

PROPOSING A “MAKÂM MODEL” BASED ON MELODIC NUCLEI

“The Examples of Hüseynî and Hicaz Families”

M.Ertuğrul Bayraktarkatal, Cenk Güray

Abstract

Makâm can be identified as the main mechanism for ‘melodic construction’ regarding the music genres in Anatolia and the neighboring geographies. This paper intends to define the concept of makâm within a music practice-based approach, constructed on the idea of a ‘melodic nucleus’ giving the specific melodic characteristic and the sound of the makâm. All the makâm structures in the paper are described in a modular system developed by the connection of several ‘melodic nuclei’ to each other following a specific melodic pattern/formula based on different functions attributed to the pitches gathered in the specific pitch-group of the given makâm and resulting in a differentiable ‘sound’ which is reflected by this ‘pattern’. To demonstrate this approach, various musical examples basing on two major families of makâm in Anatolian music history and Turkish music-namely Hüseynî and Uşşâk had been analysed and the main melodic patterns giving the specific melodic characteristics to the members of these makâm families were tried to be discovered. Then these melodic patterns or the melodic nuclei were expressed in generic formulas representing the specific melodic functionalities of the pitches through which the melody is constructed. Afterwards, the possible ways of combining a single melodic nucleus with other melodic nuclei within a modular framework was searched, to have the basic melody evolved into a more complex one, sustaining the ‘specific colours’ of the “melodic nuclei” it is composed of. Finally, the makâm structures that can be categorized under Hüseynî and Uşşâk families were discussed

further to reveal their specific melodic characteristics differentiating them from the other category members.

Keywords: makâm, melodic nuclei, melodic pattern, pitch group

Introduction: A Basic Discussion about the *Makâm* Concept

The Meaning of the Word Makâm

The word makâm derives from the Arabic word ‘maqam’. The word ‘makâm (maqam)’ points to various meanings like “to step on” or “the place for sitting” (Kanar 2012); “the place to stand or to rest” (Devellioğlu 1986); “position, location, residence, halting place” (Nişanyan 2019); “site”, “region“(Kubbaltı 2019). The word ‘mukâm’ seem to have related meanings with the word ‘makâm” (Kanar 2012). As a result, we can deduce that the word ‘makâm’ have meanings like ‘*the residence*’ or ‘*the place for standing or resting*’.

Makâm As a Musical Concept

Makâm theory follows a very deep historical background that can be traced back to Old Mesopotamia and Ancient Greece. However, what is left to us as the “Turkish or Anatolian Music Theory” is limited to the works of the theorists that had lived after the 15th Century. Among the many important works that have aroused after this period, a prominent question would hardly be answered satisfactorily: How should we define the concept of makâm?

In the area of music theory, the idea of “makâm” has perceived international and multicultural attention and therefore many works concentrating on the conceptualization of

the “makâm” have been developed. Powers define “makâm” as “interrelated melodic entities” or “melodic types” depending on its similarities with the concept “Indian raga” (1989, 42). According to him “these melodic types are consciously used as norms for improvisation or composition” (Powers, 1989, 42). He then gives reference to Idelson who had defined “makâm” structures as the combination of “melodic motives” within the first edition of his work (1929) on Jewish Music (1992, 84). He then interprets the effect of makâm in Turkish, Persian and Indian “improvisational” music cultures and certify that such an “abstract melodic type” is represented strongly in “improvised performance” (1989, 50). It can be seen that Powers put forward the concepts of “abstract melodic type or motive” as the key point to define a “makâm”. Furthermore, he underlines the resemblance of the concept of “Turco-Arabic” makâm (used in combination with the term awazat in the music theory of Late Medieval Islam Period) with Uzbek-Tadjik makâm and Iranian “dastgâh” in the sense of being made up of “smaller entities” like jins, shuba and gusheh “that are independent individuals in their own right, with proper names of its own” remarking the name-based specification of these indicated “melodic types/entities” that builds up a makâm-based melody (1989, 44, 48-51). Hiromi Lorani Sakata further deepens the discussion by indicating that Afghan people identify and classify some specific “melodic types” due to their resemblances with some folk songs with which they are audibly familiar (1989, 172).

In 1969, in his Ph.D. Thesis, Owen Wright makes an interesting remark referring to theorist Qutb al-Din Şirazi (d.1311) regarding that the distinguishability of a makâm is possible by defining a number of “prominent notes (pitchess)” as the elements of a “modal nucleus” (1969, 66):

But, as Qutb al-Din makes apparent, the feature of prominence alone is not sufficient to distinguish them from other modes, especially when their range is extended beyond the original nucleus of four or five notes. (Wright, 1969, 283)

Similarly, in 1973, Nettl and Riddle had “indirectly” defined the melodic characteristic of a makam based melody, while analyzing the improvisational taksim performances by Jihad Racy and they have observed the strong impact “specific melodic or motivic units” in creating improvised melodies:

And we also did not address ourselves to the origins of specific melodic or motivic units, as, for example, the degree to which some of them were learned and memorized by Racy, others are variations of known motifs, and yet others were actually improvised by him. The extent to which the material is truly "improvised" is a question we do not attempt to assess. It may be of interest to point out that Racy himself, after seeing some analytical data, indicated surprise to the degree to which his performances followed certain patterns. (Nettl, Riddle, 1973, 13)

As it can be observed while Wright indicates the effect of “modal nucleus” in creating makam-based melodies, Nettl-Riddle emphasizes the use of “typical known motives” as a main melody producing tool in makam-based improvisations.

