

ISTANBUL TECHNICAL UNIVERSITY ★ INSTITUTE OF SOCIAL SCIENCES

**PHRASE RHYTHM AND TIME IN BESTE-İ KADİMS
A CYCLICAL APPROACH**

Ph.D. THESIS

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Department : Music

Programme : Music

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ SOSYAL BİLİMLER ENSTİTÜSÜ

**BESTE-İ KADİMLERDE CÜMLE RİTMİ VE ZAMAN
DÖNGÜSEL BİR YAKLAŞIM**

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babaannem Güler Baysal'a,

FOREWORD

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ABBREVIATIONS

App	: Appendix
GTTM	: Generative Theory of Tonal Music
ITU	: Istanbul Technical University
Mvl.A.	: Mevlevi Ayini
MPR	: Metrical Preference Rule
MWFR	: Metrical Well Formedness Rule
PR	: Preference Rule
TMM	: Turkish Makam Music
WFR	: Well Formedness Rule

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PHRASE RHYTHM & TIME IN BESTE-İ KADİMS A CYCLICAL APPROACH

SUMMARY

The following thesis will propose an account of alternative approach for Turkish Makam Music analysis. The applied methodologies have two common perspectives; first their multi-dimensional and holistic approaches to music, and second their theoretical bases lying on human perception rather than any pre-supposed musico-theoretical moulds. In addition to this, different notational representations, how they affect our perception of music and influence the building of our conceptual frameworks will also be considered - as building a new analytical model might also require us to change our perspectives and eventually deconstruct the current notational practices.

The aim for such an alternative analysis model is to reveal some of the important musical events, including seyir-usûl relationships, that might have gone unnoticed with current analysis practices. The analyzed musical examples will mainly be based on the three Beste-i Kadim Mevlevî Ayin's, namely Pençgah, Dügah and Hüseyinî; as these are the oldest examples of their genre and were taken as exemplary models for the later repertoire. The analyses derived from the built model will show that such alternative approaches should be considered in makam music analysis and pedagogy as not only they display important musical events about the general rhythmic flow of the music, but also reveal some flaws and the erroneous implications in today's adapted notational practices. Thus, a circular representation model of the rhythmic cycles - that is derived from the earlier models - will be reconstructed and proposed as a complementary tool for analysis and teaching, along with other suggestions on notation. Phrase-groupings mapped on these updated circular models will show how the phrasings are distributed on/and among cycles, and unveil the relation of phrasing structures with rhythmic structures, the phenomenal and structural accents, and the focal points of a piece. Further topics including Islamic aesthetics & philosophy related to the findings of this research will also be outlined.

BESTE-İ KADİMLERDE CÜMLE RİTMİ VE ZAMAN DÖNGÜSEL BİR YAKLAŞIM

ÖZET

Bu çalışmada Türk Makam Müziği’ndeki zamansallık, döngüsellik, cümle ritmi ve melodik yapı analizleri için kullanılabilecek farklı bir yaklaşım önerilecektir. Bu tarz bir yaklaşımın amacı, makam müziğindeki seyir ve usûl ilişkilerinin daha kapsamlı incelenerek mevcut analiz uygulamalarında gözden kaçabilmiş müzikal aktivitelerin ortaya çıkmasıdır.

İki farklı müzikal katman olan seyir ve usûl, ve bu iki katmanın kaynaşmasından ortaya çıkan müziğin zaman içindeki devinimi hakkında günümüzde yeterli analiz yöntemleri geliştirilmemiş, kullanılan analiz yöntemlerinde bu farklı katmanları ayrı ayrı ele alarak yüzeysel incelemeler yapılması tercih edilmiştir. Bunun en önemli nedenlerinden biri de kuşkusuz kullanılan notasyon sisteminin de Batı müziğinden “ithal” bir teknoloji olmasıdır. Her sistem beraberinde kendi felsefesini, estetiğini ve de kuramsal çerçevesini getirir. Meşk kültürü ile yüzyıllarca sözlü bir gelenek olarak süregelen bir müziği kendi ürünü olmayan bir sistemle incelemek, onu farklı bir çerçeveye sokmaya çalışmakta, farklı müzik kültürleriyle – o kültürlerin dilini kullanarak – karşılaştırmalar yapmayı zorunlu kılmakta ve de kavramların doğru bağlamlar üzerine oturtulmadığı bu ortam, analizciyi ister istemez yüzeysel incelemeler yapmaya iterek müziğin kendine özgü yönlerini ortaya çıkartmaya engel teşkil etmektedir.

Çalışmamız bu hususlar gözönünde bulundurularak yapılmıştır. İlk etapta kullanılan uzatma (prolongation) metodolojileri iki ortak bakış açısına sahiptir; birincisi müziğe çok-boyutlu ve bütünsel yaklaşımları, ikincisi ise teorik temellerinin herhangi bir varsayımsal müzik-teorisi kalıpları üzerinden değil de, Gestalt psikolojisi ve “Üretici Dilbilgisi” (generative grammar) gibi algısal, bilişsel ve dilbilimsel teoriler üzerine kurulmuş olmasıdır. Bu tarz bir yaklaşımın başlıca nedeni daha önceden de bahsettiğimiz gibi makam müziği geleneğinin sözlü bir gelenek olarak süregelen olması, ve de hafıza faktörünün bu gelenek içerisinde çok önemli bir rolünün bulunmasındandır. Kullanılan farklı uzatma metodolojilerinin makam müziği üzerindeki muhtemel tatbikatları yapılacak, daha önceden yapılmış çalışmalar gözden geçirilecektir. Bununla birlikte, yeni bir model oluşturabilmek için şu anki bakış açımızı değiştirmemiz ve varolan notasyon pratiklerimizi yeniden yapılandırmamız gerekebileceğinden farklı notasyon sistemleri, bu sistemlerin müzik algımız ve kavramsal taslaklar kurmamız üzerindeki etkileri gibi konular da dikkate alınacaktır.

Burada karşılaştırılacak olan iki ana temsil sisteminden biri çizgisel ve metrik (ve de ölçü çizgili) Batı müziği notasyon sistemi diğeri ise edvar geleneğinde gözlemlediğimiz döngüsel ve devirsel makam müziği sistemidir. Batı müziğinde kullanılan uzatma teorilerinin arkaplan (background) analizinde gösterdiği de bu çizgisellik ile paraleldir; zaman eşit aralıklı niceliksel parçalara bölünmüş, başlangıç, gelişim/dönüşüm ve bitişten oluşmaktadır, ve de müzik tek bir arkaplan yapısına sahiptir. Yine Batı müziğindeki hiyerarşik metrik düzen, ölçü ve ölçü çizgisi kavramlarının tarihsel gelişimi armoninin (ve hiyerarşik armoni hareketlerinin) gelişme süreciyle elele gitmiş, cümle yapıları ise bu iki özellik dikkate alınarak kurulmaya başlamıştır. Dolayısıyla makam müziğinin, gerek cümle yapısı analizi, gerekse uzatma metodolojileri kullanılarak yapılacak arkaplan analizleri olsun, Batı müziği analizinde gözlemlediğimiz özelliklerden yoksun olması aslında kullandığımız analitik temsillerin bizi kavramsal olarak dar bir çerçeve içine sıkıştırmış olmasından kaynaklanabilir. Bu tartışmanın geçerliliğini kontrol etmek amacıyla farklı çerçevelerde analiz uygulamaları yapılacaktır.

