Arts and Design Studies
ISSN 2224-6061 (Paper) ISSN 2225-059X (Online)
Vol.49, 2016

The Design of Historical Memorial Structure in Gorgan Based on the Relation Between Music and Architecture Approach (Case Study: Professor Lotfi's Music Center)

Maede Ghanei SheikhKalai*
Master student of Architecture, Department of Architecture, Mahdishahr Branch, Islamic Azad University, Mahdishahr Iran

Hadi mahmoodi nezhad
Department of Architecture, Mahdishahr Branch, Islamic Azad University, Mahdishahr Iran

Abstract
Architecture and music are two areas of art that are created and comprehended by human beings. Music is mainly significant in the dimension of time and architecture in the dimension of space. Although the raw materials of these two arts are different from each other, they are, however, organized in the same mental space and by means of similar and special intellectual instruments. Such means are, in fact, the principles and rules that the artist takes advantage of them when creating his work. Then these principles and concepts that are the artistic work organizing means in the field of art transform are introduced. Finally, practical examples of application of these instruments are offered as evidence. Using these common instruments, architectural instruments can be made that create in humans a sensation similar to that of its corresponding music. Mohammad Reza Lotfi is one of the leading professors in the field of music who was buried in the old part of Sabze neighborhood in Mashhad city. Inattention to such a person has been far from the minds. The present project uses statistical and analytical methods to evaluate the musical concepts and its relationship to and application in architectural decoration. Finally, using these symbols, professor Lotfi's memorial is designed, adopting the approach that deals with the relationship between music and architecture. The obtained results of this project show that the concept of music in the rise and dance of Sufi and mystical states can be used in the design pattern.
Keywords: memorial, the relation between music and architecture, musical concepts, Sufi dance, Professor Lotfi

Introduction

Nowadays, the memorial monuments are of significant importance not only as a memorial symbol, but also as a cultural and historical base of different periods. The memorial monument of Professor Mohammad Reza Lotfi has been made based on this view. The memory of this character is shaped not only in the walls and shells of this project, but also in its themes and essence. Using the Iranian architecture concepts in order to introduce professor Mohammad Reza Lotfi has been such a difficult and complex task. The project has obtained the present results through various stages of trial and error and the study of unlimited options.

1. Music

Music is one of the sciences that has special relevance with Mathematical Sciences both from the point of view of Muslim scholars and European medieval scientists.

Music science is like mathematics to which philosophers have devoted a section in their epistles. For instance Avicenna, Al-Kindi and al-Farabi to have performed excellent research about theoretical music. The book Almousighi Al-Kabir (by farabi) is of significant importance in Islamic civilization. Also Qutb al-Din Shirazi in his Epistles called Dorat-ol-taj,that is a set of wisdom, devotes a section to music. That is why the science of music from the theoretical aspect is classified among the philosophical and mathematical sciences (Nasr,1372, 57).

Some philosophers have said that music, for the sake of its balanced, proportionate and moderate voices has an innate bond with human spirit. Intemperance is the character of the composed creatures, while the human spirit is simple and single and is fascinated by the balanced, proportionate organs. Humans feel tenderness in their spirit from the songs and the rhythmic tone of streams and waterfalls. Hearing harmonious voices of poem and music, human soul feels ecstasy and passion.

2. Music and spirituality

One of the mystics that has also been a musicians Says: Being interested in artistic sciences such as poetry, literature, music, painting, architecture, etc is an indication of subtle soul. Literature, art and mysticism requires gentle soul. Anyone who is interested in these tasteful sciences, would go through the conduct more resolute and nuance. The music should not be considered only from scientific aspects, rather the artistic aspects, and real, heavenly voice (Madadpour, 123). Dante, in the third book of his great mystical poem (Divine Comedy) talks about His spiritual journey of spiritual and heavenly, pure and sublime music "Rmvnyay" and also the Published beauty in the kingdom of heaven. The sacred prosody and precious shades of this ruby elixir that is like wine

pouring from Davoudi harp strings has no simile in this world. Music as predecessors have said is not something about the music of the spheres. Cicero refers to two essential points about the music of the spheres. One is that the music of the spheres is the expression of transcendent and divine order of the world or harmony in the broadest meaning. The other is that although humans sometimes cannot hear this harmony due to their fall from heaven to earth, but if the divine attention helps, while in this world, he can hear the melodious, heavenly voice of that world.

3. A look at the nations' music

Research shows that the traditional music of nations have been designed in harmony with the human' natural and spiritual needs. Reflection on the traditional music of Iran shows that this music moves toward single fantasy and has a kind of beauty that is hidden behind a veil (scenes), while the strangers are unable to understand spiritual music. For example, Indian music is an imitation of celestial and spiritual music. Famous Indian musicians are introduced as Students of a God that have had a spiritual trip to the celestial world to learn the music of the spheres. This means that their insight has originated from a source that is deeper than the level of knowledge and empirical consciousness. An Indian singer is a poet as well. The main theme of his songs are divine and spiritual love in diverse manifestations and effects. The use of additional notes and Soloists in Indian music is for the sake of beauty and tranquility (Aavani: 1375, 19).

1-3. Mystic dance of Shiva

Dance from the Sufis (mystics) point of view is the harmonious movements that arises as the result of singing and chanting ecstasy. Such mystical dance comes to seekers as they involuntarily experience a state of frenzy, mania or craziness. Ghazali describes Shiva's dance in this way: hearing creates a case in the body called "ecstasy", and this ecstasy creates bodily gestures. If these movements are unbalanced, they would be called anxiety, and if the movements are harmonious, they would be called clap and dance".Ghazali wrote about the permissibility of dance this way: Dance is permissible because Negros danced n the mosque. Aisha was watching that the Prophet(s) said: Ali you are as me and I am as you. Ali danced from the joy of this. Prophet also said to Zaid bin Haritha that you are my brother and he danced from the joy of this. So any one who says that dancing is forbidden is making mistake. Dance causes happiness and the happiness is permissible. Since the dance is derived from happiness and joy, its mandate would be its cause. This means that if the thing from which the dance is originated is permissible, the dance would also be authorized and lawful and if it is originated from something bad, the dance would also be bad. Then, finally Ghazali comments in this way: the prohibition and permissibility of such matters is motivated by the intention. To entities and individuals, its mandate changes according to entities and individuals. A matter may seem good with respect to a person and the same thing can be bad with respect to another person or it may be permissible for one person and forbidden for another person. That is due to this rule that, the subject of the dance is permissible for a group and forbidden for another group. That is due to the same reason that what is permissible for ordinary people is forbidden for mystics and what is permissible for mystics is evil for adducents.

1-1-3. A deeper look at the mystic dance of Shiva

Shiva dancing in different forms and manifestations has emerged among nations. That the root of these dances can be found in mania and the passion and drunkenness of Sufi and mystic or as the expression and manifestation of his love to God. The intrinsic importance of mystical dance of Shiva is in three basic points: First is the dance appearance involving secrets, mysteries and harmonious movements, indicating a kind of symbolism. All these movements and states in Sufi are a symbol and manifestation of mania, passion and mystique of the Universe in their movement to the truth (zarinKoub, 1371, 169; Avani, 1375, 32).