Karl Signell certifies that the essence of a makâm can be identified by very short patterns which “was named as “*stereotyped motives* (B/G)¹” by himself” (1986, 125). Furthermore, he adds that:

¹ The bold or italic preferences in edition are made by the authors (Byr/Gry).

The creation of these uncanny motives, with their appropriate and powerful abilities to communicate the essence of a makam is so impressive that Yaşar² dubs them “miniature compositions”. (Signell, 1986, 139)

Kemal İlerici defines makâm as: “As you know, in our tradition the way a scale is processed is called makâm” (İlerici 1981, 2). Although Kemal İlerici handles makâm structures being based on scales, he also had discussed and analyzed the melodic patterns during his courses. He had divided the range of Hüseynî makâm in two separate zones of pitch (high zone-low zone) and he further classified the pitch groups according to these zones with respect to their melodic functionalities as being “stationary or moving”. He also named the harmonic movements basing on these pitch groups as “stationary embryo-moving embryo”.

Bayraktarkatal explains the makâm as follows (1997):

Makâm can indicate itself only in a small characteristic interval or in a tiny melodic nucleus. Various melodic lines can be produced by making frequent modulations.”
(...) “Makâm is a melodic braiding. This braiding is designed according to the hierarchical structure within the scale of pitches used by the makâm.

As can be seen, two main important points arouse through the discussions carried out by all the theorists:

- a) What makes a “makâm” structure unique?
- b) How do “we” differentiate this uniqueness?

² Well-known tanbur performer Necdet Yaşar (1930-2017)

To answer these questions-whose sequences can change in between, both inspiring through many descriptions given, making use of the melodic analyses and performance examples of the authors on various makâm structures; it can be deducted that a specific *pattern*³ plays a major role in the traditional identification, uniqueness and re-envisioning of a makâm structure. This pattern also turns the makâm to a differentiable sound structure that can be perceived by an audial capacity by the use of the makâm knowledge embedded:

A pattern is a structure that contains a minimum amount of self-specific knowledge and that is continuously being re-constructed (Kurzweil 2018).

The analogous term for *pattern* within the context of the makâm should be the *melodic nucleus/melodic pattern*⁴ that is arising from hierarchy-based movements of the pitches within the specific *pitch zone/pitch group* of the makâm, containing self-specific knowledge and being continuously re-constructed. Each melodic nucleus represents its difference in the simplest way possible. In the melodic nuclei that are determining the makâm structures, there are melodic constraints, which are carefully supervised. Each melodic nucleus presents a melodic movement that is built upon an open-ended *tension-resolution* relation within these specific constraints. The time-dependence and partly random structure of this open-ended relation-that can choose its path within the learned constraints based on a pitch hierarchy-naturally coincides with a stochastic production process (Borovkov 2013, 350). The most important feature of the '*pitch groups*' that are producing the melodic nuclei is the '*eidos/self-identity*' generated through an inner *melodic movement*. The '*eidos/self-identity*' and the specific '*sound*'⁵ of a makâm are evolved by the pitches, the functions of the pitches, the characteristics of the intervals between these pitches and the structural utilization of the

³ Pattern: Model, template, theme.

⁴ The terms of melodic pattern, melodic nucleus can replace each other.

⁵ Sound: To transfer a specific sound, to give a sound effect.

pitch (pitch) group. This *eidos/self-identity* can also be envisioned as the source of re-interpretation or the revival of the concept of makâm as exemplified by an Iranian “dastgah” case by Hammarlund (2004, 42). A *melodic nucleus* is composed of a pitch-group of three or four pitches organized around a central pitch/axis and always develop on an integrated pair of ‘*balanced and unbalanced*’ rests that is arousing from a *tension-resolution relationship*. Based on these applications a *melodic nucleus* undoubtedly identifies a makâm structure by itself.

The complete structure of a makâm based melody is developed by a *modular* intersection of different melodic nuclei. Both the continuously re-producible nature of a specific melodic nucleus and the modular character that leads to an infinite number of possibilities for the intersection of the different melodic nuclei make it possible to create various melodic compounds presenting different *sounds*.

