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## The role of symbolic resistance in the permanence of Islamic forms

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## 1. Introduction

Islamic architecture have a symbolic dimensions, so its definition comes from the strength and significance of its forms, but the entry of technology and the modernizations of the era made Islamic production in front of another force that tries to move these forms to accommodate the data of the era, so the research tries to explore the formal resistance and the degrees in which it appears in exchange for the high response and whether Other symbolic dimensions are produced, and how production tries to achieve a relative balance between resistance and response[1]

The research presents the formal strength in the products of Islamic architecture, which combines resistance and response resulting from the ability to transform and change according to the change of context and the subjectivity of the designer, and the role of technology as techniques and processors. It is explained as follows:

The study proposed the resistance (symbolic-formal) in three temporal stages that transform it into fixed forms with high resistance: Pre-interpretation stage: In this stage, the interpretations are considered personal and false signals, depending on the designer's intentionality and his ability to communicate. Acquisition of meaning stage: In this stage, the forms begin to acquire meaning through their use and interpretation by the community. Transformation of forms into fixed laws with collective agreement: In this stage, the forms become fixed laws with collective agreement, and the designer evokes them in an arbitrary way to express the output of Islamic architecture. [2]

The study's (Sabry) put forward the symbolic resistance (informal - formal) together through the functional elements such as the use of courtyards in the formation of the city, both in urban planning and in all buildings as a symbol of communication with God, and the minarets were taken high above all buildings as a symbol of transcendence and the transition from the material to the spiritual, as it symbolizes To the connection between heaven and earth in those holy places, as the domes reflect the image of the sky when viewed from the inside, and the mihrab is the

symbol that determines the direction towards the holiest place for Muslims, and takes the form of a circular void in the wall of the qibla because it is similar to the line of communication between heaven and earth [3]

Resistance (formalism-symbolism) appears according to the type of forms, such as symbolism, which has passed through an integrated life cycle and has become known for its time and place, Transiting the law by repeating it in different civilizations. As for the technological forms, they are forms created by the use of building materials with structural characteristics in a way that includes the exploitation of the material and its properties. Abstract geometric forms are forms that look beyond matter, they are designed by God before the creation of man [4]

The author put forward formal resistance due to two principles, a requirement and a technique, from which formal transformations begin to reach an independent form defined by its symbolism understandable to the recipient, that is, formal resistance does not mean the constancy of the form in one case, but its constancy in multiple images reflecting its intellectual symbolism. The Islamic forms, even if they are diverse, remain within their formal resistance, as they are based on a requirement, technique and expression compatible with the original form, but the less the requirement, the less the degree of formal resistance successively decreases, reaching the exhaustion of the possibility existing in the generated forms [5]

Islamic symbols do not have a direct religious meaning, but rather combine multiple meanings that make the forms unclear and undefined in meaning. Therefore, they express beliefs (cultural, religious, social) according to the type of symbolism adopted. There is primary symbolism that gives a direct meaning, such as the dome, as opposed to secondary symbolism, which is essential with multiple meanings. In addition, there is the transmitting symbolism that relies on other meanings that connect it with Islamic architecture, such as activating environmental technological processors and smart systems. [6]

Symbolic resistance appears depending on dimensions related to the Islamic faith, where areas such as mathematics, geometry and

number were formed in physical spaces to reflect the concepts of unity and faith, and a sacred space was created with the help of geometry and arithmetic representing spiritual aspects in the divine presence, on the other hand, geometric patterns are expandable as a deep symbol of Islam. This mystical concept refers to the infinite multiplicity of creation emanating from one: multiplicity in unity [7]. He also stressed the possibility of the designer borrowing from other cultures by disassembling them to conform to his perceptions and values, to produce two installations: an installation based on self-abstraction at the expense of objectivity generating weak resistance, and an installation based on complete objectivity with high resistance [8]

In response to the changes that have taken place in contemporary Islamic societies, the established cultural symbols have been changed to be replaced by new ones, which are used as icons of communication resulting from the influence of changing cultural rules, which have been moving under them from the apparent layer to the inner layer, with priority given to the apparent layer as an embodied layer. In mosques, the ideological system has been reduced to a semantic meaning that lies in providing a place of worship within a multi-functional building that highlights the technological formal power by simulating symbolic sacred forms. [9]

The role of technology in changing the formal resistance of Islamic production is manifested by breaking the traditional rules and finding compound and hybrid characteristics that show its symbolic aspects, including: Evolutionary by finding new solutions for interior design, Adaptation in terms of considering environmental aspects such as light and ventilation, Integration between natural systems and active technological systems to achieve comfort for users of the space, Sustainability, which means the ability of spaces to be added and changed to achieve spatial connection and flow, Responsiveness, which considers how the environment interacts with the multiple needs of humans . [10]

Two trends of symbolic formal resistance appear, the first is the direction of traditional forms, which results from linking the known forms with a new legislative, technical, or environmental

condition, then adapting them to the new data. And the direction of modern forms that enter an environment with its regulatory and legislative framework to transform and develop according to the new reality [11]

