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Original Research Article

A Critical Review and Analysis on the Structure and Content of the Article Entitled: "Formation of Space as a Result of Conceptual Alignment of Music-Math and Architecture"

Case study: The entrance and Dome Shaped Roof of Sheikh Lotfollah Mosque Isfahan

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Abstract

Man created art to use it as a means to express his sentiment and convey it to others. Along with this, according to theories and the views of philosophers, the aesthetic and its achievement, which is the sublime state, has always been the main concern of an intelligent man. Human has also been interested to know how to think beautifully and observe the beauties while re-creating them with the help of creativity and techniques.

Visual arts and architecture have been a manifestation of man's imagination in artistic creation. Apart from them, music is the only abstract phenomenon that does not rely on visual aspects and preliminary perception. Consequently, it turns to be a mystic phenomenon in which having secondary knowledge for its appreciation, is a necessity. Naturally, by its structural features, music may seem to be adaptable to other phenomena which have a kind of engineering in their scheme, but with a deeper observation, we would understand that such adaption is heterogeneous. This study attempts to provide a critical review and analysis of the structure and content of an interdisciplinary article on architecture and music, which tries to bring these two arts together by overlapping specific examples and connect form and content. In doing so, it has given more priority to the emotional aspect than scientific and academic research. This has resulted in gross faults in explaining the theoretical foundations and verification of the aforementioned evidence has reduced the credibility and reputation of the article.

Keywords: *Critique, Music, Architecture, Motive, Dastgaah (music modal system), Ornaments, Mahoor, Shour.*

Introduction

There have been activities on the relation of music and visual arts recently. The researchers in the field of architecture and other arts, in general, are trying to analyze the proportions of music with other arts. Obviously, they have gained outcomes, but regardless of the results, there are many noticeable faults and misunderstandings in the process of their efforts. As such, the idea of how music, painting, architecture, and sculpture have been interrelated in the chain of Art history, needs more investigation. The verifiable record of interdisciplinary relations of Music and Painting goes back to the beginning of the

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20th century. This is when Claude Debussy the French composer and the initiator of the impressionism school, declared that he has been influenced by the paintings of Claude Monet, namely, “Sunrise”. Consequently, he speaks about the basis of this school in music, being inspired by the colors and compositions of Monet in his paintings (Holder, Geravet, Palisca & Kelaved, 2016). By innovating full chord scale in music and setting harmonies and chords, he created a new musical taste which was later followed by other composers such as Ravel, Satie, and Faure', who gifted the world of music with various invaluable musical masterpieces. Or, the influence Franz Liszt gained from a painting by Wilhelm von KaulBach named "Die Hunnenschlacht" or "The Battle of Huns", to compose a Symphonic Poem. Also, Sergei Rachmaninoff as a post-romantic composer was influenced by " Isle of the Dead", a painting by Swiss symbolist artist, Arnold Bocklin. These facts justify those artists from different walks of art have been interactively trying to represent Visual works by music language and vice-versa.

This is a kind of interpretation from an artist when he encounters a piece of visual art and it may convince him to act and create a piece of music to narrate that painting. This can be called the hermeneutic effect of art. All these actions and reactions are the result of the artist’s interaction with a piece of art. Then in an abstract path, it changes to image and meaning which carries several interpretations, and they are all proportional not being absolute. Wassily Kandinsky's collection of views as a Russian post-impressionist and a painter is another verifiable sample. He did write music to describe architecture designs and paintings. These were welcomed by artists of conceptual art but all and all are his personal views. Of course, he never mentioned them as an absolute entity based on an academic approach.

There is a question: Do such subjects lie within the hermeneutic realm?

A question on the essence and nature of interpretation and related issues which can elaborate on art, culture, politics, social, history, philosophy even religion and mysticism; leading to expanding knowledge and enhancing human wisdom? Will this kind of adapting become a method for recognizing music and architecture, or due to the lack of command of basic issues, it causes perversion? In the words of late Professor Nouroozi Talab one of Tehran university academics: "Hermeneutic science is the basis of all Knowledge which deal with the understanding of different phenomena and its collective sphere has expanded from man's a structural existence to Epistemology and Ontology. The world around us is defined by man's observation and this will determine the nature of his observation. "Do I see you or you are seen by my eyes?"