Çalışmamızdaki analiz olarak seçilmiş alıntılar Beste-i Kadim olarak da bilinen ve de türlerinin ilk örnekleri olarak kabul edilen Pençgah, Dügah ve Hüseyini Mevlevi Ayinlerinden olacaktır. Bu eserleri seçmemizin nedeni hem Mevlevi Ayinlerinin makam müziği repertuarı içerisindeki önemli yeri hem de seçilen ayinlerin daha sonra yazılacak olan ayinlere bir model teşkil etmesinden kaynaklanmaktadır. Analizleri dayandırdığımız kaynak Rauf Yekta'nın 1934 tarihli konservatuar neşriyatındandır. İnşa edilen model ile yapılacak analizler de gösterecektir ki günümüz makam müziği analizi ve pedagojisinde hem müziğin genel akışı hakkında önemli hususları hem de mevcut notasyon yöntemlerinin bazı kusurlarını ortaya çıkardıkları için bu tarz farklı yaklaşımlara ihtiyaç vardır. Dolayısıyla edvar geleneğinde görülen dairesel usül temsillerinin (devir'lerin), karşılaştırmalı ve analitik tasarılar oluşturabilmek adına, çağdaş yöntemler de göz önünde bulundurularak güncellenmiş bir modeli sunulacaktır. Makam musikisindeki cümle yapıları, tasarlanan bu devir modellerinin üzerine oturtularak analiz edilecek ve de bu tarz bir yöntemin usül-seyir ilişkileri ve diğer önemli hususlar hakkında sağlayabileceği farklı bakış açıları tartışılacaktır.

Makam müziği analizini döngüsel bir yaklaşımla ele alan bu model önemli bulgular sağlamıştır. Öncelikle tekrar gözden geçirilip güncellenen dairesel usül temsilleri, usülün ritmik karakteri, hareket ve jesti konusunda çizgisel karşılığına oranla çok daha net bir fikir vermektedir. Uzatma metodolojileri ile arkaplan analizi yapılan seyir yapıları ise ancak bu temsillerin çevresine döngüsel olarak yerleştirildiğinde bir anlam ifade etmeye başlayacaktır. Özellikle ayinlerdeki büyük usüllerin kullanıldığı selamlarda yapılan büyük ölçekli analizler göstermiştir ki, melodik seyirler arkaplanda sürekli tekrar eden aynı çekirdek hareketlerden oluşmaktadır. Yani aynı temel fikrin diğer İslam sanatlarında gözlemlendiği gibi tekrar tekrar işlenmesi durumu mevcuttur. Döngüsel analiz modeli ile önplanda daha karmaşık gözükp arkaplanda aynı olan bu tekrarların gerek devirler-içi arası gerekse devirler-arası gösterdikleri benzerlikler ve farklılıklar çok daha açık ortaya çıkmakta; böylelikle sadece melodik seyirlerin değil, usül ve melodi birleşiminden ortaya çıkan müziğin bütünsel olarak zaman içerisinde nasıl işlendiği rahatça gözlemlenebilmektedir.

Müzikal anahatlar büyük ölçeklerde bu şekilde değerlendirildikten sonra küçük ölçeklerdeki melodik yapı ve usül katmanlarının ilişkileri de daha belirgin olarak analiz edilebilmekte ve seyirlerin usül kalıpları üzerine inşa edilmiş yöntemleri daha rahat bir şekilde anlaşılmaktadır. Özellikle üç Mevlevi Ayinin de I.Selam açılışlarındaki usül-melodi ilişkileri arasındaki paralellik, üç ayinin de aynı zat tarafından yazılabileceği savını güçlendirmektedir. Bir başka tahmin de erken dönem Bizans kilise müziğinde görülen aynı melodik formüllerin farklı kilise modlarına göçürülmesine benzer bir yaklaşımın olabileceğidir.

Bu çalışma ile geliştirilen analiz modeli aynı zamanada daha ileri araştırma konularına da olanak sağlamaktadır. Bunlardan en önemlisi Türk Makam Müziği'nin bestecileri ve dönemleri arasındaki üslup ve müzikal-zamanı işleyiş tavırlarındaki benzerliklerin ve farklılıkların incelenmesidir. Tahminimiz şu yöndedir ki özellikle 19.yüzyıldan itibaren gerek popülerleşme sürecine giren gerekse Batı müziği etkileşimleri gözlemlenen makam müziğinde zaman kavramı giderek çizgiselleşmiş, Beste-i Kadimlerde gördüğümüz birbirleriyle yarı-özerk ilişkili usül ve seyir katmanları, gelişen bu çizgisellik anlayışı çerçevesinde çok daha “homofonik” özelliklere sahip olmaya başlayarak müzik kendine özgü bir “rasyonelleşme” sürecine girmeye başlamıştır.

Modelin bir başka uygulanma alanı ise Hint ve Cava müzikleri gibi makam müziği dışında olan ama benzer döngüsel özellikler gösteren farklı müzik kültürleridir. Çizgisel çerçeve ve bakış açısında gözlemlenemeyen veya olduğundan daha karmaşık gözükebilen bu yapılar, döngüsel bir değerlendirme ışığında çok daha rahat anlaşılabilir.

1. INTRODUCTION

1.1 Background & Problem

Turkish Makam Music (TMM) is one of the longest surviving music traditions in the world with a wide repertoire of musics, significant composers/performers and a vast amount of scholarly theoretical writings covering both acoustical (i.e. temperaments, tunings) and musical aspects (a myriad of different makams and usûls) and how they are related with other sciences. Albeit there surely were some losses, and if we don't take into consideration the notational transcriptions (of Ali Ufki & Cantemir), it is miraculously surprising how the large repertoire was preserved for centuries as an oral tradition via the master-pupil instruction system, meşk.

Throughout the 13th-19th centuries, one can also find different coding (letter-note or sign-note) systems being used as we see in Ebced, Khaz or Hamparsum notations (Tohumcu, 2006). However we do not come across a common and generally accepted system until the late 19th century, the era of modernization, which marks the start of the gradual adaptation of Western notation system. Today, the education of TMM theory and repertoire analysis has been practiced through a formalized teaching of individual structural principles and how they occur in musical pieces.

When one makes a literature survey of analytical writings on TMM, one can find valuable descriptive instructional books and researches on different elements of music and music theory. However none of them give a generative and a holistic model on treating all these elements (particularly makam and usul) together as a unified whole and how they interact within a musical piece. There is a considerable amount of research on how poetic meter (aruz vezni) and rhythmic framework (usul) are related, however these do not include how the makam aspect and melodic line are fitted in their frameworks. On top of this, the analytical strategies have a tendency to cover only the surface material regarding pitch issues (i.e. which lines are related with which çeşni's or makams), and only give an account of the usul's name and the general form. So the analysis actually ends precisely at the point where it should

really be taking off. Add to this the vast amount of makams to be memorized (including tetrachords, pentachords and their inner step relations all covered in today's formal teaching system), such a methodology is not only pupil-unfriendly but also that it offers very little about the inner dynamics of music, how it breathes and why it matters aesthetically. The analysis tells as much as what a Roman Numeral analysis tells one in Western music – which is actually nothing musical. Thus the theories and analyses do not allow “qualitative” understandings and discussions about the music. Such an attitude either shows a faithless underestimation of music analysis, or even worse, an underestimation of the music itself.

The same is also valid for how the *usûl* and melody are connected; the writings usually talk about *usûl* being the “mould” in which the makam would be “cast” and the piece would be “forged”, but do not give an analytical account. These things are actually known. But they can not be shown, because the knowledge comes from the intuition and the practice. It is no wonder that the *meşk* system is still ideally favored for a fuller understanding of TMM, as it is this “intuition” that is actually passed from masters to pupils, which is actually keeping the spirit of this great tradition alive; “... [the] *meşk* method of learning is much more suitable to the discipline of Turkish music. Attempting to explain Turkish musical theory and its notation system in writing makes learning it much more complicated.” (Aydemir, 2010, p.19).

