

# Comparative Study of Symbol: Iranian Contemporary Architecture and Seljuk (Case Study:Tombes)

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**ABSTRACT:** This article is about the comparative study of symbol in architecture and contemporary Seljuk tombs in Iran. Art is one of the arts associated with various sciences and science concepts, and various features of footprints can be seen. The signs and symbols of architectural buildings and monuments can be helpful. especially for the beauty of motifs and composition, and roles and indications suggest deep thinking and high precision. For example, some architectonic art harmony such as symmetry, proportionality, balance, balance, matching, agreement, similarity, consistency, alignment, and equality are noted. The main question is whether there are similarities and differences between the use of the symbol and sign in the works of the monuments of the two periods of Seljuk and contemporary Iran? The aim of study is to study the architectural monuments of two architectural periods in Iran, with reference to types of signs and symbols of presenting the classification of the places of application of symbols and signs in architectural works. The methodology of this research is based on library studies and existing documents, and the gathering of data and deductions from the issues raised in relation to various types of symbols and signs, its application in the contemporary Seljuk and contemporary Iranian architecture, and research on similar examples. Finally, studying the research of other scholars, compares the architecture of the Seljuk and contemporary period of the Iranian monument with, the perspective of differences, similarities, the use of symbols and signs in the context of architecture.

**Keywords:** *Symbol, Seljuk period, Contemporary architecture*

## INTRODUCTION

Architectural art from the distant past represents the power of governments. Iran's architecture, in the course of its evolution, benefited from the experiences of the past and at the same time had its own characteristics. Therefore, apart from the Islamic culture that creates the common ground between Iran and other Islamic nations, it should also be noted for the Iranian architecture to recognize the history of Iran's pre-Islamic architecture. Throughout the history of Islam, every government that came into existence, tried to build various buildings, especially the Kurdish mosque and mosques, as its most important program. Today, the magnificent monuments of mosques during the Islamic era give us more insight into the architecture of this era. (Akbari, 2011). The most important

human function is perceptual and epistemic behavior. The reason for about human beings is the distinction between the other beings and the reason for the high position of thought and thinking about human life. To express concepts in architecture, design must meet perceptual needs. This goal may be somewhat possible with the semantic process. In fact, semantics is the process of change from purely functional design to perceptual design. In the design process, the architect always faces the challenge of turning a concept into an architectural complex. In fact, the effect of architecture always implies a concept. Therefore, in order to understand the meaning of the architectural structure for its manifestation, it must be understood by the initial conception of its creation by understanding the implication relation between concept as sign and architecture as a signifier through semiotic

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knowledge. Therefore, understanding the distinction between different types of signs and symbols in the architecture helps us to determine, based on these architectural examples, how to use semiotics and the symbol for the architectural part of the concept. (Bagheri & Eynifar, 2016) Iranian architecture in Islamic period gradually turned

symbolism of early century to the much decorations and avoided any realism in the patterns. (Saberi Kakhaki, 2012).

Despite the many efforts made in recent decades to conceive in the field of semiotics, many contemporary architectural influences are tied to contemporary styles and practices that are deprived of not only the proper use of this science, but also even surface encounters, and the audience also recognize and correct the symbols and signs used in the works of the forefathers of the past are incapable. Therefore, efforts to introduce semiotics from two perspectives are of great importance: First, the unconsciousness introduces the designer to a new way of communicating, and second, it brings the power of communication to the audience. (Bemanian et al., 2013). In the present article, we will begin by explaining semiotic science to better understand the application of the symbol and sign. Then, from the point of view of Islamic semiotics, which is based on the Islamic-mystical approach, the classification of different types of signs is made. Eventually, architecture will be considered as a place of application of different types of signs, we will look at the cognitive sign and cognitive symbol of the monuments and the importance of two periods of Seljuk and contemporary architecture in Iran.

For researching the classification presented in this article, it has been tried to refer to the periods, which had the most usage about symbol and sign and selects the best building instances. Undoubtedly, the usage of symbolic God is widely depended on many reasons and the two major factors of it can be; first, the capability and designer's desire to use a language is different from the current language and this is a cultural factor which directly depended on the social factor. In other words, if the community is more progressive and more informed, then the tendency to express and use symbols and signs will be increased and if it is mentally in a lower group, this application will be used less than it is imagined. The reason is that basically communication always requires a second person whose capable of understanding and answering to the questions. Secondly, developing the architecture science and constructing buildings in a way that it did not limit the mental capabilities of designer in such a way that he cannot present his thoughts and the spiritual aspects of his work are presented at the lowest state and also, another factor which was technically considered by the writers is the point that those kind of works should be selected in terms of the framework safety and no major changes, they have this ability that one can make minor changes to their symbolic factors. Therefore, two architectural periods of Saljoughi and Iranian contemporary were selected for more analysis

## MATERIALS AND METHODS

### Seljuk Period Architecture

With the advent of Seljuk and the expansion of their rule, civilization called the Seljuk civilization in Iran has a great significance in the political, social and cultural history of our nation. This series of political unity brought about the flourishing of various sciences and arts. Architectural art flourished in this period, and artists and architects mastered many works. In the architecture of Seljuk, elements were created to make large mosques with central courtyards and four porches and a dome-shaped courtyard. This style of building is the basis of the religious architecture, caravanserai and schooling of Iran. At this time, the mosque in its evolved Iranian form has these characteristics. At the beginning, the longitudinal axis of the building is located on the veranda facing the open apron. There are two verandahs in the long axis and two verandahs in the transversal axis, and the dome hinges are located behind the arch of the vaults and are located at the end of the long axis of the mosque. This type of plan and design can be seen in the comprehensive Esfahan mosque, Jameh Mosque Zavar near Ardeshtan, Ardeshtan Mosque, Qazvin Mosque, and Golpayegan Jami Mosque. However, the most complete example of the four-footed Mosque of Isfahan is the complete set of decorations of the Islamic period of Iran. This monument, built on the orders of Malekshah Seljuk, is in fact a collection of developments in Iran's archeology and artwork in the last thousand years. The two domes of Khaje Nizam al-Mulk in the southern part and the Tajmolmalk dome in the northern part of the mosque are technically and beautifully impressive in the Seljuk period (Hatam, 2000).