By an accurate recognition one can reach "meaning" via "image" and from meaning will be directed to "interpretation", this can only be achieved if there is an understanding of the basics and structural issues. Such interpretations take us to the conclusion that how such descriptions will help to understand an abstract phenomenon like music. Now, since we are speaking of a phenomenon that is not visible to us and can only be heard, will our interpretations and observations be correct? It must be considered that music recognition requires deep familiarity with music culture and practicing listening. There is no doubt that all arts and sciences are somehow interrelated, But how? This is important that researchers recognize the routes for entering such a debate and relying on the declaring unfailing academic documents.

Literature review

There are articles concerning music, visual arts, and architecture presented at different conferences or published by academic journals. Below, you can revise them as follows:

Philosophy and music Ph. Nemo & A. Vakili Information of Wisdom and Cognition- monthly, 2009

Auditory Effects of Music on the Creativity of Modern Painters with Subjective Inclination - (Azadbakht &

Sharifzadeh, 2013).

Music and Architecture_ (Aminzadeh & Fouladi, 2015) Scientific and Research Congress of New Horizons in Civil Engineering and Urban Management Culture"(Proceedings).

Commonalities of Music and Architecture, A Suitable Mean for Creating Music and Architecture Works, (Jamshidi & Jamshidi, 2013) Humanized Architecture and Urban Planning National Conference.

A Comparative Study on the Concept of Motion in Architecture and Music (Salimifard & Pakdel, 2016) "International Conference on Architecture and Art Applications (Proceedings).

The Interaction of Music and Architecture/Case Study: The Music House in Iran and the World, (Omidvar & Doulatabadi, 2018) "Conference On Civil Engineering, Architecture and Urbanism of the Islamic Countries (Proceedings).

The Interaction of Music and Traditional Architecture from the Persian Gardens and knowledge-based Architecture Perspective, N. Faghiri, R. Labibzadeh, (Khakbazan & Kaboudarahangi, 2017) "National Conference on Knowledge-based Architecture and Urbanism (Proceedings).

A Survey on the Impact of Music and Mathematics in Wassily Kandinsky Paintings, (Parham, 2010) Thesis, Alzahra University.

Related to the topic of the present article, there are some foreign research papers published worldwide, and here is some of them:

A. Musi-Tecture: Seeking Useful Correlation between Music and Architecture (Young, Bancroft Sanderson, 1993) Music teacher Music Journal. MA Thesis of R.J. Bessen," Music and Architecture: An Interpresence" The author of this thesis from Massachusetts University has appropriately studied the common aspects of the two arts. Reading this paper can benefit all the related students and academies. This article gives the best route for academic research on the mentioned topic. Of course, it is necessary to remind readers about the fact that most of the studies that have been carried out in the Iranian context suffer from numerous inaccuracies and misconduct of research issues. Most notably is the absence of music scholars even as a consultant in such articles. The studies mainly reflect personal attitudes and there is much exaggeration about music and its relation with other arts. These studies need to be critically reviewed by related academics. That is why we could not trace articles with technical and structural criticism. This article can be counted as the first critical approach of interdisciplinary criticism in relation to music and architecture (Tokhmchian, Gharebegloo & Nejhad ebrahimi, 2017).

Methodology

This article tries to focus on the subject of conformity between music and architecture through an analytic approach. The manner of conforming, together with inaccuracies, would be explained by the help of declaring samples from credited music texts and academic reasoning. To achieve this, library documentation and analysis were carried out. This research is also opting to answer one major question, and that is:

Can we principally conform visual arts and music both in the content and structure?

Now, the present research analyzes one of the articles related to Iranian music and architecture and attempts to elaborate on deficiencies in a fair academic manner.

Critical analysis

With a precise look at the content of the article, many faults emerge. Regarding the fact that the article has an interdisciplinary approach - music, and architecture - there should have been academic views from both ends, but unfortunately, this is not so.