1.2 Purpose

This thesis is an attempt to offer alternative and complementary analysis strategies to TMM for recognizing background structures and how different musical elements interrelate and operate within the music; all for the sake of having qualitative understandings of pieces, or the musical intuition. The term “background structure” is usually associated with Schenkerian theory, and we surely don't mean to apply a “theory” based on a particular stylistic era of Western Tonal music to TMM, the problematic outcomes of such a methodology would be infinite. However, we should not forget that an approach and a systematized theory are two different things, though they are connected, this connection is only through a text or the content or of investigation. Schenkerian theory is an outcome of a particular analytical approach, Heinrich Schenker's approach, to the common practice period of Western Art Music (including late Baroque). The approach is that, musics have general shapes and

directions, and some musical events are more important than others. Realizing such “deeper structures” reveals to the listener much more than individual descriptions of discrete events in the surface of music.

At this point one might reasonably say; “But what *Urlinie/Ursatz* is to the Schenker is actually what is called *seyir* in TMM”. From a specific point of view, *seyir*, the generative “melodic formula” in makam music is actually very similar to the notion of “fundamental line”, or “background” we see in Schenker. However by using the term “deeper structures” we also mean other structural layers that are between the “background” and “foreground”, since it is actually these layers in between that show how the music “unfolds” and works and interrelated with other events or musical elements. Whether we call it “Seyir” or “Background” or “Fundamental Line”, these are all “ideal” moulds. It is through layering strategies that reveal how these “ideals” are attained within a musical work; “Within the poles of the fundamental line and foreground... the spatial depth of a musical work is expressed – its distant origin in the simplest element, its transformation through subsequent stages, and, finally, the diversity of foreground” (Schenker, 1979: p.6).

More importantly, it is not only about spotting the “seyir” from a foreground, but also how it is presented through time and space. Currently there is no generally accepted analytical strategy in approaching TMM analysis in such a way, besides the contributions done by some important scholars (whom we will review in the next section). Even more crucial is how the melodic phrasings in the “seyir” are related with other elements, most importantly the rhythmic framework, *usül*. If *seyir* is a kind of melodic formula, the analytical strategies and tools we have today only deal with how “correctly” this formula is applied; not the aesthetic craftsmanship beyond this “correctness”. To neglect the possibility of structural layers is also to neglect the differences between a pre-composed piece or a spontaneous improvisation. Here we certainly do not mean that one is “superior” to the other, but surely there are different dynamics of time and process behind these two compositional types. On the contrary, and afterall, what we are seeking is the individual qualities.

The prolongational approaches used to build an analysis model in this thesis are drawn from today’s various modern analysis methods, basing their theories on human perception, storage and the experience of music. So their approaches do not start off by any presupposed musical information that should be sought in the music.

They look at music as a whole, also seeking how deeper structures within the particular music function¹ in the music. This might also help us seeing the compositional (or ornamental) strategies that were used throughout this unwritten tradition. In fact the theories of human cognition of music that these approaches are based on are vitally important (and more valid) since what we are considering is actually an oral-tradition itself.

The first part of the thesis consists of an overview of literature and theoretical approaches that will be considered for an alternative TMM analysis. This will include prolongational reduction and grouping strategies of Lerdahl & Jackendoff and their work *Generative Theory of Tonal Music*. Their theory – and layering strategies – is based on Gestalt principles and Chomsky’s generative grammar, and is one of the most widely accepted and valid approaches in music analysis today. We will also review some important scholars that have similar reductionist approaches to TMM, and how GTTM differs from them. Another major approach that shaped my analytical procedures belongs to Christopher Hasty, mainly his discussions on the qualitative (not quantitative as it is expressed in GTTM) aspects of meter and rhythm, and how music is an experienced process. Hasty’s arguments will be installed – along with other scholarly arguments – to develop a better analysis model, as well as to help us raise questions about the efficiencies of the “adapted” notation system we are actually using in practice today. At this moment a brief summary of the development of metric notation in Western music will be provided, and will be compared with the old circular representations of rhythmic cycles seen in old makam-theory treatises (edvar). With the perspectives gained from GTTM, Hasty and other important scholars these circular representations will be updated to be used as analytical tools in the next section.

The second section will be the application of our designed models and methodologies to the music along with further discussions. Some of the results in this section will also be discussed and evaluated from a comparative culture perspective; how does a prolongational background of TMM differ from that of a Western art

¹ At this point it would be for our benefit to make a remark. The term “function” might be used frequently throughout this essay, however its meaning will be quite different than its implications as it is used in the context of a Western music analysis – as in diatonic functions of distinct harmonies or scale-steps. What is meant by “function” here is beyond this definition and more oriented towards terms such as “operate” or “serve”, to be used in the context of; the flow of music, or the in-out breathings of the piece.

music; and how well does this difference reflect the beliefs, philosophies and aesthetic approaches to art in both cultures. The selected examples of analysis are from the three Beste-i Kadim's of the early Mevlevi Ayin repertoire, Pençgah, Dügah and Hüseyini Mevlevi Ayins. The analyses will cover individual as well as holistic investigations, both in micro and macro-levels.

The analyses will be based on the relationships between phrase-rhythm and *usül*. This will combine prolongational approaches with the cyclical analysis model that was presented in chapter 1. Phrase-groupings mapped on the updated circular models will show how the phrasings are distributed on/and among cycles, and unveil the relation of phrasing structures with rhythmic structures, the phenomenal and structural accents, and the focal points of the analyzed pieces. The prolongational reductions will also show how the same skeletal-line appears again and again throughout the cycles in different disguises. Here the reader will realize how the aesthetic principles of variation and reiteration are the basis of these works, similar to other İslamic arts. Thus the cyclical analysis model would provide the parallel musical temporalities among cycles as well as changing temporalities within cycles. On the other hand, the micro-level analyses, which will be based on the relationships of focal pitches with the focal beats, would clearly provide how the rhythmic framework of *usül* provides a layer similar to a *cantus firmus* on which the melodic layer is cast. The similarities of the openings of the three ayins when analyzed from this micro-level perspective would reinforce the presupposition that all of them were written by the same composer.

The concluding section will also include proposals for further research topics that can take its departure or inspiration from this thesis. One of these topics is individual compositional preferences of different composers from different periods, based on comparative analyses that are realized by the usage of micro and macro-level approaches presented in this thesis. Another possible topic is tracking the time period in which makam music started to become less cyclical and more linear.

The Appendix section includes additional informations, sketches and analyses as well as the program language designed for drawing the circular rhythm representation models, written in an open-source program called Processing (downloadable from processing.org/download/).

1.3 Mevlevi Ayins & Beste-i Kadims

As our analyzed examples are taken from the earliest pieces of the Mevlevi Ayin repertoire, it would be beneficial to summarize briefly some important aspects of the Mevlevi Ayin and its form.

Mevlevi Ayins are the ritual musics that accompany the Sema ceremony of the Mevlevi dervishes. Ayin form is one of the biggest and most sophisticated cyclical forms in Ottoman music. The musical sections of Mevlevi Ayin are connected with the programmatic sections of the Sema ceremony, each having different meanings and symbolic attributions. The core of Ayin is the four inner sections, called Selam which are all vocal pieces based on the poetry of Mevlana Celaleddin Rumi (except for the lyrics of the hymn “Ey ki hezar aferin...” written by Eflaki Dede) (Ak, 2009, pp. 170-175). The formalization of the Mevlevi Ayin structure happens to be around 15th and 16th centuries, the period which is believed to be the era when the three “Beste-i Kadim”s were composed; Pençgah, Dügah and Hüseyini. Among these three Ayins only Pencgah is complete within itself; Dügah Ayin connects to Pençgah after third Selam to complete the cycle whereas Hüseyini connects to Pençgah after its first Selam. All the later Mevlevi Ayin compositions are mostly based on this formal structure first established by the “Beste-i Kadim”s, whose composer(s) is anonymous. The structure of Ayin can be summarized as follows;

Na’at-ı Şerif: Introductory vocal praise performed in rubato style

Ney Taksim

Peşrev (instrumental) – in Muza’af Devr-i Kebir usül

First Selam (Selam-ı Evvel) – in either Devr-i Revan or Düyek usüls

Second Selam (Selam-ı Sani) – in Evfer usül

Third Selam (Selam-ı Salis) – usually in Devr-i Kebir usül, followed by Aksak and Yürük Semai usüls

Fourth Selam (Selam-ı Rabi) – in Evfer usül

Son (Last) Peşrev – in Düyek usül

Son (Last) Yürük Semai – in Yürük Semai usül

As it was mentioned before, the main sections of the Mevlevi Ayin are the four vocal sections which are the four Selam’s. The outer sections are either fixed (as Na’at-ı Şerif composed by Mustafa Itri, or Son Yürük Semai usually the same music in

Segah makam) or can change (peşrevs) according to the performance. Thus we will limit the scope of our analyzed examples within these four Selams of the three ayins. Besides this, we will also narrow the field more by dealing exclusively with the musics taken from the three “Beste-i Kadims”. The main reason for this is that they are the first formalized examples of the Mevlevi Ayin repertoire, whose form the later Ayins were based on.