The Seljuk period's tombstones are made in two different ways: in the form of a tower in the shape of a dome, with four-sided planes, polygons, circles or crackers, most of the tombs of this period are two levels: the upper mosque and the floor below or the cellar burial bodies. Inside, most of these tombs are covered with a semicircular ceiling or cubicle, and externally fitted to the body of the tomb with a pyramid or cone dome. Of particular examples is this kind of architecture. Tomb of Sultan Sanjar in Marv and the Red Dome in Maragheh, and three domes in Urmia careful review of many of the architectural archetypes of this period illustrates the influence of the arts and architecture of the Sasanian age. Ivan dome and interior decoration as well as many Islamic monuments entirely derived from pre-Islamic Iranian architecture. The importance of Iranian art and the attention of the Seljukites to Iranian culture and traditions was among the factors that contributed to the progress and development of the art of the Seljuk era, along with the influence of the Sasanian art., with the plan of the dome and the important tower of Andoush Damghan and the Tower of Tugrul in Rey with the plot of Turkat. Kharqan tower and Damavand tower and Ali dome in Abarkuh and Domeh bay in Maragheh (eight and ten corner). (Yavari, 2011). Among the outstanding works of the Seljuk era, it is easy to understand the significance and influence of the art of the Sasanian era in

various parts of architecture and art, reached its fullest extent during the Seljuk era. In connection with the progress of the architecture of the Seljuk period, it should be acknowledged that during this period, the Renaissance of Iranian architecture after Islam took place. (Akbari, 2011). Of the features of this era was the use of bricks in architecture. Superior bricks with subtle placement and geometric shaping of the designs, in accordance with the precise style, featured the decorative features of the building. This was done with the amazing ability and power of the technician. (Yavari, 2011).

### Contemporary Iranian Architecture

Since modern architecture has neglected the geographic and historical boundaries of its ideals, it can be said that from the perspective of the modern architecture movement, history and geography as the main conditions of human culture as a result of technological illusions and visual depravity. They do not have much to do with architectural development. Abstraction and modernization of modern architecture are in contrast to the ancient architecture, which is the result of the historical development of its elements in a particular geographical context. It can also be said that the abstraction of modern architecture is a negation of the language of architecture, a language that has evolved over other aspects of human civilization in the course of history and the movement of modern architecture with its reversal, as if the vocabulary of the architecture language has diminished to the basic elements of the figurative. (Habib & Hosseini, 2010). With the introduction of modern architecture elements into Iran, we can see a wide variation in the style of contemporary architecture of this period. These changes are gradual and its origins date back to the late Qajar period. With the victory of the Constitutional Revolution, a huge cultural, social, and ... transformation took place in the Iranian society, These events can be regarded as one of the examples of the beginning of the transformation of the Iranian life. What has been doubted during the Qajar era is the emergence of iron shapes next to Iranian forms, which most contemporary intellectuals call "Altaqat". Changes in the spatial and communication structure of new buildings, such as the building plan, the combination of elements, European architectural forms with native architecture and the use of building materials with new technology, have been the main feature of the architecture of this period. The construction of new public buildings, which was the main requirement of this period, transformed the shape of architecture. However in general, contemporary architecture has created a fundamental change in the way architects of interior design, performance and manufacturing technology have made, and become increasingly distant from the Iranian architecture with its past. This distance, in terms of transactional, functional and high-ranking, was a new action that until then it was not possible to build such buildings in Iran. The impact of oil revenues and the Western enthusiasm for investing in it and other influential factors captured the potential of Iranians, and Iranian intrinsic

architecture was replaced by an outward-looking architecture with an attitude toward modern architecture, a very powerful stream of its time. (Sobat Sani, 2013).

### Symbolism

Symbolic view of the universe and its phenomena from distant past and ancient cultures is ontology. Especially in the ontology's of religion, which considered the very essence of the universe to be much wider than the material universe, and found the beginning of existence beyond this nature. The symbolic look of being is the main approach of divine religions and mystical masters in ontology, and it emanates from the temporal dimension of their idolatry (Noghrehkar, 2010). Avani, with a similar look, sees symbolism as the creation of mankind, and it is a common language for communication. Message prophecy knows:

The symbolic look of being is the main approach of divine religions and mystical sympathies in ontology, and it emanates from the temporal dimension of their ideology (Noghrehkar, 2010). In an analogous view, symbolism is regarded as the creation of mankind, and it is a common language for communication. The message of prophecy says: "The symbolic look of the world, on the other hand, symbolic and symbolic ontology is as old as human thinking. One may say that the symbolic appearance or appearance is one of the first distinctions in the sphere of human thought. The main purpose of the message of the prophets and their joint speech is, in the sense of inviting human beings to the inner comprehension behind the appearances of the universe." (Awani, 2003) In fact, symbolism, or symbolism, practice, and art are the application of the symbol, which is done by expressing symbolic meanings for objects or the expression of invisible, subtle or inferior creatures by displaying them in a visible and perceptible manner. Symbolism, namely, the treatment of symbols as factors influencing culture and society, plays a significant role in influencing the periphery of the world.

### The Structural Dimensions of the Symbol

The symbol is a sign that is preferred. In Fig.1 the authors deals with his division into a symbol.