The differentiable *sound/self identity/pattern belonging to any makâm* can be accepted as a ‘code’. We can recognize a makâm by mapping it to the similar melodic patterns that we have experienced in an audial way before. The practical process for learning a makâm is conducted in a traditional, memory-based way basing on the music culture of the domestic community.

The Concept of Melodic Nuclei: Proposing a New Model for Understanding, Analysing and Classifying the Makâm Structures

When our ears detect a melody what are the criteria that directs us to classify it under the “topic” of a certain makâm structure? Usually, such a classification scheme has much to do with the technique of “grouping”, which collects the “things” obeying certain rules under a “specific” heading (Güray et.al. 2003). In our case, this heading is a specific makâm, and the rules indicate the “melodic characteristics” that makes this “structure” unique. According to Bayraktarkatal “a melodic nucleus” and “the relational characteristics” that are built around this nucleus should be the factor that differentiates a certain makâm from another one:

A makâm is certainly defined by a melodic nucleus and wherever this nucleus appears we observe the colour of this makâm there. The melodic nuclei possess a characteristic syntax and whenever this syntax is broken, the makâm loses its identity and turns into another makâm (Bayraktarkatal 2018).

So here, we end up with a model in the shape of a melodic nucleus that possesses a particular “syntax” that makes the makam structure it belongs differentiable from other makam structures. This nucleus, whose ‘sound effect’ can be observed within an ‘interval of frequencies’, has a melodic centre corresponding to a ‘pitch’. The other neighbouring pitches has other musical functions and produces certain melodic characteristics engaged with this centre. Moreover, a simple melody that sounds like a specific makâm should be composed by using these characteristic relations lying in the rule-base of the makâm kept in the collective memory and somehow symbolizing its self-identity. In the theoretical manuscripts of the early Ottoman period, this central pitch-from which the makâm emerges-is called “serâgaz (*polar pitch*)” (Güray, 2017, 76-77). A complete melody may be formed under one nucleus or with a combination of a series of “nuclei”, which makes makâm music a modular system. Therefore it can be easily argued that what constructs a specific makâm is not a scale nor an intervallic structure, but a combination of characteristic melody building structures arousing through the unification of a number of melodic nuclei and creating melodies within a hierarchy taking the

central pitches of these nuclei and the specific pitch group around this centre in their base. Now let us discuss the functions of the pitches in a melodic nucleus.

Discussing the Components of Melodic Nuclei⁶

As it was discussed before, the melody production system of a ‘melodic nucleus’ can easily be resembled to an algorithm designed to execute a previously defined pattern to create similar ‘audible’ products that act as ‘melodies based on certain makâm structures’.

It can be asserted that the pattern or the ‘melodic nuclei’ behind a ‘specific’ makâm structure can be described by four main components named as ‘central identifier (M)’, ‘co-identifier⁷ (T)’, ‘reinforcing (P)’ and ‘ornamental (S)’ pitches⁸.

A pitch that will be named as *central identifier pitch (central pitch)* ⁹ afterwards is placed in the axes of a melodic nucleus. A *balanced rest* is developed on this pitch and the surrounding three or four pitches are *moving* subject to it. The *self-specific* melodies occurring through the pitch group around this ‘central identifier’ assertively identifies the makâm. The central identifier pitch defines the center that initiates the melody specific for a makâm, the name of the makâm is usually acquired through this pitch.

The *co-identifier pitch* functions as the unifying pitch that helps to identify the makâm based melody in coordination with the central identifier pitch by creating a melodic

⁶ At the first step we have to assert that the pitch scale/system that we will be used throughout the paper-the notations corresponding to these “pitches” and the traditional “pitch names” asserted to these pitches (with the necessary abbreviations)-are given in the figure below. These pitches were actively used in theory and performance after the XVth century, and still constructs the main framework for today’s theory and practice (Güray, 2017, 90).

⁷ The term common identifier is used in a similar meaning and to identify the structures with a similar function in computer science too (Talbur, 2011).

⁸ These pitches are expressed with their abbreviations transferred from Turkish synonyms: M for “merkez (central identifier)”, T for “tanımlayıcı (co-identifier)”, P for “pekiştirici (reinforcing)” and S for “süsleyici (ornamental)”.

⁹ Central Pitch/Kutb (Pole): (M)

tension/resolution with it¹⁰. In fact, the central identifier and the co-identifier pitches construct a *pitch pair* relying on the “tension-resolution” relation between them. Thus, the characteristic of this pitch usually includes creating a feeling of “unbalanced rest” engaged with the “central identifier pitch”. Without feeling the *integrative* effect between the central identifier and the co-identifier pitches, it is not possible to identify the given makâm.

The “*reinforcing pitch*” can be identified as a pitch to support/strengthen the feeling of the “balanced rest” aroused on the central identifier pitch. Finally, the *ornamental pitch* establishes the “melodic transitions, connections and variations” between central identifier, co-identifier and reinforcing pitches.