The second is the direction of movement and the end of Shiva dance that is the release of human souls from the bondage of illusions to achieve salvation.

The third point is the location of dance that is in the spiritual heart of the Sufi that is considered both as the center of universe and axis of mystery and symbolism. However, in most of its manifestations, especially that of traditional mystical dance has been known as a kind of mystical manifestation (Elahi Ghomshei, 1377, 239-240; Sagadi, 1362, 232-234).

4. The similarities between music and architecture

These similarities and instruments are as follows:

Rhythm: Undoubtedly the rhythm is the common factor that is present in the arts such as poetry, music, painting and architecture (Dehlavi, 1387, 141). Rhythm is a complex phenomenon that exists in all artistic works. Rhythm is a function of time that in various visual and auditory plots is just like the noun in grammar. Rhythm is a phenomenon that does not exist by its own self and its existence is a function of another entity's existence (Rager, 1377, 14).

Rhythm in its pure state is achieving the number in the framework of time. The musician measures time and the architect measures the location. Rhythm in music is a topic related to time and in architecture is associated with the space. It is of no doubt that there exists harmony and balance between these two (Exenakis, 1369, 12).

The rhythm of the music: rhythm in music is one of the fundamental concepts that is associated with the time element. A musical composition can be better recognized from its rhythms than from its notes. Rhythm is the integral element of the music, creating the sense of movement. It constitutes an important part of a musical composition and affects our perception. For example, March is exciting due to its beating rhythm, while lullaby has a delicate rhythm. As a general definition, rhythm can be seen as the sense of movement in the music with considerable emphasis on discipline, a repetitive and circular discipline that the difference between strong and weak beats is comprehended from it (falamaki, 1387, 290).

Two mentioned factors can be seen in many natural phenomena such as breathing (regular period of inspiration and expiration and the difference between the two), heart rate (contraction and expansion), the movement of seawater (tide) and periods with repeating manner like the day and night and the year turnover.

Rhythm in architecture: The simplest type of it is regularly recurring architectural elements along a straight line. Inertia and stop with the concept of pause is applicable in architecture. Landing stairs, squares and urban nodes are some aspects of its application. Sometimes by creating an agent or element in the architectural space and attracting the attention of the viewer, the pause and rest factor can be well created (Like the placement of an artistic work along the motion path) (Serag, 1379, 42).

Accent: The basic factor that is required by the correct principles of the combination of poetry and music is the observation of accent that creates complete harmony between these two arts. Adhere to rhythm and spelling of words would create lines, and up and downs (intonation) that can be considered as a good pattern for the creation of vocal music based on the selected poem or speech (Dehlavi, 1387, 142).

Just as in the speech, accent has a particular value, in arts such as architecture and music, emphasis on sound, sounds or tones in a piece of music or emphasis on the manifestation of a part of a structure in architecture is of significant importance.

Theme: In music, it refers to the main topic of the music. In architecture, theme is the architectural space with a series of structural and conceptual features that make that space appropriate for particular functions and applications (Philinejad, 1379, 37).

Harmony: In architecture, color, texture, shape, softness, roughness and reflectance can all be coordinated. Also, in music, harmony in a broader sense refers to the fitness between sounds, musical expressions, themes and tone color of the instruments.

Color: In music it is the qualitative feature of sound and in architecture, it is the qualitative feature of space.

Symmetry: Symmetry is one of the features that has normally been widely used in the world architecture, especially in the past (Dehlavi, 1387, 149).

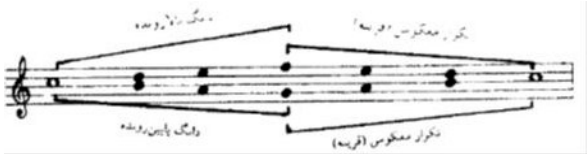


Figure 1: Symmetry in music (PourYousefzade,et al, 1389,40)

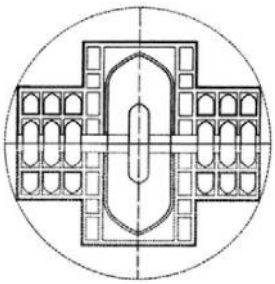


Figure2: symmetry in architecture (Saremi, 1387, 260)

Proportion:

Architecture is the music of space and music is the architecture of time. Architecture is the application of proportions in the space volume and music is the application of proportions in the length of time. Proportion is sometimes in the visual aspects and sometimes in the auditory aspect. In both visual arts and music, there are proportions that create beauty. Harmonic proportions in the architecture and music can be with vocal proportions in music and height proportions in architecture (Serag, 1379, 142).

The other common qualities between these two arts are: Movement, stillness, Apsis, Glysandv, passage, tone, contrast and repetition.

Symbolism:

The history of the application of symbols in decorative arts is as old as the arts themselves. In fact, with few exceptions, we can say that most of the decorative patterns have originated from symbols. Signs that themselves have been obtained through simplification and modification of natural or allegorical samples and their original meanings have been lost during the time.

These symbols were originally created from codes and cultural beliefs and in various arts have ethnical and religious applications allegorically and metaphorically.

In the first step, as the result of constant repetition in a pattern, the pattern loses its original meaning and its symbolic effect is reduced. In the following steps and in the course of time the main, original meaning, purpose and belief is forgotten or faded out and finally it would not signify anything special.

It seems that the explanation provided by Sirous Parham is enough to make the point clear:

Undoubtedly awareness of symbolism alphabet of carpet weaving and understanding of the shaped patterns leads to a better understanding of the mysteries, beauties, and even the touch of feeling and thought of the original weavers. However, this basic, but hidden point should not be forgotten that the application of mysteries and symbols by the weavers of the successive generations is one thing and the invention or derivation of these mysteries and symbols is something else. Constant application has caused the symbolic patterns and shapes to lose their known, specific concepts and meanings and has given them the state that is mainly decorative than figurative.

When a Rural women weaves the accepted shape and pattern of a spike on her woof (handmade) carpet, she never knows it as a symbol of the soil fertility and there is even the possibility that she is even unaware of their similarity 9parham, 1352, 27).

In the same way, symbolism does and does not exist in the Iranian music. Symbolism does exist in Iranian music as the roots of this music returns back to many years ago. To the time when music played a basic role in rituals and even today it has an undeniable role in religious ceremonies and rituals.

The use of music in ancient civilizations is all symbolic and mysterious. In ancient cultures, not just the creation of the world, but human creations in a number of myths is associated with music and is constantly associated with an Audio element. Consequently, not only the human nature but also the essence of all inanimate objects and the nature is an audio phenomenon. Therefore, the distinction of songs due to their absolute belonging to specific ceremonies, and also their purpose and duty is quite clear for all members of the tribe.

