REFLECTIONS OF ARABIC LITERATURE ON ARCHITECTURAL REPRESENTATION

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Abstract

Literature and architecture have long been connected where both are forms of art; literature is a verbal form of art whereas architecture takes a social form. Both domains play a major role in heritage inheritance and representation and are immensely linked to each other; each is capable of representing and embodying the other. Gloomily, in light of digital technology, Information Age, and onslaught of globalization, the reflections of the practices of Arabic literature on architectural representations, after being practiced together since ancient periods, have retracted in recent times thus architecture in the Arab cities has started to veer far away from reflecting the Arab heritage. Accordingly, the purpose of this paper is primarily to propose a number of approaches that enhance the amalgamation of both domains in order to nourish the cultural heritage through such notions and to introduce the Arabic culture to different types of users directly and indirectly. To achieve this aim, the research follows a scientific methodology that relies on deskwork, literature review, and observations making it a qualitative type of work. The research highlights previous readings that analyse the relationship between Arabic literature and architecture and then tackles the methods of reflections of literature in architectural representations. After that, recently executed case studies will be investigated in the paper which are Quranic Park by OBE Architects in Dubai, UAE and Qatar Faculty of Islamic Studies by Mangera Yvars Architects in Doha, Qatar. Finally, a field survey is carried out for the purpose of gathering further information. In conclusion, several design approaches were conducted to employ the reflections of Arabic literature in architectural representations in order to achieve the previously mentioned aim.

Keywords

1. INTRODUCTION

Literature can be defined as the expression and demonstration of ideologies, thoughts and emotions verbally using words. An inclusive definition of literature is one which states that literature of a specific group of people is a collection of the demonstrations of their arts of any essence that is expressed verbally using descriptive words. Literature is considered to be a major component of art influencing different disciplines. It has a major link with history where actually it is an important evidence of cultures and civilizations. This is clearly shown beyond doubt in the literature of any community where the behaviour of this group, their traditions and customs are reflected (Saiidi, Purdaryaii, 2013). In other words, literature is the representation of life, ideas and norms that personal and social lives are based upon, it is a piece of art or literal work through which the writer demonstrates his imagination and feelings (Chelikdani, 2011).

Rich descriptive literary works develop deeply rooted connections with communities and have a profound impact on human individuals. Literature has regularly been recognized as a mean for not only expression, but also promotion of social and human values. Through education, acquiring knowledge, criticism, and alteration, literature is meant to provide new methods of living and stimulate attempts for development and perfection, it leads communities towards impressive human values. According to Arabic literature researchers, "*adab*", which its plural form is "*adabiyat*" that means literature, was initially defined as manners and norms for a good living from which artistic *adab* that is the creation of literary works, was derived. As a matter of fact, inherited and obtained *adab* were interwoven into *adabiyat*, where the latter was well known as methods for living a healthier and better life (Azari, Sirchi, Tamrin, 2015). Likewise, it can be said that art and literature meet through their common aims and missions, they are identical in different ways, and there is no demarcation between each. Furthermore, it can be said that each one of them is part of the other but one has prospered and increased in size to become an independent subject taught and studied in schools (Adinehfar, 2014). Additionally, Aristotle categorizes literature as unique form of verbal art distinctive from visual arts, acoustics, crafts, and fine art. Architecture is considered to be a form of art where it could be referred to as physical spaces meanwhile literature could be referred to as the feelings developed through emotional stimuli. A common objective that brings together all types of arts is to fabricate intangible spiritual ambience. The role of the architect is to create various spaces aiming through his efforts to advocate different atmospheres the same way a piece of poetry is capable of generating a spiritual and deific atmosphere. The wholeness of any literary piece creates an atmosphere entirely influenced by the aesthetics of the literary work, effects on the emotional level, and attraction for the audience. Generally, the atmosphere mentioned here refers to the mood generated for the reader while reading a literary piece. It is taken as read that regardless of the insignificant differences between both domains, the resemblance between both is inviolable when it comes to the generation of intellectual atmosphere for the reader or the observer dependant on the creator's point of view and cultural background (Hamaneh, 2013).

Rather than the common faces between architecture and literature, the two domains are actually interconnected through the built and linguistic forms since centuries ago dating back to Al-Khalil's codification of the prosody during the eighth century. A great example of that is the term *"al bayt"* which means, at the same time, a tent and a verse. The use of this term highlights the ancient relationship between language and architecture in the early Arabic episteme (Ladha, 2019).

Hence, literature and architecture are perhaps the most fundamental and influential human practices known as art. Literature is a verbal form of art whereas architecture is a social form of art. Both domains collaborate more or less consciously at different intervals of time and with different civilizations. Through this collaboration, both domains complement each other as explained in figure 1 below. Woefully, they haven't been that much involved together lately in the Arab world; in light of digital technology, Information Age, and onslaught of globalization, the reflections of the practices of Arabic literature on architectural representations have retracted in recent times leading to enfeebling the experience of the users. Therefore, architecture in the Arab cities has started to veer far away from reflecting the Arab heritage. This heritage, tangible and intangible, is very rich in the Arab civilization, which is illogic to disregard resurrecting this important essence.

Recently, the decision-makers in the Middle East and Gulf countries entrust foreign architects to design projects celebrating with building technology, material revolution, and being iconic landmarks. Consequently, the product became showy more than relying on representing the symbiosis between old and new.
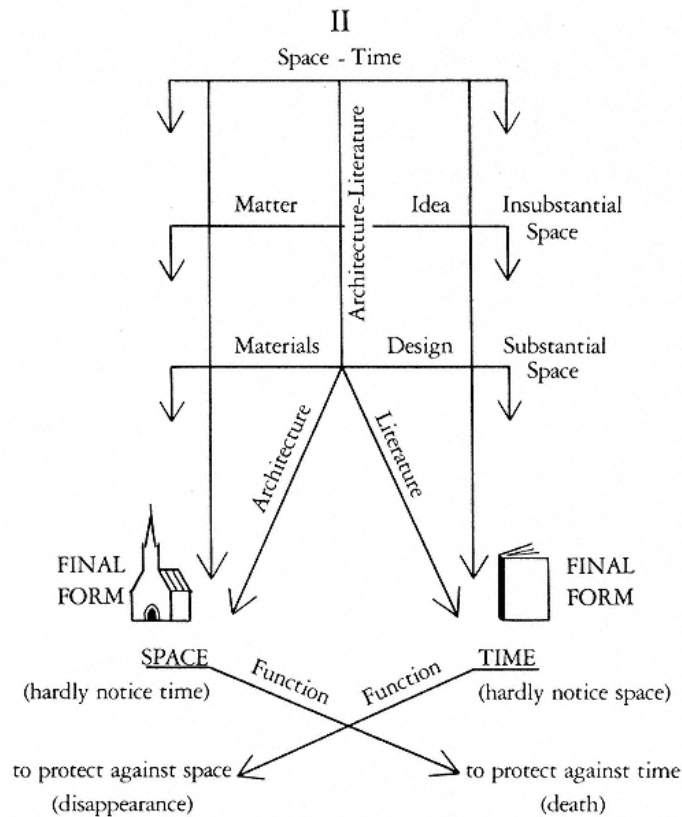

Fig.1: literature in relation to architecture illustration. Source: Literary Architecture retrieved from www.publishing.cdlib.org

Accordingly, the purpose of this paper is primarily to propose a number of approaches that enhance the amalgamation of both domains in order to upgrade the prospects of designing in a better-experienced way, nourish the cultural heritage through such notions, and to introduce the Arabic culture to different types of users directly and indirectly. Therefore, this paper hypothesizes that the implication of specific approaches and considerations will result with comprehensive reflections of Arabic literature on architectural representations.

