, by trying to argue within a framework in which defined symbols represent defined objects, one makes a complete interpretation impossible [12]. Thus, we shall consider that the geometric ornamentation used does not contain precisely defined signs or symbols that correspond to the textual theme of inscriptions [6]. At the same time, we will try to provide an explanation that leads to a direct representational identification of the aesthetic conception of the interior space. It is as if the scriptural imagery, so full of life, dissolves upon contact with matter while trying to acquire corporeal shape – as if it were disembodied and absorbed by the linear abstract network of the plane of geometrical design [13], [14].

For example, we might analyze the starry geometrical patterns on the geometric ornamentation found on the ceilings, wall panels, doors, and almost every interior plane throughout the interior environment. We can find concentric circles of stars that conjure up pictures of constellations, echoing the stellar images depicted in the inscriptions [15], [16]. However, while attempting to visualize these stellar images in the geometric ornamentation, a strange phenomenon occurs. The images become less and less defined, tending to lose their outlines and ornate structure by virtue of the continuous radiating outwards of the geometry in the architecture, often conveying a principle of transcendence [17]. This phenomenon continually prevents the drawing of a perfect equivalence and the concrete localization of textual iconology in the formal territory. This leads to the impossibility of accurately pinpointing the supposed visual symbols, thus allowing a kind of vagueness to float between the two aesthetic fields. In this way, the geometry itself fails to sustain the hypothesis of an objective representational link between the calligraphy texts and the interior features. Finally, this hypothesis does not solve the discrepancy that arises when we attempt to make a literal connection between the interior configuration and the wall inscriptions. Such a discrepancy involves another important aesthetic phenomenon: the autonomy of the two artistic spheres of interior forms and inscriptions. One might see them as combining to form a double set of semantics [18] and not governed by a strictly codified system but by a softer and more open type of association, not established in advance. This system one guesses, is the metaphor. According to Ibn Rushd's (1126–1198) debate on ruminative thinking, the principle of imagination is not fundamentally involved in the phenomenology of traditional representational creations. Any observable image defines the rules of its visual cognition before the act of perception. While these creations require the understanding of certain rules, visual metaphor gives free reign to interpretation [19].

2.2 Infnitization in Islamic geometry

The general organization of these geometric ornaments immediately produces the optical effect of boundless space. The sense of the limitlessness of the interior geometric ornamentation is due to three of its perceptual qualities, which derive from and deliberately play with the intrinsic property of the “infnitization” of geometry as a material ontology [15], [20].

The first quality concerns the algebraic law of the geometrical series, according to which different ornamental elements expand around a center in a homogeneous and virtually endless concentric distribution. The second quality resides in the organizing principle of the alternation of these features that, like the serial principle of which it is the corollary, possesses the ability to endlessly expand. And lastly, the third quality lies in the highly distinctive treatment of the edges, which usually takes the form of a *muqarnas* cornice [21].

To explain the ontology of this infnition – a dual metaphysical concept that encompasses immensity and infinity – we need to know that any type of aesthetic morphology is defined by the nature and content of its matter and the mode of distributing of this matter within space. Namely, the position of its limits, its horizon. Thus, the affirmation or, on the contrary, the negation of the edges of this morphology constitutes a determining element for its ontological status, relative to the aesthetic dialectic between finitude and infnitude involved in the phenomenology of created visual spaces. Above all, in the phenomenology of pure geometrical space [22].



3 AESTHETIC INTERPRETATION OF ABSTRACT GEOMETRIC ORNAMENTATION

The diversified geometries of the Islamic interior propose a kind of aesthetic comprehension that implies a multiplicity of enjoyments related to each other in a channeled way. Or, more precisely, a multiplicity of experiences that can be realized without interruption, occurring within the same fictive world created by a complete abstract system.

The interior structure is typically formed by square or rectangular modular spaces of various sizes around which courtyards and rooms are arranged. The interior design generates the optical effect of very skillfully employed geometry through features such as stucco and ceramic elements, reticulation, colonnades, crowning, windows, arches, domes and hanging muqarnas [16], [21]. They are separately constructed in light materials, such as wood and plaster, and they rest upon the supporting structure. They are not incorporated organically into the foundations of the structure and, consequently, they do not raise the usual practical problems linked to weight ratios and the transition between vertical and horizontal, square and circular plans.