There are multiple temporal transformations of the product system, generating multiple degrees of resistance (formalism-symbolism), namely: Continuous by the strength of resistance to the familiar historical formal image, Transferred and by the interaction of the familiar form with local environments and cultures, and Dissolved as an outside orientation[12]

**From previous studies, it is possible to conclude that there are levels, types, and degrees of symbolic resistance, as it moves between form and meaning, and between the adoption of symbolic fixed forms and abstract secondary forms, each of which controls the reproduction of Islamic production and its transmission over time, but there is no clear concept about the role of symbolic resistance in constant and response to change in access. To a state of permanence, moderation, and preservation of the values that Islamic architecture bears, therefore, the following can be identified:**

**The research problem:** The variation and formal diversity of the output of Islamic architecture is subject to the dialectic of resistance (symbolic-formal) and its response to change, which gives the product high durability.

**Research objective:** The symbolic resistance gives flexibility and high formal responses while maintaining its symbolism, while the output with formal resistance approaches formal stability and therefore its response is weak, to produce cloned forms.

## 2. Theoretical framework

The variables that defines the research framework was reached after presenting the studies, as shown in, fig.1

**2.1 The first item: Resistance types:** According to the two types presented in the table, each of them means:

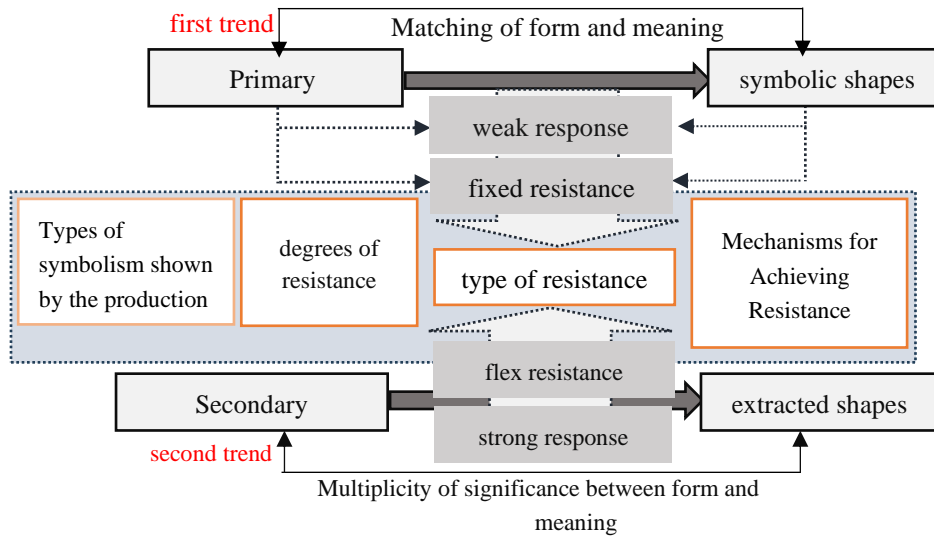


Fig1: shows the variables adopted in the research. Source: the researcher

- Fixed resistance:** The concept of stable symbolic forms reflects the reasons for their existence, which are based on intention, not randomness and spontaneity. Therefore, they are repeatable in a changing time and place. Their repetition gives them potential that they acquire from new systems through their transfer, such as the technology system and the change of matter. [13]. The concept of stable symbolic forms is based on the idea that these forms are not simply decorative or aesthetic elements, but rather they have a deeper meaning that is related to the Islamic faith. This meaning is often expressed through the use of geometric patterns, calligraphy, or other symbolic motifs [14]
- Flexible resistance:** forms go through a life-cycle, starting with birth, then growth and development, then maturity, then aging, and then death. At each stage of this cycle, forms changes and is affected by the surrounding conditions. The reference of the forms is the symbolic form, as it moves through deep levels, from simple to complex, from low to high. At the intermediate level, new forms emerge that approach or move away from the symbolic form that generated them [13]. Fig 2



Fig 2: The Flexible resistance of the dome over time with multiple generations, [31] [32]

**2.2 The second item: Resistance Degrees :** The degrees of resistance (formal-semantic-intellectual) are determined into three degrees that have been identified by studies, and they are: (stability-transformation-fluidity) according to the formal relationships and the reading of horizontal plans in terms of their centrality on the axes (Y-X), and the adopted geometry or the orientation towards organic formal systems, in addition to the levels of symbolism adopted in the Islamic formal elements represented by domes and minarets in terms of the familiar shape relative to the traditional state of architecture. [15]

**2.3 The third item: Resistance Mechanisms:** It refers to the design methods adopted to generation of contemporary Islamic products according to relationship with the traditional, These two mechanisms are:

- **embroidery mechanism:** It refers to the external elements that are added to the building at the level of the facades to give an Islamic suggestiveness, and here dealing with them reflects the degrees of resistance in defining the building as a formal Islamic building or not, or decorations in terms of: [16]
  - handling: Refers to the composition, arrangement, and overall design of the elements
  - proportions: The relative sizes and relationships between the elements and the building itself.
  - approved building materials: Specific materials traditionally associated with Islamic architecture

overall, the resistance increases or weakens according to the recipient's reading of it as a building that first reflects its function, then Islamic through its approved formal connotations [13]

- **Simulation mechanism:** Simulation is an attempt to imitate a physical, biological, or partial or complete system, where it provides a description of the behavior of the system through another simulated system [17]. It depends on transferring the properties of the original system to the new system, according to the role of the designer, in linking the terms of the two systems, or on the processing it adopts according to the environment or contextual specificity in which the contemporary product is generated [18].

