



The Role and place of Music Art in the Recognition of Architectural Identity

Elham Azadi¹, Said MirRiahi²

¹Department of Architecture, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran

²Faculty of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran

e_azadi0111@yahoo.com, Saiid.MirRiahi@gmail.com

(Received Aug 2015; Published Sept 2015)

ABSTRACT

It seems something that a music listener receives is more emotional than rational. However, in this case, if the listener is an architect, interactions and confrontational effects he can receive which are based on architectural point of view, are closer to the feelings of the composer of the piece of music. In this article, the writer is trying to find out what is the place art of music in the art of architecture and to answer conceptual links between architecture and music have been discussed. Moreover, the process has begun with the aim of establishing a connection between music and architecture, with an emphasis on the recognition of unique characteristics of music and its manifestation in architecture. The result is that architecture and music are both abstract arts and the initial feeling in architecture is meeting needs, but music lays its impact at the moment.

Keywords: Music, Architecture, Culture, Mysticism

DOI:10.14331/ijfps.2015.330092

INTRODUCTION

The word music is derived from the Greek word "Moesia", the name of the god of poetry, literature, and music in ancient Greece. Music has been described as the art of expressing emotions by sound. Sound and rhythm are most important factors in it. Our ancestors have described music as the cause of the recognition of human being and healing of the soul. (Khaleqi, 1937). Aristotle recognized music as a branch of mathematics and some Islamic philosophers such as Avicenna knew it as part of the book "treatment". Unlike mathematics, all the features of music are not absolute and immutable. Instead, the ability and taste of the creator or "composer" are directly involved in it. So they also call it art. The oldest form of music is the songs of birds and the first music teacher of human is nature. Humans have learned this industry from the old Mother Nature, and as a result of God-

given intelligence, has completed it. So, today we can say not only is music industry but also it is art, science, and language (Khaleqi, 1964). The exact date of the emergence of music is uncertain, but carved caves dating back to more than forty thousand years BC shows people dancing and the pictures and murals indicate music performance by musical instruments (Fig 1). Because music should be taken into consideration as the important and inseparable part of the culture of a society and regarding the fact that the culture and dynamic interaction of cultures, it should be noted that if the manifestations of a culture, including language, theater, music, art etc. are not considered consciously and is not rich enough, foreign elements to the culture will fill their vacancies and society and people will adapt to them. Therefore, addressing the cultural aspects of society, including music can involve a lot of contents.



Fig 1. The emergence of music: stringed instruments performers dating back to the second millennium BC found in Susa.

Research on music is not organized and purposeful and while the diversity of music and musical instruments is very high in Iran, unfortunately, reference books and resources available on the world's music are very rare. The topic of music is an excuse for having a journey in the world of mystery and the recognition of joyful angles and enduring roles of it. The understanding and realization of material and spiritual relationship between architecture and music is making material basis for an immaterial being which has always denied the place and has travelled and been manifested in time. Architectural creation has left behind many origins and paths and serves the same purposes as music's. This article is descriptive and has used the library method and taking notes from books, articles and databases for gathering information.

A VISUAL COMPARISON BETWEEN MUSIC AND ARCHITECTURE

Geometry and numbers are the secrets of the universe and each has its own special geometry and God has explained their geometry in such a way that people are fascinated by it. The foundation of all arts and normal behaviours is proportion to which we reach by geometry and number. This proportion is expressed in architecture and music. Architecture is the concrete form of abstract geometry and music is the audio form of abstract mathematics. Architecture is the use of proportions in the mass of space and music is the use of proportions in the length of time. Art is based on proportion and the sum of proportions in nature exists in various audio and visual forms. As you enter Naghsh-e-jahan Square from Caesarea Market entrance, and if you're familiar with Persian music, you can hear the Passion Harmony whispering. First, you can see the harmonious arches. This is the first part of Passion Harmony which is performed in a short one (Fig 2).