#### A) The Objective Dimensions of the Symbol

Conventional Symbols: These types of symbols, which include most of the driving signs, are a set of rules and regulations that are referred to as contracts and definitions in a particular community or unit as a sign or symbol. At this stage, the symbol in terms of semantics, falls in to a lesser extent because it does not need to be interpreted, and something is clear. An optional or contractual symbol (such as an attribute, a graph, a letter, an abbreviation) associated with a special field of knowledge (such as mathematics, physics, chemistry, music, and phonetics) for representing actions, quantities, distances, capacity, direction, Ratios, qualities, sounds, and other subjects are written or role-based. (Vaheddust, 2002).

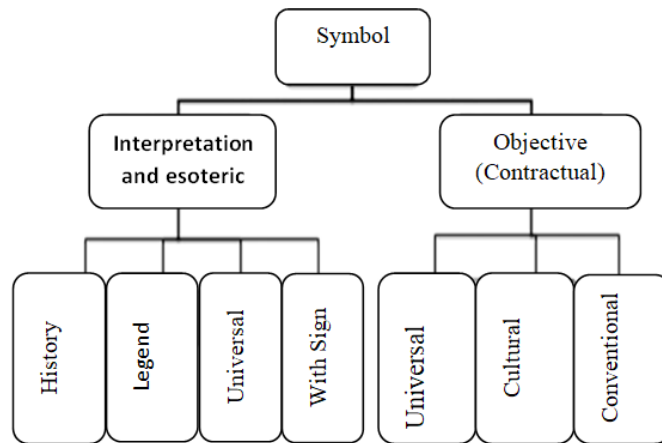


Fig. 1: the structural dimension of the symbol (Source: authors)

**Cultural Signs:** In some cases, an act, voice, or an object are presented as a cultural symbol that has its own emotional ability. It is like playing a national anthem, which is a symbol of every country.

**Universal (Universal):** This type of symbol has two different interpretations of its own, which, in the apparent aspect, are referred to as a sign or guide, are conventional, such as the spin snake seen in most ambulances, and as a sign Hospital symbol has been raised. However in the exterior aspect, they have an interpretation both in history and in the myth, and they are presented as a symbol of health and well-being. Part of it is in the definition of a contract whose apparent dimension is derived from history and legends.

#### B) The Inner Dimensions of the Symbol

**History:** Some symbols are hidden and rooted in history, and this is history that is capable of expressing and its thematic cause, and the interpretation of its inner meaning without reference to history is not feasible. Like the sanctity of some numbers, they are designed as a symbol and a symbol of movement in a certain way because of working in a sacred repetitive.

**Legend:** A thing that is a representation or representative of another object that is commonly associated with or associated with a connection or association, a subscription, or accidentally and randomly having the same attribute and attribute. Like a lion symbolizing courage, or a cross that is a symbol of Christianity.

**Universal Symbol:** This type of symbols, in which the symbol is rooted in deep association with its intrinsic relation with its signifier. This symbol is common in all cultures and plays a common language as a unit. like the symbol of Lion and cow.

**Symbol:** Signs that are present in nature and being and often referred to as a symbol. In most cases, the understanding of these signs requires a great deal of thinking and deep religious feelings, which is also due to inner interpretation and interpretation like the mountain, which is a sign of patience

and stability, like the sun, which is the sign of greatness and wisdom, the cave, which is lonely and self-reaching, and like the cave of Hara which is the flow of mysticism of the great Prophet (PBUH). In the discussion of referring to semiotics, we cannot determine which sub branch is for another, whether the symbol is preceded by a sign or symbol. However in Islamic texts, the signs are also divided into a variety of items that are both valid and a controversy about the semiotics of Saussure, Pearce and Husserl, to the point where they seek to parse the signs, but to define a specific one for such a debate. It is hard to make it look simple at first glance, and is very complicated and difficult in the eyes of the micro blogger.

The result of the scientific attitudes towards symbolism, which is further developed in psychology, is the development of two aspects of the symbol as an influential member of the human psyche and as a common language for the message of culture and history. The science of symbols, as obvious signs or the innate Creator, forms a fundamental part of metaphysical knowledge and, as a result, metaphysical cognition deposits. By obtaining the qualitative significance of space, matter, and all objects or phenomena, the objective knowledge and aesthetics of traditional human beings develop (Ardalan & Bakhtiar, 2011)

#### Symbolic Elemental Elements in Islamic Architecture (as an Example)

Our Islamic architecture consists of various components, and each of which has a symbolic meaning, while it has a terrestrial aspect, has its spiritual and spiritual dimension, and is observed in the form of symbolic and symbolic forms. Now, this effect can be from the surroundings and nature, or from books, narrations and myths; however, what is clear is what affects its object and structure. By referring to these symbols, we always find concepts that are rooted in the history and culture of every tribe. As I see, symbols always take part my concepts from myths, and these are myths that shape and symbolize them, as in the story of creation A Buddha is seen from Niloufar,

or an Indian myth of the creation of Brahma is thought to be on a huge lilac, which Brahma views at the same time in four main directions. This kind of perspective refers to the four main directions of the entire cosmos, which is a preliminary orientation of the works of creation. Or these concepts in the myth of Rostam and Esfandiar and other mystical and fictional issues remain clearly and touchingly of the symbols that rooted in our millennial history. Or in the story of Younus (AS), all of them are abundantly dramatic of symbolism, which clearly influence the building, and components of the building take their symbolic concepts from them and transfer them to another audience at a different level.

#### **The Symbolic Meaning of the Circle and the Dome**

Dr. M. L Von Franz explained that the circle or sphere is a symbol, and expresses mental integrity with all aspects, including the relationship between man and nature. Whether it is a symbol of sun worship among primitive peoples or religions and modern, is in myths or dreams, in the form of Mandela's drawn by Tibetan priests included, or are inspired city maps. Or in Korea, the first astronomers to suggest Herrero have always been the most important aspects of life, unity and territorial integrity. (Yong, 2013).