Discussing “*Hüseynî*” as a Model to Classify and Understand the Makâm Structures

In the theory books of the 15th Century the makâm *Hüseynî*-one of the oldest makâm structures of Anatolian music-had been expressed in a series of definitions reflecting a wide variety expressions. For example Hızır Bin Abdullah defines this makâm with the following phrase that points out a melodic contour, starting with düğâh (A), the melody rising to segâh

(B ) , çargâh (C), nevâ (D) and finally reaching to the central identifier pitch Hüseynî (E) from which the makâm emerges:

Dugâh heman, segâh heman, çargâh heman, yekgâh pençgâh evi, **dugâh Hüseynî evi serâgaz**, segâh hisâr evi, yekgâh gerdâniye evi, dugâh muhayyer evi (Bbb 2017, 76).

The pitch “hüseynî” is emphasized here as being the central identifier pitch of the melodic contour with the use of the phrase ‘serâgaz¹¹’ meaning that the melody emerging

¹⁰ The function of this pitch can be imagined by examining the strands of a DNA where the structure of one strand determines the other. (Khanacademy, 2020)

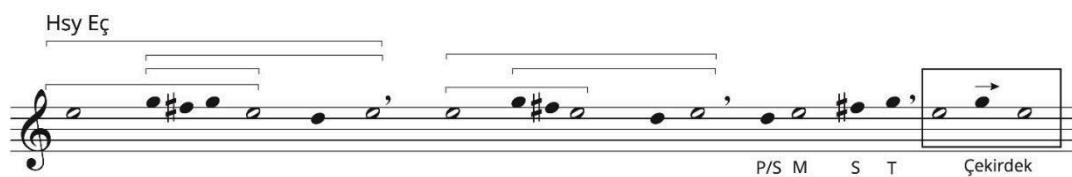
¹¹ Origins from the Persian word ‘âgaz’ referring to the start of a speech or a melody, “ser” completes this word adding the meaning “main” to it. So ‘serâgaz’ means the main source of the melody. (Kubbealtı, 2005)

from this pitch is “the major melody” giving the colour of the makâm, besides the phrase ‘serâgaz’ may identify the central pitch through which the “starting” melodic contour is produced. Therefore, we can name this pitch as the “central identifier pitch”. Seydi, who has produced his work around 1504 gave a very flexible and practical definition of the Hüseynî makâm:

Var ol şeşgah evinin bir kılın ur (Rest at şeşgah [Hüseynî] pitch a while)

Karar et düğâhun hanesinde (Come and take the final rest at düğâh) (Bbb 2017, 77).

This definition also directs the melodic contour to hüseyinî (E) without any doubt and identifying the final rest at dügâh (A). Therefore it can be said that the *central identifier pitch* (M) of the melodic nucleus defining the Hüseyinî makâm is the hüseyinî (E) pitch through which the makâm is evolved. From results of the analysis made on many melodies on Hüseyinî makâm, it can be asserted that the *pitch pair* defining the Hüseyinî makâm is composed between the hüseyinî (E) pitch hosting a *balanced rest* and the gerdâniye pitch hosting an *unbalanced rest* arousing through its tension-resolution¹² relationship with the hüseyinî (E) pitch as shown in the example melodic nucleus given in figure 1.

Figure 1: The Nucleus and the Melodic Nucleus for Hüseynî (Hsy) Makam¹³

In the above figure, the beginning “nucleus” of Hüseynî Makâm were addressed by

¹² The concepts of balanced and unbalanced rests were proposed by Koray Köse-a student of composition in Başkent University State Conservatory-in 2019 during the course in “Modal-Makam Harmonics”, inspiring from his theory background in Mechanical Engineering.

¹³ All the examples representing the melodic nuclei aim to be as inclusive as possible; of course, many other different examples could be given too.

the rightmost figure symbolized by the word ‘*çekirdek*’-the Turkish synonym for the word nucleus. This figure shows the main melody producing pitches that are irrevocable when constructing the makâm melody, whereas the functionalities of the pitches in the nucleus are placed at the left hand-side of this figure. Besides, the related “melodic nucleus” producing the stereotype melodies is shown by the leftmost figure symbolized by the abbreviation ‘*Eç*’ of the Turkish word ‘*Ezgi Çekirdeği*’ meaning ‘Melodic Nucleus’. Each line segment above this melodic nucleus corresponds to an alternative stereotype melody regarding the Hüseynî makâm.

As the gerdâniye pitch is identifying the basic melodic movement of the Hüseynî makâm by being *integrated* by the hüseynî pitch, it carries the characteristic of a co-identifier pitch (T). Without the integrative capability of this pitch, it would not be possible to differentiate the Hüseynî makâm. Here eviç (F#) acts as an ornamental pitch (S) and used as a media of transition, connection and variation between the central identifier, co-identifier and the reinforcing pitches. Whereas the nevâ (D)¹⁴ pitch is used for both ornamental and reinforcement functionalities, reinforcing, supporting and strengthening the feeling of balanced rest in the hüseynî (E) pitch.