We had mentioned how this repertoire was kept as an oral tradition for centuries. Thus the question concerning the preservice of their original authenticities will always remain unanswered. The notations we will be using concerning the Beste-i Kadims will be from Rauf Yekta’s 1934 publications.

2. CORPUS - PROLONGATIONAL METHODOLOGIES

This section will be a brief overview of the most recent theories, ideas and analytical perspectives to be used later along with some unique additional approaches and models for a more comprehensive TMM analysis model to be developed.

Generative Theory of Tonal Music was developed by two important scholars from different disciplines; composer/theorist Fred Lerdahl and linguist/pianist Ray Jackendoff. Similar to Schenker's theory, GTTM seeks out prolongational models and "deeper structures" in a given piece of music. However their methodology is different. It is that GTTM, having been influenced by two different 20th century trends, cognitive psychology (gestalt principles) and Chomskian generative and transformational grammar, does not start with an apriori mould to be satisfied at the end, as we see in Schenkerian Urlinie and Ursatz. For Lerdahl & Jackendoff, Schenker's theory and reduction techniques are connected with stylistic and aesthetic musical factors of Western Music, such as voice-leading and harmony. Having such a stylistic and aesthetic basis means some pitches in the foreground may actually "imply" other pitches in the background. Thus it would be idiocentric to apply such a methodology to modal, or non-tonal pieces, since it would mean that we are expecting similar aesthetic standards from different kinds of music. Not only that it the analysis would also be erroneous and would lead to confusions, such as finding diatonic harmonic relationships in a modal piece. Their reduction hypothesis is based on how the listener hears and organizes the music coherently in their minds, and so the theory is concerned with mental-processes rather than with end-products (Lerdahl, 1999: p.106); "[A] piece of music is a mentally constructed entity" (Ibid: pp.4-5).

Although they use the term "Tonal" in their title, Lerdahl & Jackendoff believe that their approach can be expanded and applied to different styles or traditions of music as well since some of their rules – i.e. grammar or grouping structure - are "idiom-independent" (Ibid: p.xi, p.36). Such an approach based on perception and cognition becomes very crucial when one looks at Traditional Turkish Music; since this tradition has been continued with the Meşk system on an oral basis –“ as mentally

constructed entities” - until the 20th century. In such an oral tradition, perception is crucial.

Before explaining GTTM’s theory further, it is important to have a brief look at how the principles of Gestalt theory and Generative Grammar have influenced it. Gestalt psychology is an early 20th century Cognitive theory which advocated that contextual factors are crucial in the brain’s perception of a given material. Some Gestalt principles such as Proximity, Similarity and Good continuation can also be valid in music perception and grouping of sounds or musical elements. In brief (and in musical terms) the Proximity principle states that the ear will tend to group musical events that are closer to each other in favor of those that are far from each other; whereas the similarity principle states that the same pitches will be grouped together, and good continuation states that the brain expects the music to continue (or fills in the voids) in accordance with its general shape it had built so far. The figure below shows how proximity and similarity principles can be applied to music cognition;

Proximity

a. ○ ○ ○

a) ♯ ♯ ♯ ♯

b. ○ ○ ○

b) ♯ ♯ ♯ ♯

c) ○ ○ ○

c) ♯ ♯ ♯ ♯ ♯

d) ○ ○ ○

d) ♯ ♯ ♯ ♯ ♯ ♯ ♯

e) ○ ○ ○

e) ♯ ♯ ♯ ♯ ♯

Similarity

a. □ □ □ ○ ○

a.



b. □ □ ○ ○ ○

b.



Proximity & Similarity

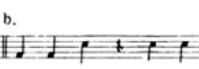
a. ○ ○ □ □ □

a.



b. ○ ○ □ □ □

b.



c. ○ ○ □ □ □

c.



Figure 2.1: Gestalt Principles Applied to Music Cognition (Jackendoff, 1981).

Gestalt principles have become important determinants in defining prolongations or reductionist approaches in music analysis today, and besides Lerdahl & Jackendoff they are favored and used by other music scholars as well.

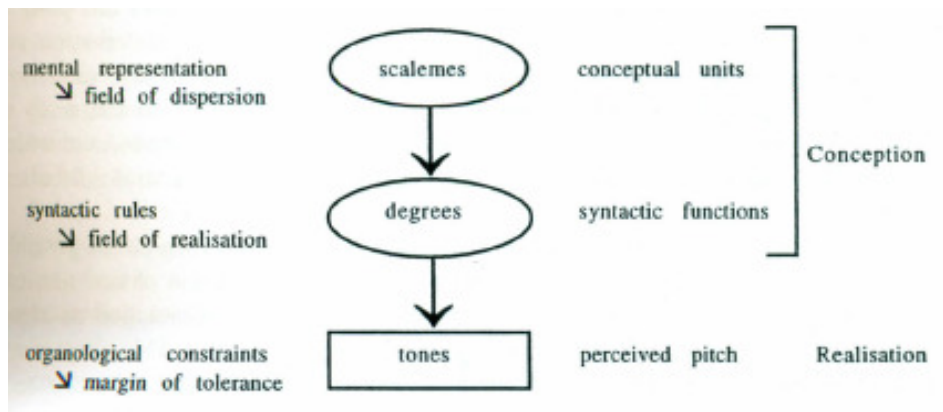
An example is Steve Larson. By using Gestalt principles and the importance of contextual factors, Larson makes a differentiation between two kinds of stability; one is contextual, the other is inherent. To give an example, in the context of C Major, a slightly out of tune C would be “inherently unstable” but still be contextually stable as the ear would fix the out-of-tune difference and put it into its “tonic” context as it is the first degree. This distinction is very important for the scope of this thesis as well; because it allows us to neglect the debates about the temperament and tuning distinctions in TMM while building an analytical model². Whether you divide the string this way or that way, and although some pitches would be slightly different in different tuning strategies, they will still be the same degree in the used makam and “contextually” stable. (Larson, 1997: p.107)

Similar arguments have also been presented from scholars within the field of ethnomusicology. In their article “Experimental Ethnomusicology: An interactive approach to the study of musical scales”, Simha Arom, Leothaud and Voisin also investigate “the margin of tolerance” between these two “stabilities” in local performances in Central Africa and Java. Although a pitch may sound out-of-tune, because of its usage in the context, as a scalar degree, it is still realized (and tolerated to some extent) as one of the “tone”s of the scale (Figure 2.2).

However, as you can realize from the figure; the context here is dependant on “syntactic functions”, and thus related with linguistics, which we now turn to investigate its influences on music theory and analytical reflections in GTTM.

GTTM’s other influence is from the field of linguistics and is related to Noam Chomsky’s Generative Grammar. According to Chomsky, the formal principles of syntax are universally innate in all humans, and that humans have a “language acquisition device” (Chomsky, 1965: p.32). Thus, humans are capable of generating an infinite number of grammatically well-formed sentences from a finite set of symbols. Some of the utterances might be different in their surface structure, but actually may be similar in “deeper structures”. Aspects of such a deeper structure can

² This surely doesn’t mean that the temperament and tuning issues and debates of TMM are insignificant.



