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### Overview of Design Concepts of Traditional Iranian Architecture and its Reflections in Iranian Contemporary Architecture

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#### ABSTRACT

This article has attempted to investigate the patterns of traditional architecture in Iran's warm and dry climate and whether these patterns have been attended to in Iran's contemporary architecture or not. Since the two elements of culture and climate are much significant in Iran's traditional constructions, this article aimed at dealing with subjects such as the causes of the shapes of traditional buildings in Iran's warm and dry climate in constructions like houses, schools, mosques and bazaars, and why they were constructed in those shapes, and also considering their patterns in these places in the light of cultural and climatic aspects, and their cultural and climatic relationships and investigating cultural-climatic causes of the directions and situations designed for the spaces present in these buildings and finally it is intended to classify the conceptual patterns of the traditional architecture of Iran's warm and dry climate. The article is going to consider the amount of using these patterns in Iran's contemporary architecture. The study has been conducted using library and field method.

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### INTRODUCTION

Historical buildings of each country are part of cultural identity and character of the people live there. However the shining pages of this valuable notebook are dispersed, certain things can be gathered that can not be found in a complete works. Many things have been said regarding superficial manifestations, beauty, and symmetry of thresholds, domes and porches but what that deserve detailed survey are Iranian architecture, mystical and mathematical logic. Introversion and inclination of Iranian architects toward yards, stairs, puddles in the garden, octagonal and kolah farangi create calming and warm places that is always in the logic of Iranians. As it can be seen in the Perspolice monument that around a yard, rooms, halls, and porches are placed. Iranian architect never does useless things and always try to do his best. For the first time in Perspolice we see that pillars are far from each other to the extent possible, but without exaggeration in other older monuments e.g. Egypt the distance between two pillars is about the diameter of one. We know that the cover of building in architecture was an important issue and always draw the attention of world architects. One the advantage of Iranian architecture is that harmonious places never used for covering and from expressions such as knells, arches, and domes, it can be understood that they focused on oval, elliptical or egg-shaped forms.

Our artists, especially architects, believed that a good imitation is better than a bad innovation and they always used the most advanced techniques from all over the world without any biasness. Actually they do not exactly copy or imitate other works, they manipulate the work and make it suitable for their country, and they cut extra things and add what needed. They manipulate and manage the work in a way that it seems truly Iranian. But this issue has declined in the present century and modern Iran could not act the same as past against the speedy advance of technology and new works and has a kind of surrender against them. However in the last decade of second Pahlavi era effective activities implemented in this field and it was tried that Iranian architecture be presented in line with new technology and it can be said that to some extent it succeeded.

The long and documented history of Iran itself is a rich inheritance from which new forms have been created. This creative method of drawing can be followed up in the real samples left from Acamenid era to Ghajar era in the 19<sup>th</sup> century.

It is hardly can be found that an art like architecture to have deep connection with the life of people. Architecture is one of the prominent manifestation of culture and history of people and indicates the

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environment in which people live. This art followed a set of determined and specified principles and had an inseparable and strong connection with the culture of society and behavioral patterns. Therefore, the architectural style of each period is the reflection of culture and art of that period. Architectural variations were proportionate and symmetrical with variations occurred in the other aspects of life and art and each new style of architecture was based on the principles and methods of old styles, therefore, among various architectural styles, there are strong relationships that delimitation among them was very difficult. In general, regarding traditional architecture, it can be said that methods and styles which created Iranian architecture connected themselves to the previous styles and never defy and reject other styles that have been considered valid. The joining of these styles formed a trend that regardless of specific time can be called traditional architecture.

In traditional architecture, the artist does not necessarily need to know the theology of tradition for creating art. Theology presents models and principles of works and therefore is the guarantee of spiritual value of works.

#### *Definition of Architecture:*

There are many definitions for architecture such as "architecture is the art of space", architecture is the registration of human history", "architecture is the art of organizing space" and this art is expressed through road and building. But Galvano Delavolpeh in his book "Criticizing Taste" defined it as: Architecture expresses ideas and values through a series of visual symbols.

