DESIGNING A MUSIC CENTER IN GORGAN, IRAN

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Abstract. Music is the expression of state in the form of sounds and Architecture is the expression of the state in the form of objects and dimensions, both of which have a long history of human life. These two transcendental arts influence various aspects of human body and soul. In this research, the author attempted to express the relationship between music and architecture, to bring architecture from the rhythm of music to an arena, and to create a structure with a special combination of the two, which would illustrate the mind of the creator. To design the volume, this idea has been taken from Dastgah-e-Mahur (which represents glory and a sense of joy). In this research, the links between music and architecture have been investigated and descriptive-analytic method has been used. Documentation is also done in both field and library methods. In this research, it is tried to extract and elaborate the basics and principles of architecture using the past design patterns and the new science, and present it in a case design that has the ability to develop into similar sectors.

Keywords: Music Center, Original Iranian Music, Architecture

1. INTRODUCTION

Official limitations do not lead to general obliteration of music in Iran, and underground activities are shaped, and often a new face of private studios are introduced that at first, they come up through the internet sites and slowly enter the scene, and eventually, in the case of inability to work in the country, they go abroad. So, it can be seen that the limitations in the country in the category of music, irrespective of the psychological trauma that it has for the people, also provides a context for the foreigner's abuse (Kāshkoli, 1985).

The incentives to maintain, expand, support, promote and introduce music and musicians are built on the cultural principles of the constitution of the Islamic Republic of Iran. In line with defining the music space, there are two approaches: a group considers music as absolute audible designing art, and they do not believe in the concept of space in music, and another group considers it as a combined art that represents meanings by words or images. Recent research has proven that the second approach is more accurate. In this sense, the “spatial” nature of music is not obtained accidentally, but rather by the detailed design by the composer (Davies, 1994).

By accepting the second approach, the music space can be defined as follows: space is one of the vital foundations of the music experience. Music space is not an objective space that can be understood solely by visual, physical and geometric powers; the musical space is a phenomenal space, a space that moves without going somewhere, while it has remained at the same point. But in any case, all of these are the spatial characteristics that are perceived by our conscious minds and by all senses and not only through ears (Kabir and Hekmati, 2004).

Significant facts in line with designing the house of music that include its forming elements, internal and external lighting, sound isolation to create a relaxed atmosphere for more concentration and relaxation of the audience can be considered. Controlling external disturbance sounds, including natural and abnormal sounds is also very important in the designing procedure.

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The aim of the current project is to accumulating up and creating a center for the introduction and presentation of music. The music house of Gorgan has been reflected and designed to familiarize people with music, which includes Iranian traditional music and the rich music of other countries; wherein, organizing education, and finally creating a music center and museum for music, were the goal of the project in addition to holding concerts. In the current project, while studying music as the basis of the project, its connection with architecture as the designer’s academic and professional field has been studied and considered, and eventually, a series of principles, rules, or in other words, results were extracted and a logical and justified relationship was established between musical and engineering principles.

2. THEORETICAL FOUNDATIONS OF RESEARCH

2.1 Meanings and Definitions of Music

The musical text is necessarily formed in a particular context and has a discursive aspect (Sassani, 2007). Music is a language; a language in another language, maybe above or ahead of it. It can be said that before a language speaks, it is music that starts talking; language is a phenomenon for all; both a language for speakers of that language and, of course, for those who do not speak that language (Graham, 2004). The research literature indicates that music has a positive impact on both creation and recognition, although the unsystematic designs of some studies make these findings generalization difficult, these effects are undeniable (Riello, and Frisoni, 2001). In music, the artist can quickly and directly and without intermediation, communicate with his/her audience, while the architect expresses his aspiration in the language of the mansion, the poet with words and the painter with images; it is only a composer who, with more freedom, can create a piece of art from his own connotation to influence others’ connotation (Ghobadian, 2011).

2.2 Music and architecture

Architecture and music are two artistic fields that are generated and understood by human beings. Music becomes more meaningful in the time dimension and architecture in the space dimension. Although the raw materials of these two arts differ from each other, they are organized in the same mental space and by the specific and same intellectual means. In fact, these tools are the same principles and rules that an artist uses when s/he creates his/her own work. It can be said that although architecture and music are in two different artistic fields and emphasize a particular aspect of human feeling and perception, there are certain principles and rules governing them that exist in both of them and can be used as tools by an artist during the creation of the work of art to express and convey the same sense and understanding.