In today's music, there also exist such symbols, but just like the rural weaver woman has lost its original meaning, although still some of their signs is recognizable: Say the call to prayer at Dong special train (Guattari or Gathas) or using the intervals of chahargah instrument to announce an important event like New Year or weddings, And synchronizing the time of playing music with different times of day and night, Dong structure and its constitution of four songs, The use of so-called four picks and symbolic numbers such as seven instruments and five songs, and prayer-like iterations and many others are examples of symbolism in the Iranian music.

Symbolism in the structure of the musical instruments, especially in the ancient cultures, is a known phenomenon that has prompted many researchers to explore and search in this regard. The four elements of the fire, air, water, and soil are related to the music such that the first wire (bass) is the symbol of soil, the second string signifies water, the third string is the sign of air and the fourth string (below) is a symbol of fire (Masoudiye, 1364, 39).

Other symbols that exist in Iranian musical instruments involve the relation between the twelve signs of zodiac and the four tunes of the strings four scenes and the four lute strings that have lost their original sense and meaning. Decorative patterns that have been used in the structure of the musical instruments, sometimes play a decorative role and sometimes play a symbolic role, like flowers or stars of dulcimer that could be a symbol of the sun or a sign of the star at Desert Nights.

Figure3: dulcimer flower

Below Pictures show, dulcimer flowers and motifs similar to it used in decorations in the palaces of Nimrud and a piece of ivory overlaid. Both of these are related to Phoenician civilization in the ninth century BC.

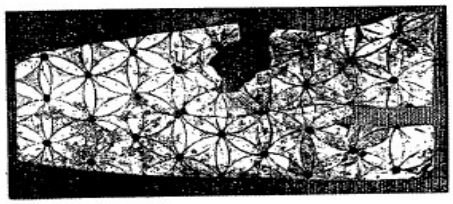


Figure 4: Decorative motifs similar to dulcimer flower on the ivory

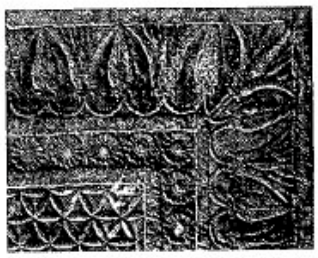


Figure 5: Decorative motifs similar to dulcimer flower in the Nimrud palace

Another symbolic commonality in decorative arts and Iranian music is a kind of repetition based on the system of symbolic numbers. The most basic form of the emergence of a decorative pattern is the repetition of the pattern or symmetry. These symmetries, first based on the number two pattern, then number four and eight patterns and their divisions have most application in decorative arts and even in Iranian architecture. Evaluating the tiling of the holy buildings, reveals the repetition of the patterns and the creation of symmetrical functions based on a kind of Pythagoras thinking or a kind of thinking compatible with the beliefs of Akhavan-Al-Safa. The existence of mathematical proportions and matching the number of repetition of patterns with on archetypes that originate from the virtue of numbers, play an essential role in the composition and aesthetics of Iranian music. In this respect, the composition of patterns based on numbers three, four, five and seven plays the most significant role. The name of corners such as four-gardens in Abu-Ata, quadrangular in Shur, four sections in Dale, using the term chaharmezrab to refer to Ragtime pieces with a specified Mezrabi pattern (there is no reason that this pattern of Mezrabi only be played only based on four picks neither more nor less). Moreover, Iranian mosques consist of four iwans and Iranian designers like quadrangular and octagonal images 9that is created as the result of turning a square around itself). They established the traditional theory of musical intervals on dengue. Number four has many other applications in cultural beliefs and proverbs that reminds us of the belief of Akhavan Safa to the number four in the world.

They believe that the Almighty God has created the world such that the majority of the creatures are divided to four-group classes. For example, four temperaments that include hot or cold, drought, and wet, and the four basic elements of life that are the fire, the air, the water, and the soil and the four sputum that involve blood, phlegm, sputum, and soda, or the four seasons of the year, or the four main directions, and the four composites that are metal, plant, animal, and human. The philosophical sciences are divided to logic, natural sciences, theology, and mathematics that itself is divided to the four branches of arithmetic, geometry, astronomy, and music.

5. Examples of architecture affected by music and music affected by the architecture.

The artist inspires from the similarities existing between the music and architecture and transfers them to his audiences in the framework of his artistic work. In this regard, we are faced with various examples where an architectural building, creating its own special space, has been able to become a source of inspiration for a musical piece in the same mental space. A piece of music has also been able to become a source of inspiration for the creation of an architectural work.

5-1. Architecture as a source of inspiration for the creation of music

In this example, a musician describes how a piece of music is made and talks about a space in which he has imagined a specific architecture and then under the influence of that space and architecture is inspired and creates his piece of music:

"To create this music and to express the senses that induces an image for the others, I tried to get acquainted with the specific philosophy that belongs to the very old times and the myths that have been the topic of this musical piece. To this aim, I studied the philosophical texts, some literary reports, and basic, original writings, so that I can obtain information and finally a specific theoretical framework. For me, these were the most important words to be mentioned. These words were music by nature and not anymore word, speech, or image. Such word could in the best way represent ideas about the imagination of ancient Iranians in the time when there were no books, no house, no city, and no human to govern those cities. Such words were, in fact, the sounds that combined together to create specific shapes, colors, or states. Of course, it is clear that for such a

work, its creator should make some scenes in his imagination and relate to it some senses and events. Now that we obtained that word and I talked about the scenes that I made in my imagination after so many studies and investigations, why shouldn't I say that these scenes were the best forms of architecture?" (malek Aslanian, 1387, 136).

Moreover, in many countries of the world, musicians have achieved experiences about the creation of music for the architecture. Philip Cols, the American musician in this respect says:

"I have done this several times to make a piece of music for an architectural structure and once I wrote a piece of music for a museum in Bon, Germany that I think coordinated with it6. It is very interesting. I have spent many times in my life with architects and the architectural world. When I make a piece of music in accompany with the architects of the structure and with a sense full of intimacy, I understand that our works have common language and similar methods. In my point of view, this is a very important issue in obtaining the most suitable method for creating a piece of music for a structure." (Philinejad, 1385, 37).

Here is another example that shows that by seeing a structure, a specific musical state is created in the mind of the architect and researcher. This is undoubtedly a proof for the claim that architecture can be a source of inspiration for the music.

"When you enter the square from the Gheisariye Bazar entrance, if you are familiar with the Iranian music, you would feel that it sings the Shur instrument for you. First, you would see the harmonious arcs that would be the beginning of Shur that are played in several close scenes. You go forward step by step till you reach the Ali-Ghapou that is the same as Shahnaz" (Akhavan Saraf, 1383, 56).