Therefore, the beginning contour of Hüseynî makâm can be identified as in Figure 1 without any doubts constructing a melodic relation mainly between hüseynî (E) and gerdâniye (G). The starting of the Hüseynî makâm does not necessarily imply ‘a melody starting with hüseynî pitch (E)’, but instead it implies that the starting center for the melody is hüseynî (E), and this center usually realizes itself by establishing a relation with gerdâniye (G) (Figure 1).

The *numeric pattern* for the Hüseynî melodic nucleus can be shown as follows (Figure 2):

¹⁴ The pitch names are given with lower case letters, whereas the similar terms symbolizing the makâm structures are given starting with an upper-case letter.

-2	1	2	3
Nvâ D	Hsy E	Evc F#	Grd G
P/S	M	S	T

Figure 2: The Numeric Pattern for Hüseynî Melodic Nucleus

Within the format of the “numeric pattern”, the number 1 is assigned to the “central identifier pitch”, whereas the number 2 is assigned to the neighbouring pitches to the “central identifier pitch”. For the lower neighbouring pitch a negative sign (-) is added to the number and the higher neighbouring pitch is enumerated with a (+) sign. As the nucleus is enlarged, the numbers are being increased in sequence both in negative and positive magnitudes regarding ascending or descending routes. In the case of Hüseynî Melodic Nucleus, the number 1 is assigned to the hüseynî (E) pitch as the “central-identifier”, the number 3 is assigned to gerdâniye (G) as the “co-identifier pitch”, the number -2 is assigned to nevâ (D) as the “reinforcing-ornamental pitch” and finally number 2 is assigned to eviç (F#) as the “ornamental pitch”.

The starting melodic contour can easily be exemplified with a composition from the 18th Century composer Tanburi Mustafa Çavuş named as “Bir Dilberdir Beni Yakan” (Music example 1) that presents the functions of the “central identifier”, “co-identifier”, “reinforcing” and “ornamental” pitches consecutively:



Music example 1: Bir Dilberdir Beni Yakan (Repertoire of Turkish Radio of Television

[TRT], 2019)

The melody in music example 1 just starts with a relation between “gerdâniye (G)” and “Hüseynî (E)” that fits very well to the definition and continues with a “descending” melodic line to ‘çargâh (C)’, ‘segâh (Bb)’ and ‘dügâh (A)’. Then the melody experiences an ascending line that reaches ‘hüseynî (E)’ and ‘nevâ (D)’. As ‘gerdâniye’ reflects a feeling of “unbalanced rest” being engaged with the “central identifier” pitch hüseynî (E), it can be expressed as the “co-identifier pitch”. When the melodic line is analysed carefully, nevâ (E) can be identified as the “reinforcing pitch” (Figure 1) as it is supporting the feeling of the “balanced rest” aroused through the central identifier pitch Hüseynî (E). Similarly just like ‘evîç(F#)’, ‘çargâh (C)’, and ‘acem (F)’ in music example 1 seem to act as “ornamental pitches” for the “beginning melodic nucleus” of Hüseynî makâm, by means of establishing the “melodic transitions and connections” between central identifier (Hüseynî-E), co-identifier(gerdâniye-G), and reinforcing (nevâ-D) pitches.

Hicaz Melodic Nucleus

“Dügâh, Segâh, Hicaz, Pençgâh, Dügâh Hüseyini, Segâh Hisar, Yegâh Gerdaniye, Dügâh Muhayyer seslerinden oluşur.” (Kutluğ, 2001: 177).

“Neva perdesinden agaz idiüp, hicaz ve segah perdesi, badehu düğah perdesine gelip anda karar verir. Amma neva perdesinden yukarı hüseyni ve eviç ve gerdaniye ve muhayyer perdesine suudü ve düğah perdesinden aşağı rast perdesine hubutü vardır...” (Kutluğ, 2001: 177).

Hcz Eç

P M T Çekirdek

In this melodic nucleus, *dugah* acts as the “central identifier fret”, “*tiz kürdi/kürdi* and *hicaz*” are the “common identifier frets” and *rast* is the “reinforcing fret”.

Şekil 2: Rodos Ada Zeybeği First Part-Hicaz Melodic Nucleus

Uzzal Makam

There is a consensus among the definitions of Uzzal makam during the XVth century. For example according to Hızır Bin Abdullah, “*this makam arouses by Hüseyini, and finalizes by Hicaz*” (Kutluğ, 2001: 182). The makam is defined by Bedr-i Dilşad in a similar manner:

“Eğer dilersen bilesin,

Bunu bilmek keka hoş bulasın,

Hüseyini’den Dügah agaz edip git,

Hicaz hanesinde in karar et.” (Kutluğ, 2001: 182)

Through these definitions it can be asserted that Uzzal makam is composed by the unification of Hüseyini and Hicaz melodic nuclei. Moreover it can be observed from the general repertory that usually Gülizar melodic seed replaces the Hüseyini melodic seed in the formation of Uzzal makam.