The steps between the conception and the realisation of tone.

Figure 2.2 : Cognition & “Margin of Tolerance” (Arom, 1997: p.13).

be explored further by tree-diagrams of the utterances and so modelings of the grammar. The figure below shows such a tree-diagram modeling of one sentence; “The big Brown dog with fleas watched the birds beside the hunter”. The model divides each word according to its syntactic categories and functions, and hierarchically groups them according to such categories;

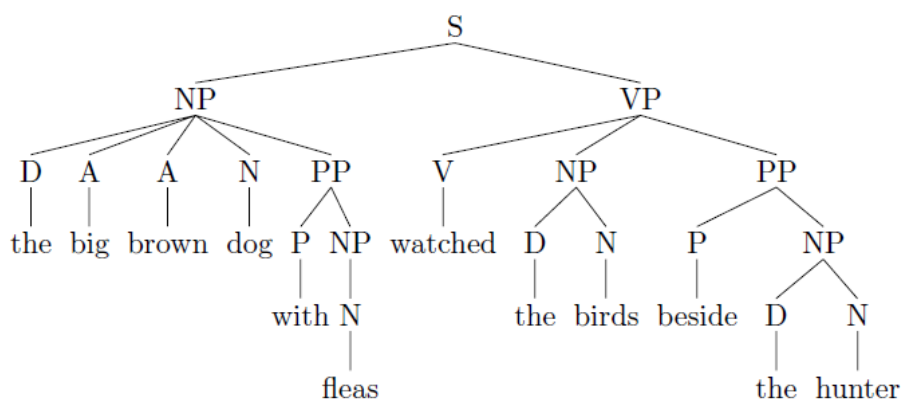


Figure 2.3 : Generative Grammar & Tree-Diagram Modeling (Sag, 1999: p.31).

As can be seen there are many different versions of this sentence, thus the model is also transformational. Having such an argument as their basis, Lerdahl and Jackendoff then ask; since music has also characteristics similar to that of a language, could it also have a deeper structure? Figure 2.4 shows a musical representation (in terms of functional harmonies) of Generative Grammar. In Figure 2.5 we can see how Owen Wright uses the same approach of syntax in explaining the “inter-relationships” of pitches in the seyir of Hicaz makam.

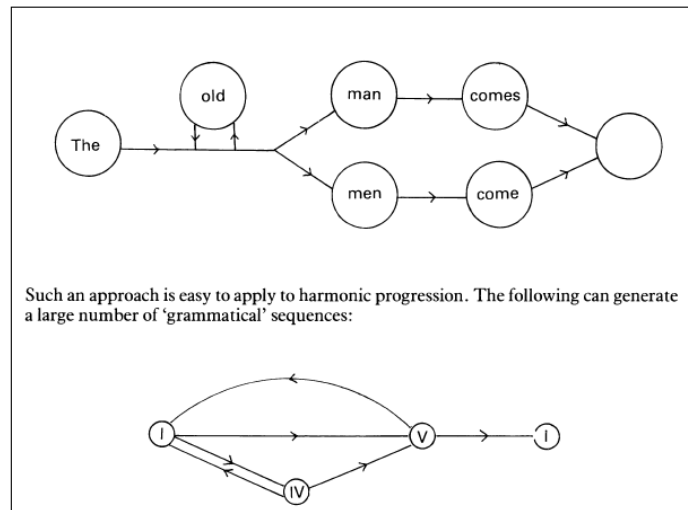


Figure 2.4 : Generative Grammar & Music(Harvey, 1985: p.301).

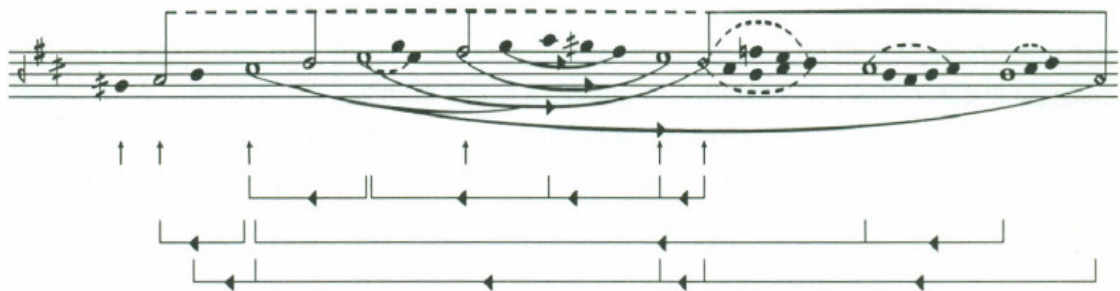


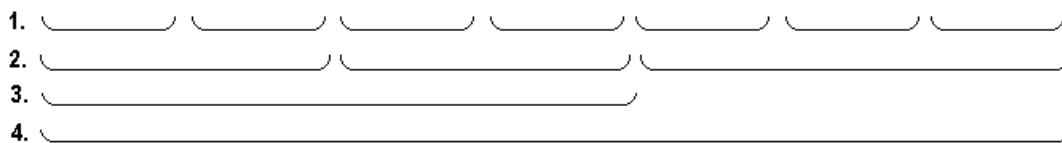
Figure 2.5 : Generative Grammar, Syntax & Seyir (Wright, 2000: p.351).

Lerdahl & Jackendoff also create two types of rules based on such cognitive theories; these rules are “Well-Formedness Rule” (WFR) and “Preference-Rule” (PR) . Both are individual rules that govern the analytical approaches either by controlling “the making of possible structural descriptions of pieces” –WFR-, or, determining “which of a number of possible descriptions correspond to listener’s preferences” – PR. Thus applications of WFR results in a number of possible analyses, but applying PR to those analysis gives us the preferred analysis (Lerdahl, 1999: p.9).

GTMM’s music analysis consists of structural dimensions, all of which are interrelated; and eventually considered holistically at the end. These structural dimensions are Grouping & Metrical Structures and Time-Span & Prolongational Reductions. As it was stated earlier each dimension is governed by a set of rules, either from WFR or PR; thus, to give an example, Metrical Structure is governed by

either Metrical-Well-Formedness-Rules (MWFR) or (Metrical-Preference-Rules). Below is the schema showing how an analysis (a preferred analysis) of a piece results with the GTTM approach;

Figure 2.6 : GTTM's approach to analysis & Rule system (Lerdahl, 1999: p.10).



Metrical Structure, on the other hand, deals with time aspects. It organizes the music according to its pulse levels, from the shortest pulse to metric and hypermetric pulses, also building a similar hierarchy of metrical accents. A metric structure analysis has been made in Figure 2.8.

every beat has a pulse, at the measure level every first beat of each measure has a pulse and so on. This kind of display clearly shows the metrically strong and weak

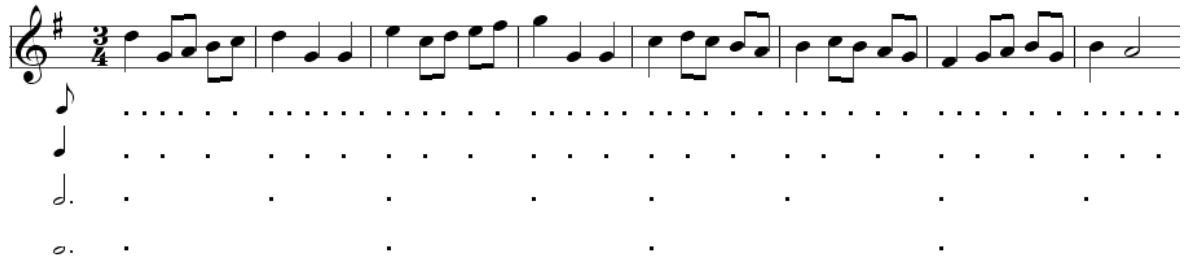


Figure 2.8 : Metric Structure Analysis of C.Petzold's Minuet in G.

spots of the music. As can be seen, the second (or third) beat of every measure is a beat only at 8th note or quarter note levels. It should also be noted that as the pulse level starts to go beyond the measure level (to hypermeasure levels), metrical structure comes closer to the grouping structure, so metrical structure, according to Lerdahl & Jackendoff is a local phenomenon.