To achieve the mentioned aim, the research follows a scientific methodology that relies on desk work, literature review, and observations making it a qualitative type of work. The research highlights previous readings that analyse the relationship between Arabic literature and architecture and then tackles the methods of reflections of literature in architectural representations. After that, recently executed case studies will be investigated in the paper which are Quranic Park by OBE Architects in Dubai, UAE and Qatar Faculty of Islamic Studies by Mangera Yvars Architects in Doha, Qatar. Finally, a field survey is carried out for the purpose of gathering further information targeting scholars and specialized individuals.

2. LITERATURE REVIEW

In this part of the research paper, several texts regarding precedent researches, philosophies, and approaches on Arabic literature and architecture are presented and supported by previous readings and similar examples. After that, a conclusion is deducted in the form of a table.

2.1 Definition of Arabic Literature and Architectural Representation

A theoretical foundation is presented in order to understand the relationship between Arabic literature and architectural representations to create a multidisciplinary study starting by defining both main keywords.

Literature could be defined in several ways, but Arabic literature is defined as the writings produced by writers in the Arabic language. Similar to some other literatures, Arabic literature is deeply connected to traditions through which it is appreciated. In modern Arabic, the term equivalent to Arabic literature is "adab" which means good and accepted manners and practices (Allen, 2020).

On the other hand, according to the famous architect and urban planner Romullo Baratto, architectural representation is defined as the description or portrayal of architecture or architectural elements through specific techniques. Baratto emphasized the importance of technology in the advancement of architectural representations through providing computer-aided design techniques, realistic render visualization and virtual reality. In spite of these new technicalities, old tools of representation such as sketches are as important as the new ones providing a blend approach for representation (Baratto, 2017). Meanwhile, Alexander Maller, who is an author-architect, had a different interpretation for the term; rather than utilizing tools to visualize or represent architecture only, Maller addressed architectural representation as a tool for analysis. According to Maller, architectural representation allows designer to evaluate and test theories and notions to eventually reach an effective solution or decision (Maller, 2001).

2.2 Types of Arabic Literature

Arabic literature appeared in the fifth century with only few dispersed fragments of writings appearing before and have prospered during the Islamic Golden Age and until this day, have remained important. Arabic literature could be categorized into two forms, prose and poetry.

Prose is a form of written or spoken literature which is described as straightforward speech, it consists of innate speech and grammar. While poetry elicits meanings through aesthetic and rhythmic qualities of literature, the types of poetry vary according to their appearance and meaning. Another form of Arabic literature that is perceived as an exceptional form is the Quran. The Quran is subcategorized under prose as a rhymed prose where rhymed prose was initially used for soothsayer and folkloric sayings. Quran is the holy book of Islam, composed of a more highly complicated structure than the previous literary forms. Thus, Quran had a major influence on the Arabic literature and culture (Allen, 2000).

The following table represents some of the types of Arabic literature classified under the two main categories; prose and poetry.

Table 1: Types of Arabic literature

Prose								Poetry			
Novel رواية	Oratory خطابة	Essay مقال	Theatre مسرح	Story قصة	Proverbs أمثال	Wisdom حكمة	Quran القرآن	Theatrical مسرحي	Epic ملحمي	Lyrical غنائي	Fictional خيالي

2.3 The Origin of Arabic Literature in Architecture

Arabic literature and architecture have long been related since centuries ago through linguistic and built forms. Back during the eighth century, Al-Khalil relied on the structure of the tent to build the science of prosody. Al-Khalil resembled the structure of the verses of Arabic poetry to the tent by codifying the verse with the term *"bayt"* which means house in Arabic. Al-Azhari explains that the term *"bayt"* was derived from the same word that meant house since the house comprises its inhabitants the same way the verse is composed of words (Arzandeh, Umar, 2008). The components of each verse in Arabic poetries are named *"sabab"*, *"watid"*, *"misra"*, and *"arud"* which mean rope, peg, entrance, and pole respectively which are derived from the structure and components of the tent. The use of these terms in the analysis of Arabic poetry sheds light on the relationship between Arabic literature and architecture in the early Arabic episteme (Ladha, 2019). The terms and their meanings are represented through the following figure.
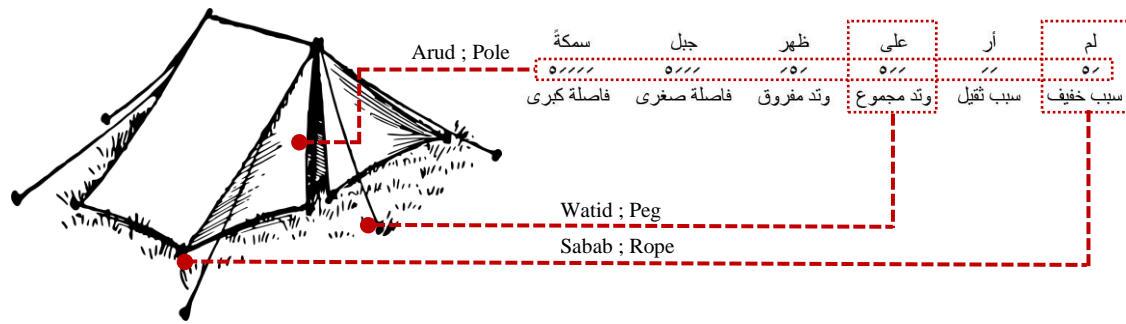
Fig.2: Sketch of a tent representing the elements of it as reflected in a verse of Arabic poetry. Done by the author.

The actual time at which Arabic literature had real tangible influence on architecture and arts is unknown. It could be said that Arabic literature's influence on architecture prospered after the appearance of the religion of Islam around 600 AD (El-Zein, 2005). After that period, calligraphic design became present everywhere in Islamic art but was confined within the Islamic world, it was one of the first forms of reflections of Arabic literature in architecture. Arabic calligraphic art expanded to reach different regions which included different inscriptions of verses of Quran and poetry. Inscriptions were sculptured on tiles using mainly kufic and naskh scripts which are shown in figure 3. Those two scripts are till now still extensively used because of their enhancement of the visual appearance of buildings. Calligraphy was carved or raised in relief on the exteriors or interiors of prominent buildings generally on walls, domes, and the sides of minibars; a dais present in mosques on which the imam delivers sermons (Franklin, 2011).

Fig.3: kufi and naskh scripts carved on tiles, kufi to the left and naskh to the right dating back to the 19th century. Source: retrieved from www.alexisrenard.com

2.4 Previous Readings
2.4.1 Abstractions and metaphors

Architecture isn't only about designing functional spaces for users but rather creating a concept. Concept design makes an architect tussle with requirements, scale, form, and character of the building to be designed. Accordingly, a guiding concept aids in solving the issue facing the architect. "Laboratory of Literary Architecture" is a workshop conducted by the architect Matteo Pericoli where the idea behind this workshop is to bring literature and architecture students together in order to collaborate and build together a physical model that represents a novel. It was requested from the literature students to get a novel they know very well. Students start with the plot of the story and the feelings they have towards it. Then, each fragment of the writing is broken into basic components and the relationship between them is interpreted with the overall generated form without literally translating any part of the text. The moment literature students develop an idea for their structure, physical models are constructed with the help of architecture students (Pericoli, 2013).