Many articles are often neglecting correct musical knowledge. Musical terms such as Rhythm and tempo have been used wrongly in place of each other. This is common that some directors of cinema and theatre put it like this: "The rhythm in this mise-en-scene should be faster ", provided that he surely points to the

"speed" of action and dialogue but wrongly has applied "Rhythm". These kinds of misapplying terms are not suitable for a research text and are mostly known as common mistakes. This also occurs in painting as well. Such articles easily miss their quality content-wise. In the aforementioned article, authors try to adapt the features of architecture in traditional buildings to Iranian music modes, while none of their references used in this regard are creditable. There is no argument on the idea that many architecture lovers and other artists are interested to link music with visual arts but they should remember that it may become feasible only in some limited cases. From the structural point of view, motive or design in music is completely different from what we call motive in architecture. Both are known as motives at the first instance but in function they are different. This definition seems to be exaggerated and dreamlike and the author is trying to make a mystical and heavenly connection in confronting these arts. As an example, Si-o-se-pol Bridge, (The Allahverdi Khan Bridge) is related to one of the Iranian music modes by the author and takes Sheikh Lotfollah mosque for another mode. such an adaptation has not been seen in any ancient manuscripts like Musighi-Al-Kabir treatise by Farabi or Sharaffiyeh music treatise by Safiyeddin Urmawi. Even other ancient scholars like Al-Biruni and Ibn Sina who have notable writings about music, do not point to such issues, let alone the European manuscripts. In the theoretical framework of all these arts, you can find features about Math. Then, when we speak about "Duration" or damping, they are one, and when we speak of harmony in both horizontal and vertical settings or subjects like painting we care about color, and there might be similarities but they are different in their nature. The relation between frequency and tonality in music and the idea of which tonality is warm or cold in conveying a special sense is completely different from the tonality of colors having variant frequencies. For example, in the realm of senses, seeing red or yellow gives us a feeling of warmness or blue conveys cold, but this phenomenon is not the same for all the viewers, therefore, we cannot define a scientific rule for it. Here and now, I feel it is necessary to refer you to the views of ancient scholars to emphasize how critical the subject of sound and music has been in their research work at their time. As quoted by "Urmawi" in Sharaffiyeh music treatise, “Farabi” speaks about producing sound in his Al-Kabir: “some of the things do not resist against the pressure of another and take it”. So, if the thing is soft in texture, turns inside, or like liquids, they give way to the pressure to pass but no sound is produced. (Sharaffiyeh treatise p.3_Khazraie). As it is observed around 666 lunar Hijri, "Urmawi" has mentioned Farabi's definitions about music in his treatise, and then you will understand that far from sentiment, the facts and clues are all based on accurate calculations. Many philosophers have different views in this regard and some even reject other thinkers’ views. This justifies the reasons why speaking about music is not as easy as the way some authors have written their ideas. Speaking about music needs deep understanding based on musical knowledge and there is no point in personal interpretations which more seem like a fallacy. Great philosophers like Plato in his treatise "Republic" and Aristotle in his lectures have thoroughly spoken about music and its role and function as a technique intermingled with the taste of its creator. They have also recognized music as an effective and motivating art with a special nature and essence, which is a division of math and geometry. For example, great philosophers like Plato in the Republic book say about music: "Lydian and Ionian" melodies should be banned because they express sadness, instead only the songs of "Dorian and Phrygian" should be used instead and They should be allowed because they express courage and a sense of courage (Republic, p. 396). And he considers this phenomenon, both as an influential and exciting art and as a science that originates from mathematics and geometry.

Now, how can the article under revision, speculate music in a sentimental and dream-like manner?

Meanwhile, the authors try to adopt the structural features of music and architecture by linking the two arts even though one of them is completely visual and the other is absolutely abstract and non-visual.

Discussion

After this relatively long introduction, our survey on the mentioned article begins and we will analyze its content line by line. Obviously, the object of the present analysis is not to falsify the whole efforts of the authors but it is essential that in an interdisciplinary subject, especially when music is at one side and architecture at the other, it is advised to write with much precision about theoretical matters or benefit from the views of academics and experts of the field rather than focusing on personal views without referable documentation. In categorizing arts like painting, sculpture, photography, and architecture, which are dependent on the surface and mass of the things, according to traditions and conventions, they fit in one category. But music cannot be fitted in the same group because music is the sum of arranging notes without the capacity to become visual and it emerges from inside in an abstract and subjective way. Music can only be felt and then enjoy its effect. Sensing music is sometimes associated with sorrow and on some other occasions, it leads to joy and happiness. Also, one can sense epic feelings, bravery, and sacrifice or devotion, as in classical music pieces. And, Poetic feelings or love can also be sensed by music, bearing in mind that such issues are relatively different among people. In Visual arts features like line, dimensions, color, surface, and mass are completely adaptable to reality. Therefore, they can be understood the same by different people. For instance, an arc with green color or red is vivid for everyone (Ormawi, 2006).