Meanwhile the similarity and interaction of Uzzal makam with Nühüft is another aspect that is worth thinking of. Hızır bin Abdullah defines “Nühüft” makam as follows with an emphasis on an initiation by “Muhayyer (tiz dügah)” melodic nucleus and the finalization by Hicaz:

“Nühüft oldur ki, tizi yerden Dügah agaze ide, inip Uzzal yüzünden Hicaz karar ede” (Kutluğ, 2001: 237)

Due to the similarities of the makam structures for Uzzal and Nühüft makams, which can start either by “Hüseyini, Gülizar and Muhayyer” melodic nuclei and ends with Hicaz melodic nucleus, it is a very strong possibility that the melodies that were once classified under the “old” Nühüft makam has later been classified under Uzzal makam. A folk song from Kilis named as “Evlerinde Bir İpekten Halı Var” containing melodic materials of Gülizar melodic nucleus that justifies the classificatin of the tune to be classified under Uzzal makam:

EVLERİNDE BİR İPEKTEN HALI VAR

Yöre: Gaziantep

Derleyen: Emin Aldemir



Figure 15: Folk Song in Uzzal Makam-Evlerinde Bir İpekten Halı Var

As can be observed through the above example Uzzal makam is constructed with the combination of the below melodic nuclei:

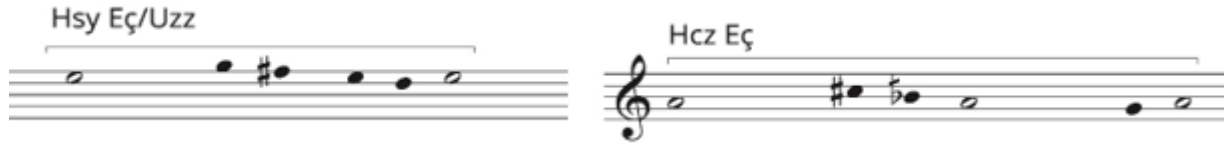


Figure 16: The Melodic Nuclei of Uzzal Makam

Conclusion

This study concentrates on an original model intended to define the makâm concept and the related makâm structures. The starting point of the paper depends on the idea that the specific melodic characteristic of a makâm is identified by a unique ‘melodic nucleus’ composed of a pitch group of three or four pitches and the complete structure of a makâm is developed by a modular meshing of various melodic nuclei emerging through functional interactions between

the pitches in these specific pitch groups. The functions of the pitches in the melodic nuclei constitute the main effect to differentiate the makâm structures. In this paper we concentrate on explaining the functions of these pitches within a melodic nucleus in a unique and original way. Every melodic nucleus is a structure that possesses a specific melodic characteristic arousing through a unique pitch group. This unique pitch-group and the specific melodic pattern evolving through it reflects a characteristic *sound effect* identifying the makâm audibly. The makâm structures having a ‘common’ or ‘resembling’ *sound effect* can be classified under the same category addressing to a family of makâms.

Therefore, we can assert that, the specific melodic pattern produced by a melodic nucleus both gives the unique melodic characteristic and the differentiable sound characteristic of a makâm. Moreover, we consider that; it would not be possible to define a “melodic nucleus” identifying a makâm by abstracting it from the characteristic melodic patterns (by solely defining it based on a scale, a tetrachord or a pentachord etc.) sourcing through the specific character of its melodic nucleus. Such an analysis approach based on typical melodies created by melodic nuclei directly aims to explain the “production system” behind the musical tradition, it effectively opens the way of connecting the “improvisational performance” or even “traditional composition” with the theory.

Such an approach putting forward the musical practice will help to improve an educational model both promoting the richness in improvisation and increasing the compatibility between the practice and the theory. Such a model will also create a potential to help the music students, composers and the performers in improving their productions in makâm based music. The possible problem of cooperation with the “scale based theories of the neighbouring territories and the need for the definition or classification of the partial melodic

contours that could not be directly matched with a specific melodic nucleus may be regarded as the disadvantages of this method that should be improved.

This idea of defining a makâm, initiating through the referred nuclei, reflecting the tiniest difference in these nuclei to the denomination process and constructing greater melodic contours by the unification of these ‘small’ melodic patterns, also stands as the key point for a detailed, consistent and integrated ‘structure’ shaping the Anatolian music by aiming to reach the whole from the meaning of the tiniest component. Therefore, the makâm concept can be described as a ‘set-up’ based on the ‘classical aesthetics’ and this phenomenon can be identified as the formative and the transmitting agent of the tradition.

References

Aksoy, Bülent. 2016. *Geçmişin Musiki Mirasına Bakışlar*. İstanbul: Pan Yayıncılık.