#### *The Role of Culture in Architecture:*

If we believe that each evidence of architecture in the world is not the indication of concepts and values which are present in the framework of the culture of that country and has effect on forms, concepts, and technical space of it, we need deep search for knowledge. Time and space in their connection with each other are the necessary place for our work and we still believe that we can not know architecture through itself and based on what it represents. Architecture is the same as poetry for us that without knowing cultural principles of it, we can not understand it.

#### *Space in Iranian Architecture:*



The space of architecture which is supposed to be always born to answer the tangible needs of people can have one of these features:

- Meets the needs and provides the spaces each of which connected to each other for specific purposes.
- In addition to meeting tangible and spatially-timely measured needs, amuse and entertain people.
- In addition to meeting tangible and spatially-timely measured needs, draws people attention from daily activity to innovative and pure thoughts.



Lari house- Yazd

Neither the first item rejects the second and third items nor in the creation of an architecture exists a rule that asks the architect to realize an environment full of imagination and fancy, the same as poetry. Positive and alive impression from the environment or setting is the basis of all creations of architecture. This impression which is environment or setting not form is the basis of understanding tradition of Iranian architecture. In addition to inner basis, there are other factors that indicate the main role of environment or setting.

Kinship relationships in this traditional society that is strongly based on family require re-strengthening of the central organization of the environment or setting.

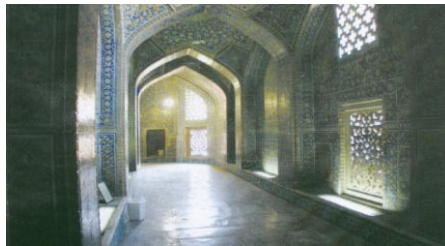
*The concepts and interpretations of route in the environment or setting of traditional architecture of Iran:*

In the various kinds of buildings that Iranians build in their settlements and villages during continuous years and before invasion of west culture and the evidences that remain from them until today, no building can be found in which signs of sacredness and respect are not present in them. Sacredness and symbolic elements located in the building, respect to series of people and places, to sacred elements and scenes that architect creates in the building with and without the help of present and current traditions are the highest spiritual points in architecture.

Spiritual points in an architecture environment follow an order that set up for mind readiness. From the moment that a visitor steps in the threshold of the building to the place where there is the last scene inside of it, every place of the architecture space with continuous and various pictures are presented to him, pictures that introduce a unifying spirit of different periods that they have passed. These pictures are used for preparing the minds and the inner world of a person that go on till they place in the middle of the building.

In the main route that we pass in a house to reach to a place in which we should get familiar with the way and taste that the owner of the house has lived.

*The application of light in the traditional architecture of Iran and comparing it with west architecture:*



Sheikhlotfallah mosque in Esfahan

In the space of the architecture in Iran, hierarchy of light and darkness has meticulously used in order to move and direct from one space to another. In this hierarchy, the intensity of light and darkness is in the spaces that determine their importance. In the main pattern of traditional architecture in Iran, in houses, mosques, and other public places, it can be seen that light has an important place.

Natural light is always directive in the traditional buildings and enters the spaces from special direction. But in the present years with the tangible changes in the perception and observation of human beings, their view of sky as an extraordinary space changes to a physical and materialistic principle and light is changed to an applicative factor. In other words, it can be said that "light in traditional architecture causes concentration and in modern architecture causes separation or dissipation.

*The place of size and balance in the architecture of Iran:*

In the architecture of Iran, balance and symmetry from humanistic view is presented in another way. It means that dimensions and proportions drop in away that benefit from tiny units such as "Peymoon" which is linked to humanistic dimensions. In architecture of Iran the value of human is presented in a way that is directly related to faith and spiritual and physical needs of human.

*Mathematics in architecture of Iran:*

Traditional human consider the whole creation from a "one" (God), and search the relation between himself and nature and that there is a common proportion between them that is measurable through mathematic. On the other hand all the creation of human and nature are like pictures that accept the rules of mathematics such as simulation, symmetry, geometry.

*Floor in Iranian architecture:*



The raised floor of most of typical Iranian houses can be considered as a manifestation of the 'throne' concept and the ritual representation of this concept in reality explains one's taking off shoes at the entrance of the house. Finer representation of the concept emerges in the latitudinal dimensions of the front yard of the house where it is dominated by latitudinal lines and design. The *hayat* or garden ground are constructed from rigid, simple dirt pathways to bricked surfaces where they ultimately lead to fountains and charming gardens such as the Fin Garden of Kashan. Here, small streams of water have been flowing down carrying water through charted geometric garden of the house.