In this regard, Arnheim describes the symbolic meaning of the dome: "The arch dome may not be a religious image of the sky yet, but because it covers the empty space and surrounds it forever, the natural sky is inextricably linked, and it shares with some of its implicit implications" (Arnheim, 2007). He continues to regard the symbolism of the arts, in particular architecture, as a provocative and seductive phenomenon, rooted in human experience, and this will be a source of confusion for cultural, traditional and ethnic changes. In confirmation of this expression, domes and minarets or stairs used in most temples and mosques are used, and in all cases incorporates concepts that are rooted in our beliefs and beliefs. In Islamic architecture, dome is a sphere, and close to the circle symbolizing the perfect union and oneness that total represents heaven, which is the base of the cube and is the form of the square as a symbol of the earth. In addition, the whole concept of land and the sky is raised. This kind of expression is also expressed in Yin Wang, China. This is the symbolic meaning of Burkhart and Ardalan, according to a narration from the Prophet, that the huge dome of the white oysters, which was placed on four bases, was written on each basis of the four prelates of the first chapter of Fatiha's book: Bismillah, Allah, Al-Rahman, Al-Rahim and Four streams of water, milk, ghusl and Khmer, which are the ultimate victory and prosperity, are underneath them.

#### **Symbolic Meaning of the Sanctuary**

In its final form, the mosque in the Muslim community and in Islamic civilization is the most suitable space for the creation and synthesis of all human beings from material and natural life to a reasonable and calm life in the light of the guidance and

guidance of the perfect human being or the perfect man. (Asadi & Beygzadeh, 2015). The altar is a member of the mosque, which carries a number of symbolic meanings, sometimes as a sanctuary as the gate of paradise. The altar of the path specifies that the centrality of unity and all Muslims are confronted with unity is the altar with this rotating expression that points to the worshiper towards the qibla. In much alms of mosques, there are valuable examples that are combined with naturalistic and naturalistic concepts whose similar examples can be found in the altar of Oliyatu.

#### **The Symbolic Meaning of the Minaret (the Physical Symbol of the Ascension Concept)**

The term minaret or minar, based on its root, is the "Narrator of Nar", has or has interrelations with the Zoroastrian firefighters. The annexation of the minaret in the Islamic tradition is both a continuation and development of a symbolic and ancient design. For example, it is the person who represents the human axis, which represents the elevation, and longitudinal aspect that gives the material existence of man the depth or spiritual height of the face of a two-dimensional man. From the apparent point of view, he is the representative of man: the pixel, which stands between the creatures only in the universe, is perpendicular; from the inner point of view, it is a reminiscent of the soul of a person who regrets the return to the origin of the erosion. In addition, the minaret of the inviting element represents the ascension and the dominant element in the city's body. The minaret is reminiscent of Azan's sentences, which is a unique sign of Islam. In fact, the visual symbol is both aural and symbolic, a body of movement, ascension and reference to the sky. The mosque's minaret can be called the most basic and primitive sign of the prayer (uprising) (Ardalan & Bakhtiar, 2011).

#### **Semiotics**

Scientific semiotic science in the domain of Sign and Meaning examines the types of signs, the factors involved in the process of production and exchange, and their interpretation, as well as the rules governing the signs. A sign is a tangible and visible phenomenon that, by virtue of a relationship with an absent phenomenon, succeeds it and implies it, and it must necessarily have material gain in order to be received by one of the senses of man. (Iran Industrial Design, 2010).

#### **Architectural Signs**

Semantic topics are now far outnumbered by language and imagery. What architects also have is semiotic and architectural communications

As examined, this study is intended to generalize the types of signs in the form of architectural examples.

Definitions and architectural examples examined by architects and artists in semiotic topics.

These definitions are summarized in Table 2 .



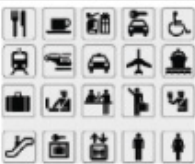


in the book Architectural Architecture, referred to topics



Table 1: Signs from Pearce's ew

Example	The relationship between the sign and the signifier	Sign
<b>Image / Photo / Architecture / Maps / Models</b>	<b>Similarity</b>	<b>Icon</b>
Signs of interest to meteorologists in the climate prediction of the relationship between smoke and fire and a variety of natural signs such as smell and taste	Non-wardrobe - time and space ratio between sign and signifier	Index
The relationship between the pulse rate and the likelihood of fever and the general symptoms of the attention of doctors		
Language in general / Marseilles / national flags / driving lights	Contractual	Symbol

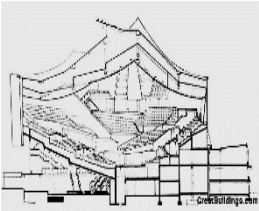


Table 2: Sign of Grouter's View (Grutter, 2010)

Pictures	Example	Property	Sign dimension	Types of signs
	Ornament image	Form, size, Color and a sign of appearance	Appearance	Pattern
	Semantic dimension of central space, Calm and Stagnation	Concept, Bookmark content, talking about the relationship between sign and content		Architecture shape
	Pictogram	Needed more knowledge in most cases		Explicit sign
	Sydney opera	Matching experiences with shape, Person viewer function, the cultural environment of the viewer	Spiritual sign	Metaphor
	Lining Gates in Shinto Art, The symbol of passing from material to spiritual	Express mental content, Need to know before to understand, Culture dependent		The symbol

surrounding metaphor as a type of sign and its use in architecture (Antonius, 2002). Antonius believes that the metaphor is completely different from the symbol, because: (1) in the metaphor the alias is replaced by a pseudonym; that is, it loses its identity to obtain a new identity. Metaphor does not need surrounding text, but the symbol needs an environment in which it flourishes through meaningful repetitions (Daad, 2008), which implies explicit implications of the types of architectural implications that are described in the book as examples of a variety of metaphors. All of these are summarized in Table 3.

