

The “Time-Makam Analysis Model” as a graphic notation: A playful tool for collaborative improvised music

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Abstract

This study seeks to explore the creative performing processes that arise from the use of graphic scores. To achieve this, it uses the Time-Makam Analysis Model to demonstrate how this type of notation can produce “playful” creative processes that are open to evaluation from an ethnomusicological perspective. The study presents a practical, experimental, and multidisciplinary approach to graphic notation, it discusses the individual and collective relationships that performers have with a score of this type, and examines the spontaneous decision-making processes involved. The study is also intended to support performers’ collective creative decision-making, their playful thinking, and their improvisational skills. First, the introduction gives an overview of the concept of notation and provides a historical perspective for contemporary graphic scores. This is followed by an examination of the Time-Makam Analysis Model and its association with graphic notation, and a psychological discussion of creative, playful thinking processes. The final section contains field notes from two performances in which the author of this study took part: an online recording by the SAVT improvisation trio (Elif Canfeza Gündüz classical kemenche, Merve Salgar tanbur, and Zeynep Ayşe Hatipoğlu violoncello) and a real time collaboration with Ülkü Çağlayan (body movement and violoncello).

Keywords

collaboration, graphic notation, improvised music, playful thinking, time-makam analysis model

Introduction

Among many other techniques of music making, graphic score and musical improvisation are the two oldest ways that is used in creative music-making. According to David Borgo, who is an ethnomusicologist, improviser and jazz saxophonist, creativity relies not only individualistic psychological process but also on “historical and social factors” (Borgo, 2006, p.1). From a rather educational perspective, collective and group creativity as well as improvisation and play concepts are one of the highlights of active music learning methods such as Orff-Schulwerk² (originated in the 20th century), and more recent music pedagogical practices such as Prof.

Dr. Andrea Sangiorgio’s PhD³ (2015), uses graphic scores to support group creativity in children. Following these approaches as a composer, performer and improviser, I started this study by asking the question if graphic scores can be considered as a playful method for collective improvisations.

A graphic score may allow performers to play with ideas and to express themselves more freely. To give an example; ‘Odysee’ (ballet) by Anestis Logothetis from 1964, ‘Four Visions’ by Robert Moran from 1963 and ‘December 52’ by Earle Brown from 1952 (Evart, 1968, p. 409-11). Because the notation style of graphic scores might composed without fixed musical parameters, they are better able to support of collective music making, musical diversity and also encourage

¹ This study is based on the author’s unpublished Ph.D. dissertation, which will be defended in June 2022 at ITU Center for Advanced Studies in Music.

² For further details of Orff-Schulwerk: <https://www.orff.de/en/orffr-schulwerk/concept/>

³ For PhD thesis of Prof. Dr. Andrea Sangiorgio, 2015 University of Exeter: <https://ore.exeter.ac.uk/repository/handle/10871/20648>

performers’ creative and critical thinking. In these graphic scores, musical elements are mostly shaped through improvisation and this process is audible to the listener. When musicians and other performing artists study a score, there is an activation of both their imagination and their sensory awareness. The combinations of notes, the use of images or symbols, a few lines, or a blank page with minimal notes can be expanded upon or used as triggers for a momentary period of improvisation. Moreover, graphic scores can be seen as one of the historical examples of the collaborations between contemporary art and music such as Earle

Brown’s ‘December 52’ (Evert,1968, p.411).

Time-Makam Analysis Model (TMAM) is a recently proposed theoretical model by Assoc. Prof. Dr. Ozan Baysal that can be used in the structural analysis of makam music. This model examines makam music elements such as pitch centricity, tetrachordal structures (*çeşni*), melodic progressions (*seyir*) and rhythmic cycles (*usûl*) and reveals how the time is shaped via music and produces a visual display of the musical changes and transformations on a linear measure of time.