The interior features are distinguished by the sophisticated modeling of the geometry, which shapes the design's basic morphology. Therefore, more than their structural anatomy, it is the sum of the elements of applied ornamentation that transform the architectural morphological schemes of Islamic interiors into diversified geometrical spaces and surfaces. Moreover, the strictly geometrical patterns are reinforced by the rich decorative outlines of purely ornamental designs that include stylized vegetation, flowers, calligraphic elements, and arabesques that line the traceries in some interior areas.

Numerous studies of Islamic interior design have revealed that a broad spectrum of mathematical systems governs the configuration of its geometric ornamentation [2]. However, the geometry in Islamic interiors fulfills a plural function insofar as it transforms spaces, planes, and volumes into different visual creations concealing different significations through a great diversity of aesthetic systems and the elaborate use of the principle of variation. If we rigorously uphold the scientific nature of geometry as a building practice, we could consider this complexity through variation and decoration as "apparent" or "illusionary" and assume that this results rather from optical effects than from three-dimensional material reality. Therefore, the geometrical intricacy of Islamic interiors appears more aesthetic than structural insofar as it functions not so much as a building tool but rather as a mode of expression. Hence, the geometrical science of Islamic interior design comes from a highly sophisticated aesthetic conceptualization [22].

On the level of aesthetics, we can group the geometries of Islamic interiors into four generic categories: purely decorative geometry, metaphoric geometry, kinetic geometry, and conceptual geometry. Despite the common morphological point linking them, these systems are distinguished by specific characteristics and a particular perceptual aesthetic logic, which is their mathematical constitution. Hence, these systems can successfully combine to form a "mixed type of geometry".

3.1 Purely decorative geometry

This type of geometric ornamentation is composed of elements that are merely padding and it emphasizes surface texture. This system usually employs refined work that combines flat-laid and relief sculptures, creating networks of stylized vegetation, flowers, and calligraphic patterns [16].

In this case, the elementary geometry limits itself to a basic axis of symmetrical composition providing balance to the vocabulary of profusely intricate decoration. This



provides the various combinations of geometrical propositions with a general cohesiveness while strengthening their visual attractiveness by bringing a sensual beauty to the forms (Fig. 1). But this type of geometry, reduced to a latticework of elementary lines, carries no content of meaning as such and, therefore, does not constitute a true semantic field comparable to the other geometric categories [18], [21].

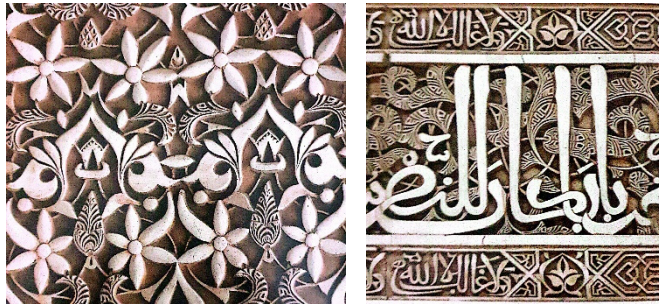


Figure 1: Example of purely decorative geometry, Alhambra, Granada, Spain.

3.2 Metaphoric geometry

Traditionally, the use of metaphoric geometry in Islamic interiors provided an alternative to direct pictorial representation, which Islamic culture was reluctant to develop. The metaphor in this context has both an intrinsic and an extrinsic nature, a perceptual and virtual nature. It is a double entity insofar as the principle of its existence depends on a transfer of meaning between two terms. The metaphor has two domains: (i) the literal domain, which consists of its material manifestation and determines the supporting framework for the transfer of meaning (Fig. 2); (ii) the metaphorical domain, which consists of the transferred significations or identities themselves.

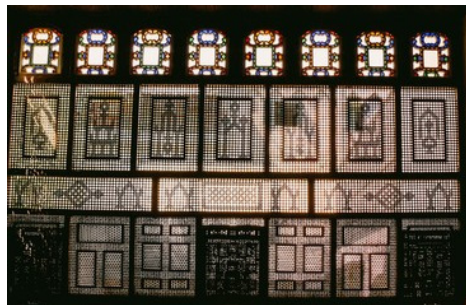


Figure 2: Mashrabiya transfer the meaning of privacy as an example of the literal domain in metaphoric geometry, Bayt Al-Suhaymi, Cairo, Egypt.

