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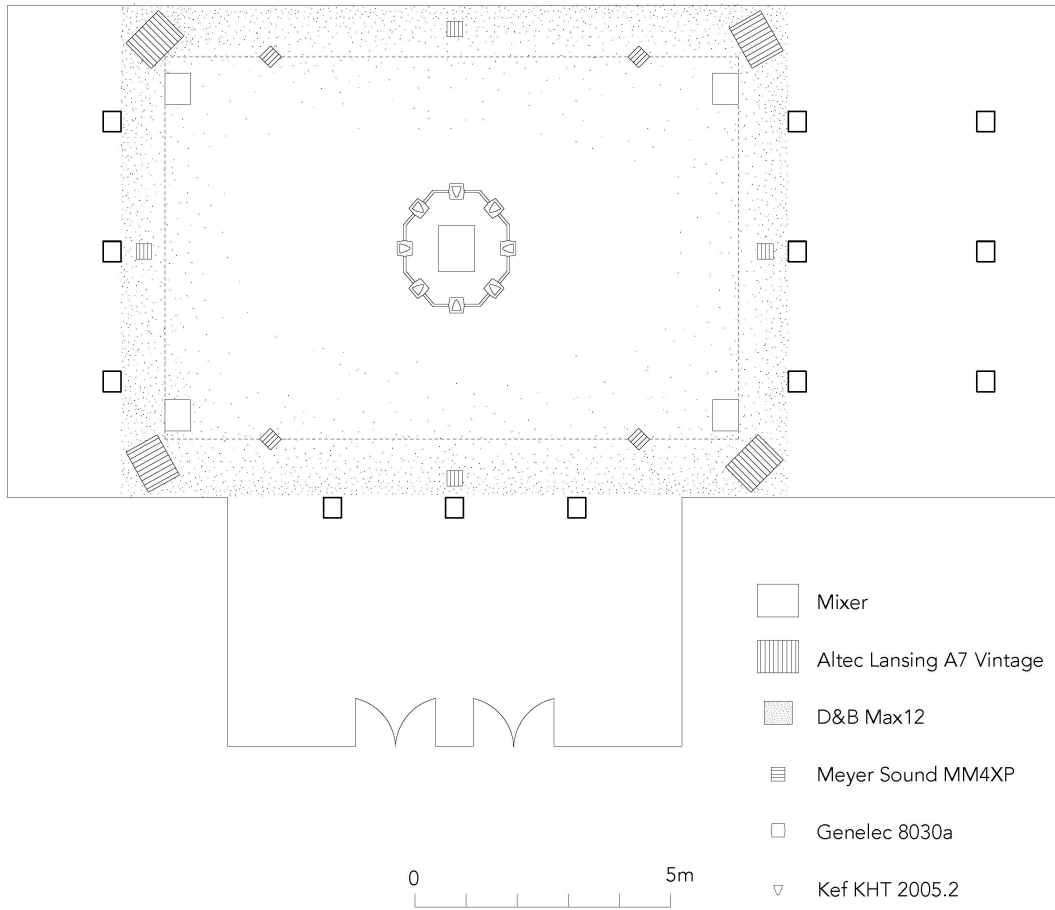
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Layout of the concert room with speaker setup

## MUSICAL COMPOSITION AND THE PERSIAN GARDEN

*Siamak Anvari*

As a musician and composer, the Persian garden has influenced my ideas on composition ever since a research project of mine led me to investigate composing music based on the designs of carpets.<sup>1</sup> The idea that a piece of music can be thought of as a garden—a place in which the listener can be immersed and discover its various corners—resulted in the development of a very specific way of composition, an approach that pays more attention to spatial aspects of music rather than temporal ones.

The Persian garden is the materialization of a whole man-made ecological environment. It is born from nonexistence and is tangibly different from its surroundings. The Persian garden has been directly associated with many cultural developments within Iran, which are reflected in its literature, poetry, miniatures, music, architecture, ornaments and of course, carpets.<sup>2</sup> As the art historian Arthur Pope noted, “the garden in its infinite manifestations is the theme of most Persian carpets.”<sup>3</sup>

During the research on musical composition and carpet design, I attempted to go beyond the visual aspects of any single carpet. I sought to understand the governing laws of carpets and discover the essence and aesthetics behind them. Consequently, I tried to examine the intriguing ways of applying the findings in my music. During this time, the overriding question for me was always: “Can these carpets’ features be musically interesting?”

