

Study on the Relationship between Architecture and Music

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ABSTRACT

The truth is that what a music listener- a listener who is not accidentally a musician himself- gets from music, is indeed more emotional than to be rational; of course in this case if the listener is accidentally an architect, the interactive and contrastive effect that he can get from what he calls “Organized Tune in the Territory of Iran”, in the best possible condition, makes this non-musician architect-based on his semi-musical knowledge-closer to the emotions of the creator of that piece of music which he is listening! Well we cannot expect all the architects to be musician as well, but it is not far from mind to expect a creator of architecture to be a good listener to the music as well.

KEYWORDS: architecture, music, Harmony, Rhythm.

1. INTRODUCTION

The word Music is derived from Greek word “Moesia” which is the name of the god of poetry, literature and music in ancient Greek. Music is described as the art of expressing emotions by voices. Sound and rhythm are the most important factors of it. It is also the knowledge of sound combination in a way that is pleasant and leads to pleasure and mental revolution.

Predecessors have described music as follows: It causes knowledge of human existence and heals the soul. Aristotle knew music as one of the branches of mathematics and Islamic philosophers like Avicenna who has mentioned music in mathematics as part of The Book of Healing has accepted this opinion too. Unlike mathematics all the musical features are not certain and unchangeable. Instead composer’s ability and taste directly involves in it, therefore they also call it art. Anyway, music of today is an extensive science and art which has various and specialized parts, and voice is called music only once be able to create a link between minds and when it is not limited by an abstract border.

1. The Concept of Creation in Music and Architecture

Musical works are pleasant and lovely when certain rules are followed, the rules that physical knowledge have recognized their technical methods based on the sensitivity of the human ear and mind, and over thousands of years have been examined and worked on musical instruments. Empirical nature is considered as the most important base for musicologists and composers.

However, it is based on the experience that following certain rules which have Technical-Physical careful attention is the required condition for success in creating melodies and generally pleasant and beautiful works in music. It has been taught since thousands of years ago till now at academies[1].

2. Relationship between Architecture and Music

The main role of music is to impress the soul through the center of emotions and feelings. The specific energy which lies in the nature of music can be formed. It can express the scenes which composer has in his thoughts and intentions while composing the song.

Thus, effects caused by music depend on the composer in a particular way, but it is also connected to the other factors such as performers, listeners, environment, musical instrument and the song. Environment which is one of the consequences of musical effects is itself composed of two parts; place and space. The architect takes his field of thought to an extensive aspect by understanding above issues and by belief that music have connection with soul and soul with God, the aspect that in it music is placed somewhere higher than its technical aspect and artistic application, and he finds out this art exists in all the levels in different forms. So, with this motivation the architect can think of a favorable space in an appropriate place. Music was first created to inspire the soul’s feelings, so it has a kind of quality that can directly effect on heart.

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When you enter Naghshe-jahan square through Caesarea bazar portal, if you are familiar with Iranian music, you can feel that it whispers “Dastgah-E-Shour” for you, first you see harmonic arches. This is the first part of “Shour” which is performed in a few musical distances (Pardeh) close together; you go forward slowly till you get to Ali Qapu which is “Shahnaz”. Undoubtedly, one of the major reasons for this fact that Iranian spaces are magical is their connection to the music[1].

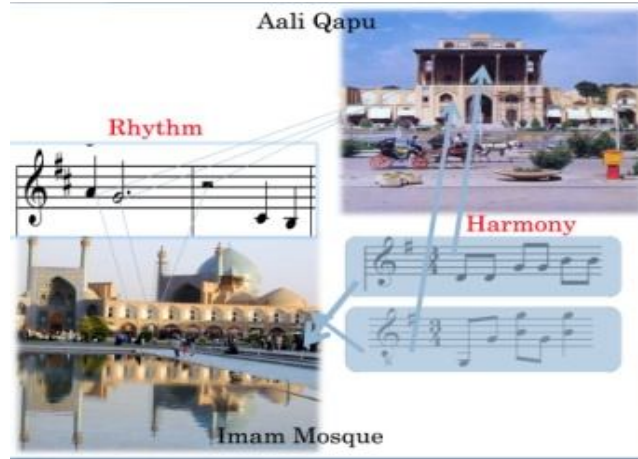


Figure 1: Relationship between Architecture and Music

2-1. Folk Architecture

Folk Architecture relies on traditional methods like Folk Music which belongs to a range and has various branches. (Azerbaijani ballad, separating from Shahryar)

2-2. Vernacular Architecture

Vernacular Architecture is derived from people. In each region relies on traditions and climate of that particular land. Just like local music, in Vernacular Architecture the houses are formed based on economic situations and climatic conditions of that particular region. Folk Music is defined to be a kind of traditional music or more generally it is Village Music which basically transfers to the next generation by families or other small social groups. It is mostly popular in lower social classes and villagers of different cultures and has no standard form.