Dolatabad garden

#### *Walls in Persian Architecture:*

The latitudinal features of typical Persian architecture involve the effects of sunlight. This unique characteristic is an important element in structural design of the gardens in Iran where there is a heavy sun radiation most of the year and this has led to creation of impressive shades.



#### *Colors in Persian Architecture:*

In traditional architecture, conflicting colors are adjoined to each other in large area creating vivid visual mixes. Sometimes, these clashing colors are sat next to each other in smaller areas creating a unique glowing surface of colors. The interweave of the colors in small spaces of the charted structure of the garden impresses the viewer in a great way.

#### *Garden and Hayat in Persian Architecture:*



Garden and hayat are considered to be as two supporting elements to the hot Persian plateau with its low water resources. Based on the Iranian architectural design, gardens symbolize ancient Persia religious motifs. The palace is always surrounded by the garden. Hasht Behesht Safavi Garden is a superb example of this design style which attempts to emulate the Eden.

The vast gardens, though symbolically rich, were still so luxurious and expensive a few people afforded constructing them in cities. This led the architects to shift focus on building yards (Hayats). Construction of houses with yards began to flourish during Achaemenid times. Constructing yards, which are center-oriented structure, seemed to be much more feasible in urban areas enabling the residents to be yet essentially in touch with the nature which is crucial to the Iranian lifestyle. The yard design dominates the construction of houses in cities and thus building walls is necessary. Interactions of the form and surface should result in creation of a serene and peaceful space, free of life inconveniences. Such a design can be found with cubic: a perfect form which is a symbolized essence of the stability, human being and earthly heaven. Locating of the traditional pool in this quiet place can provide a deriving force for any creative imagination.



Forty Pillars Palace of Isfahan.

#### *Vaulted Arch in Persian Architecture:*

Architecturally, the vaulted arch is a space longitudinally limited to the roof while horizontally it is connected to certain points in the space. The conceptual structure of the vaulted arches in Persian architecture especially when used at altars has been filled with deep implications. The porch represents a transition space from temporal to material worlds. Metaphysically, it symbolizes the concept of 'self', which traverses the distance between garden or *hayat*, as a symbol a spirit, and the room, as a representation of the body. The duality in form of a vaulted arch is the cause of its formal imperfection and this leaves the human with one single way of uniting himself with the 'great spirit' of the world to reach perfection in soul and body.

#### *Gates in Persian Architecture:*

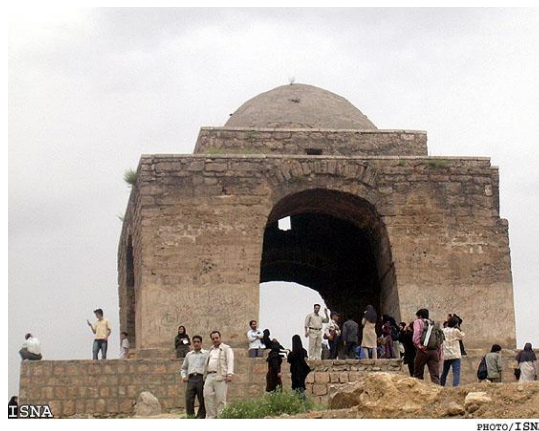


Nations Gate in Saffeh of Perspolice.

Persian word, *bab* or door, both in architecture and literature, emphasizes the movement through a determined space within a determined time. Gate clearly has been treated as a symbol and that explains its traditional decoration with splendid designs. Its design and construction flourished in the ancient times. It obviously implied a sense of supremacy to the viewer and architecturally it emphasized the advancement of the construction industry of the time.