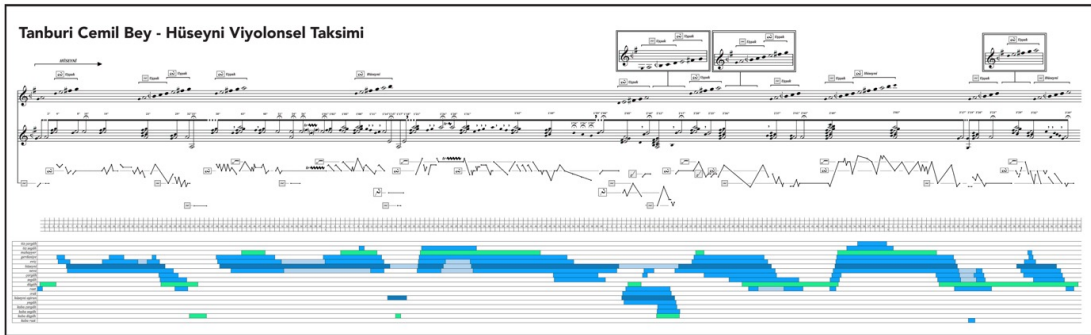


Figure 1. *Time Makam Analysis Model* by Ozan Baysal. Analysis of Tanburi Cemil Bey Hüseyini Violoncello *Taksim* by Zeynep Ayşe Hatipoğlu, Ozan Baysal

First stage of this research, I attempted to expand on the previous studies to which *TMAM* had been applied, namely to Hammamizade Ismail Dede Efendi’s *Ferahfeza Mevlevi Ayini* (Baysal, 2018) and *taksims* of Tanburi Cemil Bey (Hatipoğlu & Baysal, 2016, 2017) and asked the question if it is possible to make a transition from an analysis tool to an interpretation tool, by changing the context of the visual components of *TMAM* and transforming them into an instructional script, like a graphic score? And in doing so, where the visual display of the model would be carried into performance scenario, how would it be interpreted by different performers? Furthermore, from this perspective, what experiences can be gained by re-performing such a piece collaboratively? Can these interpretative experiences be considered as creative processes? And finally, would

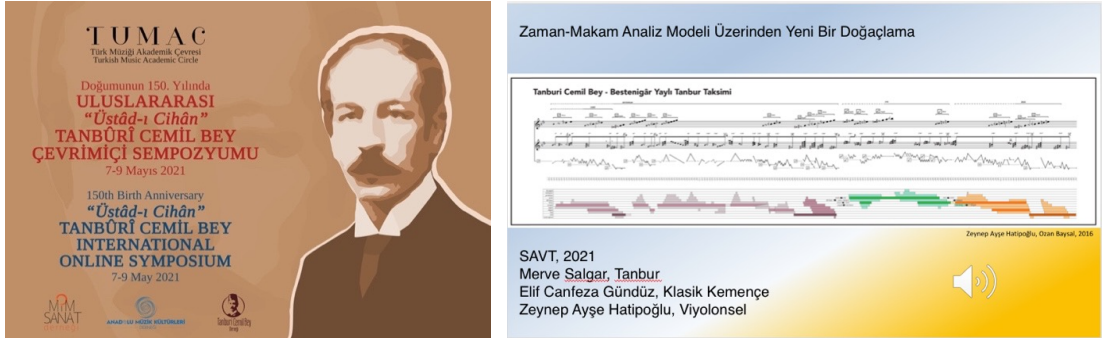
graphic notation provide a playful tool for collaborative music practices?

“Playfulness” from a broader sense defined as “the quality of being funny and not serious”⁴. However, Patrick Bateson and Paul Martin’s book “Play, Playfulness, Creativity and Innovation” points out that “the categorization of play as any behaviour that is not serious has tended to trivialize an activity that is likely to have important beneficial outcomes, both in humans and other species” (Bateson and Martin, 2013, p.7) and describes the concept of playfulness as a particular positive mood state that may (or may not) be manifested in observable behaviour (p.2).

In an attempt to address such issues, two

⁴ “Playfulness” definition from the Cambridge Advanced Learner’s Dictionary & Thesaurus, Cambridge University Press.

collaborative performances were used as experiments for this study.



a. 150th Birth Anniversary “Üstad-I Cihan” Tanburi Cemil Bey International Online Symposium, 2021

b. “Creativity, Improvisation and Tanburi Cemil Bey: A new improvisation from the Time-Makam Analysis Model”, abstract presentation by Zeynep Aysel Hatipoğlu, 2021 Tanburi Cemil Bey Hüseyini Violoncello Taksim by Zeynep Aysel Hatipoğlu, Ozan Baysal

Figure 2. Tanburi Cemil Bey International Online Symposium, 2021

The first collaboration took place at the *Tanburi Cemil Symposium* in 2021, at which I presented an abstract titled “*Creativity, Improvisation and Tanburi Cemil Bey: A new improvisation from the Time-Makam Analysis Model*” (*Doğaçlamada Yaratıcılık ve Tanburi Cemil Bey: Zaman-Makam Analiz Modeli Üzerinden Yeni Bir Doğaçlama Yorumu*). For the symposium presentation, an online performance by the SAVT⁵ improvisation trio (Merve Salgar, Elif Canfeza Gündüz, and Zeynep Aysel Hatipoğlu) was recorded. The aim of our trio was to experiment with the structure of a *taksim* by Tanburi Cemil Bey, which represented a challenge to our collaborative and individual creative

thinking, listening, and performing skills.