In another example that can be mentioned, the artist refers to the similarity between the drawing forms of musical lines, singing melody and the sky line (external texture of the building). He believes that the sky line of the structure can be a pattern for creating a musical work from an architectural sample. Hosein Dehnavi explains how he has obtained his own idea that is summarized here:

"In those years, I draw samples of each poem feature in the form of a graph consisting of teeth lines in the limit of three lines from the stave, so that the method of finding the singing melody through the observation of word accents would be better comprehended by the students. Then, considering the poems rhythm, a range of the singing music became reflected on the music stave more clearly.

Figure 6: singing melody on the music stave (Dehlavi, 1387, 142)

If the above singing melody graph is drawn in separation from the music stave, such a shape would be created (figure7). Then I observed that the same up and downs that exist in the pitch graph of words and are used in the relation between music and poem can now be observed in the mountains ridge.

Figure 7: singing melody in separation from the music stave (Dehlavi, 1387, 142)

As the time passed, I came to the conclusion that this idea is also applicable in some of the man-made structures (that is architecture art). Therefore, the architecture came to my mind through the word intonation and the up and down of the mountains and the relation between these two arts became obvious for me from a new horizon.

The below figure is the picture of the biggest church in the Koln city in Germany that can be used in this part to some extent.

The photograph has been taken from an angel that regardless of the static, monotonous section of the roof creates a graph that according to the mentioned method (about the mountains and summits) can be used as a pattern for the creation of musical work based on an architecture sample.

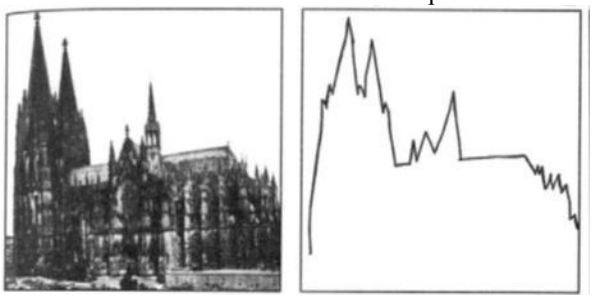


Figure 8. Church in the Koln city in Germany and its skyline (Dehlavi, 1387, 142)

As it was mentioned, the sound compositions from various aspects, either from point of view of

harmony or from orchestra orchestration can show the external texture of the structure at the level of an abstraction art.

From many years ago, in most cities, especially in densely populated cities in the world, a building method has been used for the construction of residential buildings, offices etc. that due to the vertical expansion of cities and the addition of apartments floors, each of these blocks has been shaped as a cubic. Therefore, there would remain no possibility to take benefit of the mentioned method. However, in some cases, provided that the picture is taken from an appropriate angel, these short and long blocks may be applicable for the presented method. The below picture shows a part of New York that is an appropriate sample for this topic.

Figure 9. A part of New York City and its sky line (Dehlavi, 1387, 148)

A diagram of the terminal line of the building in the above picture will provide a form that if you work on it, rhythms and intervals will be achieved that can undoubtedly be helpful to compose a musical composition. The image below is a temple in Thailand that shows a kind of symmetry. If the use of these images due to the symmetry of the musical factors, including rhythm, interval, rising and falling movements result in uniformity, we can use other musical arrangements and use the pictures that have been taken from angels appropriate for this method.

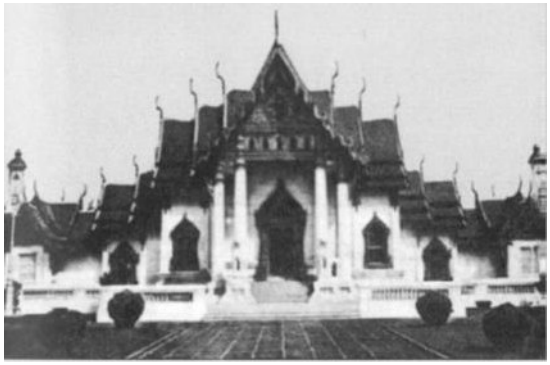


Figure 10. A temple in Thailand (Dehlavi, 1387, 150)

5-2- Music as the inspiration source of architecture

Sometimes, this is the music that can be the source of inspiration for the architecture. In an example of a design of a music hall in southwestern of Washington, we can see how the architecture is influenced by the music. In this example, the designer describes the process of creation of his work, initially stating that when we hear a piece of orchestral music, we can experience transcendent moments. Then he asks this question: can architecture also be the creator of those transcendent moments?" Then, to answer this question, he attempts to design a music hall that is inspired from a piece of music by Sebastian Bach called "Air on the G String". At first he enumerates the similarities between music and architecture, trying to use these similarities as a common instrument in these two domains to change the music to architecture and create his architecture work under the influence of music. Then, finding the music proportionate to the topic of his work in the mentioned piece of music, he begins to design his intended architectural space. He listen to this piece of music several times and creates many models inspired from it that are gradually completed in a growing manner.

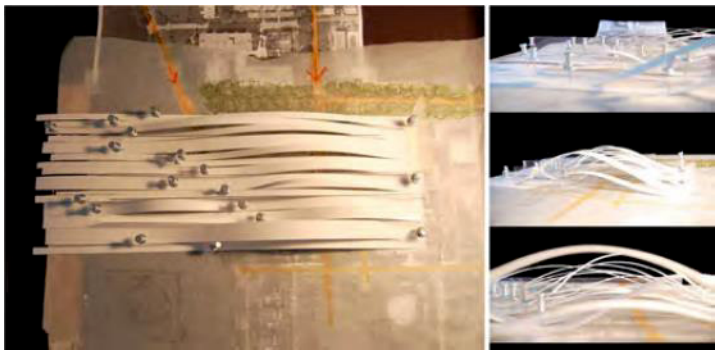


Figure 11.The designer considers the details of this model like sounds and voices that live and die in the water because they are located in the western site of the sea (Sheppard, 2011,14)

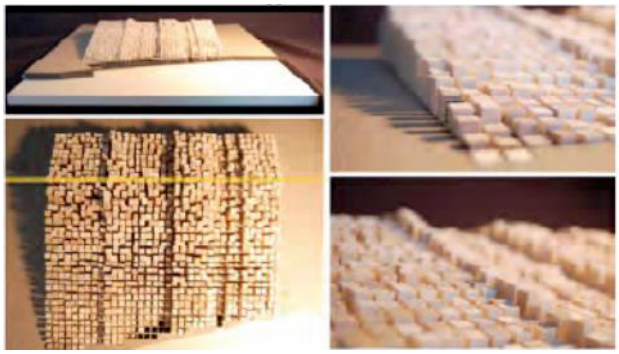


Figure 12. The designer has implemented the music notes in the form of wooden parts and material on the area of his design (Sheppard, 2011,15)

6. The evaluation of similar cases

Memorial Tomb of Bu-Ali

Tomb of Bu-Ali is located in the middle of a square with the same name. An Oval square with old plane trees, geometric garden, beautiful building and statue represents this square has created a beautiful place for recreation. Famous cities of the world are famous due to their memorial monuments. It is about 50 years that Hamedan is decorated with and famous for the Bu-Ali tomb tower. This tomb has been renewed three times. The Old tomb that was built during the Qajar, was not appropriate for the dignity and character of this great thinker. So, the Iran's national monuments association, on the occasion of Avicenna's thousandth birthday anniversary decided to renew the tomb in 1330.