One of the groups based their model on the novel of "Ernest Hemingway's Hills like White Elephants". Throughout the story, the couple have never understood each other where their different points of view lead them to an endless quarrel and never have reached a common point. Both didn't understand whether the other is trying or not the thing that eventually resulted with a separation in their paths. The circulation paths implemented within the physical model symbolizes the plot where both paths appear to be entangled but in fact they do not touch, the more the path extend, the more it becomes separated from the other. The model is presented in the following figure (Gehlot, Mishra, Trivedi, 2018)
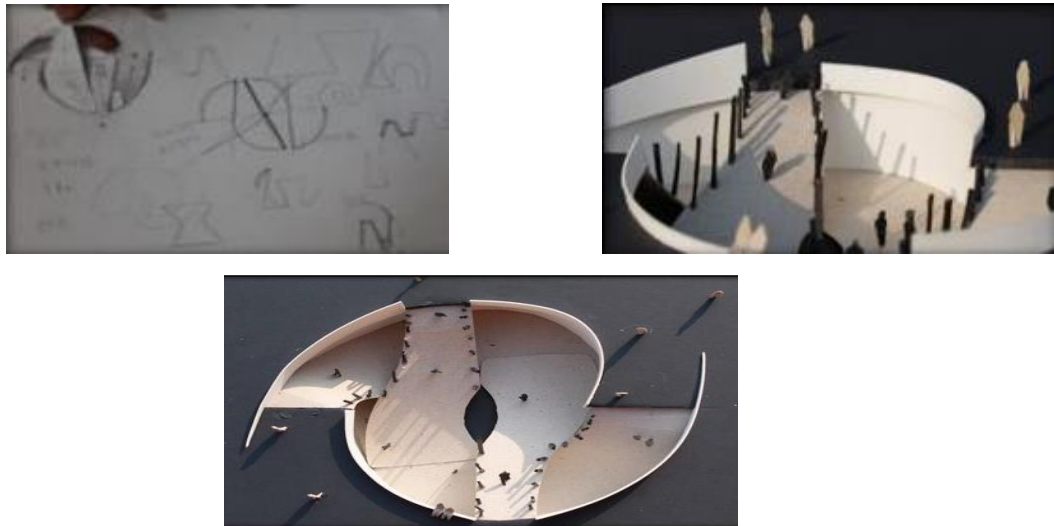
Fig.4: Architectural model of the Hills like White Elephants. Source: retrieved from www./lablitarch.com

The workshop highlighted the concept derived from non-fictional narration or literature and resembled in an architectural structure or concept. It resulted with several examples on how to conceptualize and erect functional spaces based on a philosophical narration which helps further in understanding literary architecture (Gehlot, Mishra, Trivedi, 2018).

The interactive relation between architecture and literature have been tackled by many architects and authors. Many have endorsed the utilization of architectural metaphors to reflect literary pieces which have resulted in the development of artistic forms. Both, literature and architecture, are correlated through exhibiting and arranging spaces and words (Mezei & Briganti, 2002).

2.4.2 Reflections of Quranic Themes in Arabic Literature

The Quran is a rhymed prose form of Arabic literary work that had a major influence on the Arabic literature, arts, and architecture. The impact the Quran had on architecture was tackled by different authors and architects. A prominent example on how Quran had an influence on architecture is the prohibition of the use of sculptures and figures.

The authors Sadeq, Azizi and Moghadam through their article "Principles and concepts of colour commentary in the Holy Quran" have discussed how Quran addresses the beauty of art through specific verses. According to the authors, the content and structure of the Quran is artistic otherwise it wouldn't have affected the human society on multiple levels (Sadeq, Azizi, Moghadam, 2013). Beauty have been a main concern for the Islamic art. The Quran is artistic in its formation, design, colours and aesthetics that made the calligraphy in Islamic books become reflected on religious and residential buildings (Saremi, 2011).

Besides, the geometrical forms that Islamic patterns are consisted of are derived from Quranic themes. Creation of the universe and the universe itself are the basis of the spectacular order of geometry and its repetition, symmetry, harmony, and proportions (Afifi, 2011). The following are some of the verses that reflected the aesthetics of geometry and the universe:

"God has decreed a size for everything" (Surah Talagh/3)
"And the sun (is also a sign for them) that is moving steadily towards its resort; this is the measurement of almighty God" (Yasin/38)
"Of course, we have created anything in sufficient quantities" (Al Qamar/49)
"The one who measured and guided" (ALa'ala/3)

- The Holy Book Quran

Moreover, monotheism which is a main principle in the beliefs of Islam was reflected through unity in Islamic architecture. The dome or circle have always been used in religious buildings as the central element for decoration which symbolizes the universe and god at its centre where the dome directs the observer to a single central point (Shahbazi, 2012).

Loumer have summed up the aspects of Islamic architecture that are derived from Quranic themes and are listed as follows:

A. Balance: moderation is basic principle in Islam and it means the balance between high and low, it is the median between extremities. Balance affects architectural decisions through proper positioning of elements and the relation between forms, optimal distribution and dimensions of spaces, and creation of a link between the built environment and nature.
B. Beauty: it may be categorized to three groups which are sensible, rational, and spiritual beauties where the rational and spiritual are the most valuable ones.
C. Unity in multiplicity: can be achieved through the manifestation of the main body of the building or through a decent hierarchy of spaces.
D. Harmony: it is defined as the adjustment of the relation between numbers of elements to achieve their goal. Harmony could be tackled through designing according to the constraints of the surrounding built environment and inducing religious values with functions to achieve unity.
E. Geometry: geometry in the sciences of Islam is derived from the sizes and measure conceptions in the Quran. It deals with lines, surfaces, and shapes (Loumer, 2015).

2.5 International Projects Analysis

Two international recently executed similar examples are analysed on how architects reflected Arabic literature through architectural representations.

2.5.1 Museum of the future, Dubai, UAE (2020)

The museum is designed by the architect Shaun Killa and was opened in September 2020. According to the architect, the upper bold form of the building represents the strength of mankind, artistry, and the capability of creating. Inspired from the speech of the ruler of Dubai "Muhamad Bin Rashed Al Maktoum" about the future plan of Dubai and from a series of statements said by him, the façade of the building consists completely of 3d printed stainless steel cladding to generate windows in the shape of Arabic calligraphy that baths the interior spaces with natural daylighting (Cooper, 2019).
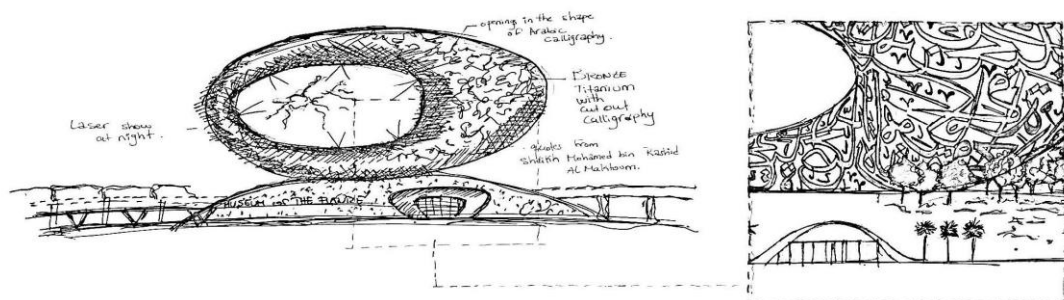

Fig.5: Museum of the Future sketch elevation with a detailed zoom in on the calligraphic design of the façade. Source: drawn by one of the authors.

