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Article[1]:

MELODIC (DE)COMPOSITION
Generation of Verticality through Horizontality
in an Organic Process of Composition Inspired by Iranian Music

ABSTRACT

This research presents a process in music composition, applying traits of Iranian music in Western composition. It involves creating a sequence of single tones (referred to here as melody) from which simultaneous-sounding tones (referred to here as harmony) emerge. The research question is: How could melody, as construed in Iranian art music, be applied in the domain of Western composition, generating other elements of music (including harmony, rhythm, dynamics, tone color, and texture)? My motivation to deliver this research has been my interest in this topic as a santur player since my childhood in Tehran, and as a composer trained and active in the West. Other inspirations include the acoustics of Iranian instruments, as well as Iranian music's focus on melodic structures from which harmony could derive (as melody and harmony constitute one body in Iranian music). As for methods, participatory field research was applied, through which research partners took part in interviews and shared opinions. Also literary research was delivered, to clarify necessary backgrounds. Wherever relevant, also reflections on my experience as a composer and santur player were included. Applying the process of melodic (de)composition happens through four steps: improvisation (to initiate a raw sequence of tones), transposition (fragmenting that sequence, transposing fragments as needed), distribution (assigning the resulted fragment to various participating instruments and voices), and sustention (sustaining tones of fragments to extend over the rests while allowing for overlaps). This research takes use simultaneously of composition, improvisation, santur playing, musical acoustics, ethnomusicology, and santur making. Outcomes of this study could be used not only in areas of composition (in various directions), music theory and performance, but also in ethnomusicology and musical acoustics.
KEYWORDS: Melody; Harmony; Santur; Radif

1) INTRODUCTION

In this writing I am presenting an artistic process of incorporating linear Iranian art music[2] materials, instigated through improvisation, to build vertical textures in a composition. Such textures would root solely in the original linear materials therefore, without any need that the composer would impose

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[1] I presented this work on March 14, 2023 at the Symposium *Komposition and Research* at Gustav Mahler Private University for Music, Klagenfurt.

[2] This is different from Iranian folk music, for instance. Iranian art music is the style of music used historically only in major Iranian cities, as its homes were traditionally the courts of major cities. Arguably, the most influential court in the history of Iranian art music has been the royal court of Tehran within about the past couple of centuries.

chordal elements (such as inspired by Western music) into the music[3]. This procedure, therefore, would only promote an organic usage of what already exists within the melodic components of the piece, being modeled after acoustical functions of the instruments of Iranian art music.

Before going further, it is necessary that I specify here what I mean in this writing by the two words melody and harmony. Here, melody simply refers to a sequence of single notes (a simplified implication of horizontality in music). In other words, it is the musical information communicated through a sequence of single notes. By harmony I mean simultaneously sounding notes (a simplified implication of verticality in music). There are also further properties (for instance psychoacoustical qualities) in reception of such horizontal and vertical musical information, which deserve to be discussed at further opportunities.

In this research I focused on the instrument santur. Santur, a wooden trapezoidal shaped chordophone, is a representative instrument of Iranian art music. On top of the box of the instrument, strings stretch above bridges. The strings are played by a pair of wooden mallets, each held in one hand of the musician. This instrument is a close relative of Austrian Hackbrett and the American hammered dulcimer, among many others.

In Iranian music of roughly past one century, after Iranian art music got in closer touch with music of the West (mainly of Europe), there have been endeavors to find ways to prescribe Iranian music materials, which until then were mainly considered within monophonic settings, into new expression idioms such as ensemble settings inspired by Western music. Various configurations came about thereafter, most of which took use of adding chordal components (based on concepts driven from Western music) to the original music lines. Such techniques are based on chordal progressions, often regardless of the particular acoustical properties of relevant Iranian instruments (for instance, the voices were not necessarily instrument-specified, neither were the musical textures inspired by the acoustical details according to which the Iranian instruments function). Various works of such masters as Ruhollah Khaleqi and Hossein Dehlavi are examples for this case. My curiosity, as a native santur player also trained in the West as a composer, has been if vertical materials of the composition (especially for the case of ensemble compositions) could be driven from the original monophonic line of music. In exploring that, I focused first on the natural acoustical functions of my instrument santur. In my composition process, initiated by trial and error, I started by paying attention to santur's natural interpretation of melody lines, and tried to model my works of composition after that. In this santuristic manner of composition, per se, I considered the acoustical specifications of that instrument. For example, that it has no damping system to stop the strings artificially before they would, of natural causes, stop vibrating. This manner of sounding regularly encourages formations of sound clusters[4], which could be used by musicians in various [intentional and unintentional] manners. Also, whenever only single tones, one at-a-time, would be intended, on this instrument they would naturally mix with each other and form dynamic sound clusters.