The literal domain maintains the general visual harmony using variations of abstract geometric patterns. The fact that this type of geometry can suggest figurative images does not prevent it from also providing non-figurative forms that one can grasp and enjoy as such – that is, as pure geometrical patterns of abstract order [23].

The metaphorical domain gives the possibility of reading the work as a double aesthetic entity, giving rise phenomenologically to a dual aesthetic experience. This phenomenon happens through the metaphorization process, which starts by conceptualizing the literal domain to stimulate metaphorical activity through a range of references. This activates the referential relationship that exists between the two domains, even though they differ ontologically.

Observable representation constitutes a ready-made entity that appeals to cognitive consciousness, a “phenomenology of the mind”. It is the fundamental reality of the material manifestation. It determines designation and denotation rules in the visual configuration. In contrast, a metaphor is essentially variational, resolutely inspirational, and leaves an active role for individual subjectivity in the perception process it induces. It puts the viewer in a state of oneirism by strongly stimulating his dream consciousness – a “phenomenology of the soul”. It is the reality of the imagination, a moving and fluctuating entity that constantly renews the terms of the experience it generates.

The metaphoric geometry in Islamic interior design provides semantics that correspond to the practical function of the interior space in the first instance [18]. In addition to the metaphorical expression of visual forms, it proposes a specific mode of figurability involving an unknown and undetermined part proper to oneirism. The interior design features and decorative patterns are distinguished by upward and downward movement, concentric attraction, or – the opposite – repulsion, fragmentation, diffraction, aggregation, and light manipulation. They constitute double entities able to embody any metaphoric picture and/or simply to propose the visual enjoyment of their manifest appearance with pure geometrical intricacy provoking sensations of light, motion, and combinations of abstract figures, lines, and volumes. As an example, the Ambassadors Hall wooden ceiling, which had interpreted to be seen as a kind of iconography of the heavens as shown in (Fig. 3(a)).



Figure 3: Application of metaphoric geometry. (a) Sample of metaphor for space: The Hall of the Ambassadors ceiling; and (b) Sample of metaphor for things : The Hall of the Two Sisters dome, Alhambra, Granada, Spain.

The combination of calligraphy and geometric patterns forms an artistic whole conceived from textual and visual languages. They establish the same type of non-representational aesthetic relationship involving a system not of direct symbolization between the different propositional terms (visual and textual) but of metaphorization operating by a transfer of meanings and identities through a range of references [12], [18].

For example, most Islamic interior ceiling treatments demonstrate the aesthetic mechanisms underpinning the concept of metaphoric geometry. The hanging muqarnas and domes are a manifestation of this geometrical system (Fig. 3(b)).

Ontologically, a dome in an interior is not a representation or symbol but only a fictive object. This object stimulates the projective behavior of the observer by suggesting or generating metaphorically analogous images with what he can grasp, know, or imagine while looking at or just thinking of the fascinating spectacle of the firmament. Considering their structural composition, these domes present an elaborate morphology drawn by the mathematical diffraction of prismatic overlapped volumes, which constitutes the technical principle of muqarnas decoration [22]. This metaphorical identity of the dome lies in its specific visual configuration, built on an intricate three-dimensional geometric composition that displays to the sight an astonishing rotating body, tending to grow like an organic being, penetrated by plays of light and darkness, and animated by strong optical effects of undulating motion.

This means that the category of metaphoric geometry comprises two types: two-dimensional and three-dimensional. The first type is a metaphor for space, and the second is a metaphor for things or bodies, both working to precisely the same rules. Each type conveys specific aesthetic meanings and identities and, depending on the function of the space as well as the syntax of the visual and textual elements of the interior design, each arrangement induces a distinct aesthetic experience, even though they share the same aesthetic rules proper to the metaphoric geometry system. There is no way of confusing the two types at the perceptual level or distinguishing them simply according to their three-dimensional or two-dimensional qualities and geometrical structures. They merely constitute examples with particular designs and content of the same generic aesthetic proposition.