2-3. Religious Architecture

Religious Architecture is the reflection of people’s religious needs. Like Religious Music. “when we say Religion Music (Mosighi-E-Dini), our goal and purpose is those song collections that penetrates words of God in the soul and spirit of audience in a pretty way, but when we talk about Religious Music (Mosighi-E-Mazhabi), it finds wider range than Religion Music, because in this branch of music we can find more types of music which have particular definitions too. Actually religion, because of expanding human’s view towards religion and God, has embedded a more extensive collection of songs for promoting and expanding human’s awareness in moving along the God way



Figure 2: Imam Mosque in Esfahan

2-4. Memorial Architecture

Just like Classical Music Memorial Architecture, regardless of its appearance, should induce a sense of excellence and eternity.

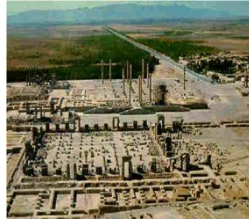


Figure 3: Persepolis

2-5. Useful Architecture

It refers to the buildings that justify themselves in the form of useful and beneficial values [2].

3. The Similarity between Architecture and Music

3-1. The basis of architecture can be tracked back to the vision of the designer and type of need. The basis of music is relied on the musician's vision type, the composer's work and the audience (Listening) type as well. (Basically the art is artist's dialogue with audience; art, is speaking and the audience's criticism is listening). As we have smooth, fluid and connected note playing in music or instead we can play it sectional and discontinuous, in the texture of architecture, architects in the frontage and installing openings (=notes) in different intervals, sometimes are looking after reducing Articulation by continuity just like Gothic Art, and sometimes are after perfect coherence and continuity just like Expressionists. However, we can listen to the melody in each of the building's floor by looking at windows and openings and empty spaces (Silence). At the same time, we can perceive two or three floors of a building as a form of harmony by looking at the body of one side of the building.

3-2. In the art of architecture, paying attention to icons and symbols, is a means to create a link between people and the building as in scientific music taking use of local themes and folklore tones are means to create the same emotional and mental connection with people. In music, this kind of inspiration from the nature has been the origin of many artistic works, but only those artistic works became successful and lasting which would have been created consciously and with a correct look at the nature.

3-3. Created forms both in architecture and music have mental experimental load and cannot have the same impact on two different persons.

3-4. Instruments used in music and architecture find value and work only by relying on what is spiritual result or abstract concept hidden inside them[3].

4. Differences between Architecture and Music

4-1. Architecture is inherently tangible and relies on objective and dimensional methods to be able to sit on minds and provoke emotions and feelings. However, music is inherently intangible and relies on mental conditions and aspects that become truth only through creating motivations that appear by listening and also affect on a man's inner world.

4-2. Architects work with tangible and formless materials and the starting point in creating architectural space is based on this question: how a formless mass which has no identity can be cut and formed?! Musicians have more abstract material, intangible and formless material which have no application before getting cut (unlike formless stone and plaster mass and clay).

4-3. Music expresses emotions by the help of sound and architecture by material.

4-4. Architecture creates material and spiritual space, but music only has spiritual space.

4-5. Architecture is three-dimensional but music is one-dimensional.

4-6. Architecture is the music of place and music is architecting time.

4-7. What distinguishes music from other arts is explicit and direct expression on its audience which makes transmission of mental messages, ideals, feelings and emotions of the artist to others easier, while in architecture the artist's mental message must be transferred to others through an intermediate named construction[3].

5. Harmonic Ratios in Architecture and Music

In the music sound ratios lead to beauty as well; the ratios that get to symmetry. Symmetry is sometimes in visual form and sometimes in audio form; therefore all the arts have one form. That is the form which is already designed by our heart's geometry.

When we move from number one, which is the monotheistic point of the word, to the multiplicity, firstly we face numbers two and three. In architecture we work with optical frequencies which describe the length, width and height, and once these three locate in the most succinct form, you feel beauty and these proportions exist in most of

the great works of architecture. It is interesting that this proportion exists in human body, Birds' anatomy and trees and all over the nature at the same divine proportion.