Başer, Fatma Adile. 2013. *Türk Musikisinde Abdülbaki Nasır Dede*. İstanbul: Fatih Üniversitesi Yayınları.

Bayraktarkatal M.E. and Okan Murat Öztürk. "Ezgisel Kodların Belirlediği Bir Sistem Olarak Makam Kavramı: Hüseyinî Makamı'nın İncelenmesi." *Porte Akademik, Müzik ve Dans Araştırmaları Dergisi, Makam Çalışmaları* February 2012: 24-59.

Aaa, E. Personal Interview (conducted by Bbb), Ankara, 2018.

Bayraktarkatal M.E..2019."Personal Interview". Conducted by Bbb.Ankara.

-----,1997."Der Tonart-Begriff in Der Traditionellen Türkischen Musik", *International Musicological Society, 16th International Congress London*. (14-20 August 1997). London, England: Royal College of Music.

Bayraktarkatal M.E. and Okan Murat Öztürk.2012."Ezgisel Kodların Belirlediği Bir Sistem Olarak Makâm Kavramı - Hüseyinî Makâmının İncelenmesi." *Porte Akademik Makâm Çalışmaları Özel Sayısı* (February 2012): 24-59.

Behar, Cem.1987. *Klasik Türk Musikisi Üzerine Denemeler*. Ankara: Bağlam Yayıncılık.

Borovkov, A.A.2013.*Probability Theory*. London: Springer-Verlag.

Cantemir, Dimitrie. (Kantemiroğlu, Dimitri). *Kitābu 'İlmi'l-Mūsīkī 'ala vechi'l-Hurūfāt: Mūsikīyi Harflerle Tesbīt ve İcrâ İlminin Kitabı*. Transcribed by Yalçın Tura. İstanbul: Yapı Kredi Yayınları, 2001.

Cohen, Dalia., Katz, Ruth. 2003. Palestinian Arab Music-A Maqam Tradition in Practice. The University of Chigago Press, Chigago and London.

Devellioğlu, Ferit. 1986. *Osmanlıca – Türkçe Ansiklopedik Lügat*. Ankara: Aydın Kitabevi.

Elsner, G. Jurgen., Gisa Jahnichen and Cenk Güray. 2016. *Maqam Traditions between Theory and Contemporary Music Making*. İstanbul: Pan Yayıncılık.

Gadamer, H.-G. (2017). *Güzelin Günceliği*. Konya: Çizgi Yayınları.

Geiger, M. (2019). *Estetik Anlayış*. Ankara: Doğubatı.

Gilead, Bar-Elli. 2006. "Wittgenstein on the Experience of Meaning and the Meaning of Music". *Philosophical Investigations* 29/3(July): 217-249.

Güray, Cenk. 2017. *Bin Yılın Mirası: Makamı Var Eden Döngü Edvar Geleneği*. İstanbul: Pan Yayıncılık.

Güray, Cenk, Neş'e Çelebi, Volkan Atalay and Günhan Paşamehmetoğlu. 2003. "Ore-Age: A Hybrid System for Assisting and Teaching Mining Method Selection." *Expert Systems with Applications* 24: 261–271.

Hammarlund, Anders. 2004. "Sacral, Secural or Sacred?-An Essay on Music and Aesthetic Emancipation", Sufism, Music and Society in Turkey and the Middle East, ed. Hammarson A., Olsson T., Özdalga E., Swedish Research Institute in Istanbul.

Idelsohn, Abraham Zebii. 1992. *Jewish Music: Its Historical Development*. Courier Corporation. USA.

İlerici, Kemal. 1981. *Bestecilik Bakımından Türk Müziği ve Armonisi*. İstanbul: Milli Eğitim Basımevi.

Kanar, Mehmet. 2012. *Arapça – Türkçe Sözlük*. İstanbul: Say Yayınları.

Karadeniz, Ekrem.1983.*Türk Mûsikîsinin Nazariye ve Esasları*. 1. Edition. İstanbul: Türkiye İş Bankası Kültür Yayınları.

Karadeniz, Ekrem.2013.*Türk Mûsikîsinin Nazariye ve Esasları*. 2. Edition. İstanbul: Türkiye İş Bankası Kültür Yayınları.

Khan Academy.2020. "DNA Structure and Replication Review. Accessed 05.05.2020. <https://www.khanacademy.org/science/high-school-biology/hs-molecular-genetics/hs-discovery-and-structure-of-dna/a/hs-dna-structure-and-replication-review>.

Kubbealtı Lugatı. 2019. Accessed 05.05.2020. <http://www.lugatim.com/s/MAKAM>.

Kurzweil, Ray.2018. *İnsanlık 2.0*. İstanbul: Alfa Yayınları.

Kutluğ, Y. Fikret.2000. *Türk Musikisinde Makâmlar*. İstanbul: Yapı Kredi Yayınları.