But, can we distinguish such characteristics by only listening to a piece of music? These findings take us closer to the fact that the perception and apprehension of music with the sentiments hidden inside it, is not measurable with common standards. We must feel and perceive these concepts in a different way. In the article being revised, we see comparisons about the connections between music and architecture. Though it can be a matter of discussion, there are also fundamental problems that we will elaborate on. Of course, it is necessary to mention that inaccuracies of music theory and definitions presented in the article are extremely conspicuous that have convinced us to revise them in our writing. As in the abstract of the mentioned article, in the 9th line, we see the reflection of the whole article which says: "This research is theoretical in its kind and the section on the theoretical framework is done by Historical Research".

Now, the question is: Regarding the various complexities of this subject in explanation which needs a good command of theoretical principles of music, should not be done with the historical method. This will cause the article to rely only on historical documents and its approach would not be academic (Plato's, 1957). The theoretical framework of music has its literature and writing an academic article needs a good grasp of the subject to have a correct analytic and place everything properly. In line 13th of the abstract, it is said: "A pattern by using similitude of Shour-E-Sol(G) music mode (Radif)". The correct way of saying it is: "Shour mode as modality and Sol(G) note as the theme of tonality based on melodies" (ibid.).

In line 4th it says: "The beautiful Harmony of this mode". It is generally agreed that Iranian traditional music is monophonic and there is no harmony as it is common in European music. Apparently, it has its unilateral obligations and a complex genealogy of grades mixed scales simple or compound which can be regarded as specific features of Iranian music and cannot be seen in European music. Perhaps, the authors of that article meant to emphasize different parts of a mode, but this idea is in doubt.

In the next line it says: "Also, the harmony of Shour mode can be seen in the ascension of ornaments on the dome". This sentence is not academically correct. If the authors' purpose is the coordination between

conforming details of the tiles in the dome, and they try to adapt it with Shour mode, they cannot adduce to that without document and academic research. Secondly, these kinds of issues do not have reliable logical documentation. In addition to that, each Iranian architectural construction can be attributed to any of the music modes. Obviously, there are different attitudes in this regard. The basis of such theorizing is in question and it is not known where and why this idea gets started. In continuation of the same line in the article, they have pointed to: "harmonic ornaments". It is essential to mention that when we speak of harmony, we mean the connection between horizontal and vertical music lines and concordant notes, namely, melodies that are performed on a horizontal line. Then, they cause depth and texture, but it is not clear if the authors mean the same or they mean harmonics. As we know, each tone has got 16 harmonics which are not easily distinguishable to hearing. Even if, we neglect what the author means, in the same line it is said: "This is evidence of high-pitched notes or in another term, the frequencies increase in Shour mode". This raises a question: mentioning high-pitched notes is correct but what is their relation with harmonic non-chord tones? And, in what sense nonharmonic tone has been applied here. The "non-chord tones is a subject in music and applying them in writing music has been discussed in the last book of Professor Pourtorab, “Music Theory Principals” as follows: "Non-chord tones are often small tones from the group of none harmonics which appear before or after the main notes and they function as ornamenting the melody.

The duration of these notes, other than some exceptions, is very short and they are on counted as short-form signs (Pourtorab, 2013, 154). These are briefly known as Upper Appoggiatura, Lower Appoggiatura, Acciaccatura, Gruppetto, and each has a defined function (ibid.,155). The subject of embellishing tone in music is very clear and evident and as explained above it has been accurately discussed in music theory, therefore, the idea of establishing a relation between ornaments in architecture and music is very vague in the article under revision. That idea of ornamentation can only be seen in decorating construction with smaller tiles and metals as it is common in architecture. Regarding harmony and harmonics which are used widely in that article, it is necessary to explain that according to theoretical principles: The term harmony derives from harmonics and it is a science in which its rules have been based on musical chords in combination with musical tones to provide an order. As we see raindrops are decomposed against sunlight, forming different light spectrums: red, orange, yellow, green, cyan, and violet. Each musical tone, especially Bass sounds, can decomps in certain conditions.