**2.4 The four items: resistance types:** Symbolism is divided into two types: formal symbolism and intellectual symbolism :[19]

- **Formal symbolism:** The familiarity of these shapes, which reflect the formal symbolism, means knowledge of the recipient of the product. Some forms are identical in their expression of content, contradictory[20], or formally corresponding according to the strength of formal resistance versus formal response to change, as symbolism appears in highlighting spiritual aspects, and it may be at the level of a part (element) or at the level of a characteristic and through repetition as one of the rhetorical methods and pillars that give the product its [21]
- **intellectual symbolism:** The Islamic form is a combination of tangible and intangible factors. It is a combination of society's values, traditions, beliefs, social forms and behaviors [22]

The Islamic product in terms of its formal form does not depend on a certain form or aims to achieve a certain aesthetic value in terms of its forms, but the aesthetic value comes from the spiritual dimensions associated with the forms and heritage stored in the collective memory [23]. It is also the restoration of the traditional product of the contemporary by defining a common base that coordinates between two languages, the local language of the context and local building materials, and the Islamic language of knowledge represented by the adoption of forms with familiar spiritual and formal dimensions, where the strength of resistance



and response depends on the strength of the language adopted by [24]

**According to what has been put forward, it is possible to come up with a variables that will be applied to the selected samples‘ table 1**

Table 1: The variables that has been deduced, refrance: the researcher

Resistance type	fixed Flexi irresistibility	Types of shapes		symbolic shapes	A1	
				extracted shapes		
				Updated shapes		
		Distortion from the basic form		do not distort	A2	
				partial deformity		
				complete deformation		
		level of responses		according to the technological influence	Supportive treatments for symbolism	A3
					Partially altered treatments	
					Treatments make a complete difference	
				according to social-contextual influences	Change according to the habits of society	A4
			Change according to the local context			
			Change according to the same designer			
Resistance Degrees	centralization of the religious system		high centrality	Centered on the X, Y axis	A5	
			semi-central	displacement on one of the axes		
			decentralization	displacement on both axes		
	system geometry		Complete engineering system		A6	
			mixed grid system			
			organic system			
	The symbolism of the dome		Proportion	Domination of the dome element at the level of the whole		A7
				A balance between the presence of the element within the whole		
				The vanishing of the element relative to the whole		
			the pattern	traditional fixed style		A8
			Intersectional shift mode			
			The dissolved vanishing pattern			
levels	at the level of form		Familiarity with the overall reading of the format entirely		A9	

the cognitive properties of shape			Partial familiarity with some elements	A10
			Unfamiliarity at the level of the whole and the part	
	at the level of meaning		The similarity of interpretations held by the form	
			The plurality of meanings transmitted by the form	
			Assign other functions to the form	
The properties perceived in the form	repetition	Degree of repetition	Exact repeat	A11
			Partial repetition	
			Unspecified repetition	
	Similarity at the mass level		Similarity to the still image partial similarity	A12
	Element level similarity (dome)		Intimation form	A13
Resistance Mechanisms	Embroidery mechanism		Embroidery with Islamic suggestive elements	A14
			Embroidery with Islamic formal elements in a contemporary technological style	
			Adding treatments in exotic shapes	
	Simulation mechanism		full simulation of traditional mosques	A15
			A self-simulation resulting from an idea approved by the designer	
			A simulation combining contemporary technology with local elements	
Resistance types	Formal symbolism	Symbolism according to style	Contradictory style	A16
			Opposite styles	
			Equivalent styles	
	informal symbolism	The influence of the acquired symbolism	The traditional symbolism of mosques is clear	A17
			Merging the symbolism of traditional mosques with contemporary thought	
			The appearance of acquired symbolism	
The type of acquired symbolism		due to the quality of the building material	A18	
		Technology as techniques and treatments		
		Due to the specificity of the city context		

### 3. Research methodology:

The research aims to investigate the degree and type of symbolic resistance against the degree of its response to a change to maintain its Spiritual resistance. Here, the comparison is made between samples based on the element (the dome) and the whole (mass and plan). Contemporary Islam by reading the degree of its symbolic, formal, and Spiritual resistance and the extent of its role in preserving the sustainability of production over time between stability and the possibility of responding in different degrees to change, where the measurement is divided into two types, physical and Spiritual, as follows:

- Physical Measurement: where the measurement of an individual (degrees of resistance) is done by analyzing the plans and elements (domes) according to the items specified in Table 3, Based on the equation  $\{(\text{area of the dome} / \text{total area (area of the mosque)}) * 100\%$  }
- Measurement through the questionnaire form: it represents the creation of a questionnaire form that is distributed to a group of architects of different levels (the number of respondents = 30 people) that includes a set of questions, some of which are based on a comparison between samples, and some of them apply to each sample separately, as the statistics will be adopted for the purpose Access to the product and compare it by adopting a triple scale that includes three values, appendix table3:
  - o means that the product achieves high resistance (stability), formal, and significant (1)*
  - o means that the product achieves partial resistance on one level and response to change on another level (2)*
  - o means that the product achieves a high response to change (non-resistance) (3)*
- A questionnaire form is prepared about the vocabulary in question, to measure the degree of agreement about the vocabulary, as the more the questionnaire shows agreement about a specific vocabulary, more the research goal is achieved.

#### 4. Description of samples

**4.1 Marmara Theology Mosque** :Built in Turkey in 2015, inspired by the rotational movement that participates in the whole universe from a microcosm to a macrocosm, the mosque seeks a new horizon in mosque architecture by unifying the concept of "part in all" and "all in part" [25] ,fig.3

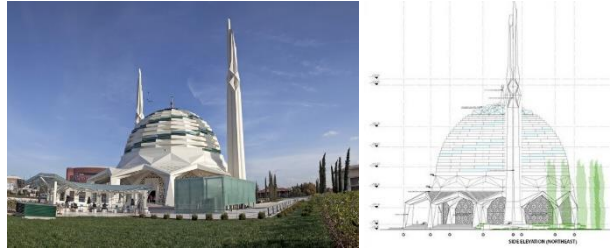


Fig.3: Marmara Theology Mosque [26]

**4.2 Yesilvadi Mosque:** Located in Istanbul-Turkey, built in 2004, the mosque serves as a place where Muslims can gather for prayer as well as a center for information, education, and center for social relations, the central dome aims to gather a large number of people in one place, linking it with the idea of existence. The spatial effect of the domes indirectly coincides with the existence of the universe, the minarets also symbolize a religious connection [27] fig.4

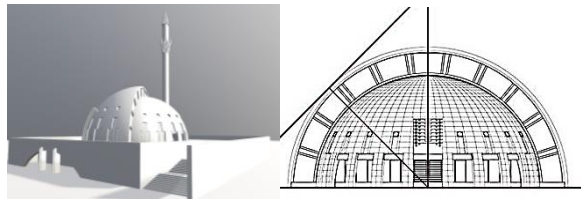


Figure.4: Yesilvadi Mosque [26]

**4.3 Faisal Mosque:** It is the largest mosque in Pakistan, and is located in the national capital, Islamabad. Completed in 1986, designed by Turkish architect Vedat Dalokay, it is shaped like a desert Bedouin tent and is an iconic symbol of Islamabad the world over. [28] . fig.5



Fig.5: Faisal Mosque [28]

**4.4 Al Aziz Mosque :** is the first mosque to be built in the Reem Island area of Abu Dhabi. It was opened in 2019 and is characterized by its modern architectural design and the advanced technology used in its operation. The mosque is one of the large projects built on an area of up to 5,100 square meters, and consists of three levels, including a main prayer hall, a second hall, and a women's prayer room. [29] fig.6

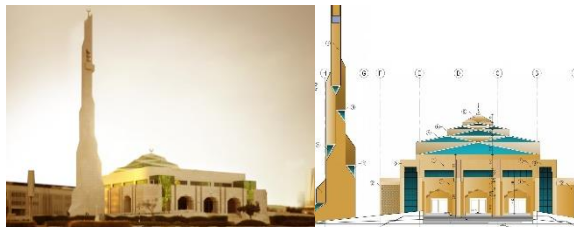


Fig 6: Solar Powered Mosque [28]

**4.5 The Wall Dome - Solar Powered Mosque:** It was designed in Pristina, Albania in 2013, The project aim is to create a monumental and iconic building for the city of Prishtina. It is a monolithic building that becomes an urban fulcrum for the Dardania neighborhood, in the south of the city [30] fig.7



Figur.7: Solar Powered Mosque [30]

## 5. Finding and discussion:

According to the questionnaires (appendix1 table3), formal analysis, the following results were reached :

**5.1 Symbolic resistance types:** According to the **variable of shape** (A1), the results of the questionnaire showed that (60%) of the samples are extracted from symbolic shapes, while (40%) of them are considered as innovative shapes. In terms of the degree of **formal distortion** (A2), the shapes of domes with partial and complete formal distortion achieved a close percentage (40%-46%), while a small percentage of them retained the traditional dome shape. In terms of the **level of response** according to the technological effect (A3), the results of the questionnaire showed that most of the samples show a high response (62%) to technological processes with partial change, a small percentage (22%) for complete change, and (16%) for no change. In terms of the response to the effects (contextual-social) (A4), the results showed confirmation of the strength of the local contextual effect at a high percentage (54%), with an average percentage (28%) in the response to the designer himself and a small percentage (18%) in the response to the customs and traditions of society. fig.8