2.5.2 Sheikh Zayed Grand Mosque, Abu Dhabi, UAE (2007)

The mosque was designed by the architects Yusef Abdelki and Halcrow and was completed in 2007, it is the largest mosque in UAE. The design of the mosque was utterly based on Quranic themes where as seen in the figure 6, the plan is symmetrical with manifestation on the main hall of the building through the hierarchy of spaces. Excessive use of geometrical patterns on the exterior and interior finishing and mosaics can be seen along with calligraphy where three styles were used; naskhi, thuluth, and kufi. The composition of the precedent aspects along with the sensitive use of pure material and clustering water elements have resulted in the creation of majestic spiritual one of a kind atmosphere (Saoud, 2008).
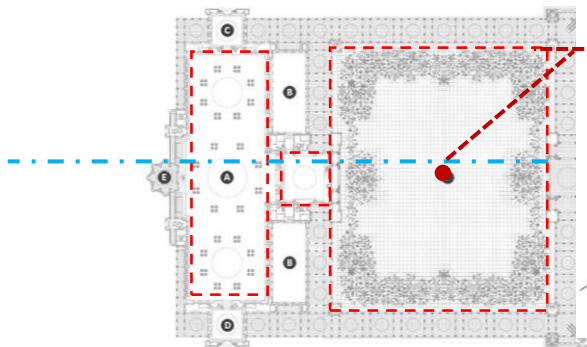
Fig.6: Plan of the mosque showing the application of Quranic themes through axiality and hierarchy of spaces. Source: edited by the author, retrieved from www.mosqpedia.org
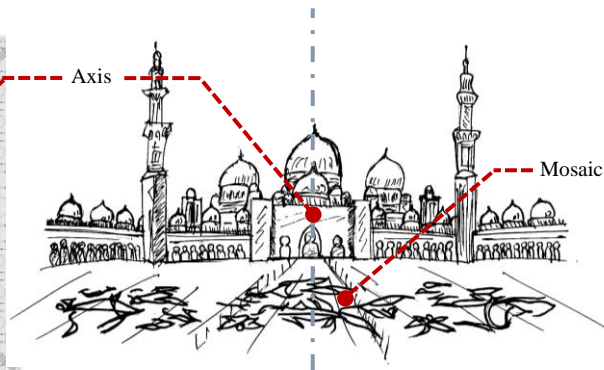
Fig.7: Perspective sketch of the mosque showing the reflections of Quranic themes on design features. Source: drawn by one of the authors.

2.6 Parameters of Analysis

Based on the precedent research it was clear that architects utilize different methods to reflect the essence of Arabic literature in different architectural components. Some of those methods might be as shallow as displaying calligraphy on a building's façade, as seen in the Museum of the Future, while other methods might hold philosophical concepts reflected on building's form, plan composition or even landscape similar to what have been addressed in the Laboratory of Literary Architecture workshop.

Accordingly, the study deducted a group of parameters based on the most relevant types of Arabic literature to be used in the analysis of case studies and are represented in the following table.

Table 2: Parameters of analysis of case studies

Types of Arabic Literature	Novel / Story	Oratory	Quran	Poetry
Method of Application	Story telling / Metaphors / Abstractions	Calligraphy / Metaphors	Quranic Themes / Calligraphy	Story telling / Metaphors / Abstractions / Calligraphy
Architectural Representation of Arab Literature	Plan / Form / Landscape	Façade / Form	Plan / Form / Façade	Plan / Form / Landscape / Façade

3. RESEARCH METHODOLOGY REFLECTING THE PARAMETERS

Throughout this section, recent case studies will be tackled based on four methods: the inductive method, the analytical method and the comparative analytical method. The first method is used to collect information regarding the two following case studies relying on different resources. The second method is used to analyse the gathered data, provide diagrams and the necessary drawings along with the analysis of the author to provide comprehensive analysis, whereas the third method is the comparative investigation between the two case studies. Within this frame, the study relied on the previously extracted parameters to analyse the case studies based on a qualitative method. The case studies where selected based on the following criteria:

- Recently completed projects
- Different types of Arabic literature involvement
- Multidiverse techniques of reflections of Arabic literature
- Divergent scales; urban and architectural
- Different typologies

3.1 Analysis of Case Study I – Quranic Park, Dubai, UAE (2019)

Project Title: Quranic Park
Typology: Park
Location: Al Khawaneej, Dubai, United Arab Emirates
Architects: OBE Architects
Area: 64 hectares
Date of opening: 29 March 2019

The main purpose behind designing the Quranic Park is to give a better understanding, for Muslims and non-Muslims, of the Islamic heritage on the cultural and educational levels through offering bright and clever insights on some areas of the Quran where at the same time still be a fun and a breather place for children and families. The park consists of five major parts; the cave, glass house, massive lake, twelve vast gardens, and other services such as a praying area, restrooms and a canteen (Saundalkar, 2019).

Fig.8: Aerial view of the Quranic Park. Source: Dubai Municipality, retrieved from www.emirateswoman.com

3.1.1 Analysis of parameter 1: plan composition

As discussed through the literature review, Quranic themes are aspects derived from the holy Quran that have to do with balance, aesthetics, geometry, etc. The master plan of the park clearly manifests those aspects as represented in figure 9.

Figure 9 highlights the axiality of the master plan where the main components are distributed in sequence and hierarchal form along the axis and the twelve gardens are distributed in a symmetrical way on the peripherals of the park creating a unique geometry linking the built spaces with nature.
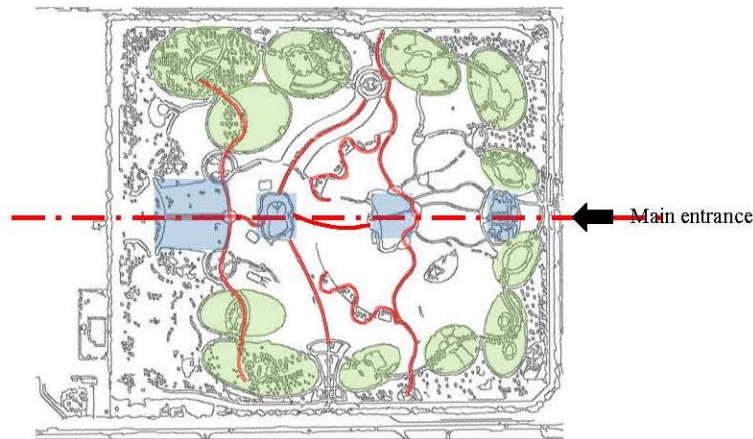

Fig. 9: Master plan of Quranic Park. Source: edited by the author retrieved from www.widiutami.com

The cave building is the first element in the park that visitors pass by. The man-made cave is composed of seven display rooms that narrate exactly seven miracles that happened with Prophets mentioned in the holy Quran some of which are the miracle of the split of the moon of Prophet Muhamad (PBUH), the miracle of Prophet Uzair when he returned to life, and the miracle of the ants' valley of Prophet Sulaiman.

The one way circulation of the building implies that the spaces are sequential as illustrated in the following figure. The stories of the miracles are narrated in sequence at each space through holograms and interactive displays (Saundalkar, 2019).
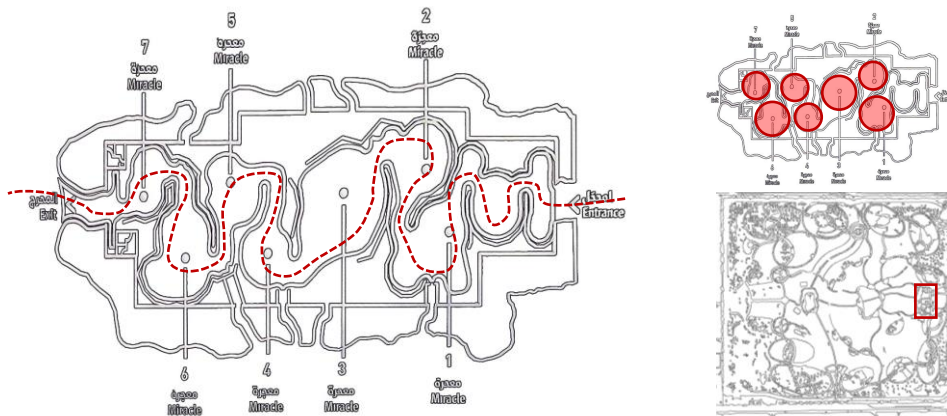
Fig.10: Cave plan showing the one way circulation with cave location on master key plan.
Source: Dubai Municipality, edited by the author, retrieved from www.semirateswoman.com