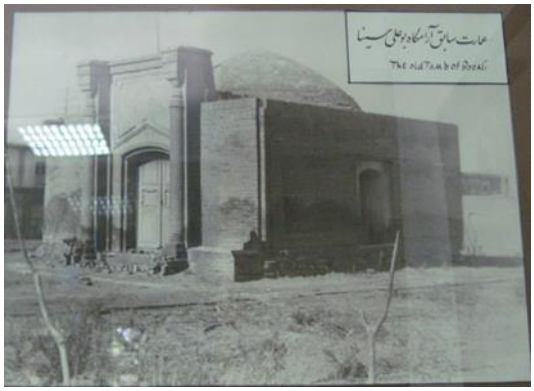


Figure13. The previous Tomb of Bu-Ali

Figure14. Tomb of Bu-Ali from northeast of Mount Alvand

The design and plan of the current structure, architecture by engineer Houshang Seihoun, has been derived from the oldest monument of Islamic countries that is the tower Qabus bin VOSHMGIR in Gonbad-e kavous. It is compatible with the architecture of the century when the philosopher Bu-Ali existed. Tomb is a combination of two architectural styles of ancient Persia and Iran after the Islam taking benefit from both the traditional architecture and recent methods. In this structure, there have been used elements such as tower that is inspired from Gonbade- Ghabous tower, gardens made under the influence of Iranian gardens, water-views inspired from the pools in traditional houses. The structure is faced with massive stones and rough marble, and is adorned with granite stones from the Alvand mountains that represent Iranian ancient palaces. In this way, the construction of the new building was finished in 1333 (AS).

The current location of the tomb of Bu-Ali is the house of Dakhouk who was Abu Ali Sina's close friend. He is also buried in the vicinity of Bu-Ali.

At the present time, the Southern Hall of the tomb meseum is the place for keeping the coins, pottery, bronze and other objects that have been discovered under the soil that is related to the millennium BC and the Islamic era. In the northern hall, there is a library consisting of 8000 Iranian and foreign exquisite manuscripts and printed works. There are also sections where works of Avicenna and hamedani poets and writers is taken care of. In the section where works of Bu-Ali is kept, an image of Bu-Ali's skull has been exposed, which may have been produced during the demolition of the old tombs.

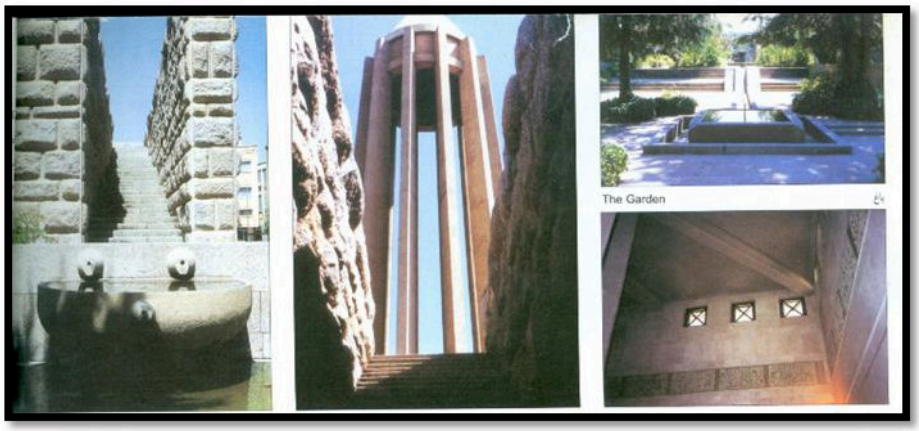


Figure 15. Various parts of Tomb of Bu-Ali

Considering the conducted evaluations, the following results are obtained:

As Houshang Seihoun showed the Avicenna's character at his tomb using architecture and number, it would be also possible to show the character Professor Lotfi through architecture and music. Studying about the tomb of

Bu-Ali I've found that in addition to being grave, this tomb is also a symbol.

7. Designing the Memorial of Professor Lotfi

7.1. Overview of the memorial

Monument is a structure or building that is made to honor the birthday or death of a specific person or to commemorate an important event or an event that is important for a social group and is the reminder of their historical memories or their cultural heritage. Memorials and urban monuments in each city are considered as

important, specific structures in architectural and urban design as the identity, character, and extract of the city are visible in these structures. The memorial is like a sign, a natural or artificial element that is different from the surrounding environment with respect to form and function and results in Promotion of the community mental picture of the environment and thus improves the readability of the city. If the monument lacks spirit and meaning and does not have semiotic relation with the concept of memorial, it will lost its function.

The culmination point of the design of memorials is at the end of Pahlavy dynasty and the architect of these memorial buildings are Houshang Seihoun and Foroughi designing Bu-Ali memorial in Hamedan and Saadi in Shiraz (Amirbani, 1388, 34). The typology of memorial architecture in the pre-Islamic era has mainly been crypt, pent-house, and stony-rocky buildings. After Islam and especially in Patriarch, Seljuk, Safavid and Qajar, memorial architecture representing greatness, elegance and respecting others reaches to it culmination point.

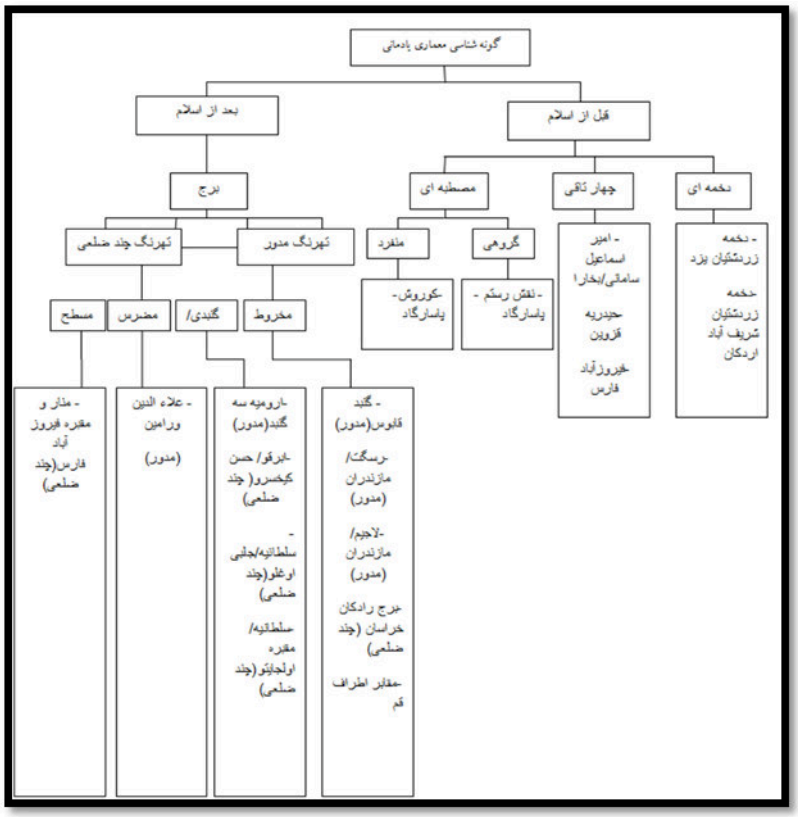


Table 1. The typology of memorial architecture (Amirbani, 1388, 34).