Generally, the understanding of any kind of communication in the world of phenomena is an essential component of the "sign", which may include a verbal, visual, phonetic, or even secretary. Thus, words, pictures, icons, gestures, and things can be signs (Ahmadi, 1992, 52-72). In a general category, signs can be divided into two categories: credit and development. (Parsania, 1994). The explanation of these two categories of signs and their features in the field of art and architecture is of paramount importance because art does not have any other way of entering the domain of meaning and content except

Table 3: Metaphor from Anthony's View (Antoniadis, 2002)

Pictures	Architectural Example	Property	The origin creation of works	Metaphor
	Philharmonic Building  The architect: Hans Sharoun  The metaphor of grape vine hills	Surface is a fundamental meaning, possibility to understand meaning in the event of more engagement with architecture	The concept  Ideas  Human or specialty mode	Tangible metaphors
	Mary Time Museum  Like a ship  The architect: Hans Sharoun	Tangible meaning  Discoverable visual features	Visual or material features	Subtle metaphor
	Albuquerque Blood Bank Building  The architect: Antony Pridac	Deepness is the fundamental meaning of meaningfulness in appearance	Visual or material features  An opportunity to Reveal Thoughts and qualities and visualization features	Combined metaphor

codification and versification and symbolic and allegorical methods (Noghrehkar, 2010). This is also important in the light of the explanation of different species of sign. Credit signs are indications that do not imply similarity to the modules. (Zamiran, 2004). And in fact, there is a contract between the face and its meaning. (Safavi, 2004). Thus, signs like the alphabet, numbers, traffic lights, wearing black clothes for mourning and the like, are purely contract-based, and symbolic signs. (Noghrehkar & Reyisi, 2011).

Indigenous signs are those indications that the relationship between sign and sign (face and meaning) is not dependent on contract and credit. These categories of signs can be divided into two main categories, which are symbolic signs and index signs. Iconic signs are, those based on the similarity of face between signifier and signified (Ahmad, 2001) and, indeed, show evidence to show the signified resembles or does it evokes. (Samaniyan & Pardisi, 2010) any other signs of developmental signs profile; the profile of those occasions signifier and signified, in which a causal relationship, for example, runs a profile on fire or fever profile of the patient The presence of human beings or kettelfish is an indicator of the warmth of the water inside which, in all of these, implies a germinal and natural relationship based on the cause and effect

relationship rather than the contractual (Noughrekar & Reyisi, 2011).

Based on the above discussion, in Fig. 2, a general classification of different types of indications is presented. According to this diagram, and considering that each language is a system of dependent words (Saussure, 1966), the language of architecture is also classified as symbolic, indexed, or symbolic.

#### Applying Signs in Architecture

Signs in the field of architecture. as a form of art that has the ability to be present in four dimensions of human dimensions, and a body derived from the human mind to create a living environment for it, has always been a symbolic, and prominent feature of the place. The reason is that the architect artist has chosen the symbol as a metaphorical language for communication at different levels depending on the consciousness and depth of his audience that can be the language of the architect and creating the building during his absence and for the future. However what the architect used where and how much of his trans-time language is that, it is necessary to research and review the architecture of the building. Therefore, in this research, it has been tried to identify the applied systems of the symbol in the art of architecture and to investigate their

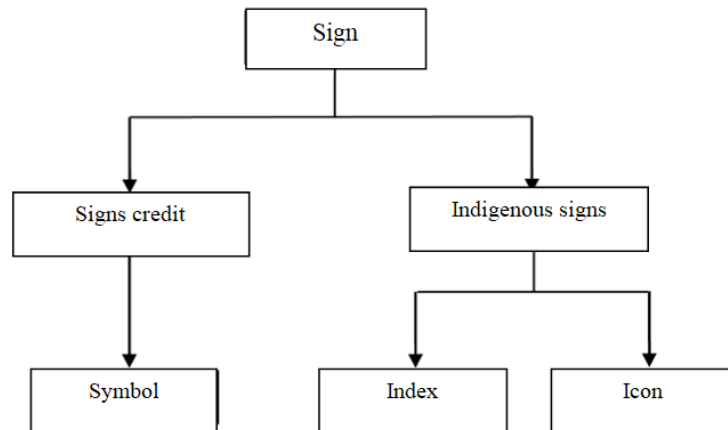


Fig.2: Different Types of Signs

correctness with reference to case examples. As a result, the following four principles are introduced as the main place of application of symbols.

#### Concept and Design Idea

The concept can be considered as the main idea of the designer to start; the system is divided into various components of the design and to achieve the desired result of the designer.

#### Mathematics

Traditional men counted the whole creation as a lucrative one, and it reached to this revelation that he and nature are in the structure and proportion of the communion that is through mathematical mathematics. Therefore, all creatures of man and nature are formal as cosmic laws and it is up to human beings to find their process through account, geometry and harmony. The proportional shape ratio is the same as the ratio of rhythm to time and harmony to sound, as cosmic rhythm and harmonious sounds are received in terms of numbers, the reception of proportionality also begins with it. (Ardalan & Bakhtiari, 2011). On the same basis, the application of mathematics and mathematical symbols in architecture can be divided into three general categories: plan geometry, constructional proportions, and the application of special numbers in the design.

#### Geometry

Geometry, at the level of explanation of numerical identification, gives the traditional person a greater depth of exploration in the processes of nature.

#### Proportions

The creator's unit starts with a point; it moves with two points, at the line's limit, when the radius of its radius rocks the Earth. The Earth is the most visible symbol of monotheism, and its division into regular polygons is the basis of all the traditional

rules of proportions.

#### Numbers

The number of the cipher is the connection between the substance and the meaning. Geometry and literature are the material of science and paranormal sciences. Mathematics plays an important role in expressing beauty. (Naghizadeh, 2004).

#### Decorations (Cues, Slides, Decorative Forms and Flat Geometry and Colors)

Decorate matter of Islamic art can be authentic handling the matter be interpreted in the sense that every process that makes the original and sample the primordial and his ideal more similar to the material symbol more straightforward and understandable than the world of reality makes art, in its most general definition in Islamic insight, a way to dignify it. Decorating is the only way to release material from the earthly heavens. With a nobleman, the artist pushes the levels of reason to think in a space beyond material in order to reach the realm of eternity.

