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Formal diversity and the philosophy of the unit design decorative architectural formations

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Abstract

The research aims to investigate formal diversity and the philosophy of the unit design decorative architectural formations via comparative qualitative research methods. As a result, the decoration of architecture has a mathematical structure. Mathematics is a logical system and layout in the formations of geometric decoration in Islamic architecture if decoration is a complete form of mathematical thought. In conclusion, the Islamic geometric decoration took its architectural and artistic fields to an astonishing extent, which helped to develop it as a symbolic structure in its geometric or abstract units.

Keywords: architectural, mathematics, decoration, Islamic, geometric.

La diversidad formal y la filosofía de la unidad diseñan formaciones arquitectónicas decorativas

Resumen

La investigación tiene como objetivo investigar la diversidad formal y la filosofía de la unidad de diseño de formaciones arquitectónicas decorativas a través de métodos comparativos de investigación cualitativa. Como resultado, la decoración de la arquitectura tiene una estructura matemática. La matemática es un sistema lógico y un diseño en las formaciones de decoración
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geométrica en la arquitectura islámica si la decoración es una forma completa de pensamiento matemático. En conclusión, la decoración geométrica islámica llevó sus campos arquitectónicos y artísticos a un grado sorprendente, lo que ayudó a desarrollarla como una estructura simbólica en sus unidades geométricas o abstractas.

Palabras clave: arquitectónica, matemática, decoración, islámica, geométrica.

1. INTRODUCTION

What is the formal diversity in the unit of decorative architectural formations?

The research aims to answer the question in the problem as the research is determined by the geometric decoration and variations of the formality within the unit of formation on the facades of architecture in Baghdad in (1 42 H-14 40 e) (7 60 m - 20 19 m)

The importance of research is:

1. Reveals the artistic and design foundations employed in geometric decorative formations.
2. Contributes to the awareness of the intellectual and practical aspects of students of the Faculty of Fine Arts, especially the Department of Arabic calligraphy and decoration design students.
3. The Department of Architectural Decorates works in the Faculty of Engineering, Design and Architectural Design at the Institute of Applied Arts.

The theoretical framework deals with the following topics: a historical introduction about the emergence of the decoration and its

mathematical relations, the geometric shapes in the buildings, as well as the conceptual-visual elements of the geometric form, as well as the relational elements and geometrical transformations, including the spatial relationship in the geometric shape. The researcher followed in his procedures descriptive analytical approach to achieve the results of achieving its objectives and solve the problem and the sample was selected in an intentional manner, where the number of samples (3) sample of the total (24) model. And design the tool (form) and presented to the experts to verify their validity, and achieve the objectives.

The research reached results, including:

1. The geometric ornamentation in the base class depends on the construction of the basic network in the light of the available space and according to the variations of repetition, harmony and balance in the drawing of units and decorative vocabulary or the distribution of centers that generate the decorative element in the design center or on the side.

2. The architectural and architectural decoration has a mathematical structure. Mathematics is a logical system and layout in the formations of geometric ornaments in Islamic architecture if decoration is a complete form of mathematical thought.

The researcher recommended to benefit from his findings and vocabulary in enhancing and activating the curriculum of engineering decoration in general, in the relevant departments within the faculties and technical institutes. The researcher proposed a study of the

aesthetic characteristics of architectural forms and patterns in modern Islamic architecture in Iraq.

2. LITERATURE REVIEW

The man used geometric motifs since prehistoric times as he painted before he could read and write. The decoration was synchronized with the presence of man. He embellished his things and all his buildings (OKASHA, 1975). The primitive artist was embellished to distance himself from the feeling of fear of emptiness. The basic basis of the decoration is that it is based on the imagination of nature.

The decorative and structural forms that are based on mathematical equations are highly functional in the most complex artistic productions, as they give them and give them a purpose and aesthetic meaning (ASHENFELLER, 1964).

Because mathematics deals with quantity, which aspects accept measurement and number, they contribute effectively to access aesthetic beauty as it is reinforced in the quantitative organization of the shape more than what we find in its qualitative description (AL-JANABI, 1991) and because the problem of shape in decoration and architecture is nature, a substance of forms and the secret of its secret lies in the analysis of its structure governed by mathematics and that all that is meaning and d in architecture and decoration comes from

mathematics in choosing the appropriate dimensions and events (CHING, 1979).