An important thing to analyze is to investigate how the grouping and metrical structures are related. This is done by putting them together. The two examples below how the two structural dimensions are coherent, as they are “in-phase” and on top of each other;



Figure 2.9: Grouping & Metric Structures in coherence (Lerdahl, 1999).

In contrast to this we also see many examples of how the two structural dimensions may not go in total coherence. The Mozart example in Figure 2.10 shows such an example of how the “inner tension of [the] music is in part a product of the rhythmic conflict between the periodicity of the metrical structure (reinforced by the accompaniment) and the complexity of the time-spans resulting from such out-of-phase conditions.”.

Here it would be beneficial to make some additional notifications. In his article, “Principles of Rhythm Integration in African Drumming”, Willie Anku makes a

critique of how African rhythms are analyzed by Western scholars, as he talks about a general lack of holistic approach to music, and adds that an ideal approach of



Figure 2.10 : Grouping & Metric Structures in conflict. (Lerdahl, 1999: p. 127).

analysis should be for the “totality of sound produced by the interrelation of various parts” (Anku, 1997: p. 212) . This should be an advice for us to be used later. The reason is, TMM does not only consist of a melodic line, but along with it there is a rhythmic framework that has been also played and adds to the “totality of sound produced”. Thus, when considering GTTM’s metric and grouping dimensions to TMM one should apply them to both layers, melodic line and the rhythm and look for a “total sound” analysis. Meter in Western music, as can be seen from GTTM’s approaches is a mental construct, derived from the music itself. So, one should also be looking for the relationships of such a mental construct with the played rhythms.

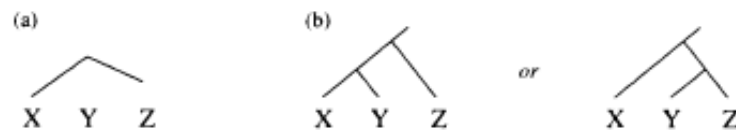
We have stated before that all these structural dimensions are governed by rules, either WFR or PR, and designed according to them. Among the rules of these dimensions, the authors accept that the rules they have designed for Metrical Structure are less “universal” than those of the grouping structure. Examples are MWFR#3 and #4 which state that “At each metrical level, strong beats are spaced either two or three beats apart.” (Lerdahl, 1999; p.69), and that “the tactus and immediately larger metrical levels must consist of beats equally spaced throughout the piece” (Ibid: p.72). Thus, according to this rule a 9/8 meter has to be spaced as 1-2-3-1-2-3-1-2-3. In their later revisions, as well as some other additions contributed by other theorists, this rule has been made more flexible; as it would also allow 1-2-1-2-1-2-1-2-3; since this is also a grouping of “Quick” and “Slow” beats as QQQS³.

³ Lerdahl & Jackendoff base their argument on Claude Le Jeune’s experiments and analyses on Balkan dance rhythms (Lerdahl, 1999: p.98)

At this point of GTTM's theory, we start to realize some flaws though, especially when considered "universally" – as Lerdahl and Jackendoff accepts. Although we see updates in the "rules" to fit the theory in general contexts, what these revisions actually cause is to weaken the "universality" of the Metric Structure and hierarchy theory even more. I'll be discussing my reasons concerning this issue in the following pages.

Time-span & Prolongational Reductions in GTTM's structural dimensions are closely related. These use branching trees above the pitches and show their hierarchical relationship in terms of their contextual stability, and also show how music progresses between tensions and relaxations;

"In a strict hierarchy, a single element dominates the other elements and each subordinate element connects to a unique superordinate element... Prolongational structure is couched in terms of nested patterns of tension and relaxation. Given successive events X, Y and Z at any prolongational level, and assuming, for instance, that X and Z are superordinate to Y, $X \rightarrow Y$ increases tension and $Y \rightarrow Z$ decreases tension." (Lerdahl, 1997: pp.141-142)



Representations of tension and relaxation: (a) by a curve on a graph; (b) by strict branching, either to the right or to the left

Figure 2.11 : Tree-branch representations of tension and relaxation (Ibid: p.142).

So the tree-branch modeling not only show the hierarchical relationship of pitches and how some pitches are prolonged, but also gives an idea of tension-relaxation events in a space of time.

Realizing such points of tension and relaxation shows us how the music flows within the general form of the piece, or more importantly (and in contrast) how the form is actually dependant on such a flow, and musical energy. This is actually nothing but a more extensive notion of rhythm; since music is a time-based activity just like a rhythm. Such a broader perspective on rhythm was discussed in depth by Edward T.Cone in his book "Musical Form and Musical Performance";

"Musical form, as I conceive it, is basically rhythmic... Just as, in a normal musical period, the antecedent phrase stands in some sense as an upbeat to

the consequent, so in larger forms one entire section can stand as an upbeat to the next. And if, as I believe, there is a sense in which a phrase can be heard as an upbeat to its own cadence, larger and larger sections can also be so apprehended. A completely unified composition could then constitute a single huge rhythmic impulse, completed at the final cadence.” (Cone, 1968: pp.25-26)

Cone is most widely known for his “thrown ball” analogy with musical form and rhythm, which actually very similar to his above argument. It is that when we throw a ball, we set something in motion with a direction; so there are three important phases, the throwing of the ball (setting in motion), the time it travels between the two parties, and the catch of the ball (cadence); “In the same way, the typical musical phrase consists of an initial downbeat (/), a period of motion (-), and a point of arrival marked by a cadential downbeat (\).” (Cone, 1968 : pp.26-27)

This kinetic aspect of rhythm (and its quality) was first brought to attention by Victor Zuckerkandl, as he compared the metrical organization to a succession of waves, giving the flow of time a sense of meaning and quality. Similar to Cone’s “thrown ball” argument we see Zuckerkandl explaining the motions as “moving away from” and “towards to”. (Zuckerkandl, 1956) ⁴

Carl Schachter, one of the leading advocates of Schenkerian theory today, also discusses such a rhythmic aspect. In fact, he argues that there are actually two different kinds of rhythms in tonal music, one is “durational rhythm” and the other is “tonal rhythm”. Tonal rhythm results from the tensions and instabilities resulting from the pitch relationships, and hierarchy (in terms of stability). So, as Zuckerkandl states, “moving away” from or “towards to” tonic also create this sense of rhythmic energy that can actually be experienced while listening. So, there is already a rhythmic character embedded in the major scale as can be seen in Figure 2.12.

Schachter gives a very simple example to this, an excerpt from Busoni’s “Scales in Spirals”. As can be seen from the example below the pitches oscillate around the tonic C, creating a wave or spirallike motion. Naturally the ear experiences the arrivals on tonic more accented, and thus a “tonal rhythm” occurs (Figure 2.13)

⁴ Another similar analogy concerning rhythm is also made by ethnomusicologist Curt Sachs. In his book “Rhythm and Tempo”, Sachs mentions the qualitative aspects of rhythm “There may be three or four such (rhythmic) notes in a pattern; but they can easily be reduced to two members, representing, one, tension and one, relaxation.”. (Sachs, 1959)

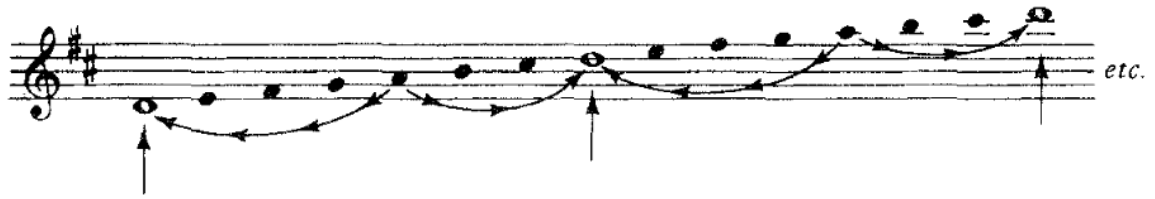


Figure 2.12 : Rhythmic character of the major scale.