Fig 2. The relationship between music and architecture

One can move forward slowly to get to AaliQapu which is Shahnaz Harmony (Fig 3). Undoubtedly, one of the main reasons why Iranian places and spaces are magical is their relationship with music (Mallah, 2009).

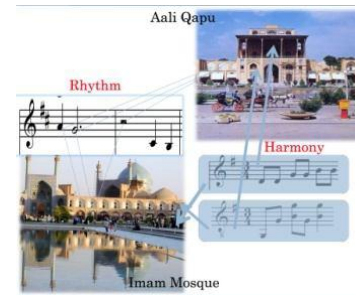


Fig 3. The relationship between music and architecture

SIMILARITIES BETWEEN ARCHITECTURE AND MUSIC

According to the studies and views stated, similarities between music and architecture can be found below.

-The foundation of architecture can be traced back to the designer's outlook as well as the needs in general. Foundations and principles of music are on musicians' perspectives as well as the producer's work and the type of listener (Basically, art is the artist's dialog with listeners and audience). Like we have related fluent sectional or discontinuous notes in music performance, we have the intervals in the facades of buildings. We also have openings (notes) and sometimes continue with the style of "Gothic" and sometimes reduce the coherence and continue with the style of expressionism.

-Paying attention to the signs and symbols in architecture is to create a bond between people and buildings just like music in which local special musical themes and folk tones are used to communicate with people to make emotional and intellectual links. This kind of inspiration from nature has been the source of many artistic works but only those artistic works which took a proper and conscious look at the nature won and became everlasting.

-Creating style (form) both in architecture and music has mental tests and people has feel and experience it differently. -Instruments used in music and architecture are the results of spiritual or abstract concepts underlying them (Mallah, 2009). The difference between architecture and music Regarding the above-mentioned issues, the differences between architecture and music include the following:

-Architecture is inherently tangible and based on observation so that it can stimulate emotions. Although music is inherently intangible and relies on subjective conditions which are realized only through motivation created after listening.

-Architects work with shapeless and tangible material and the starting point in the creation of architectural spaces is based on this question: How can a shapeless mass that do not have any identity and origin could be cut and shaped?

-Musicians have more abstract intangible and shapeless material that have no functions before being cut (Unlike shapeless stones and masses of plaster and clay).

-Music expresses emotions by sound but architecture by material.

-Architecture creates material and spiritual atmosphere but the music creates just the spiritual atmosphere.

-Architecture has three dimensions but music has one.

-Architecture is the music of space but music is the architecture of time.

What distinguish music from other arts is the clear and direct expression of it to the listeners and the easy transfer of mental messages, ideas, feelings and emotions of the artist to others where as in arch transferred through an intermediary which is the art of building (construction) (Mallah, 2009).

PROPORTIONS IN MUSIC AND ARCHITECTURE

In general, paradise is nothing but a proportion of music and numbers. Discovering geometric proportions and the relationships between musical sounds dates back to ancient times such as the teachings of Pythagoras. In the past, all human knowledge was called wisdom and was categorized into three types, the lowest (natural), mid (mathematics) and superior (divine). Mathematics which once considered as an educational science had four technology or fields: geometry, astronomy, arithmetic, and music (Fig 4).



Fig 4. Proportions in music and architecture

Pythagoras, who introduced the intervals of music by the longitudinal proportions of its sounds, believed that in the system of planets, each planet produces a specific note on its orbit according to its distance from the fixed center of the universe. This is the music mundane (worldly music) also known as the music of the spheres and according to St. Augustine it is the music human hears at the time of death. This music is present everywhere and rules on all worldly cycles such as seasons, biological cycles and rhythms of nature (Javadi, 2001). Since distant past, human has been trying to identify and use proportions in their buildings in order to be more efficient and enjoy more beauty. These proportions have been used in many phases from generalities of the structures to even decoration. Perhaps using these proportions has turned some buildings into monuments having long-lasting effects on humans creating a specific spatial sense.