Geometry: A geometric pattern, such as spatial designs, requires spatial superstructure models-the patterns or roles that span side-by-side. The qualitative qualities of all geometric shapes tend to be central. The consequence of coordinating lines that creates separate forms, with different patterns. (Ardalan & Bakhtiari, 2011).

Line: The word of God came to Islam with Qur'an. The line thus represents the visual visualization of divine revelation, both in content. The soul structure of the line composed of longitudinally and transversely grown legs in rich rigid texture, employs cosmological symbolism. Longitudinal grooves, carpet, causes a relationship with the existence of the plan and at the same time takes on a structure, while the cross-breeds, like the wool, are in line with the creation, the development of the balance-and-ceiling section of the original is conceptual



design.

Slimy: Slalom is basically a creator of cosmic creator through nature. the Foundation of Nature plays it, the Arabs also have meaning. Each slim is a reflection of the movement, which implies the regular repetition of features, elements, and phenomena; it is also periodic. Slimy does not fill the entire surface, but because it is a space in space that is prominent on a passive background. (Ardalan & Bakhtiari, 2011).

Color: In ancient civilizations and in religions, colors have a symbolic place. White is considered the color of the gods. The Egyptians swept away their dead in a white cape to show the emancipation of the clean spirit from the mortal body. (Shahin, 2004).

### Components and Elements

In all artistic forms, one can see that elements, apart from the functional role as a material component of a work, play a spiritual role or semantic carrier, sometimes the spiritual aspect of which is its material aspect it's not worth it, but its impact on the audience is much more than its functional aspect.

### Research Questions

Where are the use and position of the symbol and sign in architecture?

What are the similarities and differences of the symbol, sign and symbol in contemporary Seljuk architecture and architecture?

## MATERIALS AND METHODS

The research method is analytical and interpretive-literary, tools and methods for collecting documentary information, libraries, snippets, and samples. They have traces of the symbol in their works. The method of data analysis is also deductive reasoning and inductive reasoning (inference). In this article, we try to use various opinions and ideas around the topic, because there are many articles on this subject, and each of which is good in its place.

## RESULTS AND DISCUSSION

At present, deficiencies and ambiguities in visual studies and the lack of transparency on the boundary of indicators in the field of architecture are clearly understandable. Thus, using semantic ideas and reflecting on the specific features of each type of sign on the one hand, and examining examples of architecture on the other hand. The amount of attention to the apparent dimension and semantic dimension in these buildings, how the meaning is expressed, the rate of absorption Significance and location of signs in architecture in these buildings, on the other hand, signs in architecture were divided into four main categories. Inclusion and representation of each type of sign in a distinct and exact boundary of the symbol in architecture are other indications, and the expression of the relationship between the sign and signifier in each of the sub-categories and the concrete examples to provide a better understanding of this segmentation. The reason is that the

metaphor was also included in the new category and its types were placed in its subcategories. The hierarchical significance of the use of the sign in architecture is based on the extent of the discovery of meaning and the movement of the design for pure performance to the design to perceive the issues that have been considered. (See Table 4).

The theoretical achievements of this paper is briefly summarized in Table 4, are:

The delineation and designation of the scope of semiotics in architecture: the symbols in responsive architectures to perception and function at the same time, in the form of tangible metaphors from the subset of the icon and the index-icon, or the same subjective metaphor or metaphor combination. Further, it is embodied in architectures that are only responsive to perception as a symbol.

Provide a new division of the signs and sub-sets of each in the field of architecture:

The division of signs into a distinct architecture can be divided into four distinct categories: the symbol, the index, the symbol, the profile and the symbol, whose symbol is divided into the subcategory of the image, diagram and the tangible metaphor. A large number of architectural monuments have a semantically dimensional surface that is tangible in appearance. This discovery of meaning in appearance may take place in the external view, sections, plan, or internal and external perspectives. An impressive amount of buildings with this feature caused a separate category in the name of the profile-icon in the semiotics of the architectural area.

Another thing to consider is metaphor as a type of sign in the field of architecture. The metaphor is used extensively in architecture and its types are placed in the relevant categories, and its variants were placed in the subcategories of the signs.

In this table the boundary between the profile and the symbol is specified.

The first indicator of the symbol is its domain in architecture, which defines it only within the scope of architecture for perception. This means that symbolic architecture has not been created for any particular function, and the purpose of its creation is merely its perceptual and semantic aspect. The second factor in identifying the boundary between symbol and symbolism is the strong dependence of symbolic architecture on the context and the basis for its formation to make its meaning more meaningful. Cultural context is one of these texts that do not exist in the profile of such a relationship between the structure and the text. The third difference between the profile and the symbol in architecture is the plurality of meaning received by the architectural editor. In the symbolic architecture of unity, there is an implicit meaning, and in the architectural structure of the plurality of meaning received by the viewer. The stronger the relationship between the sign, which is more explicit and the audience easily understands it. Symbolism in the semiotic topic is due to the fact that the type of relationship between the sign which is less evoked. Further it is less explicit in conveying concepts (Kosari, 2008; Jorgen,

Table 4: Symbol and Symbol in Architecture

Case examples	The scope of the sign in architecture	Type of implication	Type of implication	Significant characteristic between sign and signifier	Appearance / Meaning	Semiotics	
Decorative architectural designs	Details on architecture	straight	(Similarity relationship (visual similarity	Syntactic Aspect	Image	(Icon)	
Architectural /models Cities map	Architectural introduction tools	straight	Deductive relation	Semantic Aspect	Diagram		
Chiat di .1 monument, like photographic camera	Architecture responsive performance and perception	straight	Explicit formal similarities without the need for interpretation	Semantic	Tangible Metaphor		
Chicken .2 shops, like				Aspect			
		Implicit	Relatively straightforward formal relationship with interpretation	The relationship of similarity based on the metaphor between the two aspects of the metaphorical relationship	Dimensional semantic meaning	Intangible Metaphor	Index Icon
		Implicit	Implicit similarity with interpretation		Dimensional dimension is deeper and less perceptible	Combinatorial Metaphor	Index
Lace Gates, Shinto Worship, A symbol of the passage from material to spiritual	Architecture responsive to cognitive need	Implicit	Contractual relationship			Intermediate	
	Mosques and tombs	Implicit	Sign = signifier		Semantic dimension	Immediate (Gray (verse	Symbol

2009). Thus the fourth difference in the profile is the symbol of the level of explicitness and meaning of discovery. In the symbol of meaning, there is a more secretive layer and the entry into the realm of discovery is only possible by knowing the contract to its creator.