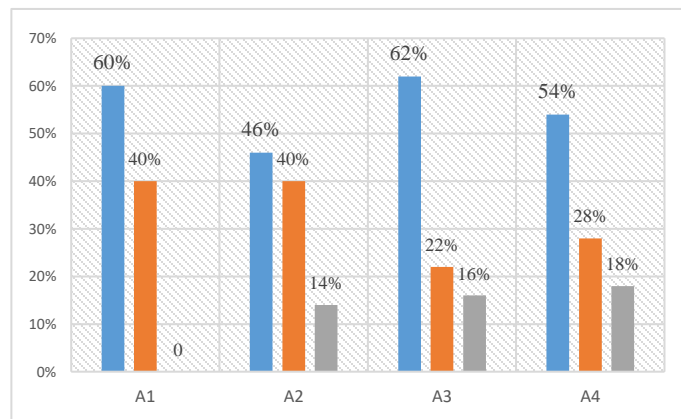


Fig.8: Explains the results obtained

**5.2 The second item: resistance degrees:** According to the formal analysis, the degree of transformation of the center of the mosque (A5) achieved a very small percentage for stability and solubility, as most of the samples achieved a percentage of (71%) in displacement from the center on one of the axes, either X or Y, while a percentage of (29%) was shown in maintaining the center but the samples did not show any displacement on the axes. As for the engineering of the planning system (A6), the samples showed a percentage of (42%) by adopting the mixed system (geometric-organic) and small percentages for the single system, either geometric or organic.. Fig.9, Table 2

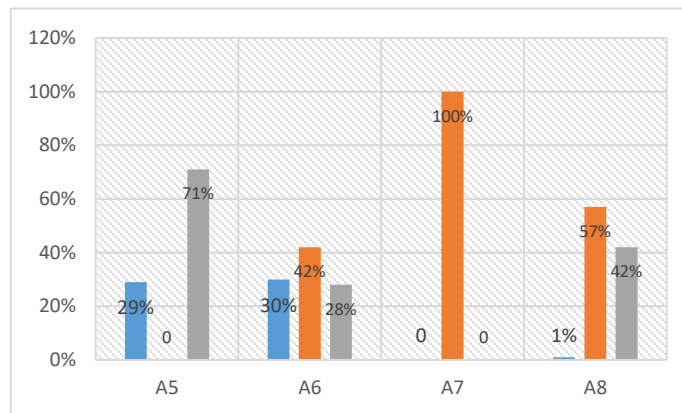


Fig.9: Explains the results obtained

**5.3 The third term: Resistance Mechanisms** realizing the formal resistance in Islamic production: This term is divided into two items:

- Levels: The results showed the formal level (A9), achieving partial familiarity of the models by a percentage of (46%), while achieving unfamiliarity (formal strangeness) by a percentage of (42%), and a weak percentage for full unfamiliarity. As for the moral level (A10), the samples achieved a high percentage (66%) in terms of the multiplicity of implicit meanings associated with its religious function, and an average percentage (34%) in terms of the other functional implications that the form carries, with a very weak percentage (12%) in terms of direct explicit meanings

- The cognitive properties of shape:** According to the repetition property (A11), the indefinite repetition achieved a percentage of (50%), while the complete repetition of the unfamiliar elements achieved a percentage of (44%), and the complete repetition of the familiar elements achieved a weak percentage of (6%). As for the similarity property by comparison between the models, in terms of similarity at the level of the mass (A12), the results converged between partial similarity by a percentage of (57%) and figurative suggestion by a percentage of (43%), while the complete similarity did not achieve any percentage. As for the similarity at the level of the dome (A13), the figurative similarity between the samples achieved a percentage of (33%), while the partial similarity achieved an average percentage of (57%) and the complete similarity achieved a weak percentage of (13%).Fig.10

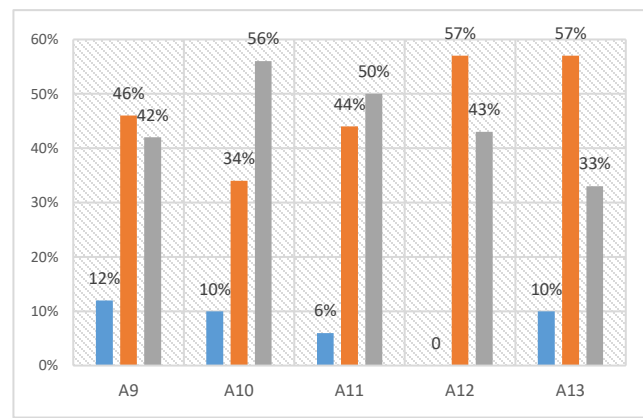


Fig.10 : Explains the results obtained

**5.4 The fourth item: Resistance Mechanisms:** The results of the integration mechanism (A14) achieved a percentage of (50%) on the integration of Islamic elements in a contemporary way, an average percentage of (36%) on its reliance on the integration of contemporary technological and diverse elements, and a weak percentage of (14%) on its reliance on the integration of traditional Islamic elements. While the simulation mechanism (A15) achieved a percentage of (50%) in terms of emphasizing self-simulation in the way of formulating contemporary production, which is close to the specialized simulation with a percentage of (46%), while the percentage of full simulation is weak (4%).Fig.11