Initially concentrating on translating carpet designs into music, I faced the central problem of bridging the visual and the sonic world. Erik Christensen’s observation resonated with me in this regard, that “listening draws the world into the mind, contrary to vision, which has a tendency to draw mind out in the world.”<sup>4</sup> Music by nature is a temporal phenomenon and the visual domain by nature spatial. Humans’ perception of these two territories is quite different and we have different ways of grasping their meaning. It became obvious that a one-to-one translation was not what I was looking for.

1 Anvari, Siamak: *Composing Music Based on Carpet*, The Hague 2014

2 Talebian, Hamid: *The Persian Garden*, UNESCO 2010.

3 Pope, Arthur: *A Survey of Persian Art*, Oxford 1938.

4 Christensen, Erik: *The Musical Timespace, An Investigation of the Listening Dimensions in Music*, Aalborg 2012.

Mapping some parameters from one domain to another (in this case visual to sonic) did not necessarily result in meaningful relationships because human perception functions so differently in each domain. I had to dig deeper in order to define the features and concepts of the carpet that could be translated into the world of sound and to find analogies for them in music.

Features such as symmetry and asymmetry, complexity and randomness were among the visual characteristics of a carpet's design. I tried to find ways of implementing these features in the process of composing music. Take symmetry, for instance. A long tradition of the application of symmetry in carpet and rug patterns spans a variety of cultures. Many oriental rugs have intricate, reflected centers and borders in which a pattern is repeatedly transformed. In fact, symmetry is the main tool for establishing different scales in a design by using very limited elements.<sup>5</sup> Symmetry creates different relationships between simple elements in order to build new motifs on a different scale. Then these new motifs can again be subjected to new symmetrical strategies to form bigger sections of a design up to the scale of the whole carpet. This approach to symmetry can be very well implemented in the process of composing music.

On the other hand, one prominent feature of a carpet is often the simultaneous presence of symmetry and asymmetry, a phenomenon that Morton Feldman calls "crippled symmetry."<sup>6</sup> He explains that: "A growing interest in near and middle eastern rugs has made me question notions I previously held on what is symmetrical and what is not."<sup>7</sup> He believes that music and the designs or a repeated pattern in a rug have much in common.<sup>8</sup> While carpet designs are largely symmetrical, due to the nature of handmade crafts and the quality of materials, the final product is at times less than exactly symmetrical.

5 Salingaros, Nikos: "The 'Life' of a Carpet: An Application of the Alexander Rules". In: Eiland, Murray L. Jr.; Pinner, Robert (Ed.): *Oriental Carpet and Textile Studies V*, Danville CA 1998.

6 The composer Morton Feldman (1926–1987), a major figure in twentieth-century music, developed a special interest in nomadic rugs during the last decade of his career. He wrote about the interesting features of those carpets and what he learned from them. At the same time his music

became highly repetitive and quite lengthy. In an essay called "Crippled Symmetry", written in 1983, he talks about his interest in Middle Eastern rugs and the way he relates them to his musical ideas and interests.

7 Feldman, Morton: "Crippled Symmetry". In: Zimmermann, Walter (Ed.): *Morton Feldman Essays*, Kerpen, West Germany 1983, p. 124.

8 *Ibid.*, p. 124.

The symmetrical structure of carpet pleases the viewer's eye, yet a close observation of the carpet gradually reveals a startling asymmetry unnoticeable at first glance. These asymmetries are found more on the micro-scale, which creates a fascinating contrast with the symmetrically organized macro-scale.

In general, the complexity in carpets is the result of superimposition and juxtaposition of multiple networks of patterns and their relationships. This complexity is quite different from the obvious symmetry of the general format, so that there are often surprises, in the form of arrangements that are not at all obvious but possess the random irregularity of nature.

In a series of musical compositions inspired by the multiple networks of the design in carpets, I tried to create a quality of complexity that was the result of simultaneous juxtapositions of contrasting elements, while trying to retain an overall consistency of the piece. These diverse elements occupy the whole frequency range, from very low to very high. In a way, each element occupies its own frequency domain. This complexity was also closely related to other factors like proportion and scale, which allowed these elements to be grouped together to form larger sections, with which one can distinguish between micro- and macro-arrangements. The micro-scale here is concerned with numerous detailed elements, which together create a perception of a bigger entity. The interesting fact about them is that while separately each has a totally different character, when these small elements gather together, they create a new quality, different from how they would sound individually.