Music is expressed through sound and architecture by the material. Can sound and material communicate without a mediator? How is the relationship between music and architecture? This mediator is space. The space of life, the geometric space, the space of thought and fantasy, the physical space, the music space, the architectural space ... human’s dominance on architecture with recognition (geometry) and its rules, and ‘defining forms and putting them together’ on paper titled ‘Architectural design and plan’ is somehow defined, and human inquiry in nature also gives him the necessary material in creating good architectural work. Musical states are caused by certain rules of mathematics and physics. The architecture is the geometry of space and music is the mathematics of time, and it can also be in this way that architecture is the mathematics of the place and the music is the geometry of time! Music is not static, but the architecture is static. In line with painting, the static state is introduced at the core of the work. The collision of two sciences with same foundation (geometry and mathematics), that these two mental arts derived from nature, have adapted in music and architecture in a way that strengthens the ‘common sense of architecture and music’ and offers a way to evaluate these two arts. Both of these arts define space. Through the perception of an architectural space, a sense can be obtained and a piece of music can also induce the same sense of space. A house in the desert, surrounded by massive shifting sands, with the color of bass sounds and the instruments of the Balochistan and a combination of string instrument orchestras, can play a role in shaping that rural space with all its deprivations (Dehlavi, 1990).
2.3 Dastgāh-e Māhur

This Dastgāh differs from the other twelve systems in an important feature, and it is etos\(^3\) (Hannaneh, 2004). Māhur expresses emotions such as Laudace-Lagaite and L’optimisme that are completely different from Dastgāhs that are somewhat more pessimistic. Such features are due to the scales, which are basically similar to the Western Major Plagal form, which expresses brighter feelings. Māhur is similar to Major and is not related to the pendant mountain range which is Mahur too. Today, Māhur such as Šur is among the famous Dastgāhs. That’s why there are various and acceptable textures of its basic melody. The most commonly known is the melody that starts on the stop (here C), it has a decrescendo on the tonic, then it has crescendo on supertonic, and often, before decrescendo until the stop, it continues to top dominant. Whether dominant or supertonic, the degree is an important scale that is visible in the developed context of the Daramad. Emphasis on Shahed note is discussed between the theorists. Some theorists claim that the Shahed note is tonic, but some other theorists believe that this note is dominant. In any case, the (V-I) relation is important. In line with Māhur Gushe, all resources are consistent. The most important Gushe is the submediant melody, which is called Delkash and is an example of a kind of modulation that occurs in Iranian music. This Gushe adds two semitones. One koron on the sixth degree and one bémol on the seventh degree: do re mi fa sol la (koron) si (bémol) do. So the Delkash tetrachord is the same as the most important melody of Iranian music (Šur). Listeners who do not hear the beginning of Māhur performance think that Delkash is in fact Šur. But the melodic layout of this melody and its possible return to Māhur tonic shows that this Gushe is Delkash.

The other Gushe is Māhur and is broken on the fifth degree. In the upper tonic, there are two Iraqi and rock Gushe. Rast tuning for Tar and Setar, Do for the Fa-tuned in Santoor and Sol for the Violin.

<table>
<thead>
<tr>
<th>Row</th>
<th>Music Hall Name</th>
<th>Building plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sydney Opera, Opera for the Future</td>
<td><img src="image1" alt="Sydney Opera" /></td>
</tr>
<tr>
<td>2</td>
<td>Nottingham Conference Center</td>
<td><img src="image2" alt="Nottingham Conference Center" /></td>
</tr>
</tbody>
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Table 1: Internal and external examples of music halls

\(^3\) In the description of the expression and the moral strength of modes, etos is a doctrine of the ethics of the Greek modes. The Greeks believed that each of the mods has separate attributes and personalities.
### 3. METHOD

The research method is field and library survey, and in cases, documents, as well as the examination of similar samples available inside and outside the country are used. The current research is inductive because based on specific findings from objective observations and previous experiences, we try to offer a model. In terms of the research implementation process, this is qualitative and it is developmental research in terms of outcome or result. From the perspective of the research objective, it is a survey research.