The geometric shapes in the architecture are based on several design elements, the most prominent of which are elements of conceptual design - the visual elements of the formation of the geometric shape of the point, line, surface and mass. And the elements of practical design concentrated on several aspects, including the decorative expression, which may be realistic or model or abstract and on the symbolic and functional side with the goal of achieving two goals, an architectural goal to alleviate the burden of the transfer of architecture and the last decorative goal to communicate the idea of the technical theme for geometric ornamentation in a dynamic style and an aesthetically pleasing aesthetic display (BIAGE, 1971).

The decorative forms give a reflection reflected in three aspects, the first of which is the elements themselves and the second is related to the arrangement of the elements and their composition, and the third is the meaning and effect of the shape of the images.

3. METHODOLOGY

In order to achieve the objectives of the research, the researcher designed his research tool (analysis form), which included the theoretical framework and opinions of expert experts According to multiple axes in order to achieve the research objectives.

Methods of collecting information:

1. Government and private libraries, including personal libraries.

2. Letters and university papers and scientific sources of competence.

3. Imagers Al photo research community graver.

4. Previous studies completed and published.

5. Experience of the researcher.

The researcher presented the tool (analysis form) to the experts to demonstrate the validity of the tool and its comprehensiveness to achieve the objectives of the research through their scientific observations.

consistency represents objective research purposes for reaching desired results through the adoption of analysts. The proportion of the agreement as follows:

1. Ratio of the first analyst agreement with the researcher 90%.

2. Ratio of the second analyst agreement with the researcher 90%.

4. DISCUSSION

The relationship between the decorative elements is of great importance as the element is derived from its internal relations and thus all becomes more important than the parts and that these relationships are the ones that reached the purely formal beauty

(DAOUD, 1989). The most prominent ways of structural and organizational relations in the formation of architectural bodies are:

1. Self-centeredness of the form has no relation Insulation between shapes separated by spatial small relatively as such in Figure (1).

2. Relationship contact (seam): contact forms point one o r several places without a comma space between them 0 as in Figure (2).

3. The overlay relationship makes a shape that covers part of another shape so that is being advanced format to me top and back shape to me down as in Figure (3).

4. The penetration relationship is the overlapping forms with Each other but clearly transparent and lines Kavavhma remain vis ible entirely 0 as in Figure (4).

5. Autism (the Union): The form overlaps and forms one as it unites lines Contour together 0 as in Figure (5).

6. Relationship projection (subtraction) overlay forms on e negative and another positive as that the part of the visual form covers a shape non visible as in Figure (6).

7. Cross relationship is type of penetration between two shapes and the part formed by the intersection he is which is being visible 0 as in Figure (7).

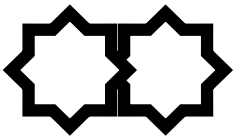


Figure 3

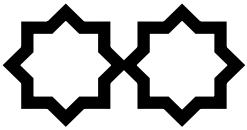


Figure 2

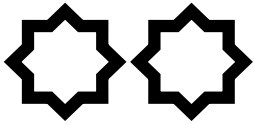
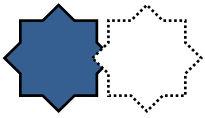


Figure 1



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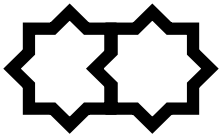

Figure 5

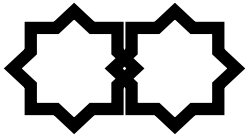

Figure 4

Figure 7

Each structure has a system and structure is only a system of relationships (MARZOUKI, 1985), the structure that determines the relationships between elements and relationships are governed by laws and regulations constitute a transformative act and at the same time maintain the characteristics of the structure system and relations and transformation are the foundations on which the structure and structure (RAYSER, 1986).

We find that the decorative works in Islamic architecture are based on three mathematical systems:

1) Proportional system based on (2 square root) of geometric shapes and regular ribs Kalmrba rectangle and Mdilathma

engineering derived Kalmtmn and its complications, as in Figure (8: 9).