Following this, I developed a further experiment in which I collaborated with a performance artist in a live setting to explore collective creative dynamics through a combination of body and sound practices. This paper presents an examination of the creative processes within both of these experiments. Throughout the research process, I was a performer, participant observer, and researcher, and the writing method I use here is intended to represent all three perspectives.



Figure 3. Rehearsal photo of Ülkü Çağlayan⁶ (on the right) and Zeynep Aysel Hatipoğlu

⁵ www.savtband.com

⁶ www.ulkucağlayan.com

Overview of Graphic Notation

A definition on the concept of notation from Groove Music Online⁶ is:

...may be regarded as including formalized systems of signalling between musicians, and systems of memorizing and teaching music with hand signs, spoken syllables, words or phrases. The latter are sometimes called ‘oral notations,’ and the origins of written notations can often be seen to lie in them.

According to Groove Music Online, these notation systems are divided into two types; oral and written. To give an example of oral tradition, both Indian and Turkish Music incorporate memorization, oral transmission, and improvisation. These techniques continue to play important roles and are still used as prime material in many musical practices. On the other hand, written systems such as the staff notation developed in European countries have historically and have evolved accordingly (Girgin, 2016, p.42).

Notation can be used as a creative tool in music-making. From a purely musical perspective, many notation styles have been developed and used. For example, European style staff notation has become widespread across many cultures and is the only notation system that has remained in continual use since the 17th century (Girgin, 2006, p.42). More recently, alternative notation types including graphic notation, descriptive musical notation, and lead sheets have been developed. To differentiate between this growing number of alternatives, Bhagwati suggests a method of classification for written music notation that comprises four categories: neumatic, symbolic, graphic, and verbal, and gives the following explanation of their notation types and functions:

Although all four types can in principle convey both, symbolic and verbal

notations are more suited to indicating the action required to activate a sound, while neumes and graphic notations are more apt to be used as “icons” (likenesses) for a sound (Bhagwati, 2013, p.171-172).

This view offers a perspective from which to understand the sense of graphic notation; that the graphic representation of a piece of music starts with the idea of producing “likenesses” for a sound. However, it was not until the mid-20th century and the creation of experimental, improvisatory, and electronic music styles that shapes, colours, and visuals that included drawings and other graphical elements became more common as alternatives to “standard” notation systems (Girgin, 2016, p.42-47).

The most striking effects of the graphical notation techniques used in contemporary music approaches can be considered as follows. (1) they represent an ideological view that opposes complex notation; (2) they support freedom of expression by allowing the visualization of a piece without the limitations of lines and staves (Girgin, 2016, p. 47); and (3) the performer can become “free” to interpret and challenged to improvise (Evarts 1968, p. 407).

For example, there are many examples of graphic scores created in the 20th century that use a wide visual spectrum such as a combination of images and staff notation, or which include words, shapes, colours, pitches etc. John Cage’s *Notations* (1969) and *Notations 21* (Sauer, 2009) are two examples of published works which present various graphic notation techniques. One can clearly observe from such examples that the freedom given by graphic notation allows composers to represent their ideas in more flexible ways. Similarly, this type of notation also allows performers to play, improvise, interpret, and reinterpret scores in a manner that is audible to listeners.