This decomposition is an integral multiple of the main frequency or base frequency. For example, if the lowest bass tone on a cello is played without touching the strings (Do1) tenth key on a piano keyboard from the left- that would be a base tone and if we make a 1st harmonic to sound, then the range of other sounds is as follows in "Fa" key: Do-Sol-Do-Mi-Sol-Si(b)-Do-Re-Mi-Fa-Sol-La-Si(b)-Si(natural) (ibid.).

There are two sections in the structure of music art, one is the mathematical part which is completely based on calculations and leads to consonancy and the proportion of its different elements. And the other part is for feelings and sentiments which emerge from the Soul and thoughts inside the creator. It is then turned into music language and the performer expresses it through the music knowledge he has and tries to give it the same feeling as the creator has put in for that piece of music. The performance of a piece in two separate versions may not differ in the main structure, but surely, there would be differences in expression and the details.

Now, if we are opting to do a comparison between a painting or an architectural construct with music, we must have an overly perception and apprehension beyond the superficial aspects of the piece in the realm of image and meaning. The geometry of an architectural construct might be adaptable through

imagination with any piece of music containing harmonic and counterpoint complexities which have been effective in forming the texture of that work, but this would not be visible with the method of the mentioned article.

Geometrical ornamentation in small architectural units like miniature tilework, colored glasses, decorative metalwork, and glittering stones are not similar to the way a musical piece is ornamented the functions are principally different. As an example, in Iranian music by applying technics in Chordophone instruments like Setaar, Taar, and Kamaancheh, we can have some kind of ornamentation.

These instruments are famous for "Kandeh-Kary(engraving), Panjeh-Mooyeh and Dorrab", you can perform one melody line with ornaments and shift to improvisation with different ornaments. The fact that how these two issues of architecture and music can be related is in the hands of researchers and then the criticism they receive afterward.

Can we merely take these two arts similar in nature because of a structural adoption by elements like motif, design patterns, constructive material for architecture and repetition, imitation, variation, and contrast for music?

The fact that art has dynamism and movement from inside is not convincing to be compared with architecture as a static construct. In the field of Literature and Poetry, Iran is the land of ancient and contemporary manuscripts. Many poets have conquered the borders of imagination and dreams.

With techniques like synonym and decoration, allegory, and metaphor, poets take man's actions and present them in the best poetic way. The necessity of this poetic trend is in the essence of words and their functions on man. If for example, we take synonym and decoration in poetry to be compared with ornamentation in music by a non-academic method, we have not done well so far. There are defined research methods for entering such debates. Exaggeration in expressing feelings has always accompanied man and deviates him from the truth in the course of research. Man has always been looking for sublime and aesthetic, a subject he has followed seriously over time. Bearing all the sorrows and touching moments in life has motivated him to create works of art to show his reaction with a different expression than words. For this, he has tried to recognize the world around himself and has appeared in a philosopher's stature to discuss the how and why of things.

Back to the article under revision in the section concerning the questions, and methodology (last paragraph), of research, the authors acknowledge that: “Yet, looking at the relation between architecture and music is not very divergent and the presence of a very deep relation between music and architecture would be the opening of analyses, though some researchers believe that architecture is a facet of music and in its continuation or the course of evolution with it.” It could be better that the authors name the researchers to adduce to their documents and academically settle this subject. In continuation of the same paragraph, the authors have mentioned another fact in the words of other researchers: "There is the belief that architecture is frozen music in space." Necessarily, the authors should have benefited from the consultation of an ethnomusicologist or Iranian music expert to avoid presenting such strange points of view. In the next section of the article, there is a table that discusses the height of the building and points to its proportion with the pitch in music.

In the subject of numerical quantities, one can simply understand the proportions of sounds and stairs communication, these math-music concepts would correctly have been perceived. But personal experiences and sentimental illustrations have no place in academic research. As an example, there have been mentions about the height of a construct and the pitch in music which has no academic point of reference.

The relation of sounds is as follows: Between two sounds, the one with higher frequency is treble sound, and the other with lower frequency is the bass

sound, these feature between sounds is called "pitch" (Pourtorab, 2013, 17).

Therefore, as in the science of acoustic and sounds, the difference between treble and bass is called "Pitch" (Shahmiri, 1970, 229).

Its meaning and essence lie within the related frequency. This idea is absolutely different from the height in an architectural construct. These two phenomena have been wrongly mentioned in the article under revision.