3.1.2 Analysis of parameter 2: form

The form of the main building which is the cave is inspired from Sūrat Al Kahf that is one of the most prominent parts of the Quran. Kahf basically means cave, Sūrat Al Kahf narrates a story about the people of the cave in addition to other stories and it has a great amount of grace. The form of the building demonstrates that of an actual cave on the outside and the inside as well as seen in the following figure. As witnessed in the image to the right, upon navigating through the cave tunnel, holograms and projection screens explain some of the Islamic stories demonstrating when, where, and how the events have happened (Siddique, 2019).
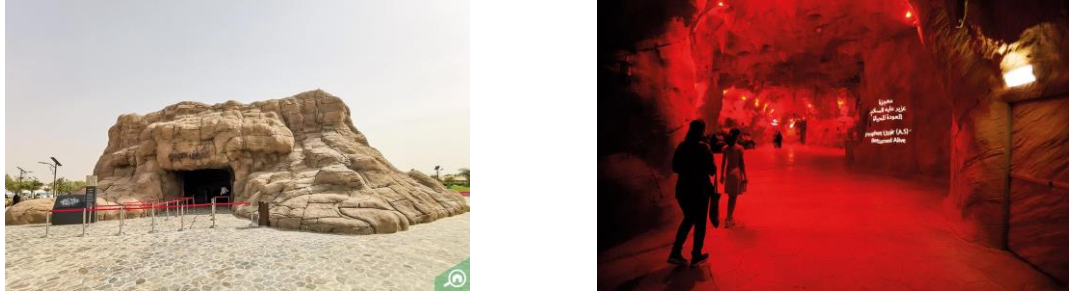
Fig.11: The cave building's exterior and interior spaces. Source: Dubai Municipality, retrieved from www.widiutami.com

3.1.3 Analysis of parameter 3: landscape

Rather than the technological advancements, the park relies on landscaping elements, geography, and ecology in order to give an explanation of stories in Islam in addition to the demonstration of achievements in the scientific and cultural fields. A prominent landscape element is the central lake which is cut into two parts with a walkway symbolizing Prophet Moses's story as mentioned in the Quran where the Red Sea split in half so that Moses could escape from the besieging enemies (Siddique, 2019).

"Then We inspired to Moses, "Strike with your staff the sea," and it parted, and each portion was like a great towering mountain."

- The Holy Quran, Chapter 26 Sūrat l-Shuʿarā (The Poets) Verse 63

Fig.12: Aerial view of the lake showing the walkway cutting the lake in half. Source: retrieved from www.widiutami.com
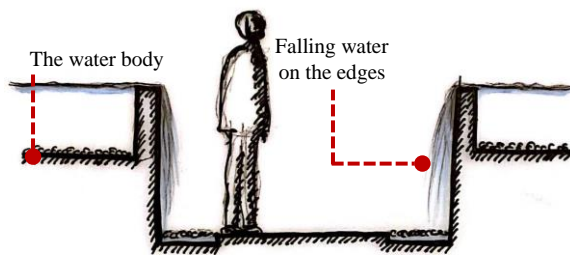

Fig.13: Section showing the relation between the walkway and the water level of the lake demonstrating the towering mountains as mentioned in the story. Source: sketch by one of the authors

Fig.14: The walkway and the lake. Source : www.mvslim.com

The level of the water in relation to that of the walkway, where the walkway is sunk beneath the water level of the lake, and the falling water on both sides of the walkway are a perfect demonstration for the split of the sea where God mentioned that the two sidesbecame as towering mountains. In addition to the material of both edges that seems to be integrated with the water to create some sort of camouflage. The section in figure 13 illustrates the relation between the different levels.

The walkway of the lake leads the visitors to the next stop which is the glass house. The glass house is completely air-conditioned and fully glazed bathing the interior with natural daylight. The building is full of trees and plants that are mentioned in the Quran, wooden bridges and stairs, and water elements demonstrating the description of Jannah as mentioned in the Quran through many verses from which is: (Tahir, 2019)

"Shall I inform you of [something] better than that? For those who fear Allah will be gardens in the presence of their Lord beneath which rivers flow, wherein they abide eternally, and purified spouses and approval from Allah."(3:15)

- The Holy Quran

Fig.15: Interior of the glass house showing plants and water elements. Source: retrieved from

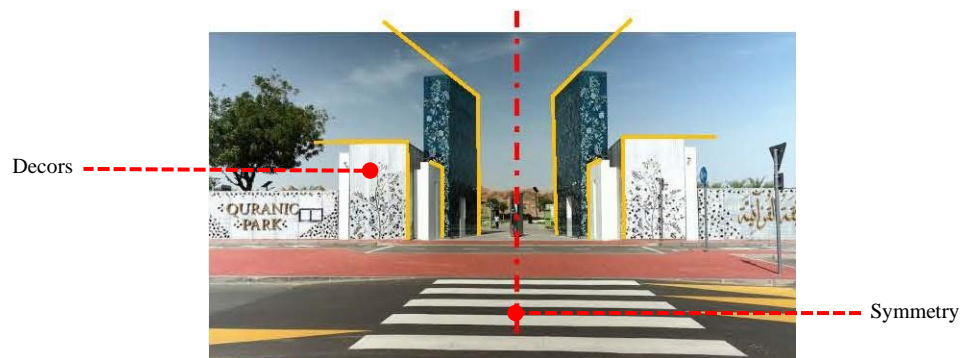### 3.1.4 Analysis of parameter 4: façade

Fig.16: Main entrance approach. Source: edited by the author retrieved from www.widiutami.com

The design of the main entrance clearly shows symmetry, harmony, balance, and aesthetics of decors where as mentioned by the architects, the design of the elevation of building at the entrance are derived from the Arabic calligraphy.

3.1.5 Conclusion of case study I:

As a conclusion, the architects have highlighted literary expressions and emblematic features to narrate stories and miracles that have been mentioned in the holy Quran in more than one way through different types of architectural representations as summed up in the following table.

Table 3: Conclusion of parameters application in case study 1

Parameters	Type of Literature	Application
Plan composition	Story	Story telling / Quranic themes
Form	Quran	Embodiment
Landscape	Story	Metaphors
Facade	Quran	Quranic themes / Calligraphy

3.2 Analysis of Case Study II – Qatar Faculty of Islamic Studies, Doha, Qatar (2015)

Project Title: Qatar Faculty of Islamic Studies (QFIS)
Typology: Educational
Location: Doha, Qatar
Architects: Mangera Yvars Architects
Area: 111,000 m^2
Date of opening: 2015

Fig.17: QFIS perspective view. Source: photographed by MYAA & Qatar Foundation
retrieved from www.architonic.com

The faculty, designed by Mangera Yvars Archietcts, is located within the educational city campus of Doha where it provides international class teaching facility and a mosque. The purpose behind the innovative design of the building is to enhance the relation between faith and Islamic education through creating a place that is socially powerful and culturally civilized to counter the image of Islamic education (Mangera, 2015).