Express the significance of the hierarchy of indicators in the field of architecture based on the level of discoverability and the movement towards design for perception: the greater difficulty of the discovery of the sign becomes more important. As we move towards the symbol, understanding the meaning becomes more difficult.

### Case Studies Examined

#### Contemporary Sanctuary

##### Abu Ali Sina; Tomb in Hamedan

The first monument built with the design of Sihon. All factors

are composed of many geometric and symbolic shapes, each of which has its own concept. The square is the foundation of this building. The tomb itself is located in the middle of a square roundabout that surrounds the circular staircase and the twelfth foot of the memorial tower around the circle of the mosque. The exterior has two parts: one underneath and the other is the memorial tower, the bottom of which is at the entrance with a verandah with ten columns, each of which is a mark of a century, and ten centuries refers to the millennium of Abu Ali.(Fig.3). On the other hand, Abu Ali is a highly educated scholar with numerous knowledge, philosophy, wisdom, music medicine, chemistry, and so on, and some thought to have twelve knowledge. (BaniMasoud, 2012).

##### Tomb of Khayyam in Neyshbur

The skeleton of the building will be metal and the ceiling will



Fig.3: Columns of the tomb, tomb of Abu Ali Sina, Hamedan (irannema, 2016)



Fig. 4:The pavilion of the dome, Khayyam tomb, Neyshabur (Anobanini,2017)



Fig. 5: Materials Used, Tomb of Babataher, Hamedan, Foroughi (Anobanini, 2017)

be decorated with a kind of thick colorful glass and the text of the body section with the tile backs and turns. Khayyam tomb in terms of architecture and construction, and one of the most important buildings built in is your time. The bottom line has ten decimal places. The edges of the building continue straight upward and appear in regular geometric shapes, and then they form almost conical shapes and create a quasi-dome above. The major part of which is lattice and hollow. These elements refer to Khayyam's scientific character and astronomer. Khayyam has three faces: mathematician, astronomer and poet who must show all three characters in the building.

#### Tomb of Babatahar Hamadan

The tomb building is clearly designed with the goals of architectural modernism. The height of the tomb tower is located octagonal. In the eight pillars of the tomb tower and the stones on the tomb and the floor covering of the tomb, as well

as stairs and pillows carved around the tomb tower, granite is carved out, and outside the exterior of the building is a used white tiger. In the roof of the tomb's inner courtyard, tiled has been used exquisitely. The tomb is designed in the form of a statue and the volume provided for the tomb is more similar to the platinum volume of modern architecture. The volume is designed without any subtlety (BaniMasoud, 2012).

#### Seljuk Siege Jabalieh Dome

The designation of this massive and solid building, known as the Jabalieh Dome or Jebel Bin, may have the stones used in its location. The building materials of this masonry and mortar are a mixture of camel milk, a special soil.

The map is octagonal, and the dome building is in the form of two crests on the base, the end of which is circular in shape. For the elegantly illustrated construction, the outer walls are made



Fig. 6: Jabalieh Dome(Wikipedia, 2018)

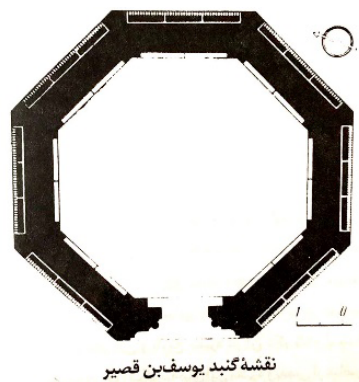


Fig. 7: Plan of Yusef Ben Ghasir (Hatam, 2000)

with nesting hooks that have a curved arch, which has resulted in a diminution of this empty space to the walls of the wall. In the past, this stone building has two entrances in the past, nowadays one of them is blocked, all except for its stone, and it seems to be annexed and made of brick. The height of the dome is 5 meters. The exterior of the dome has a staircase view, in which the dome above has a 16-necked neck whose diameter is smaller than the original diameter of the building. Most likely, in the past, the dome was made of two folders, with its outer cap collapsed. (Hatam, 2000)

#### **The Dome of Yusuf ben Ghasir**

This dome is located in Nakhjavan and due to its architectural works; the Seljuk period is of great significance for the architecture of this period. The map of the tomb is octagonal and two floors. The exterior of the dome is completely decorated with geometric shapes of the bricks. On the walls, there are also linear images that include the Kofi line and the writings of the Quran that surround around the tomb on the top. The entrance to the tomb is located inside the dick with a rectangular port and located on the west side of the tomb. A steep arch is located on two cylindrical columns on both sides, in the upper part of the inscription port to the Kofi line.

The decorative motifs used in the body of the tomb include hexagonal, triangular, quadrangular and trapezium hexagonal designs. The octagonal body of the dome is a pyramid-shaped, long form of brick.