In a table in the mentioned article, we have: "Also in the subject of balance in natural musical scales". What does the author mean by natural scales? Iranian modal music is categorized based on a Kind of modality called "Magham", and European music functions based on two Major and Minor scales. They are respectively named Diatonic and chromatic scales, Major and Minor diatonic appear in three forms: Antique, Harmonic, and Melodic, each of which with the arrangement of melody become functional. So clearly, we do not have something as natural scales.

In continuation of that text, the authors adduce to a reference saying: "Surprise, Variety, Suspended, and Association.

Perhaps there is a textual fault that has made it ambiguous and passive, Surprise has several meanings in music. To give an example using the syncope or syncopation through a piece of music causes Surprise for the audience. This means the continuation and conjoining of a weak beat duration, with a strong beat duration, causes a juxtaposition and accented beat, and the whole process is known as syncope or syncopation and this is a kind of clash between rhythm and scale.

In another sample from Iranian music, modulation in a musical phrase can cause Association and Surprise, or by using late notes it generates a feeling of suspension. As you see there are straight definitions and applications in the theoretical framework of music that the researchers should not neglect to inspect and use them. The mentioned article continues with rhythm in music giving an example: Time signature (2/4) with a combination of Eight notes, quarter notes, and semiquaver note in the right row of the table, and a picture of the Si-O-Se-Pol bridge does not make sense at all.

It might be somehow indexing to rhythm and motion adapted to the 33 chambers of the bridge. Probably the authors have taken the 33 chambers as the component for rhythm and the repetition of each chamber stands for motion, though it is not clearly explained. At the end of the picture, they have put a description: "The simplest rhythm (orderly repetition) in Si-O-Se-Pol bridge. If adapted to a sentimental description on the right and the bridge picture on the left, seeing the picture leads to the viewer's intention and desire in a "Psychic state". The mentioned descriptions by authors do not have any academic root, of course, one can see the symmetrical reflection of the bridge in the river below (Zayandeh-Rud) which is the evidence of a beautiful and firm construct. It has a harmonious engineering corresponding with its climate, and it can be easily seen by any viewer but the whole scene does not manifest all the explanations the authors have put for it.

In the second part of row 1, with the title of the analysis of the relation between music and architecture, the authors give a reference to a book by Mr. Seraj, which says:" the adaptation of intervals in Major scale to Antique scale, causes balance, equilibrium, and firmness that such epic mood originates from inner stability of Antique Scale". This sentence is faulty from the perspective of music science and its structural relations. (Of course, authors may have written the words of the mentioned book). Earlier, we explained the subject of Scales and Major and Minor modes with their functions. The equilibrium firmness of an architectural, construct goes back to the precise calculations, the kind of material, accurate engineering, and its social applications which the designer and architect have thought of it beforehand.

In continuation of the article, they have mentioned: "Using this idea in likeness of the Khadjoo Bridge with Minor mode is not an exception". The text

continues as:" using an attractive and rhythmic mood that has formed by the large number of arches in the middle of the bridge which leads to a feeling of variety and tension." If this kind of description is used for architecture there would be no problem but when it is adapted to music the sense is not academic at all. Their text continues as:" Surprise and variety in the auditory feeling of note (Fa) which brings pleasure and consonancy". This assumption means that only note (Fa) can have such features this idea is not academically correct. (Of course, it is probably that they mean Hierarchy of steps in (C) major scale that has two tetrachords and first tetrachord from the note (Sol) to the note (Fa) and next tetrachord from the note (Sol) to the note (C) is the next octave (Eight steps scale).

And here, how the note (Fa) is regarded consonant, is in doubt! All steps in one scale and one mode, have equal sound value in one melody line just like a distance someone should go and come back. Now, if during this, a beautiful landscape attracts the commuter's attention, it does not have interactive meaning in this article. At the end of the paragraph, they end the subject with this sentence:" The same feeling as in the architecture of Khadjoo Bridge and also we can survey on the likeness of Mahoor music mode with this Bridge."

Question: Why we cannot compare or adapt Si-O-Se-Pol with Avaze-E-Byatt-E-Esfehaan in Homayoun modality and Khadjoo bridge with Avaze-E-Dashti or any other mode (Magham).

Up to now, the only outcome of that article, not from the architecture view but from music and its dream-like adaptation with architecture, has been that Sheikh Lotfollah mosque concords with Shour Modality and Si-O-Se-Pol with Major mode!