5-1. Rhythm: In architecture and music rhythm is referred to the regular or coordinated repetition of lines, figures, forms or colors which are considered as a measure for organizing forms and spaces in architecture. The simplest way is regular repetition of architectural elements along a direct line. Inactivity and stop with the pause conception have functional aspect in architecture. (Staircase and stairs)

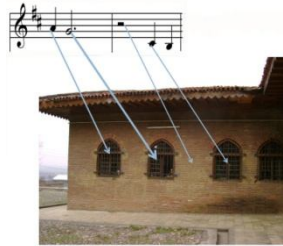


Figure 4: Rhythm and Stillness

5-2. Repetition:

5-2-1. Uniform repetition: in this kind of rhythm an image is repeated uniformly and continuously. This rhythm causes a kind of spontaneous move and reaction and attracts the attention of the audience to itself, however because of lack of diversity has negative effect as a consequence as well and becomes tedious and boring after a while.

5-2-2. Evolutionary repetition: in this kind of rhythm an image or a visual element starts from one position and a particular form and gradually gets to a new form with some changes in a way that follows a kind of growth and development along the route of its changes.

5-2-3. Wavelike repetition: in this kind of rhythm which is created mainly by using curved movement of surfaces and lines and takes advantage of a kind of alternation, is a perfect sample of visual rhythm.

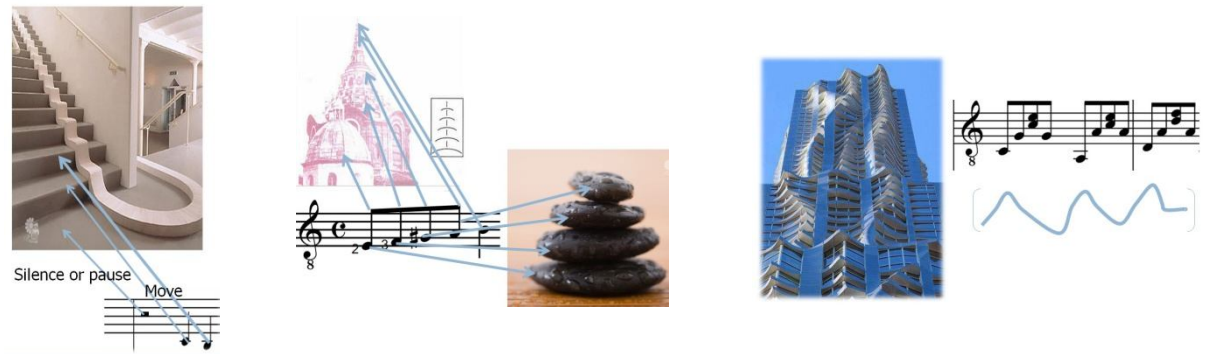


Figure 5: The images from left to right: Uniform repetition, Evolutionary repetition, Wavelike repetition

6. The Relationship between Music and Color

Music styles can be related to colors, texture and taste. For example: sound without melody is white. The melody of speaking is composed of different ranges of gray. The sound of cymbal is yellow and Rock Music is green and different colors can be detected in Pop Music. In Jazz purple and its different ranges can be found widely[4].

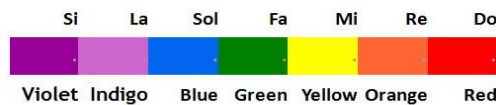


Figure 6: The Relationship between Music and Color

7. Music and Architecture in Term of Aesthetics

In Iranian music the form of melody circulation is in a way that always one sound is heard more than other sounds and this sound stands at the center of the melody that we call it in Iranian music "Note".

Now in the field of architecture, if we pay attention to a traditional urban fabric, we'll find out that the structure of some parts are formed with a particular order like some of the bazaars and squares, while most of the other parts of the city such as houses, passages and ... don't have such an order.

In this case, those buildings that are repeated with a particular rhythm are like ballad in music, and other parts of urban fabric which don't have order are like vocal parts. For example, the musical translation of Isfahan Si-O-Seh Pol is a beautiful ballad which is designed by an adroit composer and is performed and organized by an orchestra[5].

8. Conclusions

We have to organize the row of spatial patterns of Iran Architecture. It means the same reference system that is produced by common spatial experiences of society. In case of existence of such musical structure for architecture, it can be transferred and taught; the thing which is the most competent base and reference for extracting regulations of city and buildings; and since it is not once determined for always, each architect can design a new row (musical structure) by relying on patterns and spatial forms extracted from the heart of different periods.

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