3.2.1 Analysis of parameter 1: plan composition

The plan clearly shows a main axis in which the other two extremities are extended reaching out to the context linking the building with the surrounding landscape creating a balance harmonizing the building and inducing religious values. Moreover, the plan clearly manifests the main body of the building through decent hierarchy of spaces achieving unity in multiplicity when wrapping the educational program around the mosque with a unique geometry, as represented in figure 18, and by that achieving the Quranic themes.
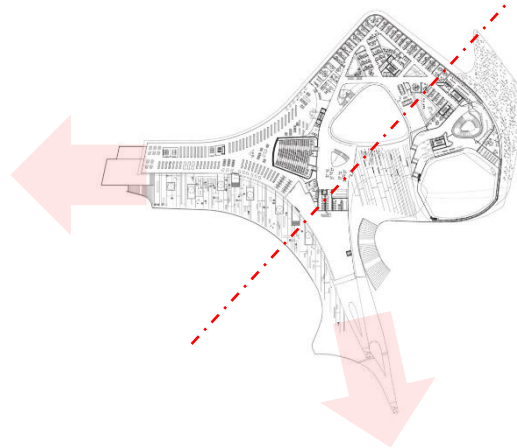
Fig.18: Qatar Faculty of Islamic Studies plan. Source: edited by the author retrieved from www.architonic.com

3.2.2 Analysis of parameter 2: form

The word faculty is "kulliya" in Arabic which means entirety; knowledge and faith are interconnected knowing that all knowledge is acquired from faith. This definition is reflected on the endless spiral form of the building plan culminating at 90 meters high minarets resembling knowledge. Rather than concepts based on Quranic themes, the mosque is lifted on five pillars (as highlighted in figures 19 and 20) representing the five pillars of Islam inscribed with the Hadith: (Mangera, 2015).

Islam is built on five pillars: Testimony that there is none worthy of worship except Allah, establishing Salah, giving Zakah, Hajj, and fasting Ramadan."

- This Hadith is said by Prophet Muhamad (PBUH)
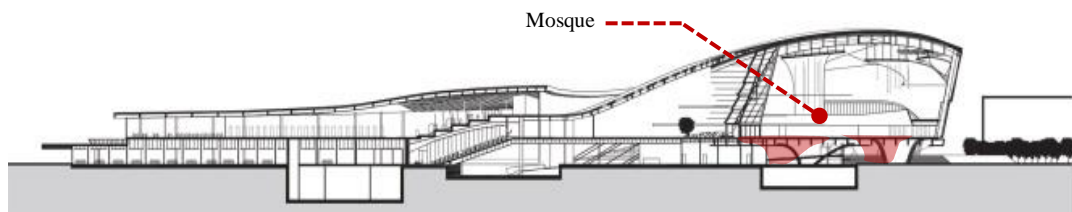
Fig.19: Section drawing showing the pillars. Source: edited by the author retrieved from www.architectural-review.com

Fig.20: The five pillars raising the mosque. Source: taken by Mangera Yvars Architects, retrieved from www.architectural-review.com

3.2.3 Analysis of parameter 3: landscape

The form of the building creates a fluid circulation and movement between indoors and outdoors embracing the site and the surrounding of the building. Within the courtyard, the stairs is wrapped with a slim metal mesh which cascades the down falling water from up to the ground level penetrating to the four water elements at the ground floor level symbolizing the four rivers of heaven mentioned in the Quran (water, honey, milk, and wine), the water then spills in the four gardens of paradise that surround the building (Rialubin, 2017).

Fig.21: The water element (rivers and falling water) at the ground floor level. Source: retrieved from www.dohanews.com

3.2.4 Analysis of parameter 4: façade

The façade of the building is clad completely with geometrical forms and calligraphy. The calligraphy sprawls from the outer facades of the building to the inner courtyard, where verses from the Quran are showcased, and corridors where the walls are decorated with fine carvings that narrate the stories of historical Islamic monuments found around the globe as shown in figure 22 (Rialubin, 2017).
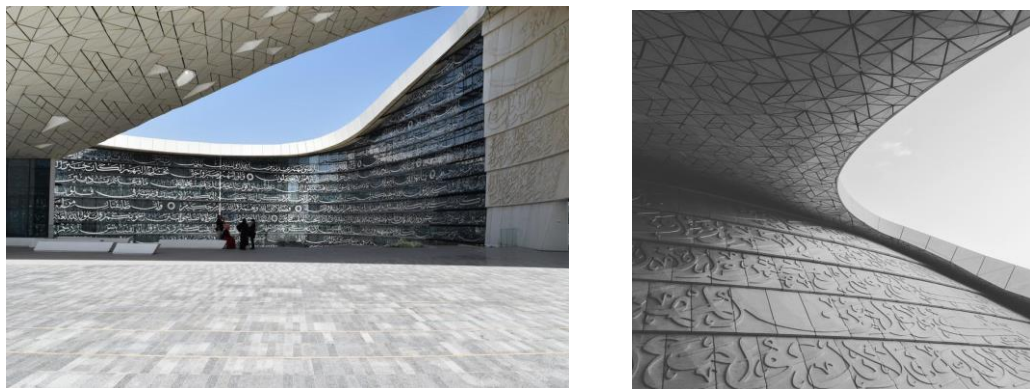

Fig.22: Fine carving and calligraphy on the walls of the inner courtyard and corridors narrating stories. Source: retrieved from www.architonic.com

3.1.5 Conclusion of case study II:

In conclusion, the architects manifested the Quranic themes through the plans of the project, implemented calligraphy on the walls of the building for the narration of stories, and abstracted hadith into structural elements. The influence of Arabic literature on the architectural representations of the case study are summed up in the following table.
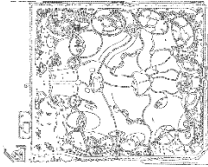
Table 4: Conclusion of parameters application in case study 2

Parameters	Type of Literature	Application
Plan composition	Quran	Quranic themes
Form	Hadith, Prose	Embodiment / Abstraction
Landscape	Quran	Metaphors / Quranic themes
Facade	Quran, Story	Calligraphy

3.3 Comparison between the Two Case Studies

The table below represents an analytical comparison between the two analysed case studies based on the parameters that have been extracted earlier.

Table 5: Comparative analysis between the two case studies

Case Study		Case Study I	Case Study II
Project Name		Quranic Park	Qatar Faculty of Islamic Studies
Typology		Park	Educational
Plan			
Perspective View			
Completion Date		2019	2015
Location		Dubai, United Arab Emirates	Doha, Qatar
Parameters	Plan Composition	Story telling / Quranic themes	Quranic themes
	Form	Embodiment	Embodiment / Abstraction
	Landscape	Metaphors	Metaphors / Quranic themes
	Façade	Quranic themes / Calligraphy	Calligraphy
Types of Literature		Story, Quran	Quran, Hadith, Prose, Story

3.4 Survey and Data Collection

A survey has been developed based on a comprehensive questionnaire for the purpose of gathering information, tackling the previously deduced parameters, and answering the aim. The survey was organized around indicators related to the topic where scholars and individuals specialized in this domain were asked about the following points:

A. The prominent challenges that prevent the reflections of Arab heritage in architecture in the Arab world.
B. The significance of Arabic literature in cultural heritage preservation through architectural representations.
C. Methods of reflections of Arabic literature in architecture.
D. The design approaches that reflect Arabic literature in architectural representations in the light of technological advancements.

Rather than the closed questions, we also integrated open-ended questions to get more insights about major challenges and recommendations regarding the topic based on the point of view of the survey participants and respondents.

4. FINDINGS

The survey was distributed among twenty scholars and specialized individuals, who were asked about the previously mentioned points, through an online platform. The answers where translated into the form of charts as presented below.