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[3] This is to include the tendency among those composers and music theorists working with Iranian music, who use chordal progressions "but prioritize perfect fourths and [perfect] fifths, as well as [major and minor] second intervallic relations" (Noipour 2023).

[4] Of course the acoustical process is much more complex than this, as for instance the overtones of each pitch excite various strings without any need to stroke them by mallets for instance. Such details could also be incorporated, for instance in further works of research.

This research was done for and through the creation of my composition cycle the *Austrian Radifs*[5], a project of fourteen Iranian music inspired compositions for instruments of Western music. I started writing the cycle in 2013 and the project continues until the present year 2023. My witnessing of the constant threat posed by the ruling Islamic regime in Iran against the existence of Iranian music[6] served me as a drive to search for arrangements to help Iranian music extend its presence beyond the borders of Iran. My additional motivations to work on this topic have been my interest, as a composer and music scientist trained and active in the West and a player of santur since childhood in Tehran, in studying how acoustics of santur might influence processes of composition. My departure point to take on this direction came through a comment made in 2006 by composer Matthias Spahlinger, on particular musical expressions I used in my compositions. He referred to them as accents, and wondered where they possibly came from (Spahlinger 2006). I came pay conscious attention to what I subconsciously used in my music writing until then, as for textures, articulations and rhythmical figures, contained footprints of Iranian music. I noticed then, that for example the various sustentions and rhythmical figures which I used in my composing were similar to the expressions which typically are realized by the Iranian santur. In a relatively long course of exploration, the particular composition process, which I later named melodic (de)composition, crystalized into four particular steps, as explained in this writing. My main tool for accomplishing this work was composing throughout all stages, exploring the manners in which melody could break down into its fragmental components.

2) RESEARCH QUESTION

How could melody, as construed in Iranian art music, be applied in the domain of Western composition, generating other elements of music (including harmony, rhythm, dynamics, tone color, and texture)?

That research question roots in two initial questions, as following:
What is harmony (in general and in context of Iranian music)? How might Iranian music's approach to harmony be applied in music by a composer whose mind is influenced by Iranian music (namely santur music)?

I started this research through initially focusing on the concept of harmony. Then the work brought me to explore the relationship between harmony and melody, or in other words how the horizontal and vertical textures of music could influence each other, from the perspective of composition. I considered the matter also from the context of Iranian music, namely through my mind as a composers under the influence of the sounding manners of the instrument santur.

As I started working on the project, I realized that those two initial questions would not be accurately enough expressive of the needs of this research. The trouble with those questions turned out to be their lack of clarity in addressing the aims of my research. Would I mean to explore the Iranian music's approach to harmony? Or would I mean to explore the approaches of Iranian musicians to harmony?[7]

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[5] That is a set of 14 compositions written mainly for Western instruments in various chamber music settings, each one of which being inspired by and named after a modal space within the old-Iranian art music.

[66] For more details see my paper "Iranian Traditional Music in Lives of Iranians under the Rule of the Islamic Republic", to be published in 2024.

[7] One contributor commented: "Considering the works of composers such as [Ruhollah] Khaleqi, [Fereydoon] Shahbazyan, and Farhad Fakhreddini, they have used this harmony and counterpoint, and thereafter you could get the answer to your question" (Bathaie 2023). The mentioned persons incorporated chordal harmony

It turned out that the approaches of Iranian musicians seemed heavily influenced by what is known and applied as harmony within Western music, even though there have been many endeavors in exploring innovations and adjustments, so for instance also the micro intervals of Iranian music could be incorporated. For Iranian musicians, harmony typically seems to be an implication for the knowledge of chord progression, as it is understood also through the viewpoint of Western music (Mansouri 2013: 281). Meanwhile, the acoustical way santur sounds seems to some musicians to be almost the contrast of what they would expect from the organization of harmony according to Western music (Kamkar 2023).