#### **Ali Dome in Abarghu**

One of the safest buildings in the Seljuk period is this building; the basic material for building a carcass stone and mortar and plaster is sand. The map is made up of an octagon, with its body on a four-corner seat cornered and two meters high above the ground. The dome body is very simple and precise and has clear lines. In the upper part of the body and in the stem of the dome, there is a large rocky margin, and the Kofi inscription has been coated with coarse lines around the body. If it is from the dome map, these Mogharnas are more prominent than the dome of the dome; they protect the scrolls below their own against snow and rain in the form of cornice. On the other hand, this high prominence of the Mogharnas at the end of the dome's stem indicates that the dome was already in the past, with which the pyramid warhead collapsed over time. At the entrance to the tomb, facing north is embedded inside a vaulted arched curtain. (Hatam, 2000)



Fig. 8: Ali Dome in Abarghu



Table 5: The Application and Position of the Symbol and Sign in the Contemporary Iranian Architecture

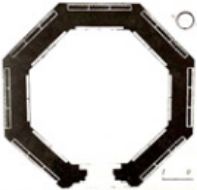

Saljoughi Period	Plan	Plan	Interior dome	Exterior dome	Materials	Height	Decorations	Script
Yusuf-ibn-kasir dome		Octagonal Two floors	Crescent	Pyramid Classic	Brick		Designs of brick Geometric Shapes	Kofi dome
Jabalieh dome		Octagonal	Crescent	Destroyed	Granite Dome brick	5 m	arches of 12 dome stem hillside	-
Ali dome in Abargo		Octagonal	Crescent	Destroyed (The Pyramid (Dome	Carcass stone	12 m	Columns of the dome (three rows)	Kofi dome

Table 6: Symbol and Symbol Application in Seljuk Period Architecture

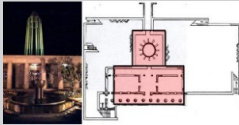
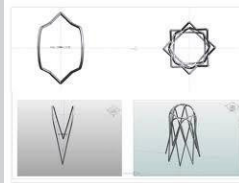
Contemporary period	Plan	Plan	Interior dome	Exterior dome	Materials	Height	Decorations	Script
Abu Ali Sina mausoleum		12 Bases	Eight-Pointed	Conical	Concrete and stone	m 28	-	Script
Baba Tahir mausoleum		Octagonal		Prismatic shape	Mountain granite		tiled with mosaics	Inscription with triangle script
Khayyam mausoleum		A circle divided into ten equal parts	Five-pointed star	Conical Like the dome	Concrete and stone		tiled with mosaics	Broken Nas-taliq mixed with Taliq script

Table 7: Selected buildings Seljuk

Saljoughi period	Location	Concept and original idea	Mathematics			Decorations			Objects
			Numbers	Geometry	Proportions	Calligraphy	arabesque	Geometric	
Yusuf-ibn-kasir dome		-	Eternal	Octagonal Two floors		Intrinsic		Bricks in the form of geometric shapes	
Jabaliéh dome	Kerman	-	Eternal	Octagonal in the form of two Crescents				Nested arch	
Ali dome in Abargo	Abargo in Yazd	-	Eternal	Octagonal on a four-corner seat		Intrinsic		Arch	

Table 8: Selected buildings Contemporary

Contemporary period	Location	Concept and original idea	Mathematics			Decorations			Objects
			Numbers	Geometry	Proportions	Calligraphy	arabesque	Geometric	
Abu Ali Sina mausoleum	Hamedan	Conceptual	Eternal/ Conceptual	Eternal				Conceptual/ Contractual	
Baba Tahir mausoleum	Hamedan	Conceptual	Eternal			Intrinsic		Conceptual/ Contractual	
Khayyam mausoleum	Nishabur	Conceptual	Conceptual	Conceptual/ Eternal		Conceptual		Conceptual	

### CONCLUSION

After studying the symbol and its role in the concept of its part in design and architecture, it can be said that there are different ideas about this, but what is important about the symbol is the way people look and dealt with the issue of symbolism. The symbol becomes more complicated and a semantic attitude to architecture, which sometimes takes on the style of mysticism, sometimes enlightenment, sometimes modern, and sometimes historic. In a world where all its phenomena are symbolic, the role of the interpretation is manifested, that is, the symbol is

the interpreter's role due to the semantic dimension to which it belongs to. The tombstones are ideologically considered as the most diverse spaces, because the role of functional necessities in them is not like other types of buildings, and the designer could reflect many concepts and symbols in design, and therefore, the expectation of transformation in Iranian symbolic designs in the tombs of the past. Contemporary Iran can be based on reality, and given that no major plan, especially designs for ritual spaces in the past, was not formed by chance or solely on the basis of the designer's personal desires, but it

Table: 9 Semiotics in Architecture

Pictures	Specifications of pictures	The sign in the field of architecture	The relationship between the sign and signifier	Type of sign
	Decorative embellishments	The emergence of architectural elements	Visual similarity	Icons image
	Replica, architectural drawings	Architectural introduction tools	Deductive relation	Icon of the chart
	Architectural building	Exterior Effect of Architectural Building-Responsive to Functional Needs	Explicit formal similarity	Significant metaphor of tangible
	Architectural building	The overall architecture of the building - responsive to perceptual and functional needs	Formal similarity	Indexicon (an irrepressible metaphor)
	Architectural building	The overall architecture of the building-more accountability based on perceptual needs	Non-explicit formal similarity	Profile (Combined metaphor)
	Architectural building	Responsive architecture is limited to cognitive needs	Contractual relationship	Symbol-intermediary

could be expected that concepts such as the garlic of the worldly attitudes and the like in the literature The Persian mysticism is very sacred in these spaces. These results are presented in Table 9 for further understanding.

Therefore the signs in architecture are presented in a four-dimensional spectrum, and the position of the various metaphors and their attributes are explained. When architecture is introduced to simultaneously respond to performance and perception, it is embodied in the form of a sympathetic metaphorical symbol and subtle metaphorical figurative faces and a combination of metaphorical metaphor. Also, the meaning and concept of symbolic architecture and the symbol as one of the types of signs in the field of architecture was raised.

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