4.1 Question 1: What are the prominent challenges that prevent the expression of Arab heritage in architectural representations? (Closed Question)
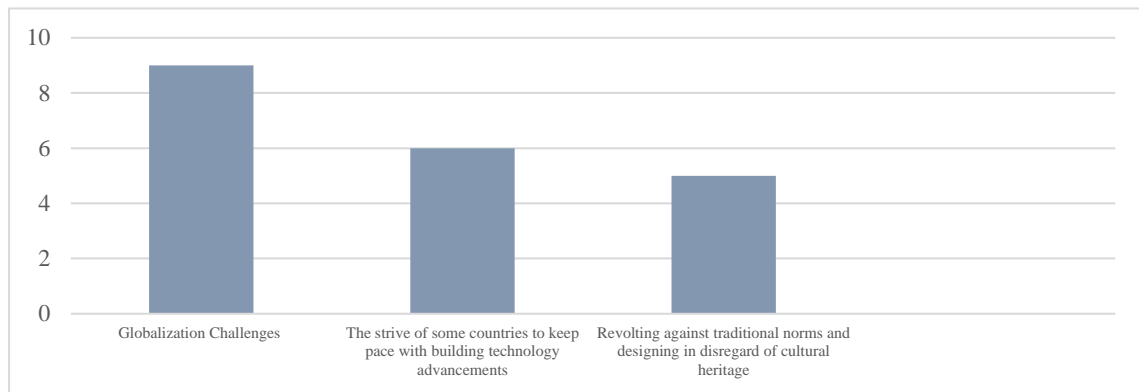

Fig.23: Chart summarizing the answers of the first question in the distributed survey.

4.2 Question 2: Does Arabic Literature play a significant role in the expression of Arab heritage through architectural representations? (Closed Question)
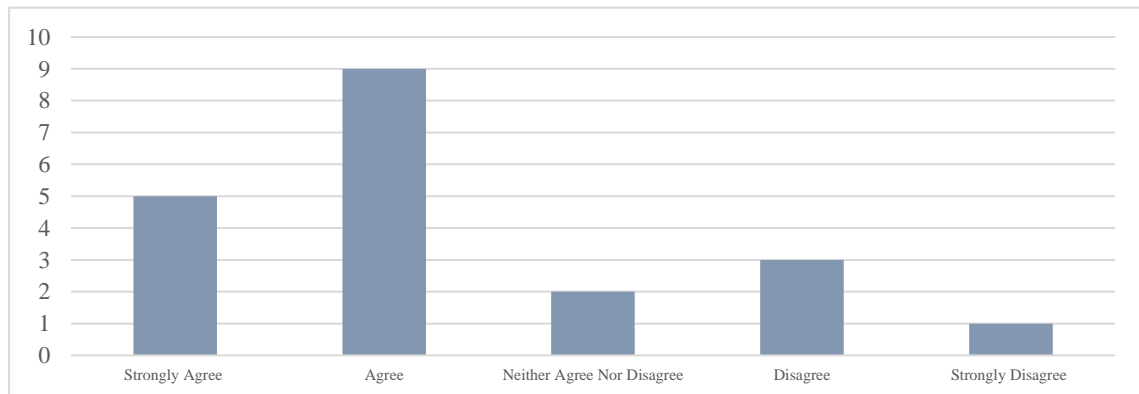

Fig.24: Chart summarizing the answers of the second question in the distributed survey.

4.3 Question 3: Through which method could Arabic Literature be best expressed in architectural representations? (Closed Question)
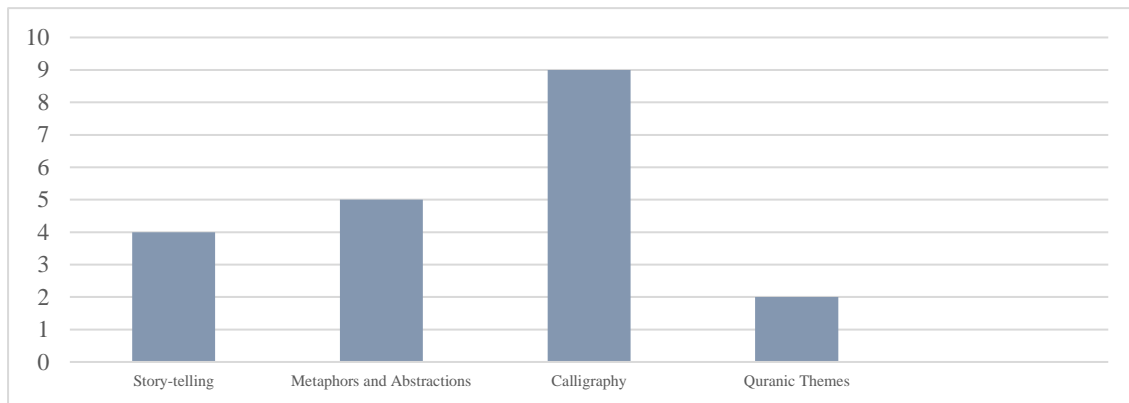

Fig.25: Chart summarizing the answers of the third question in the distributed survey.

4.4 Question 4: From your own point of view, what could be the design approaches that reflect Arabic literature in architectural representations in the light of technological advancements? (Open Question)
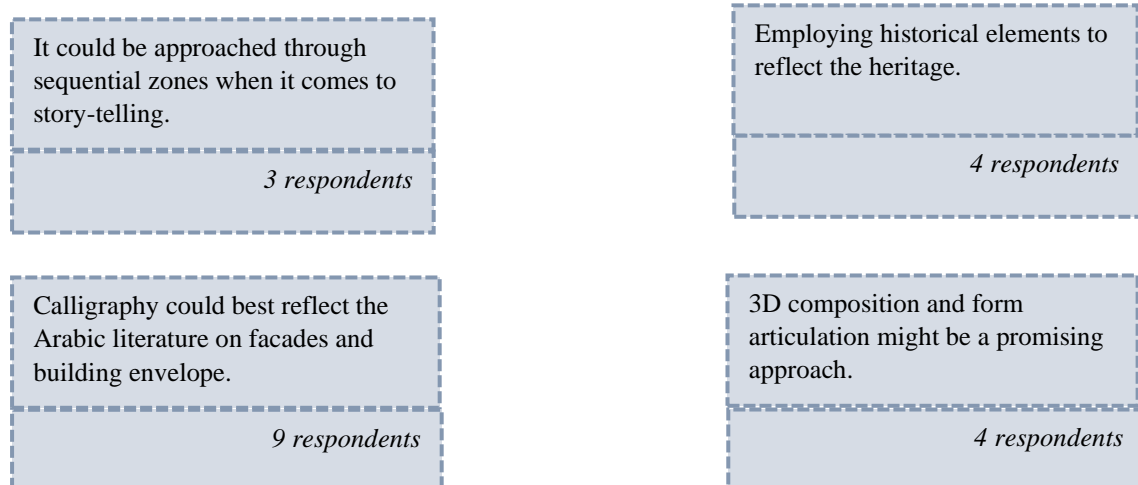
It could be approached through sequential zones when it comes to story-telling.

3 respondents

Employing historical elements to reflect the heritage.

4 respondents

Calligraphy could best reflect the Arabic literature on facades and building envelope.

9 respondents

3D composition and form articulation might be a promising approach.

4 respondents

Fig.26: Summary of the answers of the second open question in the distributed survey.

5. DISCUSSION

5.1 Survey Analysis:

In reference to the survey that have been established and distributed on twenty individuals specialized in the domain, the previous charts have been developed.

Based on the answers of the first question, almost 50% of the participants and respondents believe that globalization is a major obstacle that prevents the expression of Arab heritage in architectural representations. The other half is split into two where some believe that the main cause could be the strive of some Arab countries to keep pace with technological advancements and new building material with disregard to cultural heritage and the others consider that there is some sort of revolution against traditional design and heritage architectural features.

When it comes to the role of Arabic literature in the expression of cultural heritage through architectural representations, the majority of the respondents assume that Arabic literature play an important role and aids in manifesting the heritage through architecture. While a minor group of the respondents disagree to that opinion.