3.3 Kinetic geometry

The fundamental principle of kinetic geometry is movement, which has no metaphoric property and, insofar as it remains abstract, forms a single entity. The entity's essential quality is that it concentrates meaning and ontological identity in its literal manifestation.

This aesthetic system initiates a specific perceptual phenomenon of kinetic visual excitation and activates a dynamic physical–optical relationship between the seer and the seen. The essential meaning of these geometrical propositions resides in various expressions of movement, and the aesthetic experience they aim to stimulate is the visual delight of movement [18]. This form of ornamentation produces such an effect through its materiality without any process of transfer or imaginary projection. It is rendered to one's sight without an intermediary or references. It is an aesthetic phenomenology involving a strictly sensory experience based on the vital relationship between the object and the observer's physical body mediated through the sense of sight. Hence, the observer's experience consists of the visual sensation of motion. This prepares viewers to be initiated into the whole experience of Islamic interior design. They find themselves immediately projected into a world of overwhelming artistic richness that they have the possibility of discovering to the full.

Kinetic geometry is applied in Islamic interior design through two domains of the same generic proposition: plane kinetic geometry and space kinetic geometry.

3.3.1 Plane kinetic geometry

This domain is applied in interior design as a two-dimensional treatment of plane surfaces, such as geometric patterning on walls, floors, and latticework screens.

Let us analyze a typical interior surface treatment. We can find that the decorative patterns display repeated elementary geometrical figures, all of the same shape and painted alternately in contrasting, vivid, primary colors that are regularly arranged on the surface to fill it. In many cases, designers will leave a white space between each figure. In this way, the white



patterns radically oppose the black and colored figures, producing a dramatic contrast with each other, strengthened by the play of bright, juxtaposed primary colors. In addition to this, there are simultaneously contrasting colors and tint values [2], [21]. In some cases, the repetition of the forms and their arrangement, systematically placed in alternation with a variation of linear direction, creates a strong linear and chromatic rhythm, an animation of the pictorial plane, and a vibration of the surface, which all contribute to the effect of movement [14].

For example, the typical Islamic geometric panels covered with polychrome ceramic tiles depict images of movement and are hence classified in the kinetic category. It should be noted that the term “image” must be understood to mean a visual expression, obviously not as iconography or a figurative picture. That is to say that the perceptual content of these ornaments and their formal structure constitute visible manifestations of the principle of movement. These are perhaps the simplest examples in terms of geometric design, but also the most radically kinetic ones from the strictly aesthetic point of view [12]. A skillful dynamic mechanism is thus built employing the basic two-dimensional visual elements of line, color, and light and dark, which sets the geometrical patterns in motion. Such a configuration immediately ascribes the work of art to an aesthetic realm of pure sensation and form in which it is movement itself that constitutes the ultimate intention (Fig. 4).



Figure 4: The concept of plane kinetic geometry applied within Andalusian wall tiles, Alhambra, Granada, Spain [24].

3.3.2 Space kinetic geometry

Space kinetic geometry possesses an objective, intrinsic, and permanent aesthetic movement that transforms itself into an experimental and circumstantial movement in the viewer’s eye. Therefore, we can assert that it is doubly kinetic – namely, objectively and empirically kinetic – and that ontologically it has a double aesthetic existence, both objective and subjective. This domain applies to the three-dimensional structure of the interior space.

Typical Islamic interiors comprise floors with different levels and a central fountain in relationship with a central dome and elevated ceiling. In places of worship, the repeated use of muqarnas domes and cornices is used to trap and spread light. All these elements interact symmetrically with columns, arches, and latticework screens surrounding porticoes and pavilions. This combination creates contrasting zones of light and shade. The mathematical tabulation that determines an arch’s scheme, height, profile, and size produces an intensively modulated linear and spatial rhythm [14], [22]. This rhythm, in three dimensions, plays with a subtle alternation between emptiness and fullness, opening and closing, light and darkness, and wide and narrow spaces – a kind of visual music with highly varied notes. At the same time, the centered fountain forms the focal point of all these elements [23] (Fig. 5).