Of course, as we do not have a major mode in classical music literature, it could be better to say Major Scale. These are very basic terms of the theoretical framework of music science that can only be used in their proper place. At the end of the paragraph is a painting like the picture of Khadjoo bridge, without any explanation you see the 7 notes Beneath the picture, from the note (C) to Note (Mi) and from the note (Sol) to note (C) octave, to the symmetrical axis and note (Fa) as the center of gravity for the bridge. This attitude does not bear any calculation or numerical proportion; therefore, it is absolutely non-academic.

In the next table respectively, they have equated stairs system of notes in step order of scale in the bass and treble clefs or (Fa) and (Sol), with the high and low features of Mirza Mosque and Abdolrazagh-Khan cistern in Kashan. On top of the table, they have put:

The apsis and apse of music equals to high and low of the Cisterns". Obviously, this comparison is more sentimental rather than being academic. Under a title " The analysis of conceptual and fundamental relation of music-architecture" They mention: "as an example, proportion of 1 and square root of 2 regardless of aesthetic debates, is expressing the proportions between note (Sol) and (Fa). This numerical connection can be obtained from all scales and notes. Here, it is essential to open a subject about elements of beauty in nature, in art, especially in music intervals with an academic approach. In creating beauty in music elements like combination, neighboring, simultaneity, and all other factors have a share. It depends on the amount and proportions together with the manner of setting on vertical and horizontal lines.

This will help the setting to have Equilibrium, Harmony, Symmetry, Contrast, Consistency, Compatibility, Similarity, and bear features as being identically, sequential, concordant, evolving and canonic. These will cause the beauty to emerge and manifest itself, providing joy and pleasure.

By observing the beautiful creatures in nature, many of them bear such characteristics. To understand the hierarchy of beauty among them, mathematical calculations are needed (Pourtorab, 2013, 6). Gustav Fechner, the German scientist, has surveyed beauty with his theory and accurate experimental method.

To clarify his theory, he considers a rectangle shape

and argues: In a rectangle, the ratio of the smaller side to the bigger one, to the ratio of the bigger side to both sides, is more admired by the viewer. In other words, the proportion between the sides of a rectangle causes the feeling of beauty which fits the biggest multiplicity in the biggest unity.

This has convinced many aestheticians to believe in the unity of existence (ibid.).

To determine the standards of beauty, some experiments with color and sound seem feasible. This can be justified for music intervals in another way. If we hear a bass tone as the base sound, this sound generates other sounds whose frequency is a multiple rounds of the base sound. Frequency is multiple rounds of the base sound. Their frequencies have a ratio of twice, triple, tetra and... up to "n" times.

In between the base frequency and its twice(2/1) which is called perfect eight (an octave interval) and there are other intervals like perfect fifth with the Frequency ratio of (3/2), the perfect fourth with the frequency ratio of (4/3), Perfect sixth with the frequency ratio of (5/3), Minor sixth with the ratio of (8/5), Major third with the ratio of (5/4), Minor third with the ratio of (6/5), Major tone with the ratio of (9/8), Minor tone with the ratio of (10/9), and Major semitone with the ratio of (16/15).

All these, beside each other form a sound Scalar or Scale. These intervals coming from the base frequency function under formula 1+1/n. These are "Super Partiel" (ibid.).

The calculations are very precise in music intervals and the same method must be applied in interdisciplinary researches.

In continuation of the mentioned article there is a quote from late Iranian composer, Rooh-Allah-E-Khaleghi, which says:" Therefore, non-chord tones are as means of beauty and tenderness in musical melodies". Right opposite this quotation, there is a picture of flowers on a wall belonging to an architectural construct from the Qajar period. Then, it is followed by a text:" applying colorful flowers, plaster- molding, engravings, and similar decorations are common in traditional Iranian architecture."

And again, besides this picture, there is a staff line with (Sol) and (C) notes that a non-chord "Acciaccatura" has ornamented note (C).

This is a kind of argument from analogy, the relation between architectural constructs has nothing in common with musical ornamentation through non-chord tones. In the article, you find another table that presents geometrical proportions of the notes (C) and (Fa) without any explanation. It is not clear whether the purpose of the author is to mention the mathematical proportion of two notes which have one diatonic interval and what is the use of a periodical diagram here? Opposite this table, there are Islamic mosaic tiles compared to this proportion which has no mathematical reasoning. Using such manners in academic writing is absolutely wrong. At the bottom of the table, too, entitled: “the analysis of the relation between music-architecture, the subject of consonancy”, this is not clear by which academic logic and reasoning the topic of consonancy of sounds in the melody line and musical tone are interpretable according to the author (ibid.).