In the mid-twentieth century, musicians from genres including contemporary classical,

⁶ Article can be reach from: <https://doi.org/10.1093/gmo/9781561592630.article.20114>

electronic, improvisational, and jazz widely used graphic scores in their works. They also used various composing techniques, such as aleatory and indeterminacy, and different types of guided improvisation that “constrain but do not uniquely determine the outcome of a performance” (Cox & Warner, 2017, p.464). Graphic scores such as *Treatise* by Cornelius Cardew, works by Earle Brown *December* or Christian Wolff, Karlheinz Stockhausen, Henri Pousseur and other contemporary musicians composed music under the name of “open works”. It is important to mention that the theory of “open work” was introduced by Umberto Eco in the mid-1950s (Cox, Wagner, 2017, p.167). They introduced the concept of “open work” to question the classical role of the performer, and to push performers to improvise or “closed” notation styles, to address the limitations of conventional (Cox & Warner, 2007, p.462-65). Although “open work” as an active genre lasted only until the mid-1970s, graphic notation continues to be used not only by art collectives, musicians, composers, performers, and improvisers, but also by those who are active in areas such as computer technology, the visual arts, poetry, avant-garde performance art, music therapy, musicology, and music and art education (Smith, 2009).

As previously mentioned, one of the benefits of graphic notation is the added importance it gives to the role of the performer. It creates simultaneous challenges in traditional score reading and interpretation, creative thinking, decision-making, and improvisation. From a performance perspective, performers are able to apply creative thinking in their interpretation of it. In this study, the creative thinking process is examined as a “playful” activity.

Graphic Notation as a Playful Practice

When I decided to create a unique improvisation using the model, my perspective on seeing the visual changed. At first, I was looking for the makam or key centre, tetrachord usage,

and time values, and to understand the theoretical meanings of the musical information. However, upon seeing the same image with a new perspective, I focus on keeping only the sense of the original piece, but being free to “play”. At some points, my eyes follow the whole layer or sometimes focus on details. I play with lines, shapes, colours, and pitches to catch the flow in the music (Zeynep Ayşe Hatipoğlu, May 2021 Field Notes).

During the interpretation processes of using a graphic score, performers may find opportunities to “play” with the *makam* structure, melodic motion, the forms of the classical *taksim*, its time duration, or any other visible element. Here, the term “play” is used to describe a playful approach for making music. Although the first connotation of play is that of a childhood activity or behaviour, its meaning can be expanded to include other features and meanings.

Play, according to play expert and futurist Yeşim Kunter⁸, is:

... the outcome of manifestations of connections with ourselves, others and/or our surroundings to achieve deeper meanings. Within these interaction new ways of “understanding” emerge, whether developmental, emotional or physical. “Play” brings out the hidden potentials, belief systems, visions, and intuitions of people and creates deeper connections within their “worlds” and with others’ “worlds”. It sets secure settings for the participant to feel comfortable enough to examine variety of possibilities through unknown perspectives and create new connections in order to form new meanings (Kunter, 2016).

Playing involves not only fun, but also the opening up of a perspective from which to explore the self and the other. The experience

⁸ www.playtoinnovate.com

of play generates new understandings of thoughts and spontaneous behaviour. Therefore, the experiences of play and improvisation have common characteristics which can be determined by factors such as personality, behaviour, mood, and cognition.

“Playful” is generally used to describe a positive personality that is typified by high levels of energy, enthusiasm, concentration, and pleasurable engagement (Barnett, 2011-2012, p.169-167). Psychologist J. Nina Lieberman points out the importance of playfulness as a psychological concept, especially regarding its relationship to other psychological processes and its impact on everyday living:

My own studies suggest that playfulness is made up of spontaneity, manifest joy, and sense of humour. My theoretical speculations and those of others, as well as evidence from my studies and those of other investigators, point to playfulness becoming a personality trait of the individual and a possible clue to cognitive style (Lieberman, 1977, p.6).

Play and playful thinking are important in the growth and development of children, as well as in the historical, cultural, social and psychological development of both individuals and the societies in which they live. Johan Huizinga (1872-1945), wrote *Homo Ludens* in 1938 as a study of the function of play in civilizations. In this, he concentrates on the definition of “human” and includes classifications such as *Homo sapiens*, *Homo faber*, and *Homo ludens*, the latter of which translates as “man the player” in the English version. One of Huizinga’s major arguments is that the human mind has a robust capacity for play, and that this has an influence on culture.