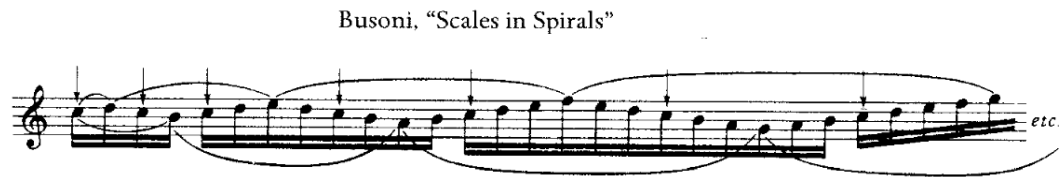


Figure 2.13: Tonal Rhythm in Busoni's "Scales in Spirals" (Schachter, 1999: p.37).

In summary, what all of these theories say in terms of this Notion of more comprehensive rhythm is that rhythm in music is something much more than just the pitch durations; the grouping of phrases, pitch accents, metric accents, phenomenal accents, prolongations and prolongational accents, all of these and their interrelations in micro and macro-levels contribute to the sense of rhythm in music. When these various accents converge and meet at the same moments in time, they produce focal points and structural accents, the music comes to (or moves away from) relaxation and rest, when they contrast each other appearing at different moments tension builds. So the motion happens between these focal points. In GTTM, Lerdahl and Jackendoff summarize this with a very clear figure;

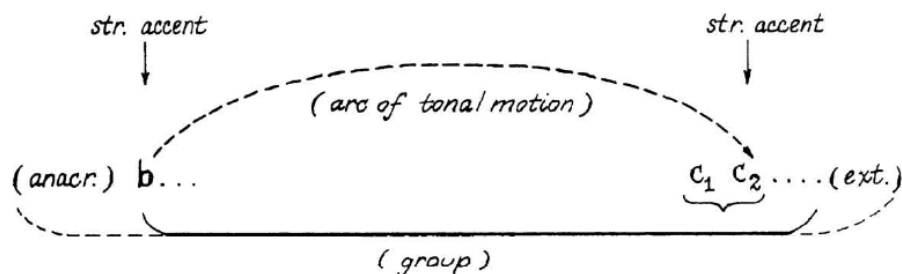


Figure 2.14 : Arc of Tonal Motion (Lerdahl, 1999: p.31).

At this moment it would be beneficial to review some of the most important scholarly and analytical investigations on TMM, in terms of reductions.

In his book “Die Melodische Linie und der Begriff Makam”, Gültekin Oransay discusses aspects of Makam music from a very distinctive perspective. What is relevant for our purposes is the chapter on melodic line in which Oransay discusses how melodic lines can be embellished during performance practices. Oransay starts the chapter by giving two examples, one is a stepwise descending motion, the other is a stepwise ascending motion, and how they can be ornamented;



Figure 2.15 : Oransay’s small-scale ornamentations (Oransay, 1966: p.36).

In following pages he continues his discussion and gives more examples including static motion;

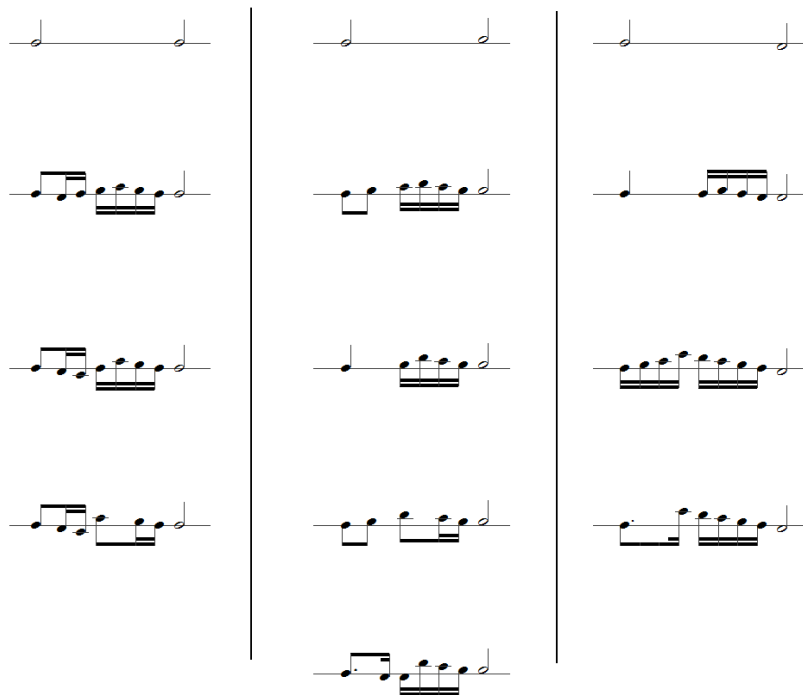


Figure 2.16 : Oransay’s intermediate-scale ornamentations (Ibid. p.40).

The most important thing to note here is how Oransay takes his original two eight-note motions, augments them to two double notes and apply embellishments to them bearing in mind the system he set out at the start. Now we can actually see how prolongation can occur from the examples in 1st column including static motion.

A useful way to look at such figurations is to observe where they start and where they end as Oransay discusses. However one should also bear in mind the makam context these figurations are generally contained in. Below are some of the many examples one can derive from Oransay's model, again their usage also depends within the context of makam;

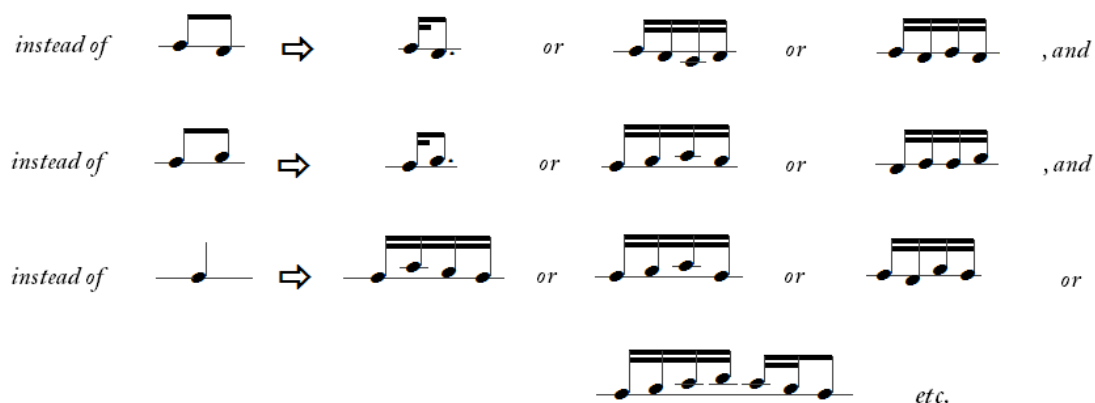


Figure 2.17 : Some other variations based on Oransay's model.

Similar reductionist approaches to ornamentations can also be found in important scholars of TMM, Owen Wright and Walter Feldman. The example below is from Owen Wright;



Figure 2.18 : Wright's Melodic Cells and Rhythmic Variations & Ornamentations (Wright, 2000: 443).