7.2. General introduction of Gorgan city

Gorgan city has been located in the southern part of the Golestan province is limited to Agh Ghela and Torkaman from the north, to Semnan from the south, to Ali-Abad from the East, and to KordKoui from the east. According to the country divisions in 1389, it consists of the two central parts, Baharan, and the three cities of Gorgan, Sarkhankalate, and Galin. It includes five villages and 98. Gorgan consists of the three cities of Gorgan, Sarkhankalate, and Galin. The villages of the central part of Gorgan are: southern Astarabad, with the centrality of Gelin Olia, Roshan-Abad with the centrality of Lamsak, AngirAbad with the centrality of Zangian. Baharan consists of: northern Astarsbad with the centrality of Sarkhankalate and Ghorogh with the centrality of NoudeMalek (Gorgan Geology Association).

Plan 1. Plan of Gorgan city (Iran geology association)

7.3. Evaluating the architecture of local houses in Gorgan

Buildings have a central yard that the build structure has been formed around it. The windows are located in the external walls of the houses and their numbers is more in the ground floors than in the upper floors. The houses of rich people consists of the internal and external sections and is divided to two parts, one to be used in the summer and the other part to be used for the winter, This is done to take the most benefit from the sun heat in the winters. Some of the houses have an extrovert structure and pattern in such a way that a building is built in a surrounded area so that there would be an open space from four directions. In these cases, there is one main open space and the three other open spaces have a lower depth to provide the light and air ventilation of the building. The structure is mainly made of building materials, but in the roof and verandas, the wood has also been used. The roofs are made steep.

7.3.1. The materials and details of construction

The materials used to cover the buildings in the local architecture can be generally divided into two groups: light materials with low heat capacity, and materials with high heat capacity, and building materials 9Zhai, 2010, 360). In the traditional houses of Gorgan city, the materials with high heat capacity have been used. Wood is also used in roofs, beams, and decorations. The walls are from brick and mortar. The floor terraces are paved with the brick. In the veranda, there are wooden columns with the width of 4-6 and the height of 3meters to keep the woods of the roof. In such structures, in the first floor, the fir wooden beams and hammer flowers have been used and in the second floor, beside this, the whole structure is covered with roof. The cover of buildings is from ceramic and has three elegant floors with a 140 cm distance from the body of the building.

7.3.2. The relation between open, semi open, and closed spaces

The use of semi-open spaces like veranda is considered as the link between the close and open spaces such that the width of such spaces of the local houses is smaller in the mountainous areas. They are sometimes located all around the central yard and sometimes along the eastern-western line of the building from two directions.

7.3.3. Roof

In the evaluated structures in Gorgan located in the mountainous area, combinations of wood and constructional materials with pottery cover are used in the slippery roofs. Forwarded three-layer roofs are designed to create shadow, prevent rain and snow to heat the body of the building. They also give the structure a special beauty and have decorative application. Considering the relation between

Considering the introverted and extroverted form of urban structures and buildings in the mountainous areas and the relation between the components and the performance of spaces in the plan, the yard has an important role in the placement and relation among the spaces. Access to the internal and external courtyard is provided through the building entrance. And then through the courtyard, residential areas and services are connected. In such buildings, residential areas in the northern and southern sides of the building have been considered for winter and summer slum dweller and service spaces are usually located on the other sides. In the foothills mainly the bricks with high thermal capacity are used in making buildings. The results of the investigations show that the majority of structures are semi- introvert and semi-extrovert in such a way that in some samples, a central courtyard has been created as the result of the combination of yard and residential spaces. In some cases, the combination of residential and service spaces, a semi-introvert space has been created. In some other cases, the building stretched in east-west direction has founded an extrovert state.

7.4. The position of the site

Gorgan, sabze neighborhood in mashhad, Martyrs Street, Laleh 13 Alley, the tomb of Professor Lotfi with an area of 15 m2

The four directions of the earth: The site is limited to separated residential lands in the north, to laleh Street from the east, to Pouriyaye vali stadium in Sabze Mashhad in west, and to laleh 13 Alley in the south.

7.5. The reasons for the selection of the site:

*The lack of a good structure for professor Lotfi
*Good prospect
*Appropriate access to the site
*The placement of the tomb in this same place

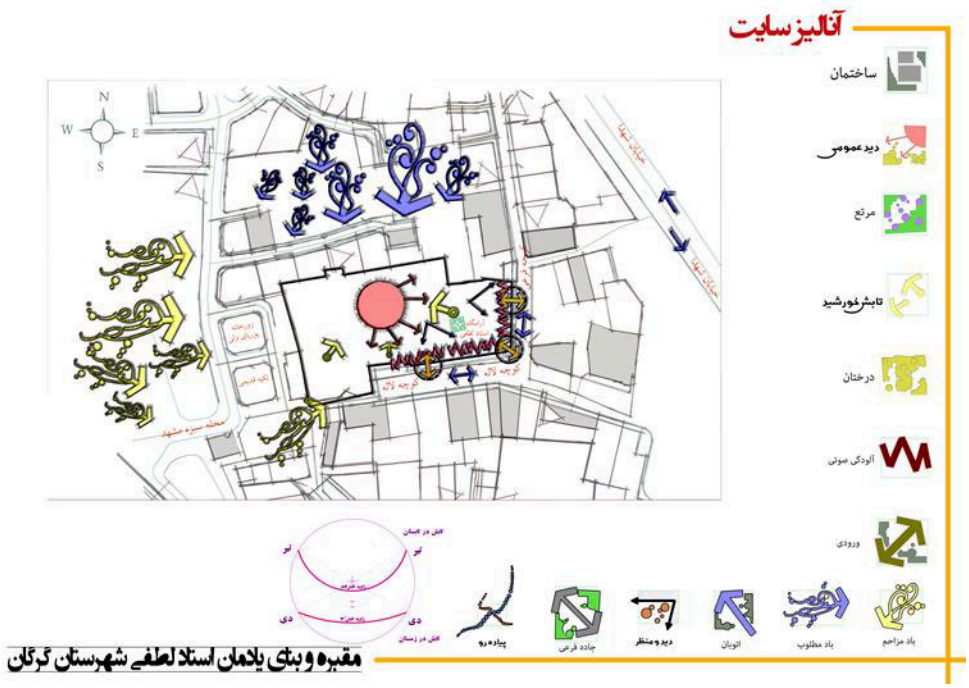


Figure 16. Site analysis

Facility: using central System and plumbing to the system and use of chiller cooling system
Structure: Moment frame with the mouth covered with cobiax
Rock: the use of travertine brown stone (earth symbol)
Sewage: connected to the municipal wastewater
Roof: Flat through the tranko pipes placed inside the internal walls of the building and installing it such that it is connected to the pit embedded in the layers of earth and transferring it to the outside.