Levendoglu, Oya, Doktora Tezi, 2002. Levendoglu, N. Oya, 2002, "XIII Yüzyıldan Günümüze Kadar Varlığını Sürdüren Makamlar ve Değişim Çizgileri", *Gazi Üniversitesi, Fen Bilimleri Enstitüsü, Yayınlanmamış Doktora Tezi*. Supervised by M. Cihat Can. Ankara.

Nasır, Abdülbâkî, Dede. *Tedkik ü Tahkik*. Transcribed by Yalçın Tura. İstanbul: Pan, 2006.

Nettl B., Riddle R."Taqsım Nahawand: A Study of Sixteen Performances by Jihad Racy", Yearbook of the International Folk Music Council , 1973, Vol. 5 (1973), pp. 11-50
Published by: Cambridge University Press Stable URL:
<https://www.jstor.org/stable/767493>.

Nişanyan, Sevan. 2019."Nişanyan Sözlük" 2019. Accessed 31.12.2019.<http://nisanyansozluk.com>.

Nooshin, Laudan. 2003. "Improvisation as 'Other': Creativity, Knowledge and Power-The Case of Iranian Classical Music", Journal of the Royal Musical Association, 128, p. 243-296.

Oransay, Gültekin.1990. *Prof. Dr. Gültekin Oransay Derlemesi 1*. Edited by S Durmaz and Y. Daloğlu. İzmir: DD Yayını.

Öztürk, Okan Murat.2014."Makam müziğinde ezgi ve makam ilişkisinin analizi ve yorumlanması açısından yeni bir yaklaşım: Perde düzenleri ve makamsal ezgi çekirdekleri." *İstanbul Teknik Üniversitesi / Sosyal Bilimler Enstitüsü / Müzikoloji ve Müzik Teorisi Anabilim Dalı Yayınlanmamış Doktora Tezi*. Edited/Supervised by Ş. Şehvar Beşiroğlu and Aaa. İstanbul.

Powers, Harold. 1989. "International segah and its nominal equivalents in Central Asia and Kashmir", Maqam, Raga, Zeilenmelodik-Konzeptionen, Prinzipien der Musikproduktion, Materialien der 1. Arbeitstagung der Study Group maqam beim International Council for Traditional Music vom 28 Juni bis 2 Juli 1988 in Berlin, ed. Jurgen Elsner, 40-85.

Repertükül, "Turkish Folk Music Repertoire. Edited by Savaş Akbıyık. Accesses 05.05.2020. repertukul.com.

Sakata, Hiromi Lorraine. 1989. "Afghan Regional Melody Types and the Notion of Modes", Maqam, Raga, Zeilenmelodik-Konzeptionen, Prinzipien der

**Musikproduktion, Materialien der 1. Arbeitstagung der Study Group maqam
beim International Council for Traditional Music vom 28 Juni bis 2 Juli 1988 in
Berlin, ed. Jurgen Elsner, 170-178.**

Signell, K. L. 1986. *Makam-Modal Practice in Turkish Art Music*. New York: De Capo Press.

Talburt, John R. 2011. "The Oyster Project". Entity Resolution and Information Quality
Accessed 05.05.2020.
<https://www.sciencedirect.com/topics/computer-science/common-identifier>.

Tanrıkorur, Cinuçen. 2016. *Osmanlı Dönemi Türk Müsikîsi*. İstanbul: Dergâh Yayınları.

----- 2015. *Müzik, Kültür, Dil*. İstanbul: Dergâh Yayınları.

----- 2014. *Türk Müzik Kimliği*. İstanbul: Dergâh Yayınları.

TRT Classical Turkish Music Repertoire. 2020. Accessed 05.05.2020.
www.devletkorosu.com.

Tura, Yalçın. "Türk Halk Müziğinde Karşılaşılan Ezgi Çizgilerinin İncelenmesi ve Sınıflandırılması." *V. Milletlerarası Türk Halk Kültürü Kongresi: Halk Müziği, Oyun, Tiyatro, Eğlence Seksiyon Bildirileri*, 415-430. Ankara: Kültür Bakanlığı Yayınları.

Uygun M. Nuri. 1996. "Safıyyuddin Abdülmü'min Urmevi ve "Kitabü'l-Edvar'ı" *Marmara Üniversitesi Sosyal Bilimler Enstitüsü İlahiyat Fakültesi İslâm Medeniyeti ve Sosyal Bilimler Bölümü/Anabilim Dalı*. Doktora Tezi, İstanbul.

Uz, Kazım. 1964. *Musiki Istılâhatı*. Transcribed by Gültekin Oransay. Ankara: Küğ Yayınları.

Wright, Owen (1969) *The modal system of Arabian and Persian music, 1250-1300: An interpretation of contemporary texts*. PhD thesis. SOAS University of London. DOI: <https://doi.org/10.25501/SOAS.00029733>