Focusing on the micro-temporal aspects of music has also been my strategy for approaching the visual world, which was aided by Erik Christensen's insight that intensity, timbre and space are the three basic listening dimensions. These three dimensions, which operate on the micro-scale, are experienced by the listener instantly and simultaneously. Within a fraction of a second, they provide information about the relation between the listener and the surrounding world.<sup>9</sup>

<sup>9</sup> Christensen (2012), p. 296.

Knowing that a carpet is in fact a representation of a garden made me realize the importance of space to this project. The role of space has been present in music throughout history; nevertheless, it was only in the twentieth century that the idea of using space as a musical parameter started to be considered seriously by composers such as Iannis Xenakis and Karlheinz Stockhausen. In the same way that pitch, rhythm, and timbre are musical elements, space can be also dealt with as a musical element.

Electroacoustic music in particular provides the possibility to mold and shape sounds in space by using loudspeakers for projecting the musical material in various manners. Surrounding the audience with loudspeakers, hanging them from the ceiling, pointing them upwards or downwards, and varying their proximity to the listener and separation from each other makes it possible to articulate the music with regard to the acoustics of each venue.

Using symmetrical strategies in spatialization is a central aspect in how I have explored composing music based on the structures of gardens and carpets. In another application of temporal symmetry in music, I used symmetry to organize musical material in space. The aim was to create a musical space that was symmetrical. I believe this effect works in a similar manner to the immediate perception of symmetry in a visual territory. This perception of symmetric sonic space operates on a geometric level and is linked to our instantaneous understanding of sound sources positioned at any given moment. Consequently, the passage of time is not a fundamental element in the perception of this symmetry, but rather works to sculpt the space in our minds. In this regard, I was inspired by how, when observed, a carpet implies an immediate impression of symmetry. I am interested in this perception of the whole all at once, rather than perception of symmetry on a temporal level, such as in a symmetrical arrangement of musical form, e.g. in a traditional ABA structure.

The layout of the loudspeakers in one of my pieces already resembles a design for a garden or a carpet. However, visual similarity was not the motivation behind this configuration, but a byproduct. The main idea here was to project different musical material in various symmetrical ways. For instance, the external ring projects sound from the level of the ear towards the center. The two smaller rings in

the middle project the sounds outwards, one ring from above and the other from beneath. All these configurations create a complex network of sound waves, enabling the creation of movements, gestures, static points and holistic, immersive sounds.

In such a setup, the audience feels the precise physical proximity and distance of sounds. In the same way a carpet has different networks of designs that are superimposed or juxtaposed while at the same time all working in unison, here in this piece each ring presents different materials that function independently or connect to one another. They have different relationships, sometimes serving as background and foreground or as complementary halves. At other times, they all merge to create a unity—or they appear on their own.

As there is much diffusion of sound in the space, it dissolves the barrier between the audience and the loudspeakers and immerses the audience in a garden of sounds. This means there is no stage and no traditional frontal orientation for the audience, which changes the listening situation and the way the music is experienced. Unlike the conventional stereo setup, there is no “sweet spot” where one has an optimal hearing experience. Each location has its own unique advantage. In other words, each listener would have a unique experience of the music due to their specific vantage point in the space, which is the result of a combination of various sound sources and their reflections. In fact, the mixing of the musical materials happens in the head of each listener instead of at the mixing desk.

This large cosmos of diverse sounds creates a situation where each listener can explore its various corners and discover the similarities and differences of this sonic symmetric space, as one would do in observing a carpet, exploring different parts and their relationships. In this way, “what you see becomes less important than how you see.”<sup>10</sup> This also requires a different approach towards the form in the music. The structure should focus less on the narrative qualities and instead allow the aforementioned characteristics to be foregrounded.

<sup>10</sup> Sciarrino, Salvatore: *Le Figure Della Musica, Da Beethoven a Oggi*, Milan 1998, p. 89.

Thinking about music in physical terms opens up a different approach towards producing the sound material. We can think of sound as a tangible object which can be placed in space in various arrangements. Accordingly, establishing relationships between the sounds in the space becomes a compositional tool. These arrangements can be considered in terms of harmony and counterpoint, not only in the frequency domain but now also in geometric terms. This brings a piece of music closer to the visual domain.

I found the concept of Persian garden in composing music extremely inspiring and poetic: an enclosed space protected from the outside world where one can find peace and balance, a place for contemplation, relaxation, poetry and philosophy. Just like a piece of music that transports the listener into another, ideal world.