Meanwhile, the application of harmony in the Iranian music itself, including in solo performances, is an undeniable acoustical phenomenon. For instance the ways in which each instrument, in solo or various ensemble settings, would express the music, for a considerable part would follow in the domain of harmony, even though not necessarily triadic harmony. For instance, for performances involving santurs, the harmony would rather be alternating expansion and dropdowns of overlapping sound clusters, while the instruments would fulfill their traditional roles. "In the progression of a piece, the past notes could extend and make up harmony, even though not to a conventional sense" (Minooei 2023). I realized throughout the work that I wanted to focus on the manners of harmony as latterly mentioned: the harmony existing in Iranian music spontaneously.

3) THEORIES AND CONCEPTS

While having in mind that the aim of this work is above all providing potential artistic assistance for composing music in a particular style, a variety of artistic and scientific theoretical means are used as following.

In the area of acoustics of instruments, this work has benefitted particularly from working with the chordophone santur. Therefore, string theory and sources of variety in sounds for chordophones are of particular interest here. The string theory shows that depending on details of the manners in which a string is excited, the produced sounds could vary considerably. The variety in sound is defined by three main factors: the string (as the source), the instrument body (as the medium), and the air of surroundings (as the interface) through which the sound waves travel.

Incorporation of both improvisation and composition, while focusing on the three concepts of remembering, forgetting, and reproducibility, is a crucial fundament to this work. Improvisation, in the style of Iranian art music for the particular case of this work, serves as the first step to the introduced technique. However, this is a particular manner of improvisation, meant for composers: improvisation in form of writing (rather than playing a music instrument or singing). For me personally, as a santur player, improvisation has been a process of forgetting: one would play or sing something, without any intention (or indeed possibility) so the performance would be exactly constructible or reproducible in its original details. Meanwhile, as an opposite to that process, as composer I have been writing and taking notes (on paper or digitally, for instance) in order to remember something, or not to forget it. Such a juxtaposing process of forgetting and remembering as mentioned, plays a key role in this work. "Improvisation is indeed a method of composition in two key senses: firstly, improvisation (as an

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progressions in their works, even though in their particular manners such as emphasizing on perfect fourth and fifth vertical intervals. That is evidently what took place in minds of those composers. But is it also what would also happen naturally in the music if the musician would not think necessarily in terms of chord progressions?

action) is a step in the process of composition; secondly, improvisation (as a product) can be considered a work once it is recorded and is, hence, repeatable" (Davisson 2022: 384). In other words, the documentation (in this case as notation) supports transforms of improvisation into composition, as it helps a reproduction process.

Last but not least, the artistic freedom remains a crucial component in this course, as a process included in the artistic work of composition. The composer is at the end at liberty to make decisions which could serve the artistic outcome to the finest.

4) METHODS

Aiming to use the sounding behavior of instrument santur as a model for composition, in this work I took use of participatory field research, reflections on my experience as composer and santur player, and literary research. Within the participatory field research, through conversations I benefited from expert comments. They talked about concepts of melody, harmony and their applications in and through Iranian art music, focusing on sounding behaviors of Iranian instruments, particularly santur. To that data collection, I also felt free to add my own thoughts as a composer and santur player active for the past three decades or so. Within literary research, I benefitted from various texts available on relevant topics. While using santur's sounding behavior as a model for artistic work of composition, I made sure to assume enough room for artistic freedom, as the eventual outcome of this research shall support creative work of music in form of written music composition (i.e. music scores). In that sense, I realized it would be important to always keep in mind that each santur is unique in sounding details[8].

5) PROCESS: MELODIC (DE)COMPOSITION STEP BY STEP

The process, which I named melodic (de)composition[9], is a way to integrate a melody within harmonic textures of the music in an organic way. At the end of the process, an apparently utterly different narration of the music would come to stand, as a result of melody and harmony intertwining and becoming one[10]. The process of melodic (de)composition has four steps: improvisation, transposition, distribution, and sustention. Followings are detailed explanations of each step. Following this section, I am using a notation example, to ensure a better clarity of how each step works.

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[8] That is due to various reasons, including that santur's body is made out of wood, which is a very heterogeneous material. Wood is very diverse in physical details such as density (Brémaud 2012: 817), also that the environment, such as humidity or temperature, could strongly influence the sounding of the wood and the metallic strings of the santur, not to mention that santur is made by hand, and it would be extremely difficult for handicrafts to end up made identical in geometrical etc. details.

[9] . In Iranian art music, melody is made the intentional focus. In the process of melodic (de)composition, however, that is not necessarily the case. Rather, melodic structures are allowed to dissolve and decompose into formation of an organic cluster type of harmony, and so the melody and harmony become one whole body.