Regarding the third question, the majority of the participants agree that calligraphy is the most predominant form of expression of Arabic literature through architectural representations, it might be because it does not require that much of interpretation to comprehend. While metaphors, abstractions and Quranic themes require a higher degree of focus and elucidation.

Finally, an open question have been asked about the design approaches that could be followed to reflect Arabic literature in architectural representations from the perspective of the participants. The answers received circulated around four major approaches which are sequential zoning in plans when it comes to story-telling, reviving historical features to reflect the cultural heritage, presenting calligraphic designs on buildings' facades and envelope, and three-dimensional composition.

It is pretty clear throughout the survey that the majority of people might have hard-time comprehending how some philosophical concepts related to Arabic literature might be reflected through architectural representations. The reason that might instigate architects to never stray too far from the sidewalk but rather play on the safe side and employ superficial concepts that reflect Arabic literature in a literal way. The reason why displaying calligraphic design on buildings' facades is more welcomed than the other approaches. Applying concepts that reflect Arabic literature through from, plan composition or landscape require sharp perception and in most cases, individuals other than architects will not be able to comprehend the actual meaning or intention of the designer. Although it is important to shed the light on the fact that implementing philosophical and insightful concepts might result with more fascinating outcomes and more interesting architectural quality providing unique spaces for a unique user experience even though the user might not actually be aware of the hidden concepts and meanings.

5.2 Main Outcomes:

Based on the interpretation of the performed survey and the precedent research, the derived design approaches to revive the Arabic literature in architecture are multiple and could be summed up through the points listed below along with examples.

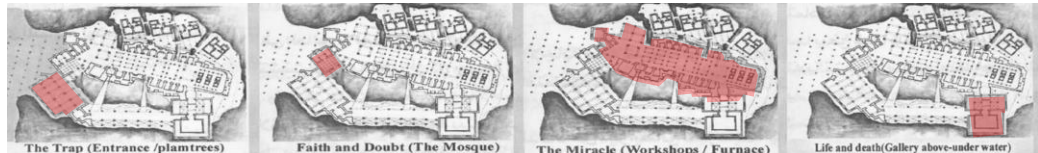- thinking from sequential zones in plan and 3d composition

Fig.27: An example from international competition for Moses's story, Red Sea Egypt
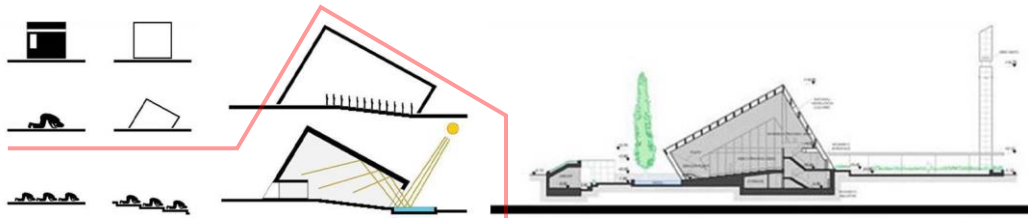
- thinking from section and structure

Fig.28: Contemporary mosque design concept. Source: retrieved from www.architecturexlmeiji.wordpress.com
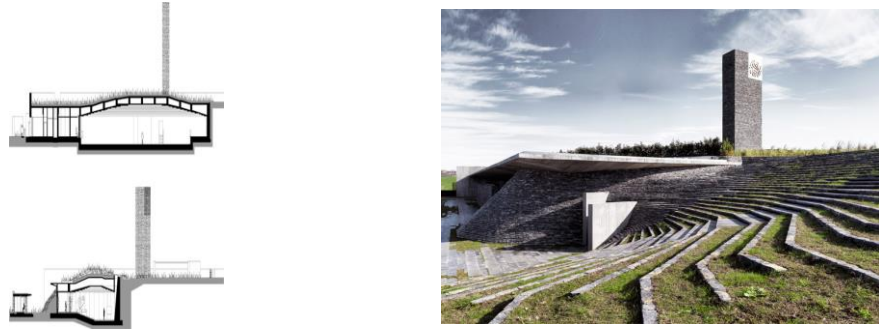
- thinking from playing by levels

Fig.29: Sancaklar mosque, Turkey. Source: taken by Thomas Mayer, retrieved from www.dezeen.com

- thinking from reviving postmodern historical elements

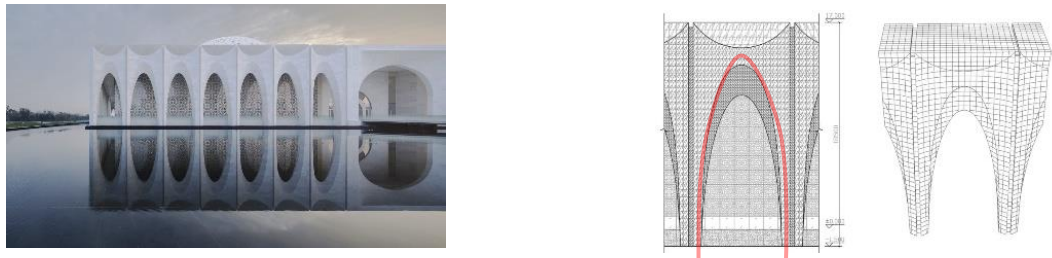Fig.30: Da Chang Muslim Cultural Center, China. Source: taken by Yao Li, retrieved from www.aasarchitecture.com

- thinking from landscape elements

Fig. 31: KAPSARC Mosque. Source: retrieved from www.archdaily.com

- thinking from representing calligraphy on building skin

Fig.32: Hadith Narrator museum winning proposal. Source: retrieved from www.kettle.co

6. CONCLUSION

Based on the preceding research, the study can reach to certain conclusion points presented as follows:

A. Employing concepts derived from Arabic literature in a philosophical manner plays a major role in reflecting the essence of the Arab culture introducing it to the users in a direct or indirect way. Moreover, it utterly results with great architectural quality upgrading the experience of the users.

B. In the Middle East region, Gulf countries, and Arab cities, a massive heritage of literature can be an effective platform of inspiration. Without a doubt, in this part of the world, the contemporary architectural representations should reflect the essence of Arab civilizations through skilful abstraction and narrative translation.

C. Instead of celebrating with structure system, ornaments, building scale, and booming technology, the architects should depend on reflecting Arabic literature and heritage through simple architectural representations to enrich the user's spiritual experience such as the work of Marina Tabassum and Emre Arolat (Sancaklar Mosque).

D. Through the process of criticizing an architectural work, heritage expression and demonstration should be an important aspect to take into consideration as it plays a major role in presenting the culture of civilizations to the world. It is as important as the other parameters used to criticize and upon criticizing this aspect, it is vital to comprehend and elucidate the intentions of the architect to uncover hidden meanings.

According to the analysis conducted throughout the research, a set of recommendations targeting decision makers, architects, users, and students of architecture are deduced and pointed out as follows:

E. To decision makers: equilibrium state between globalization and identity of Arab heritage is highly required to emphasize our origins. Therefore, representing the Arab essence in architecture is definitely gaining the international reputation such as the applications of Kisho Kurukawa in Japan and Balkrishna Doshi in India.

F. To architects: you need to employ all your skills in abstracting the Arabic literature in the design representations. Although this is against the decision maker's intention, the architect can play with metaphors and hidden secrets to emphasize our Arab identity.

G. To users: visiting the important projects in the Arab region requires mediation and wise judgement. We recommend users to focus more on the architectural elements and spatial experience that emphasize the Arab identity.

H. To students: learning from the mentioned proposed design approaches is so valuable. Story-telling design and "design on a script" are very valuable approaches that deepen the design value.

7. ACKNOWLEDGMENT

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