7.7. Concerns of the design and removing them

In a residential neighborhood in Gorgan there is the grave of a prominent person and I want to design a monument for him in order to attract people towards this monument.
Solution: The symbol that has been created in the design
*The people who enter the space should not cram or be congested. These spaces (Cemeteries and cultural environment) should be separated from each other, but work in the same direction.
Solution: The division of the volume to two parts (Cemeteries and cultural environment) that both work in the same direction. For example, both a tourist and a student who wants to practice both can go to this place to know better Professor lotfi.
*Monumental (urban) feature of the project
Solution: Designing a symbol that represents the memorial

7.8. Concept (mysticism)

Music should not be taken into consideration just from its scientific aspect, but also its artistic aspect should also be taken into consideration. We should listen to the Real and heavenly voices of music and use it as a source of spiritual journey. One of the most popular events in the past have been called Sufi gatherings where the lyrics and music accompanied Sufi dancing. The main members of these gatherings have been Molana, Shams tabrizi, and Hafez.

Dance from the Sufis (mystics) point of view, is the harmonic, coordinated body movements done to approach God or to achieve the mystical ecstasy and passion or a state of drunkenness and frenzy and trance so

that he finally exits the imaginary state and reaches salvation. Sufi dance is one of the concepts of design in this issue and as it was mentioned, it is related to music, poem, art, and architecture that is mystic. This project has also evaluated the philosophy of the separation of soul from the body, and using this word and its relation to music. Another example to mention is a music-player who shakes his head when playing the music, or a person who sings like what is known as a shuffle. In these states the separation of soil from the body has been evaluated that finally this exit of soul from the body is completed by death (we all return to the God). The centrality of Mecca as a major characteristic is used in the design.

To show the centrality of mecca, two pieces volume has been designed

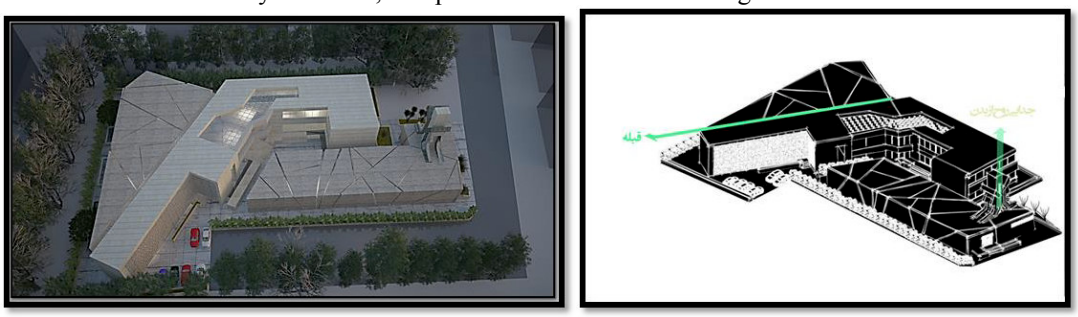


Figure 17. the design concept

9. The method of design performance

In the design of the monument, as the project is monumental (urban), we needed to design a memorial that is higher than the skyline of that area. Considering the principles of urban matrix of that area that had 2 to 3 floor buildings and 6meters to at most 12 meters alleys, the height of the memorial from the earth was determined to be 15 meters to make it possible to let people in.

Figure 18. The design symbol

To make it possible to imagine the memorial, its base was located on a square. Square is one of the most beautiful, and purest geometric shapes in geometry and architecture as the map and base of Persepolis which consists of several palaces, including the Apadana palace, the hundred columns palace, and other palaces are squares. If you put the Persepolis in front of yourself, you will see that it is nothing but square. So, square has a historical aspect. Moreover, based on what Leonardo da Vinci has designed that is an ideal, international man who has opened his arms and legs and has been replaced by a square, a square can also be a symbol of man himself.

The memorial of Professor Lotfi has been inspired from Iranian tomb architectural typology (identity) in the form of cubic (four…..) such that one of its angels is in the earth (tradition) and the other angel is towards the sky (modernity). It has been designed with a philosophical monumental body.

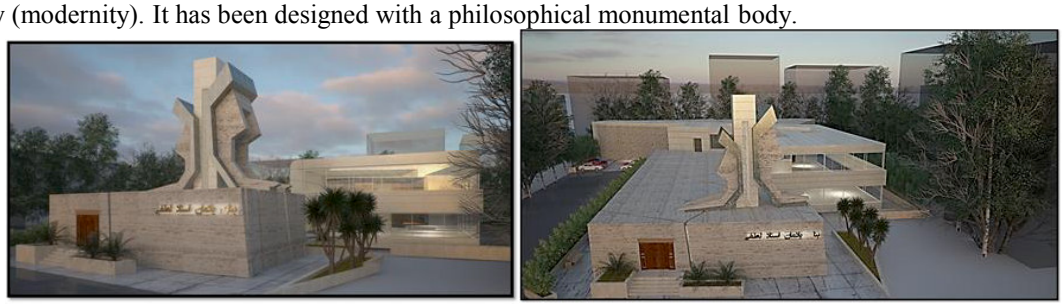


Figure 19. The design concept

In order to show the soil that exists in the body (cubic volume), the gap that was created in the body shell by tearing cloudy skin, a style that in architecture is called transparency is introduced.

Figure 20. The design concept

Shamse whose idea has been taken from dulcimer flower is used both to lighten the structure and to show the character of Professor Lotfi (both inside and outside of the structure. It has a mystical aspect that is used to enclose the lobby space. Using it also helps to create a series of special discoveries that is formed in the recognition of professor Lotfi.

Figure 21. The design concept

Attention: Cramming should not occur by people who enter there and these spaces (cemeteries and cultural) should be separated from each other but work in the ame direction.

Solution: In this design, we can observe the volume being divived to two sections. (the creation of central courtyard that in Gorgan is used to separate the residential and service areas from each other).

Conclusion

Although architecture and music are seemingly manifested in two different areas, each of them emphasizes and attentions to a specific dimension of human perception, they also have several similarities. Focusing on these relations and derivation of concepts and principles from them is the main purpose of this research. When a musical or architectural work is created, it passes specific passages that these passages are derived from a commonality between these two arts that is called space. In this project, the concept of music is reflected in the rise, Sufi dance and mystical states and has been used as architectural concepts in design. It should be taken into consideration that the audience of the artist are the people and the artist needs to find a way to their hearts from within his work. Memorial architecture can help us to renew our human characters, our cities, and our tourism industry.