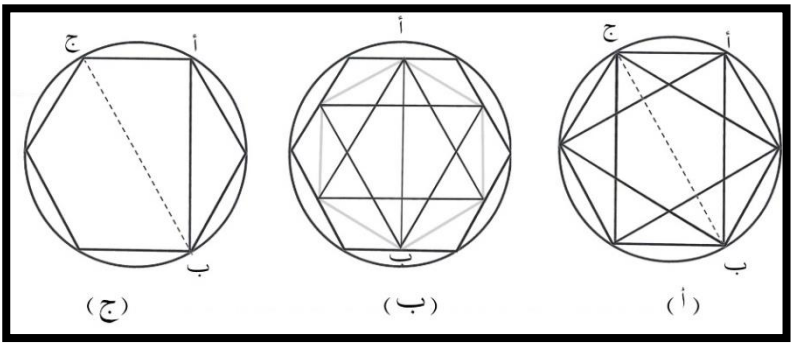

Figure 8

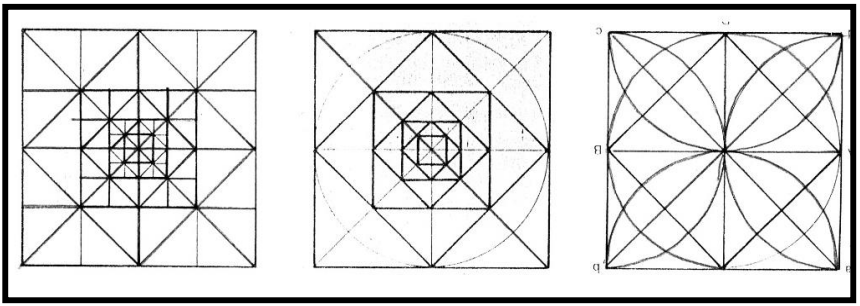

Figure 9

2) System proportionality building on the (box root 3) and forms engineering regular ribs like triangles polygons engineering derivative of which like a pistol and its complications as such in a Figure (10).

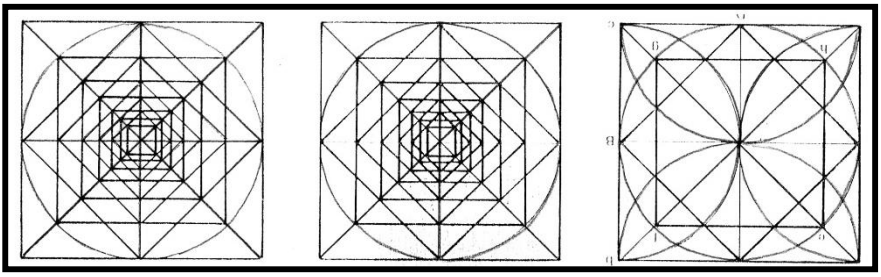

Figure 10

3) System tens of thousands building on al-qaeda gold or sector golden and for all shapes engineering and derivatives from the formula sports as such in a Figure (11).

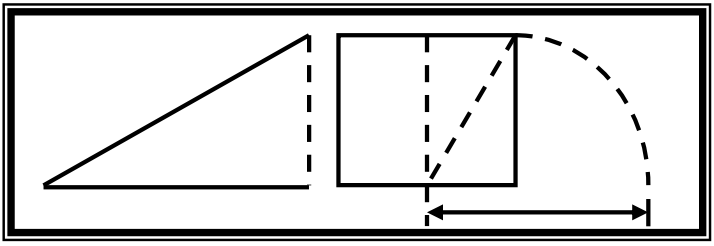

Figure 11

5. CONCLUSIONS

The decoration of architecture and architecture has a mathematical structure. Mathematics is a logical system and layout in the formations of geometric decoration in Islamic architecture if decoration is a complete form of mathematical thought.

1. The Islamic geometric decoration took its architectural and artistic fields to an astonishing extent, which helped to develop it as a symbolic structure in its geometric or abstract units.

2. The geometric decoration in the base class depends on the construction of the basic network in the light of available space and according to the variations of repetition, harmony and balance in the drawing of units and vocabulary or the distribution of centers producing the decorative item in the center of design or sideways.

3. Formal Engineering Variations in Architectural Formations Based on two basic elements of engineering units and units, the shape of the square and the shape of the circle.

4. The element of mathematics was the main link in the principle of organizing engineering decoration Engineering and number was linked to the essence of the message of unity and the number one is the intellectual symbol of the origin of the universe.

5. The decorative forms of architecture in the Islamic architecture give a reference reflected in three aspects, including the formal elements itself, and the second is related to the order of the formal elements and their composition in the decorative and the third, the meaning and the extent of the effect of the decorative composition at the level of all.

6. The decorative artwork of the diversity of geometric shapes was not something in itself, but it makes sense, as it is not limited to covering the surfaces, but also helps in the conversion of space.

7. Architectural decorative construction in architecture was done through the basic techniques can produce a variety of decorative forms and more complex, notably the technology of transport, recycling technology, and the technology of reflection, and technology of the heart.

8. The variety of forms of geometric decoration in Islamic architecture through the system of fabric formal relations at the level of part or all and these relationships are the purely formal beauty.

9. The designer used decorative engineering several ways of structural relations in the formation of decorative art topics of functional and aesthetic significance and spatial effects and depth in the spaces of architecture or Islamic building.

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