RHYTHM

The word rhythm is derived from the Latin word *Rhythmus* meaning to frequent move and regular repetition. The origin of this ancient Greek word belongs to a time when music, poetry and dance were the same art. Any regular recurring of

natural elements is called tempo or rhythm. Many changes are rhythmic In the world such as birth and death, the sequence of night and day, rain, etc (Mansouri, 1975). In architecture and music, rhythm refers to synchronized and systematic (regular) repetition on lines, shapes, or colors which is considered as a unit and measure for organizing architectural forms and spaces. The easiest way is the regular repetition of architectural elements on a straight line (Fig 5).



Fig 5. Rhythm and silence

In architecture, inactivity (recession) and stop is fundamentally different with pause (Stairs, stairs with landings) (Mallah, 2009). Rhythm in music has been defined as the background regular or irregular tempo which is created by the melodic and synchronized weak or strong tempos. The importance of rhythm in music is so high that if all the notes of a familiar song and rhythm were played at the same intervals and the rhythm was taken away from the song, it would be impossible to identify the song (Architecture, music, etc). Rhythm in visual arts, including architecture, show itself in harmonious and disciplined sequence of shadows, light, color, smooth lines and curves. In the visual arts as well, the rhythm seems to be an integral part of the message and plays a quiet music that attracts not the ears but the eyes. Matching the associated rhythm/s to reach the desired appropriate (whole existence) feeling is necessary. Rhythm in architecture is received through the sense of sight and touch, for instance, by muscles when going up and down stairs. Islamic art is an art in which structure, rhythm, balance and proportion are very important. Islamic arts are spiritual arts in each of which visual concepts are used in order to induce specific spiritual concepts. In the entrance images of the Sheikh Lotfollah Mosque, the spiritual structure and the rhythms in Mugharnas works, tiled walls, the designs as well as rhythmic system of the breastbone which has repeated both in the main form of the entrance and in smaller sizes elsewhere, all indicate a certain space and move towards the goal from outside to inside i.e. from part to the whole (Fig 6).



Fig 6. Rhythm in Sheikh Lotfollah Mosque in Isfahan

In Khaju Bridge in Isfahan, rhythms such as stairs, chambers, breastbone arches, and arch bases and their shadows create a certain rhythm to the viewers and pedestrians (Fig 7).



Fig 7. Rhythm in Khaju Bridge

An outstanding example of excellence in which there is the rhythmic system in both its visual and spiritual structures is the House of Ka'bah. Architectural rhythm of Masjid al-Haram that the House of Ka'bah is located and the House of Ka'bah itself in the courtyard are the turning point of this rhythmic system. The Tawaf of pilgrims around the House Ka'bah i.e. their traditional rotation with its associated rhythm indicate the spiritual system of this work of art (Fig 8).



Fig 8. Rhythm in Masjid al-Haram

By rhythmic, balanced, and consecutive recurrence of forms, a remarkable and impressive architecture that resembles a piece of music arises.

REPETITION

Identical (uniform) Repetition, in this type of rhythm, a picture reappears continuously. The rhythm causes a movement and a spontaneous reaction (involuntary) and draws attention to her audience. However, the lack of diversity has negative impact and result and after a while it becomes boring and dull (Fig 9).

Evolutionary Repetition, in this type of rhythm, a picture or a visual element begins from a starting position and a special form and gradually changes to a new form. These changes are in line with a kind of growth and development. Wavy repetition, this type of rhythm that is basically made by curved movements and lines has frequency and is a perfect example of visual rhythm (Mallah, 2009).



Fig 9. a) Uniform Repetition, b) Evolutionary repetition, c) Wavy repetition

RELATIONSHIP BETWEEN MUSIC AND COLOR

Musical styles can be related with color, texture, and taste. For example: sound without melody is white. Talking melodies (melodies with voice and singing) is made of a gray spectrum. Iconic sound is yellow. Rock is green. And Pop can be different colors. Jazz has different tones of violet (Fig10).