### 4. THE SITE CHARACTERISTICS

The location of this site is in the city of Gorgan, in the northwest city park of Gorgan and adjacent to the old neighborhood of Melal. This site is selected due to the size and its rectangles shape, and uses of this land were cultural and recreational and the project of the House of Music is considered as a cultural and entertainment center. This land is due to having 3 streets on its 3 sides is a place to display this fluid form to the public. This site, despite its location in the center of Gorgan and the heavy traffic of the city,
center, is located in an area that traffic is low and it is far from urban noise. This site, known as the Russian Gardens, has two indestructible buildings on the northern side. In this collection, the placement and orientation of windows and light wells, in general, are directed to the southeast and, respectively, in other directions. The east-west direction in the desired climate is suitable for the establishment of the buildings, because in this direction, though the building has the least contact with the west wind, uses the south and south winds. Of course, in order to take full advantage of the southeast wind, it is better to turn the building slightly toward the southeast. In this climate, it is better to elongate the building in the direction of the east-west axis so to be able to use the maximum light from the south. So, considering the two factors of the dominant wind direction and the position of sunlight, as well as the climate of this zone which is warm and dry, in order to optimize the building in Gorgan, the establishment of a longer axis of the building along the East-West is with the 25-35° rotation angles to the southeast. Due to the fact that the alleys around the site are narrow, they are not convenient locations for the main entrance, and necessarily, the south side of that street, which has a broader street, is interpreted as the entrance. The entrance is on the north and south sides that have lower traffic and wider streets. This location due to its position in the city center and easy access to it, is the best place to create such a building because there is a border between the average and rich people which put it in the city center for the public in general, not for special people (Figure 1).

![Figure 1: Sitemap](image)

5. RULES EXTRACTED FROM THE MUSIC SOURCE

If we investigate the shape of motion in different music, we will face three types of motion: polyphony, homophony, and monophony; polyphony is the musical movement that includes different musical instruments and melodies, the homophony is musical movement including different instruments and same melodies and monophony is, in fact, the same solo, that is, a piece of instrument or song with a specific melody. If we want to embody these movements in the form of a line, the polyphony is an intersected multi-linear motion; the homophone is the linear and parallel motion and monophony is single-line motion. The type of homophony and monophony motion in Iranian music is considered more widely and seems to be used as one of the principles governing the design of the architecture. In the traditional Iranian music, which is music composed of Radif and Dastgāh, the theme on which can be worked, is the shape and form of a musical Dastgāh that includes prelude, vocal, ballad, and color. It means that, with the emotional impressions of this form and shape (and, as far as possible, logical) and its relevance to the architectural issues, one has to be able to extract the results and judgments. But the issue that seems to be in this case is due to the different tastes and feelings of listeners and users of traditional music, these emotional impressions are very personal and private that may be very different in different people.

5.1 Vertical and horizontal movement

It seems that in Iranian music, horizontal movement is understood more than other movements, that is, if we want to compare the Iranian music with western music, we perceive that vertical movement in Western music appears more than Iranian music.
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and it is more understandable. Due to the low peak points in the collection of a Persian musical work, the movements back and forth to peak points is lower, while moving on notes of an octave apart from the peaks points, has a smaller and more defined limit which is why we feel less vertical in this collection.

5.2 Wave motion
According to all the issues mentioned in the design of this complex facade, it has been tried to avoid formalizing and superficial and irrational collisions, except for the concepts in the Facade, and the necessary harmony and synchronization must be created in the facade (paying attention to principles, rules and quasi-concepts such as rhythm, repetition, diversity, and so forth, are important in the components of the facade). Since in the wavy and arched visual movements a kind of ambiguity and spatial complexity arises, by combining the small, large, pure, and impure masses, we can have visions and perspectives diversity that are further understood by moving inside the set. The variety and decentralizing spaces also help this issue.