[10] That is also the case in Iranian art music, even though through very present and recognizable melodic structures. That has been my inspiration in developing *melodic (de)composition*. In Iranian art music, traditionally there is no tendency to imagine chordal progression in the music. For instance, in ensemble performances instruments might play in unison, octaves, or take turns in rounds of call and response. Meanwhile the instruments, based on their acoustical natures, contribute into formation of a natural spontaneous harmony. For example the resonances of strings extend as pedal tones and form clusters before gradually fading out.

A) Improvisation
In this step, improvisation is applied directly through writing. For instance, a sequence or passage of music notes is produced ad libitum by using pen and paper or digital means of notation. Such a passage would serve as the base for the upcoming three steps.

B) Transposition
All tones in the music passage produced in improvisation step are now considered independently from their original registers. "For many musical purposes we have *octave equivalence*, meaning that it hardly matters if we replace any note by its namesake from some other octave" (Hall 1991: 398). In other words, notes are seen here as pitch classes. That facilitates that each original note can be transposed by one octave or further octaves up or down[11], depending on the compositional decisions made, in order to incorporate any assigned instrumentation (for instance in an ensemble setting).

C) Distribution
All tones resulted from the transposition step are again considered within registers, meaning as pitches rather than pitch classes. Each segment (whether it is a single note or a notation segment consisting of more than a note according to the compositional decisions made) is now transferred to the voice which shall perform it. For instance, if the music is for an instrumental ensemble, the segments of the written line are distributed among the contributing instruments.

D) Sustention
On the score resulted after the distribution step, there would be resting gaps on each voice between each two sounding segments. That is a result of the original melodic line being paraphrased such as explained. At this stage, those rests are replaced for sustentions (as extensions[12] of each note's original duration). This would let each note interfere and mix with other notes and form a sort harmony (not necessarily based on triads like is used or imposed in Western music traditions), just as for instance santur does in its natural procedure of sounding. Such sustentions could effectively take use of decrescendos (just like santur's strings vibrations gradually die out). As all voices apply such a model, they could overlap. Various pedal tones could make sound clusters possible, which gradually form and gradually fade out, possibly through formations into succeeding clusters, and so on. Details of how sustentions are applied, for instance choices such as to what extent each note shall sustain, also how overlaps of notes shall take place as for durations and articulations etc., are matters that the composer shall freely decide, which might be very different from case to case for the same composer, also maybe very different from artist to artist.

6) EXAMPLE

To illustrate the process of melodic (de)composition step by step, here I would like to use an excerpt from my chamber music piece *Homaayuun*[13] (Nafisi 2022: 5'10"-5'20"), from measure 34 to measure 38 (page 8) of the score, as following.

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[11] That is indeed frequently done by traditional santur players. They feel free borrowing any alteration of a note (sharper or flatter than available in a register) from another register.

[12] Each extension is obviously added to the ending of the note, not before the original start of it.

[13] This chamber ensemble piece belongs to my earlier-mentioned composition cycle the Radifs.

A) Improvisation
A melody is improvised directly in form of written notation[14]:

B) Transposition
Various segments of the melody are transposed by octave(s) higher or lower:

C) Distribution
Pitches from the past step are distributed among voices:

D) Sustention
As replacements for rests in each voice, notes before the rests are sustained:

[14] The rhythmical structure of this melody falls within the category of *Kereshmeh*, according to Iranian music, which is relatively a wider category of 6/8 rhythms, apparently influenced by the rhythmic behavior of the Persian language. This mater deserves a separate opportunity to be discussed in details.

7) DISCUSSION

As the first step in applying melodic (de)composition, improvisation in written form is encouraged. This form of improvisation turns out, to my personal experience, to be very particular. If we believe in that the qualities and tools of applying techniques within stages of a creative process can considerably influence the eventual artistic product, then the particularity of this improvisation is also a factor that forms the identity of the final product. As an example, in instrumental or vocal improvisations, before the improvisations could possibly take place, tempo and dynamics shall be decided upon. However, for the case of improvising on paper for instance, one could start the work without yet knowing which dynamics and tempo might eventually be assigned.