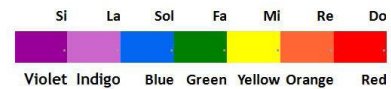


Fig 10. The relationship between music and color

MUSIC AND ARCHITECTURE IN TERMS OF AESTHETICS

In the diffusion of Melody in Persian music, a sound is heard more than the sounds and it is located in the center of the melody which we call "note" in Iranian music (Khaleqi, 1937). Now if we take a look at a traditional untouched urbanization, we will notice that the structure of some parts has been formed by a special system of architecture in some markets and squares while most other parts of the city such as houses, halls don't have an architectural system. Regarding this fact, the buildings reappeared with a special rhythm are like songs and other parts untouched by urbanization with no architecture are like the vocal (phonic) parts. For example, the musical translation of Siosepol Bridge in Isfahan is a beautiful ballad designed by a proficient creator and performed and organized by an orchestra.

IMPROVISATION IN MUSIC AND ARCHITECTURE

One of the features of Persian music is improvisation which makes it different from Western music. In Iranian music, improvisation consists of two types: The order of songs which means that it is possible to choose different

overtures in the music system and combine it with various major and minor scales and songs and thus create a new combination every time. In architecture as well, there are two types of improvisation. 1- Selective use of space means being able to choose and use different spaces according to the needs, feelings and moods i.e. one does not have to use all the spaces or use them in an obligatory order. One way to reflect such a method is taking advantage of linear forms or the formation of spaces on either side so that one can be free to choose their favourite space. 2- The expression of feelings at the moment means spaces available which one can set according to their own sense at the moment. This kind of change can be small and starts from shifting the furniture to making big changes in space using devices such as wall panels, false, crystal, cable, or clad ceilings. Thus, one is not required to use the same condition and permanent space all the time and we can express their feelings at the moment.

CREATION OF CONCEPT IN MUSIC AND ARCHITECTURE

Common opinion is that music works are lovely and pleasant when they follow some special rules. These rules are recognized by the rules of physics and match the sense of hearing and human's soul and over thousands of years has been tested on musical instruments. Being experimental is the most important base for musicologists and musicians. In other words, the scientific study of what seems to be pleasant and beautiful is the physicists' duty. However, experience says following certain rules which have been proved technically and physically precisely is the prerequisite of success in creating works that are considered pleasant and beautiful melodies and songs. Such works have been taught academically for ages. Both in architecture and music, a beautiful product can have both the following characteristics: First: It must perfectly follow the criteria and regulations that ensure a pleasant look both in general and partially (based on the known definition of beauty). And second: regarding all the above mentioned, they must bring some concepts to the mind that are valued just like the aesthetic values through their basic combination and form and apart from their beautiful look because they are the "reference public place" and have aesthetic basis.



Fig 11. Comprehending the concept of music through hearing

If it can be said that the basic purpose of composers is providing and promoting a specific concept which should be

tangible and have cultural and social function, we can hardly say that the same is true about architects. Architects are involved in the work of the another place for two reasons: First, the nature of their raw material makes them engage in a variety of form features, and second, it's the functional aspect of aspect of architecture which does not accept the spiritual burden and an immediate concept. If we look at the architecture from these two angles, we will find it different from music and there will be no need to explore the similarities and differences between them. An architectural work is capable of assuming a social-cultural role by means of its form, special language, motivating force or symbols. Then, it paves the way to evolution in a particular social environment and this is the way that music takes so it can put the sentences, themes, and motifs which are rooted in a certain order and in compliance with special rules which have experimental basis and are based on mathematics (physics), in frameworks, in the form of symphonies, sonatas, or fugue.