#### *Chahar Tagh:*

Zarathustrian temples have been built across the Iranian plateau since ages of fables. The cubic form of the temple has long been thought of as man, earth or an earthly paradise symbolizing determination and an embodiment of God. A *Chahar Tagh* building (Four Vaults) is a reminder of four elements, four directions, four winds, four seasons and four colors. In summery, it brings parts of the material world into fantasy, whose elements that are fundamental and the most long-standing aspects of human life. Upon the cubic foundation of the Chahar Tagh sits a circular dome that represents the untouchable quality or divine terrain. The dome that signifies the buoyancy of the spirit is a form free of a beginning and an end and its sole point of anchorage is its center and that is how this resulting terrain of divinity intersects with its underlying centerline of the cubic foundation.



In such structures, it seems that circles turn into squares which is manifested in the Achaemenid architecture as a relationship of the human and the creation. Any true understanding of this era involves a deep insight of the value of precision and sincerity of those who made possible such a transition in their architecture. The primary bold forms of this transition can be found and appreciated in Sassanian lifestyle. The use of arch by Saljoughs in a superb transformation of the structural circles to squares through application of geometry shows the conscious selection of a difficult yet feasible resolution: development of a geometrical resolution that blends into one another the squares, triangles and circles through various colors and designs in a broader perspective implies a synthesized enlightenment of the inner self.

#### *Subdividing the architects of the Pahlavi reign:*



Hafez Tomb. Architecture: Godar

As mentioned before, during Pahlavi reign the traditional Persian architecture continue to encounter with the Western architecture which had began by the end of Ghajarite era. The advent of the 'modern' architectural

practices and the need for new buildings in that time created havoc upon the Persian architectural basis. Based on this, the architects of the Pahlavi era can be subdivided into three distinct groups:

1. Traditional architects: including Hosein Lorzadeh (Ferdousi Tomb, Iran-Britain Bank);
2. Foreign Architects: including Godar (Ancient Persian Museum, Ferdousi Tomb, National Library)
3. West-educated Iranian Architects: Including Foroughi (Mashahd Railway Station collaborating with Boutz), Behzad Taherzadeh (Shah Reza Hospital, Mashhad), Houshang Seihoun (Khayam Tomb)

Of the buildings constructed by foreign architects but based upon the elements of the Persian culture was Hafez Tomb in Shiraz which represents an impressive execution of Persian architectural traditions and modern components.

#### *Mixing of the Traditional and Modern Architecture in Pahlavi II Era:*

In this era, unlike during the reign of the Pahlavi I, the traditional forms of the Persian architecture were not utilized solely to serve decorative purposes in modern buildings. The architects attempt to mix both elements of the old Persian culture and features of the modern times.

Some of the architects were connected with the Farah Pahlavi, then first lady of country and through their close collaboration the First International Congress of the Architects with the subject of 'study of the possibility of mixing of the traditional architecture and modern construction practice' was held in the city of Isfahan in 1970. 18 of the most renowned world architects including Louis Kann, Paul Rodolv, Bauk Minister Fouler and George Candelis had been invited to be among the speakers of this conference. Architects such as Walter Gripous, Miss Vandro and Richard Notera were also to participate but died unfortunately before the conference began. World recognized Iranian architects such as Mohsen Foroughi, Nader Ardalan, Houshang Seihoun, Kamran Diba and Ali Sarda Afkhami were invited to the conference.

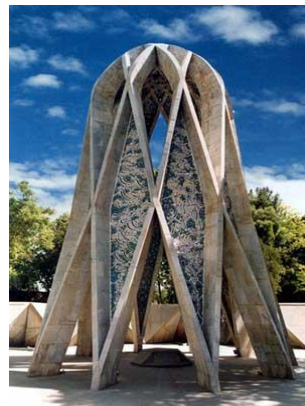
In his definition of 'tradition', Mr. Ardalan stated: "the traditional society acts within a spiritual territory which both in quality and material seeks perfection and proportionality. Its products, such as architecture, are produced originally by a complete worldview that promotes creativity in human being. This leads him to an ultimate stated goal in the end and unites the society as an inseparable whole."



Avecina Tomb

At the end of the congress, Louis Kann one of the speakers of the conference concluded that "the task of a good architect is to let be inspired by natural sources such as light, wind, water, movements and material in his practice. Any construction can be expressed by mixing of the art and science the knowledge of which has been acquired by traditional societies and the modern human should seek to."

Four years later, the second international conference of the architects was also held in Persepolis, Shiraz in 1984 where the well-known scholars of the time including Kenzo Tangeh, Hans Halin and Moshe Spheidi greatly contributed to it.