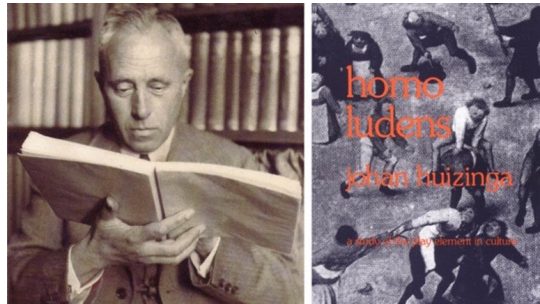


Photo 1. Johan Huizinga, and his book (Amazon, 2022)

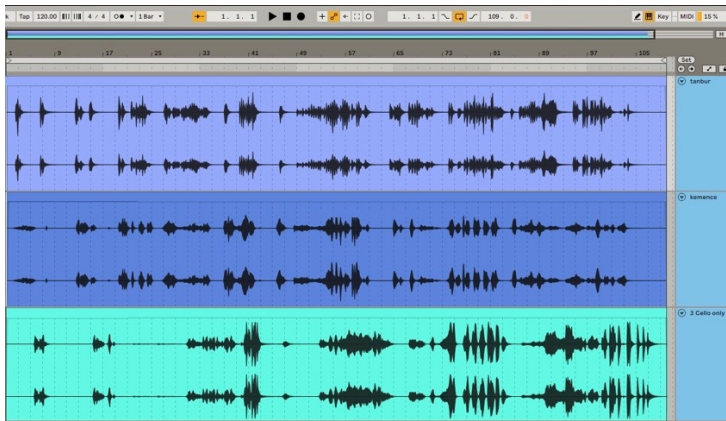
Although it can be said that individuals have a natural desire to play, what determines a playful person is another subject of research in both the literature of play and in various psychological studies. Lynn A. Barnett’s study show that different personality traits (for example, extrovert and introvert) and factors such as sense of humour or if a person is “sensation-seeking” can affect their level of playfulness. Additionally, research has also shown that the “descriptive characterizations of individuals across situations, settings, and circumstances affect the measurement of playfulness” (Barnett, 2007).

Experimentations

To observe the *Time-Makam Analysis Model* interpretation processes within different combinations, I developed two experiments, and performed them with two collaborations. The first was an online recording with a musical improvisation trio, and the second was a real time event in which I collaborated with a performance artist whose engaged with in performative studies, social practice and writing. In both performances I briefly introduce *TMAM* to the performers without giving any directions on how to interpreted. By doing this, I aimed to offer a free space for expression.

First Experiment Field Notes

The first collaboration was a group practice session between myself, Merve Salgar, and Elif Canfeza Gündüz. Since 2015, we have been collaborating as an improvisation trio called SAVT. Merve Salgar plays the tanbur, Elif Canfeza Gündüz plays the classical kemenche, and while I play the violoncello.



SAVT Improvisation Trio Online Performance

Figure 4. SAVT Improvisation Trio Online Performance



<https://vimeo.com/676024228>

The following notes present our personal observations and an overview of the SAVT recording. We decided to interpret the model in three layers to achieve a polyphonic structure and to retain the common rest points. Our solution for synchronization was that the first to record would determine each rest and that whoever played subsequently would adapt accordingly. Although exact synchronization was not desired, it was important for us to hear our own interpretations, and in dividing the layers we gave importance to our group experience. In the Time-Makam Analysis Model, the top layer is where the flavours (*çesni*) are written and is the closest to traditional notation. In a standard arrangement, the classical kemenche is the most likely to play the melodic line while the other instruments play the accompaniment. In our performance, however, we decided to try another method in which the tanbur played the top layer and was recorded first, the classical kemenche was recorded second, and the final recording was of the violoncello.

We left the technical details for later and concentrated on the physical limitations caused by the necessity for us to work in isolation. Like many musicians attempting to perform during the Covid-19 pandemic, we experimented with ways to make collaborative music while we were apart

from each other. After trying different methods of distance playing, we decided that the best way for us was to hear the others in as close to real-time as possible. We then shared our individual recordings and used overdubbing to combine them and finish the work. This was done according to our original plan to record the tanbur first, followed by the classical kemenche, and then the violoncello.

When I first received the recordings of the tanbur and classical kemenche, I felt they blended well with each other. As my part was to be the final recording, I wanted to play something organic that would added to what the first two instruments had produced. Here, the term “organic” can be explained as the dialogue or interaction with musical gestures that exists among players, and includes various other elements including silence. From my personal aesthetic point-of-view, this becomes possible by putting more effort into listening. It is certain that while improvising, there is no better tool than to focus on listening, both to oneself and to other performers.