MUSIC AND ARCHITECTURE OVER TIME

According to Goethe, a leading philosopher spoke of architecture as "frozen music" and his opinion caused many to express their dissatisfaction. Researchers believe we cannot give a more beautiful name to architecture than "silent music". Such an approach began in classical Greek. Pythagoras and Plato were among the first people who made rules out of theories about beauty while their main concern was the concepts related to the creation of the world. They were the first ones who founded and developed theories to demonstrate the interrelationship of mathematics, geometry, music, and eventually architecture. However, nowadays, attention to the importance of the relationship between music and architecture has reached such a minimum that many people (and architects) drowned in the noise and visual pollution have achieved to some unclear perceptions of this relationship and have missed the creative use of the relationship between music and architecture as well as the richness of architecture resulted from music. Some believed that if a person had known music or had been able to play a musical instrument correctly, he would have been a better architect. This public approach relying on a prominent architect like Frank Lloyd Wright got stronger because he played the piano and combined music activities with his own educational process. Yet, it's surprising why few architects seriously pay attention to music nowadays. Today, architects become familiar with the concepts of discipline by referring to Jazz (because Jazz is very structured and disciplined). At the same time, freedom and improvisation (as well as some other specific characteristics of Jazz) allows architects to achieve the unique case (Mashhoon, 2000).

CONCLUSION

Regarding what was discussed above, the comparison of music and architecture as well as the research in the field of music and discussing similarities it can be concluded that architecture and music are both arts recognized as abstract. Abstraction, a common feature among these arts is what one cannot see and touch. Understanding of Architecture and

place takes place gradually and the initial sense in architecture is in meeting the needs may vary in type while music leaves its influence at the moment and has variable and moving mood. Researchers place our mental background in architecture to create memories in a way that repetition in a homogeneous place leads to the recall of the underlying intellectual and historical environment. The ingredient of music is time. Human can be affected by a particular music related to an environment, memory, history, etc. at a particular time and both human and music eventually reach a unity that displays a single nature for all humans. In architecture we move in space and in music in time. Then architecture is the music of space and time is the architecture of time. In other words, architecture is the geometry of space and music is the mathematics of time. The historical background and subconscious mind appears in the bond between music and architecture on the way from appearance to conscience. The concepts and principles of architecture transfer and extend with the culture of a country throughout the history. Architecture transfers meaning not form. Excellent art does not deal with imitation. A work of art that lacks dynamicity, innovation, creativity, and the sense of reality of his time undoubtedly lacks credibility and is not at

all helpful and strategic. The architecture consists of two main pillars of culture and science and when in the course of time one of the pillars gets weak, the result is inadequate and incomplete. In this field (architecture) engineering and creative sense are the two main wings for innovation. Mastery over and attention to both art and science is basic necessity. The process of the formation of architecture should have all the ideals and values of a society. Centrality, symmetry, repetition and circulation around the center are examples of all the characteristics of traditional arts. In other words, traditional arts have a common language with which they frequently express the fixed, unchanging, and eternal concepts. We need to organize the examples of spatial architecture i.e. there should be a reference system similar to spatial experiences in society and the existence of such a musical structure for architecture can be developed and taught. The bottom line is that the modern world to explore the universe in search of the essence of the world and tries to identify the elements in each area and the valley is a new search. But the essence of the word in the traditional art is Tawaf around unity which says, "There is no one else but God".

REFERENCES

- Javadi, G. (2001). Iran's Music from the beginning up to now. *Hamshahri Publication*, 3.
- Khaleqi, R. (1937). Music theory. *Tehran: Chang Publication*, 80.
- Khaleqi, R. (1964). The life story of Iran's music. *Tehran: Safi Ali Shah*, 1, 45-46.
- Mallah, C. (2009). Architecture and music. *Tehran: Chang Publication*, 86.
- Mansouri, C. (1975). An Exploration in the territory of Persian music. *Tehran: Chang Publication*.
- Mashhoon, H. (2000). The history of Iran's music. *Tehran: Phoenix Publication*, 120-121.