Figure 5: The concept of space kinetic geometry applied within the Court of Lions, Alhambra, Granada, Spain [24].

Such a disposition of elements that emphasizes the rhythmic architectonic order is phenomenologically kinetic. This kineticism draws all its aesthetic power and significance from the viewer's sight and depends fundamentally on his bodily behavior within the architectural space [15].

As a matter of fact, following the simplest objective law of pure kinetic phenomena, three-dimensional geometry spreads itself in the interior space. It moves and changes its structure according to the point of view from which it is contemplated and in interrelation with the viewer's physical location and selective visual attention. The slightest motion of the viewer will change the geometrical configuration and perspective in terms of optics. With the variety of complex combinations of elements and perspectives, these optical changes diversify considerably in accordance with the rhythm and topography of the body's movement and gestures to create a series of successive visual sequences, fancifully breaking the symmetry of the organization of the space.

3.4 Conceptual geometry

Conceptual geometry aims to transmit pure geometrical thought through a visual artistic expression and a material manifestation. It provides a material demonstration of geometric objectivation as a pure product of the intellect and supplies an embellished form – a form invested with a perceptual beauty – to its mathematical essence. This is the founding aesthetic purpose of conceptual geometry in Islamic interiors.

The aesthetic logic of any conceptual art offers an abstract thought or concept the possibility of a practical manifestation, according to a transposition process of abstract thinking into visual thinking [20]. Conceptual geometry represents the connection between the prior mathematical idea and its embodiment in visible geometric forms, corresponding to the fusion point between the two stages of thinking. Hence, the geometrical propositions founded on this mathematical idea carry an artistic finality wherein meaning lies, insofar as their aesthetic nature is ideal (Fig. 6(a)). A clear demonstration of conceptual geometry in Islamic interiors is the geometric patterns that decorate the two-dimensional surfaces in such interiors, making the artistic matter tend towards abstraction [15], [22].

However, we can rely on two criteria to recognize the practical expression of conceptual geometry within interiors that subtly crosses different geometry aesthetic categories. The first criterion is a rather elaborate mathematical structure that confers on the credible identity of an ideal geometrical proposition [2]. The second is the lack of metaphoric properties and a non-prevalence of kinetic qualities, even if the conceptual geometry on some surfaces

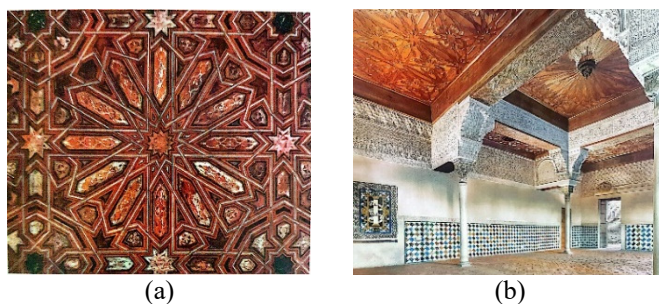


Figure 6: Application of conceptual geometry. (a) The connection between the mathematical idea and its embodiment in visible geometric forms; and (b) The relationships between the pure formal configuration and the inscriptions, the Mexuar Hall, Alhambra, Granada, Spain [24].

appears not to be entirely free of kinetic characteristics. Once the conceptual geometric theme is identified, the analysis can be focused on two major distinct points. The first refers to the comprehension of its numerical system, as can be identified in any geometrical patterns, but in this case patterns that display visual beauty through contrasts of bright colors or calligraphic, vegetable, or other decorative forms. The second point concerns the philosophical value conveyed by the geometrical concept diffused throughout the artistic medium. That is to say, the reflection on the concept of geometry itself as an ideal object which is always based on the morphological idealities of imagination and sense [23].

The geometric ornamentation of Islamic interiors cannot be only an attractive combination of shapes. Its extensive use in buildings undoubtedly conceals its function as a receptacle or expression of ideals through philosophical connotations, resonances, and values – through, for instance, its metaphysical connections with notions such as order or harmony, and its commitment to the dialectic between the finite and the infinite [20], [21]. This cognitive experience is not uniform throughout all Islamic interiors because of the aesthetic conditioning of the artistic matter itself. Conceptual geometry becomes inevitably colored by the specific semantics of the general topography of the interior environment in which it appears. These semantics are powerfully shaped by the syntactic relationships between the pure formal configuration and the inscriptions depending on the interior function. The combination of these elements necessarily and strongly inflects the cognitive experience, orienting it in diverse philosophical directions of a religious, metaphysical, or cosmological order.