Finally, I made the arrangement. When I combined the recordings, the result sounded somewhere between spontaneous and planned, and that together the parts formed a great musical entity. From the various recordings, we chose the ones which had the

most common hesitation points, and which we felt were the most concordant with our aesthetic views. We discussed our common difficulties with the online recording processes, and how we created solutions to interpret the music in the best way possible. It was difficult for each of us to follow the score, record at home, and apply the limitation we had set, namely to pause at the same places. We all agreed that there were musical ideas that we could improve on with further work. However, we also agreed that we had produced a good musical entity, and that our pre-planning had worked well.

I would like to revisit the piece in a real-time performance environment to attempt a second interpretation.

Second Experiment Field Notes

For my second experiment, I collaborated with Ülkü Çağlayan. She is an artist who is engaged in performative studies, social

practices, and writing. This was not our first collaborative improvisation project; we first met in 2019 at the “Klank.ist” collective improvisation events, and have since collaborated on various other projects. I was excited to work with an artist from another discipline and to compare this session with the previous one. I began by explaining to Ülkü the Time-Makam Analyses Model, and we continued by discussing the model, the meanings of *makam* and *taksim*, the importance of Tanburi Cemil Bey, and the concept of graphic notation. Ülkü was curious about my interest and explanations of the topic, in the information presented within the model, and in how we could perform together. For my part, I wanted to examine how graphic notation would influence our performances, and how collaboratively our bodies might improvise together using both movement and silence.



<https://vimeo.com/675907200>

Figure 5. Performance photo of Ülkü Çağlayan (on the right) and Zeynep Ayşe Hatipoğlu

We began with one hour of warm up “play” that included listening practices and short improvisations. We discussed and shared our individual experiences after each session. This period of practice activated our senses; we closed our eyes and listened to ourselves and to each other. We improvised within certain limits by changing the sounds and our movement in equal timing as we reacted to what the other was doing. In addition, we performed a short period of free improvisation and again shared the

ideas that it produced. We were consciously starting to explore our relationship with both sound and movement.

We performed in a way that allowed us to follow the score simultaneously, we started together, observed rests together, and finished together. Instead of trying to follow the whole model, we both preferred to focus on individual elements. This time I choose the middle layer where I could easily read the breathing and rest points as well

as the central pitches and the notes played around them. I did not think to play the written pitches exactly; the representations of whole- and quarter-notes encouraged me to create contrasting rhythms. I played with durations, rests, and “likenesses” of the symbols, shapes, colours, and lines.

Ülkü concentrated on other layers. Here, she relates her individual experience of using the graphic score:

I guess, in the graphic I was keeping my eyes on the very bottom line and the one just above it. The latter looked like heartbeats and I couldn't take my eyes off it. Simultaneously, I was following the bottom line out of the corners of my eyes. These figures, all in different guises, colour, and ways of interaction were all speaking into the void. My experience was to respond to what they might say or just listen in; listening but not understanding; responding in a language they don't speak. A language that I even don't fully understand and have not spoken before. This is probably why I witnessed some gestures and expressions – for which I cast roles for my body – that I have not experienced before (Ülkü Çağlayan, November 2021 Field Notes).

We conducted another session immediately following the first. During this second attempt, I felt my body relax and start to move around on the chair while I played. We both made sounds and gestures, footsteps, and breathing sounds. I was listening to Ülkü as she created sounds with her hands and clothes. I was sitting, yet moving my body and hands. It was an experience like dancing with my violoncello while making sounds and imitating the shapes on the graphic score. There were some points where one or both of us were quietly moving or were focused on making very low sounds in response. In other words, we were moving in a truly visceral manner. As the graphic notation was well within our view during both sessions,

it is clear that it enhanced our “playful” mood while we were collaborating on our interpretation of the piece.

Conclusion

In this research, by changing the context of the visual components of *Time Makam Analysis Model* and transforming them into a graphic score, two different combinations interpreted by performers. The first with an improvisation ensemble and second with a performance artist. Artistic projects were conducted without giving precise description to the performers on how to interpret *TMAM* in their practice, it is avoided to repeat the interpretation process with the same performers in order to keep the momentary improvisation flow. To express the artistic practices of the performers the aesthetical choices and field notes are presented.

In both of the experiments, a collective and creative process was achieved in which the participants were able to share and develop ideas that arose from their use of the model in their performances. Finally, I hope that further experiments and projects may be conducted to expand the links between the playful approaches and graphic notations.

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Some of Publications and Presentations

Hatipoğlu, Z.A., April 2021, "An experience Through Musical Improvisation: Overlapping Composer and Performer Practices", Bilgi Music Seminars Online presentation.

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