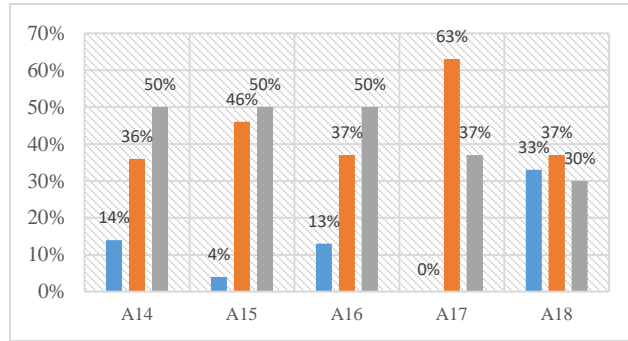


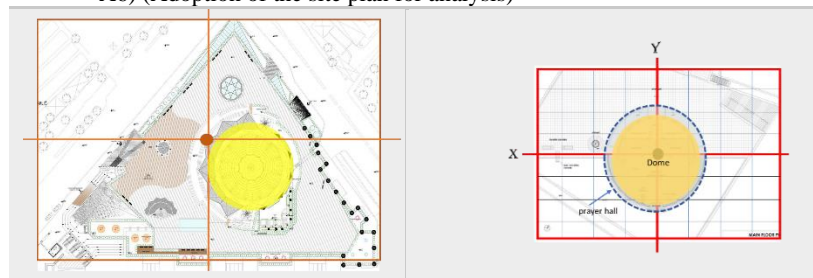
Fig.11 : Explains the results obtained

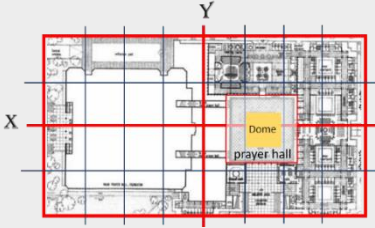
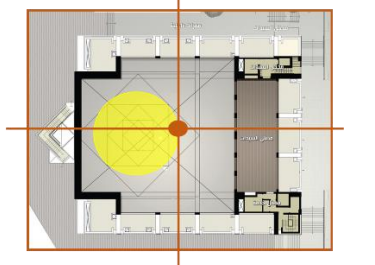
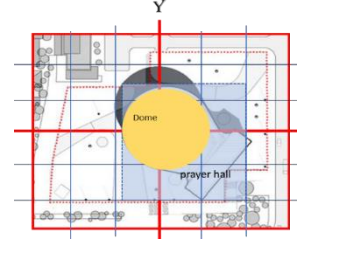
**5.5 The fifth item: the symbolism type:** The symbolic form (A16) achieved the following styles:

- Contradictory styles: A high percentage of (50%) achieved contradictory styles, such as the use of different materials or shapes in the same dome.
- Opposite styles: A medium percentage of (37%) achieved opposite styles, such as the use of a concave surface on the top of the dome.
- Equivalent styles: A weak percentage of (13%) achieved equivalent styles, such as the use of the same material or shape throughout the dome.Fig.11

As for the type of acquired symbolism (A18), technology achieved an average percentage of (37%) in the acquisition of new symbolism for Islamic production, which is close to the type of building material that achieved (30%) and the context of the city (33%).

Table2: Formal analysis form for individual degrees of resistance-variable -(A5, A6) (Adoption of the site plan for analysis)



<p>Sample1: fully centralized-The dome is divided into multiple halves</p> <p>The dome is 30% of the sample area</p>	<p>Sample2: fully centralized-The dome is divided into two asymmetric halves</p> <p>The dome is 26% of the sample area</p>
	<p>Sample3: The displacement of the prayer space on the x axis-The dome is transformed into a triangular quadrilateral that resembles a tent</p> <p>The dome is 10% of the sample area</p>
	
<p>Sample4: fully centralized the dome with the lighthouse individually</p> <p>The dome is 35% of the sample area</p>	<p>Sample5: fully centralized-fusion the dome into a ball with the mass body as a whole</p> <p>The dome is 85% of the sample area</p>

**Discussion of the credibility of the results:** The research results are close to those of the study by (Moustafa 2013), which pointed to both the resistance and flexibility of Islamic forms in their movement between restriction and liberation in multiple degrees. The research also agrees with the study by (Nejad 2019) on the high symbolic values that the forms carry, which give them high formal flexibility in return for their symbolic depth. The research also agrees with the study by (Naim, M,2018) on the existence of multiple formal images of the Islamic symbolic form due to transformation, fluidity, and transition, generating familiar and unfamiliar forms. The results also approach the study by (SIDAWI,2012)) on the importance of the technological effect as environmental techniques.