Implications

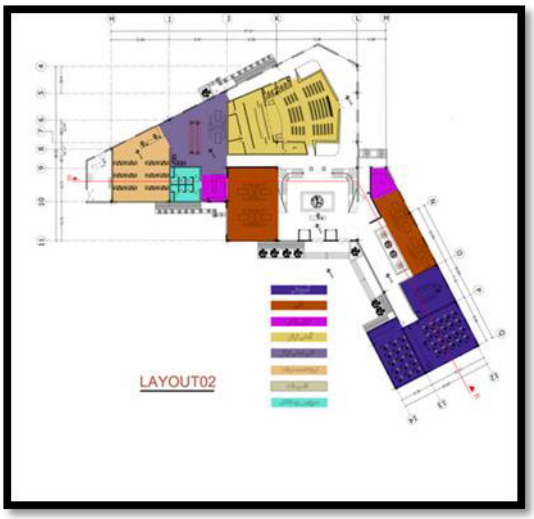
This project is offered to the architects and designers with the language of architecture in the form of Physical, functional and structural for reading the identity of Iranian architecture.

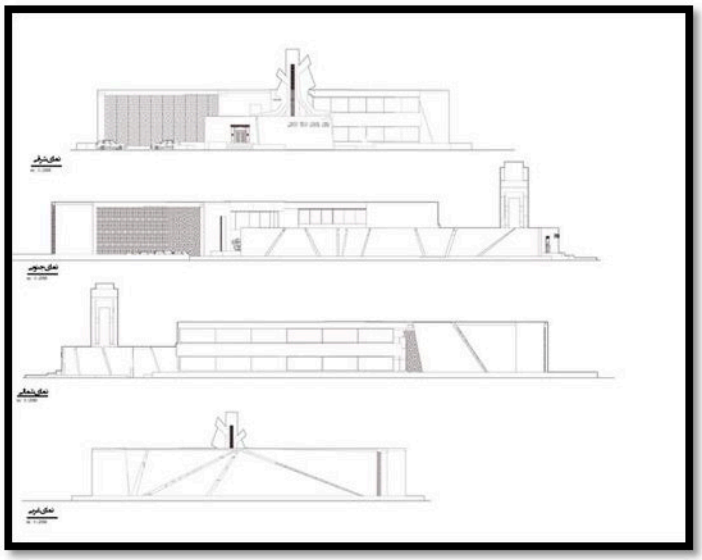
Table 2. Physical plan of the scheme

NO.	Name & kind of the place	number	Area in square meters	Description
Museum of Art & Archaeology				
1	Exhibition	1	1300	
2	Experts researches	1	125	
3	W.C	-	50	
4	Management	1	50	
5	Restoration	1	60	
6	Code & Registration	1	50	
7	Repository	1	210	
National museum of history & documents				
8	Exhibition	1	350	
9	Interpreters	1	30	
10	Restoration	1	55	
11	Code & Registration	1	30	
12	Repository	1	60	
13	Experts researches	1	60	
Association of Persian literature & poetry				
14	Experts	1	40	
15	Association conferences	1	90	
16	Researches	1	150	
17	Atelier	1	110	
18	Atelier	1	90	
19	Professors & Educational management room	1	90	
20	Buttery	1	12	
Administrative area				
21	Secretary & Waiting room	1	25	
22	Staff room	1	60	
23	Archives & Secretariat	1	35	
24	Administrative & Financial Assistant	1	30	
25	International relations management	1	30	
26	Chairman room	1	50	
27	Exhibition Booths	1	500	
28	W.C	-	40	
Amphitheater				
29	Waiting hall	1	170	
30	Coffee shop	1	120	
31	Cultural & Artistic products store	1	50	
32	Theater	1	280	
33	Brightness & sound adjustment	1	9	
34	Make up & dressing	1	15	
35	Preparation room	1	25	
36	W.C	1	10	
Exhibition				
37	Access control	1	8	
38	Theater	1	200	
39	W.C	1	25	
40	Lobby	1	variable	
41	Coffee shop	1	30	
42	W.C	1	31	
Library				
43	Digital library	1	70	
44	Cafe	1	70	
45	Gentlemen reading room	1	140	
46	Women reading room	1	140	
47	Search	1	55	Including the hallway
48	Journals archive & Reading room	1	40	
49	Librarianship	1	10	
50	Binding	1	10	
51	Code & Registration	1	10	
52	W.C	1	30	
53	Installation	1	350	

Design plan:

Plan





Elevation

Refrences:

1.Exnakis, Yanis (1990). **Science and music**. Payam.
2.Elahi ghomshei, Hossein (1998). **Articles**, Tehran. Rozaneh.
3.A'vani, Gholamreza (1996**). Wisdom and spiritual art**. Garous.
4. Bani masoud, Amir (2006). **Architectual history of the West from ancients to Chicago doctrine**. Tehran. Khak.
5. Puryousefzadeh et al. (2010). **Recognizing the similarities between architecture and music.** Art book of the

month (147). pp 38-43.
6.Sirous, Parham (1973). **Bolvordy carpet**. Tehran.Pocket books.
7. Dehlavi, Hossein (2008). **A voice from the mountain ridge to the heights of architecture**. Tehran. Faza. Pp141-152.
8.Kimiyen, Roger (1998). **Understanding of music**. Translated by Yassini, Hossein. Tehran. Cheshmeh.
9. Zarrinkoub, Hossein (1992). ***Step by step up to Union With God: The Life, Thought and spiritual Journey of Jalal-al-Din***. *Tehran.Elmi.*
*Seraj, Hessamoldin(2000).**Music and Artichecture**. Journal of Culture and Architecture(4).p154.*
*11. Sajadi, Jafar (1983). **Encyclopedia of Mysticism**. Tehran. Tahoor library.*
*12. Saremi, Aliakbar(2008). **A research on Yahya's sitar and comparing it with other works of Iranian art**. Tehran. Faza.*
*13.Falamaki, Mansour(2008). Introduction, **Articles about** **architecture and music**. Tehran. Faza.*
14. Filinezhad' Ghazale(2006). **Alignment of architecture and music**. Journal of Culture and Music(12). Pp39-63.
15. Madadpour, Mohammad(). **Spiritual Wisdom and the realm of art.**
16.Malek aslanian, Emanuel(1999). **Color, form and space in music and architecture**. Tehran. Faza.
17. Masoudie, Mohammad taghi(1985). **Traditional Iranian vocal narrated by Karimi, Mohammad**. Tehran. Soroush.
18. Nasr, hossein(1993). **Science and Civilization in Islam.** Translated by Ghasemian, Rahim. Tehran. Kharazmi.
Sheppard, Marilyn (2011),thesis on"**the Sublime music hall**", University of California Berkeley,
College of Environmental Design
Zhai, Z. J., Previtali, J. M. (2010). **Ancient vernacular architecture: characteristics categorization and energy performance evaluation** [Electronic version]. Energy and Buildings,No 42, pp357-365.