Principally, the subject of consonancy of notes only happens in relation to each other and the conscience of notes on vertical and horizontal lines. For example, Tritone in music writing of the medieval period was considered obscene while in later times with homophonic and polyphonic music the same interval seemed to be pleasing in Cadenza. But, this issue of being consonant or dissonant in the article does not mention its measures for being adaptable to one part of a construct, and literary can we have consonant and dissonant constructs?

Does the author mean modern architecture or how a construct can be recognized as dissonant? Or, how such terms with what Kind of approach has entered the world of architecture, how are they adaptable to the logic of consonancy and dissonancy in music? There is no hint about these issues.

In continuation of the article, there are talks about color in architecture, color in melody, and musical tone. The phenomenon of having color in music or color association is wholly abstract. Until now, there is no scientific proof for that, generating a special feeling or perception of color varies in different people. The author of the article has pointed to the idea of the color circle which is the result of white color decomposition and then, he mentions that each octave in music has 7 musical notes, and the eight note is repeated. We should correct the above saying that each octave contains 8 notes, not 7, and he has compared the spectrum of colors with notes in one octave, bearing in mind that such comparison has no academic citation. Of course, a scale is chromatically ascending and it associates changes in tonality which is correct. If this is what the author means, then it can be a matter of discussion.

The topic of tonality and the feeling of being cold or warm in creating a music piece has its research grounds and yet there is a lot to be done in this regard. Up to now, no one has claimed to have done a project on the colorology of music. Referring to ancient manuscripts from the Islamic period and Greek philosophers, one can find the documents in the realm of Western music. And, studying the works of Athanasius Kircher and Werkmeister treatise is suggested for debate about tonality and its perception. In the subject of tonality, these items have relations based on frequency and wavelength. The higher the frequency, the lower the wavelength, now one can hear these sounds and receive different feelings. Even, this can be a concern of research: what changes occur in brain Hormones, that different feelings are conveyed? Scientists are working on these facts. There are many other faults in the mentioned article which necessitate speaking about them.

Conclusion

There is no doubt that we learn from creation and by adapting them, we understand the accuracy of elements in nature, and how they have been put together in an orderly way, but the main question is What concepts are we try to present by this adaptation? And, now does it help in recognizing the world around us, is an important issue by itself. With all the scientific developments throughout the centuries, there are several issues in understanding the cause-and-effect chain of phenomena. They need research work to be done and such views as in the mentioned article do not help at all. Art, besides the human race, tries to purify his spirit, yet, we do not know who is an artist and what is art? Today, man is facing many challenges in the era of communication. Due to the Internet and social media, we have to experience new formats and convert the knowledge to be used by humanity.

The latter is on the shoulder of scientists, artists, and elites of every Society. In our age, interpretation of phenomena has changed to a mystical trend and by its expansion, we do not solve human race problems. In the mentioned article ideas about the relation between music and architecture were discussed. Subjects like color in music ornamentation and their links with architecture, math, and motif, etc., were put in comparison or adaptation. Also, many other issues were mentioned in an unacademic way about music and their comparison with architectural elements. Ideas like adapting architectural ornament in a bridge and constructs with expressive elements of music. Among them, terms and functions in music like, Gruppetto, upper Appoggiatura, lower Appoggiatura, or similar notes like, Cambiata or Broderie were at the heart of this debate, which the article did not have any academic support. Many theoretical issues were discussed which did not have academic support.

It is essential to say such efforts need strong and accurate academic support. Such research should consider the elegant capacities of music and follow the correct way for analyzing such issues. If the authors had benefited from the knowledge of related scholars or received consultancy from experts in the field of music, we could witness an academic article. Referring to books,

considering viable facts, and reducing research faults, all and all could make a better article. This could help to rescue the article as not to be dreamlike and rely on personal views and consequently it could change to be the outcome of academic research. Of course, there are many articles with the same problems which need critical reviews both in content and structure. We should not forget that such articles do not stand at the level of academic writings and their publication does not meet the criteria of research quarterlies.

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