## 6. Conclusions:

6.1 The contemporary Islamic production does not emphasize the repetition of symbolic forms that give a fixed formal resistance, but rather aims to generate other forms that are extracted symbolically and some of them are innovative. The dome with a

spherical shape has begun to appear in several formal cases, each of which has a symbolic and moral dimension more than it is formal. This means emphasizing the flexible resistance of the production more than the fixed resistance and non-resistance.

**6.2** The contemporary Islamic forms tend to have partial formal distortions compared to the traditional forms instead of directly evoking the form, which makes the Islamic production renewed from one side while maintaining that dimension (symbolic-formal) for it as in the dome

**6.3** The change in Islamic forms responds to two factors:

- **The influence of technology** is a major factor in the change of Islamic form, against constants that are associated with its sanctity. The flexible resistance that the form shows makes the response to technology high, making it keep pace with developments while maintaining its continuity through its time and place.
- **The contextual-social influence** is represented by the environment and the context of the building, with the role of the designer's self-assertion in showing its strength more than the social influence, and thus its emphasis on individuality and diversity, as opposed to the weakness of the social influence that reflects the similarity characteristic, as it appeared in the traditional Islamic production.

**6.4** The contemporary Islamic production has achieved new characteristics based on resistance (symbolic meaning) more than formal, which are:

- The importance of the presence of the prayer space, as it is associated with the symbolism of the building and its privacy, without relying on its centrality within the plan by axial displacement and on a single specified axis, not random.
- Adoption of the mixed system that combines (organic-geometric), and here the production varies in form in the presence and dominance of one system over the other more than relying on the single system.

- Adoption of balanced proportions for the dome, formally with the overall plan, which confirms its symbolic importance, sacredness, and implicit meanings, but with a variety of formal variations
- Adoption of two patterns for the domes: the transforming one represented by either the binary split, multiple, and with sharp angles, or adopting the fusion pattern, represented by merging the domes either with the minaret or with the building body, which generates new and varied forms, and this confirms the symbolic meaning of the element.

**6.5** The realization of the symbolic resistance appears on the Spiritual levels more than the formal ones, and this is shown through:

- The diversity of the Islamic product is the lack of formal strangeness, with a weak mention to the traditional formal symbolism, and this makes the formal resistance weak to it. On the Spiritual level, the contemporary Islamic product shows a plurality of meanings transmitted from the model in terms of its reading form and symbolic connotations sent to the recipient, this is due to the separation of the designed self and the language of society.
- The contemporary Islamic product is characterized two types of formal repetition, namely: indefinite repetition, and complete repetition of unfamiliar elements, which means the importance of having this characteristic as it gives emphasis on more Spiritual aspects of the formality in a more flexible way that reflects the specificity of the contemporary Islamic product
- Contemporary Islamic production is characterized by the existence of three types of similarity: partial similarity that appears on the parts (domes) in a greater way than the whole, and similarity through formal suggestiveness, which is the weakest degree of similarity, which appears at the level of the whole more than the parts, and complete similarity, which is the weakest degree The similarity, which appears at the level of parts only.

**6.6** Contemporary Islamic production tends at the level of the design process to show two types of mechanisms that link contemporary Islamic production with the traditional, in a way that preserves its symbolic resistance through the two mechanisms:

- The embroidery mechanism is achieved by adopting Islamic elements in a contemporary style, which makes the formal resistance balanced between the traditional and the response to change. It is also achieved by adopting contemporary elements with a variety of technological methods aimed at keeping pace with the present and the future while maintaining what indicates the symbolism of the formal elements even if they are completely contemporary.
- The specialized simulation depends on the specificity of the local context more than the adoption of the traditional identity of the quoted Islamic element, and this combines flexible resistance and response to changes subject to the designer's role in managing the Islamic product.

**6.7** The contemporary Islamic production adopts three formal styles according to the degree of response and resistance, which are:

- The contradictory formal styles, which give a high diversity of forms while partially preserving the spiritual values that define it as a traditional Islamic building.
- The opposite formal styles, which appear partially to give formal styles that are disconnected formally and have partial traditional meanings that fade with other dominant meanings that the designer's personality shows.
- The identical formal styles, which reflect a high degree of (formal-meaningful) resistance in preserving the traditional image of the production.

6.7 The contemporary Islamic production is characterized by a spiritual resistance resulting from the integration between traditional and contemporary thought, and with a high response that reflected a new symbolism added to the sacred spiritual values that mosques contain. This symbolism was the result of technology, such as technologies, sustainable environmental treatments, smart systems, and the type of contemporary building materials, in addition to the symbolism of the building context, which gives it high privacy.