5.3 General Physical Program of the Research Project

Administrative: Sentinel, secretary, chairman, deputy, coordinator, music instrument expert, music expert, conference room, pantry

Cultural: Library, book delivery, study hall, book treasury, gallery, responsible, warehouse, museum, waiting room, office, buffet, sound recording, warehouse, cameraman, sound recorder, amphitheater, stage, exercise, readiness, store cultural products

Tutorials: Individual class, group class, teachers' break, studio pre-entrance, studio, movie and audio room, decorator, audiovisual, acoustic room, sound testing, construction workshop, repair workshop, music hall, computer site

Services: Facilities, prayer room, guard, coffee shop

Restaurant: Food delivery, rest, kitchen, laundry, dry warehouse, wet warehouse, information, WC.

The following points are essential for the organization's efficiency:
All the food supply places should have direct and close access to the kitchen, except for a small food service where they can be served from the Pantry. Most of the food supply sites should have a drinking place in their vicinity or have a small hall. Restaurant and larger drinking rooms should be designed so that one can be able to close specific sections at a time when the number of customers is less. Restaurants and drinking places should have an external view and have direct access to the outside. The number of restaurant chairs and drinking places varies according to the size, type, and location of the restaurant. Consider a service station for about 100 seats to provide water, coffee, tablecloths, cleaning cloths, and dining facilities, and it must be possible to carry the dirty dishes to that space. The hierarchy of entry must be considered. For the restaurant, we have to predict an entrance hall for restaurants to feel the restaurant atmosphere on arrival. A place has to be built for the host at the entrance to the restaurant. Place the chairs in a way that they can be toward the interior points (such as food window, fountains) or toward a spot outside the dining room. We have to use partitions, separators, and surface differences to create friendly and almost private spaces. We must separate chairs from service delivery sections. Each table should be separated from the other tables and have a special and private space for itself. Without decreasing the efficiency of the restaurant staff, we need to create service stations so that they do not have a very clear and obvious appearance. Drink provision must be done through a special saloon for drinking or a counter that's specially designed for the restaurant special foods or from a kitchen service counter. Lighting to make the spaces more private, design the lights with variable intensity lights so that during the dinner, the light becomes more formal and brighter when lunch. Do not use the fluorescent lights in any part.

CONCLUSION
The existing building is a combination of educational space, conference hall, and symphony hall with a capacity of 2,600 people, an outdoor hall for connecting two buildings, restaurants and coffee shops, individual and group classes, and free performance halls.
The first idea of this building is visible from its external shape so that the training hall includes a semi-opened hall with a spider multi-colored glass roof and training rooms in the U shape around the central square, a traditional music hall with a capacity of 1000, an office area and 2300-seat concert hall have been organized. Outdoor waiting space and semi-enclosed with fountain is the connector of the various sectors. The reason for using the pyramid form: The pyramid is a bulky shape and it is one of the main forms in terms of visual perception. The pyramid has a certain kind of duality in terms of emotion and sensation. On the one hand, we feel the heavier mass of the pyramid – as we go from top to bottom – on the other hand, we feel that each level of the pyramid is much more interesting as we go higher. These two mutual forces create intense tension that makes the pyramid one of the most dynamic forms and it is a communication component between music and architecture and the creation of mobility in the building. Using a curved surface in the form of construction: Curvature creates mobility at the surface and beyond that. The curved surface is closer to the enclosed space. Given that the curved surface is highlighted or pinned, it places itself in front of its enclosed space, or involves it, or, in other words, induces inviting or lack of inviting. In the first position, the curved surface plays a role of a pattern, and in the latter case, it plays the role of space. In line with comparing the concave and convex surfaces, it should be said that the convex surface has a dominant role, that is, if it is compulsory to select surfaces by the viewer, s/he will select the convex surface. A concave form is replaced by a shape and a convex form shapes the field (the curved part of the form).

All music scales are obtained from two numbers of 2 and 3. When we talk about the rhythm, we have faced two and three beats (U-shaped part). According to the Pythagoras numerical hypothesis, number 3 is the first real number, and the square and cubic of 3 numbers include universal chord. The universe harmony is represented by a seven-point row 27, 9, 8, 4, 3, 2, and 1, because the relation of these numbers includes not only harmony of music, but also includes the inaudible music of skies and the foundation of the human soul (In the triangular form, using 9 is seen in 2 rows).

Figure 2: Plan
Figure 3: Plan

Figure 4: Exterior plan

Figure 5: Exterior space and overall plan
REFERENCES