Khayam Tomb

### *Modern Persian Architecture:*

The best expression of the modern Persian architecture can be found in tombs designed and constructed by Houshang Seihoun including Avicenna Tomb (1947-51), Nader Shah Tomb (1959), Omar Khayyam (1952) and Kamal al-Molk (1963). Also, Imam Sadegh University and Abu Ali Sina University were designed and constructed by Nader Ardalan, Shafagh Park (1966-69), Museum of Contemporary Arts (1967-76) and Shushtar Nou (*New Shushtar*) (1973-77) by Kamran Diba, Banay-e Borj Building, Shahyad Square (1971-76), National Organization of Cultural Heritage by Hosein Amanat, the entrance of the Tehran University (1975) by Koroush Faramarzi, Shahr Theater Complex by Ali Sardar Afkhami and Maghbareh al-Shohada (The Tombs of Martyrs) (1972-56) in Tabriz by Gholam Reza Farzanmehr, to name a few. The most prominent practitioner of this style was Hoshang Seihoun whose proposed design for Abu Ali Sina Tomb marked the beginning of the modern Persian architecture.

Outstanding works of Mr. Seihoun include a series of memorials and tombs such as Abu Ali Sina Tomb in the city of Hamadan that was specifically inspired by Gonbad-e Qabus. In his Kayyam Tomb in Neishabour, he avoided literal renovation of the tomb, rather, inspired by the historical magnificence of the building and by stylization of the latitudinal and longitudinal lines using modern technologies he decided to 'reconstruct' the structure.



Shahyad Tower

One in explaining the influences of the Islamic architecture on his works he stated: "I do not consider the post-Islamic Persia as a separated era; our history is not a fragmented history, rather it is a continued one. [Thus,] the Islamic architecture is an extension of the Sassanian architecture. And that is why I decided to use Persian architecture in my works such as Khayyam Tomb although they are classified as modern works. I believe that we can present a modern architecture based on our culture and social structure. The modern human being has made remarkable intellectual and scientific progress and this can help us in a great way."

Shahyad Tower best exemplified this architectural style.

Locating the site for the Shushtar Nou project execution along the extension line of the old part of the city of Shushtar with creating a centerline at the heart of the site expresses the skill and deftness of the designer, Mr. Kamran Diba with regard to the traditional architecture and his attempts for modernization of it. His efforts were focused upon transcending his aesthetic standards. Creating spaces with variety of shades, achieving unity in plurality and harmony of the conflicting elements are among his techniques in accomplishing a modernized traditional architecture. Of the salient features of this project have been multi-functionality of the traditional spaces. As Mr. Diba put once it: "Western viewpoint is totally strange to the concept of home in Shushtar as a place where living, dining and bedrooms are the same. Thus, we concentrated on a traditional concept according to which the room was defined as a multi-function place with a large space that could be divided into smaller places and used for several purposes simultaneously."



Shoushtarno Design

### *Conclusions:*

As defined by the Persian traditional architects, architecture is more of a process of creation in which the architect expresses the ideas he has in mind together with his impressions and influences from his surroundings



in form of a structure. It is not a business deal to him but an attempt to convey meanings greater than himself. His success or failure is not the ultimate goal of his work; in other words, in his view architecture is a mental concept which is shapes around his 'intention'. Thus, the concept of intention should be given some room in modern architecture.

In the Persian traditional architecture for a structure to be defined as an architectural work, it has to have some unique characteristics. Not only does should be proportionate in terms of dimensions and other technical features, it should also be implying spiritual charm which is considered to be the resulting spirit or quality from it. It is better to define an architectural structure as composed of colors, forms, shades, material and finally human sense and feeling that could impress the viewer and clarify the ultimate objective he has been pursuing to convey.

An architect can be persuaded by the simple responses he receives from his customers. He can consider in his calculations the way the people behave and their formal manifestations so much he loses the courage to needs to use to come to a definite solution. He can be a man of compassion and not machine, or one who knows both and lives we both. He can mix the need that arises from the surrounding secular world and the compassion and love that originate in the heart to bring to life what he feels in his heart as if what he creates a beautiful poem in which each and every can view him manifested in his work.

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