Like for most techniques in music composition, the details of how the technique melodic (de)composition is applied in a specifics throughout a piece of music, decides how fine that work of art would turn out at the end. There is a relatively large room for the composer to apply her or his artist views in a work of having to do with melodic (de)composition. Those applications could be made in artistically justified manners to build an end product to various degrees of fineness. Such details have especially to do with facets of music such as: duration of applied decrescendos (in the sustention step), used specific dynamics, what particular pitches are chosen to be sustained, also which exact pitches are chosen to overlap with one another.

Comparable approaches as used in step distribution, the third step in the process of *melodic (de)composition*, are incorporated in various compositions within the music history. I have taken inspirations through the momentous piece in that group, Anton Webern's orchestration of the six-voice Ricercata from The Musical Offering by Johann Sebastian Bach. In a letter, Webern hopes that his work could help delivering the music from Bach's abstraction to becoming available to everyone: "Is it not worthwhile to awaken this music from the seclusion of Bach's own abstract presentation and make this unknown, or unapproachable, music available to everyone?" (Webern 2006: 158).

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Even though for my exploration of melodic (de)composition I focused on the decay manner of santur's sound, there are further acoustical properties of this instrument (and of other instruments too, as well as voice) many of which yet remain to be explored. Such traits, also in combinations with each other, might be used in comparable manners to what discussed in this writing, probably in equally interesting manners[15].

After working as a musician on the ideas of remembering and forgetting, in my mind the two worlds started supporting each other in an apparent organic collaboration, through mentioned stages. This process is a combined process of continuous remembering (section A) and forgetting (sections B and on) indeed, in which improvisation and composition go hand in hand. In the starting part (mentioned under A), improvisation of a melody on paper, having finer skills in improvisation could support the production of a more expressive composition at the end, according to the aims of the composer. To conduct the process, starting from the very beginning of stage A, various basic elements of musicianship are involved: form and structure, rhythm, various acoustical properties (of instruments, room, sound interactions between various facets, etc.) and so on. Those elements are commonly shared in composition and improvisation.

Melody tends to be understood as helpful to many, in remembering music. That is probably the main reason why melody is used to construct the remembering part of this discussed process of creativity. Putting the melody down in form of notation contributes to the remembering part. Stages B and on contribute to deconstructing the melody into its conforming components, giving each component (i.e. a fragment of the melody) to a separate voice. In that sense, this stage of composition would indeed have more to do with taking the material apart, rather than having to do with composing various parts together. Better said, this process would be a decomposition of the original material. This would support the forgetting part of the music making, through further fluidizing the melody, so its components could free up and fly away through the supports which this simple process offers. This process is not a fixed and petrified procedure: it has endless possibilities, depending on the degree of sophistication in creative problem-solving skills possessed by the artist.

Melodic (de)composition leads to a very particular sounding manner of music while working with melodies as used in Iranian music. Here is an observation, and meanwhile a partial explanation how that particular sounding manner comes to be. An apparent tendency of Iranian music's while forming melodies is that leaps are usually not favored, as long as for instance step-wise movements could be incorporated. In other words, the notes are succeeded by relatively very close intervals to them in make-up of a melody line in context of Iranian music. While applying the process of melodic (de)composition as explained before, this mentioned tendency would result in formation of clusters most probably including intervals such as seconds and sevenths almost automatically, per se. This would contribute to formation of the particular sounding manners of pieces incorporating melodic (de)composition.

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[15] An example for such stimulating acoustical properties is that each note on santur is produced by a quadruple set of strings, traditionally to be tuned in unison. Meanwhile, achieving exact unisons are practically impossible in that case. Each santur note turns out in fact as a cluster of pitches, the combined frequency of which is acknowledged as the designated pitch by traditionally trained ears. Meanwhile, this individual detuning of each string within each quadruple set could potentially become of creative attention to composers, such as Claus-Steffen Mahnkopf brought up to me in a conversation (Mahnkopt 2023).

8) CONCLUSION

Melodic (de)composition is a technique of creating music by taking use of both improvisation and composition. It supports that various elements of music are inspired by a melody which serves as foundation to the piece. At the end of the process, the melody line transforms and might not be obvious anymore as an immediately recognizable line like it was at the beginning. Melodic (de)composition is applied through the stages improvisation, transposition, distribution, and sustention. Through the process of melodic (de)composition, especially applying it to ensemble settings, the melody serves as the unifying vertebrae of the music, through which other elements of music (including harmony) can be generated or influenced. This argument can go beyond vertical and horizontal considerations of sound[16].

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[16] For example, it could be used to consider tone colors, and therefore wave forms.

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