## **7 Recommendation**

- 7.1 The research recommends not restricting the architect to traditional Islamic forms, so that the product does not fall into the process of imitation and reproduction, and moving it technically by introducing technology on the form to generate extracted forms that know the moral values that Islamic architecture possesses in exchange for its high formal flexibility.
- 7.2 The research is recommended to rely on the (self-specialized) simulation mechanism that gives intellectual depth in linking the product to the context and its environment on the one hand and giving the possibility to the designer to show himself, which generates multiple form options that increase the high flexibility possessed by the Islamic form
- 7.3 The research recommends the importance of introducing technology as techniques in terms of sustainable environmental treatments, even if the forms are traditional

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Appendix 1

**Table3: Explains the expert questionnaire**

<i>What kind of shape can domes be ?classified into</i>	Familiar symbolic form	A form extracted from the fixed symbolic form	A new form defines the contemporary period	A1
<i>What is the degree of distortion from the familiar shape of the dome</i>	There is no deformation	partial deformity	Complete deformity	A2
<i>What is the effect of the added technological treatments on the shape of the domes according to the type of treatment?</i>	The domes kept their fixed shapes	Technology affected the surface properties of the dome	Technology has created a new definition for it	A3
<i>Are the changes that occurred on the domes of contemporary mosques by</i>	community values and customs	for the local context	Same designer	A4
<i>How familiar is the model as an Islamic building, according to the attached pictures</i>	Familiar	Familiar on one side and unfamiliar on the other	His formal strangeness	A7
<i>What kind of meanings are transmitted from the building when reading it intellectually to diagnose its significance and function</i>	Direct meanings expressing his functionality	The plurality of non-explicit meanings associated with his function	The building gives indications other than its function	A8



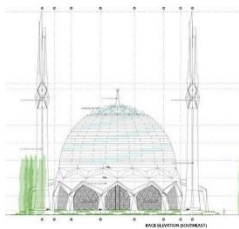
How to read the repetition of the approved formal elements of the form

What do the elements that have been grafted onto the facades indicate, whether technology, material, or elements

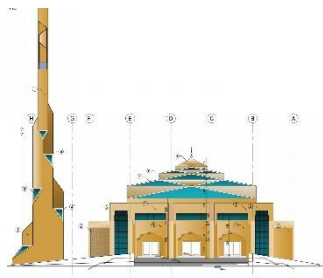
What type of simulation does the model reflect

According to the shape of the mosque, is there a formal symbolism in terms of its definition as Islamic architecture, according to all of my verses

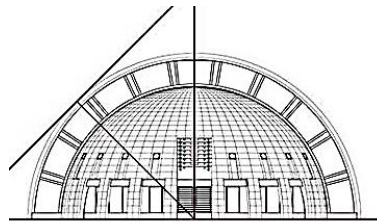
Perfect repetition with familiar elements	Perfect repetition of unfamiliar elements	Partial duplication of familiar and unfamiliar elements	A9	
Embroidery with Islamic suggestive elements	Embroidery with elements of Islamic inspiration in a contemporary style	Embroidery with a variety of technological formalities	A10	
Full simulation of traditional mosques	A self-simulation resulting from an idea adopted by the designer for traditional mosques	Specialized simulation according to the local context and technological processing	A11	
Level (plans)	Explicit symbolism identical to the Islamic form	Unexplicit partial symbolism	There is no familiar symbolism	A12
Level parts (dome)	Explicit symbolism identical to the Islamic form	Unexplicit partial symbolism	There is no familiar symbolism	A13



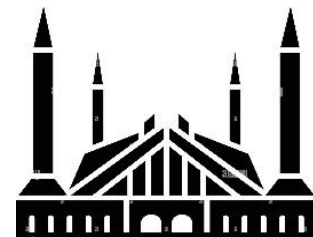
Marmara Theology Mosque 1



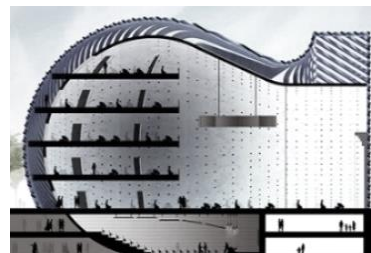
Al Aziz Mosque 4



Yesilvadi Mosque 2



Faisal Mosque 3



The Wall Dome – Solar-Powered Mosque 5

Sample comparison questions

degree of similarity	What is the degree of similarity between the attached samples at the cluster level?	Exact similarity	partial similarity	A very weak morphological suggestion among them	A14
	What is the degree of similarity between the attached samples at the shape of the dome	Exact similarity	partial similarity	A very weak morphological suggestion among them	A15
According to the presented models, is it possible to determine the type of formal		There is an explicit symbolism that they are	There is a variety and difference in formal	There is a difference in the symbolism, which	A16

<i>symbolism on which contemporary Islamic production works</i>	mosques in compatible forms	symbolism, but all of them give the mosque inspiration and sanctity	does not give formal symbolism because it is a mosque	
<i>Can you read the symbolism of the presented models</i>	Most of them reflect the sanctity of traditional mosques	There is a balance in the evocation of the traditional and the contemporary	The power of the presence of another symbol gained	A17
<i>Is the reason for the diversity in the symbolism acquired by</i>	Different building materials used in each model	A difference in the type of technology that does in the model parts	A difference in the contextual treatments	A18