In Islamic interiors, the aesthetic of conceptual geometry functions as a geometry of the spiritual path from physics to metaphysics, from matter to the highest abstract spheres. For example, huge walls are often distinguished by vast, blind, calm, static, and limitless areas crossed by tiny intricate lineaments infinitely expanding, a mathematical materialization of the concept of absolute space [2]. In these interiors, the panels beneath the muqarnas domes emanate a conceptual language related to the particular notion of the poetic and heavenly or metaphysical imaginal (Fig. 6(b)). This analysis takes conceptual geometry in its entire Islamic intellectual context, and in the context of the global knowledge of philosophy, theology, and science from which the geometric practices were developed [23]. Conceptual geometry has a definite philosophical function insofar as it necessarily activates, through the visual artistic medium, philosophical connotations and resonances of geometrical thought and ideality. It communicates a geometric vision of the world understood through the

objectivity of mathematical thought which, by definition, transcends time and space. This transcendental ontology of geometry thereby confers on the Islamic interior a certain universal value [18].

4 CONCLUSION

The paper concludes that the aesthetic of Islamic interiors forms a projective aesthetic space. That is, it induces projective behavior through a system of visual metaphor. This system possesses the important advantage of allowing subjectivity to take a large part in the creative process and stimulating the activity often termed as “fantasy” or “imaginary suggestion” or “imaginary representation”. Classical Arabic thought deals extensively with this concept and, more generally, emphasizes the creative and imaginative faculties of the human being [25].

This paper has discussed four generic aesthetic categories for the interpretation of the geometry of Islamic interiors: purely decorative geometry, metaphoric geometry, kinetic geometry, and conceptual geometry.

Purely decorative geometry usually consists of stylized representations of vegetation, flowers, and calligraphic patterns. This type of geometry, in contrast with the other types examined, carries no weight of meaning and so does not constitute a true semantic field.

Metaphorical images can be formed by geometric patterns since abstract ornamentation, paradoxically, can be used to refer to external entities. But this paradox is only apparent, because since the required transfer of meaning that produces the very sense or occurrence of the metaphor is possible, both domains can be variously similar or distinct – that is, not necessarily close entities.

The aesthetic interpretation of kinetic geometry relies on the skillful and efficiently employed kineticism of the two- and three-dimensional constituents of structure and pattern.

Islamic design concepts can be related to ideas of geometry, such as the center. This corresponds to the concept of the Absolute, which is beyond measure and is the source of all creation. Islam finds a deep-rooted symbolism and cosmology in geometry and it serves a purpose of representation within the religion [12].

The propositions of conceptual geometry imply a perception that no longer operates exclusively in the concrete and somatic world of the senses but equally in the abstract and mental sphere of the intellect. More precisely, they use both the language of pure material form as a self-referential entity and the conceptual form as an embodied idea or a materialized ideality. Conceptual geometry is thoroughly transparent and complete in its phenomenality. Absolutely objective and completely free of empirical subjectivity, it is only what it appears to be. Therefore, it is always already reduced to its phenomenal sense and is an object for pure consciousness.

Following this overall signification, conceptual geometric propositions shape visual spaces of mathematical abstraction that are destined to shift perception and aesthetic appreciation from the sensitive level of corporeal existence to the cognitive level of the mind, the intellect, and the spirit. They are phenomenologies of the spirit that complete the phenomenologies of the senses and of the soul – respectively constituted by the kinetic and the metaphoric geometric propositions. So, the viewer experiences various sensations, thoughts, and imaginative projections, from an intellectual realm of pure ideas and concepts (conceptual geometry) to another realm firmly rooted in the corporeal world (kinetic geometry), going through a field that lies at the margins of figuration and representation (metaphoric geometry). The artistry and aesthetic expression of the Islamic interior thereby maintains its perceptual character of wholeness.



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