In fact one might see many variations of the same "skeletal" lines with different ornamentations and figurations applied to them in TMM. The examples below show such variations used as we see in Pencgah Mevlevi Ayini;

The first system of the musical score for 'The Rose Tree' consists of two staves. The upper staff is in treble clef with a key signature of one sharp (F#). It contains a melody with several eighth and sixteenth notes. Two phrases of the melody are highlighted with red boxes: the first phrase spans measures 2 and 3, and the second phrase spans measures 4 and 5. The lower staff is in bass clef and contains a bass line with notes and rests, including a double bar line at the end of the first measure.

Figure 1 displays three musical examples (A, A, A') illustrating the relationship between a musical phrase and its corresponding text. Each example consists of a musical score with a treble clef and a 9/4 time signature, and a corresponding text line below it. The text is in German and appears to be a version of the Lord's Prayer.

Example A: The musical phrase is "Evfer". The text below it is "Evfer". A red box highlights a specific note in the musical phrase, and a red arrow points from this box to a red box in the text line, indicating a mapping between the musical note and the text.

Example A: The musical phrase is "Evfer". The text below it is "Evfer". A red box highlights a specific note in the musical phrase, and a red arrow points from this box to a red box in the text line, indicating a mapping between the musical note and the text.

Example A': The musical phrase is "Evfer". The text below it is "Evfer". A blue box highlights a specific note in the musical phrase, and a blue arrow points from this box to a blue box in the text line, indicating a mapping between the musical note and the text.

However, it is also important to apply such reduction strategies to deeper levels as well, as we saw in previous analytical strategies. The micro-example as seen in Figure 2.20 applies this strategy in which the descending motion to Rast is very clear.

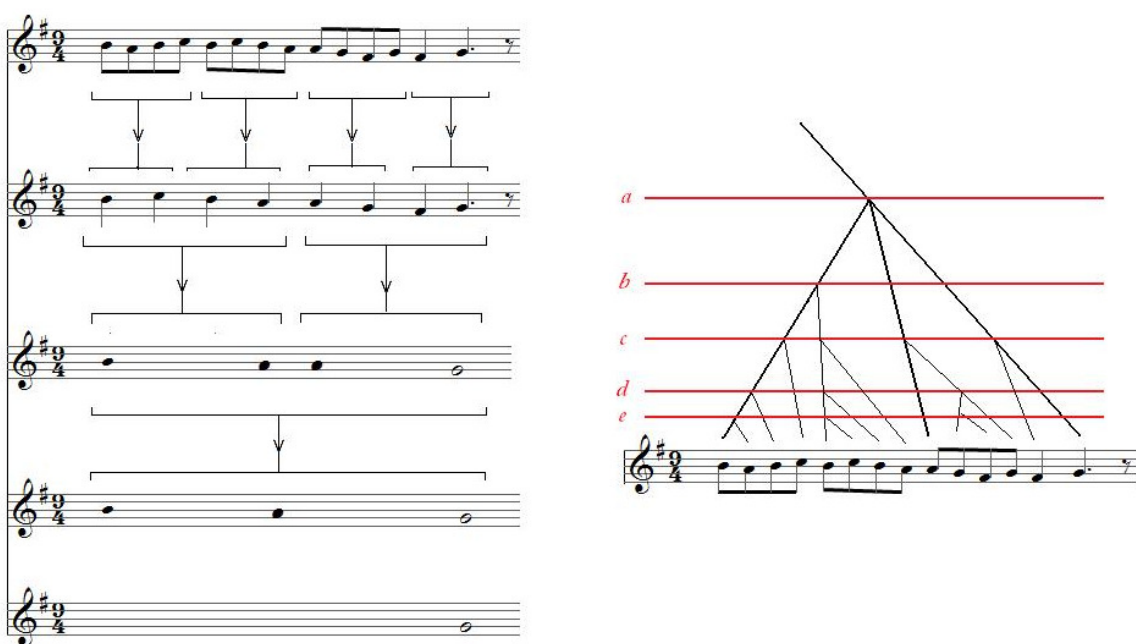


Figure 2.20 : Application of Prolongational Reduction & Tree Branch Hierarchy.

Reductionist approaches can also be used in comparison of different versions or transcriptions of the same musical pieces. In his successive two articles, Feza Tansuğ compares three different versions of the same ilahi from Dugah Mevlevi Ayini.

These versions are from transcriptions of the French Merchant/traveler Jean Antoine Du Loir (1640), Ali Ufki (around mid. 17th century) and lastly Tansuğ's own transcription from the hymns performance today by Konya Türk Tasavvuf Musikisi Topluluğu (Tansuğ, Nisan & Mayıs 2010). With the help of reduction, reconstruction and phrasing analyses, Tansuğ shows evidence of how the transcriptions of Du Loir and Ali Ufki, which were not mentioned by the writers nor any scholars as belonging to the hymn (ilahi) from Düğah Mevlevi Ayini, actually are transcribed from "Ey ki Hezar aferin" section of the Düğah Mevlevi Ayini. Figure 2.21 shows the phrasing comparisons and the nuclear melody Tansuğ draws from the İlahi.

In his book on Demetrius Cantemir, Owen Wright makes an extensive and invaluable research and analyses on TMM, based on Cantemir's treatise "Kitabu 'İlmi'l-Musiki 'ala vechi'l-Hurufat". Wright's analyses are also mainly prolongational, at the end of which he manages to offer general prolongational melodic formulas of different seyirs. An example from his book is given in Figure 2.22. It is the seyir of Uşşak

makam, which gives a fair sense about the “modal” rhythm and the general shape of the makam.

Du Loir
Ey ki he zar a fe rin hey hey Ey ki he zar a fe rin

Ali Ufki
Ey her ki he zar a fe rin Ey her ki he zar a fe rin

Feza Tansuğ
Ey ki he zar a fe rin dost — Ey ki he zar a fe rin dost —

Bu ni ce sul tan o lur ca nim Ku lu o lan ki ş i ler ca nim

Bu ni ce sul tan o lur lur Ku lu o lan ki ş i ler ler

Bu ni ce sul tan o lur ya — r Ku lu o lan ki ş i ler — ca — nim

Hüs re - vü ha - kan o lur

Hüs re vü ha kan o lur lur Hüs re vü ha kan o lur

Hüs re vü ha kan o lur ya — r Hüs re vü ha kan o lur

Hüs re - vü ha - kan o lur

Figure 2.21 : Tansuğ’s comparisons & nuclear melody reduction (Tansuğ, Mayıs 2010: p.68).

uşşak

Figure 2.22 : Wright’s representation of Uşşak seyir (Wright, 2000: p.357).

Attaining such an “ideal” formula is very beneficial in our understanding of a specific seyir. Especially when compared with the traditional seyir explanations; “Uşşak: İbtida Rast, Dügah, Segah, Çargah, Neva, Hüseyini perdeleriyle agaze ederek Rast’a kadar inip, ba’dehu Gerdaniye, Acem, Hüseyini, Neva, Çargah, Segah, Dügah, Rast açarak Dügah’da karar eder.” (Başara, 2007: p.21)

However, as it is just stated, it only gives us a fair sense of the makam, its general seyir shape and points of stability; not the individual piece of music. Besides TMM does not only consist of pitch aspects. We had mentioned in the previous chapter that this is in fact very similar to the Schenkerian notion of background. The example below shows the Urlinie/Ursatz background we see in Schenker;

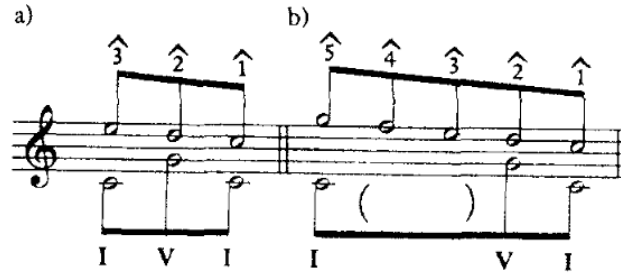


Figure 2.23 : Urlinie & Ursatz in Schenker.

Obviously, it might give some ideas about the inner dynamics of a tonal piece; but surely a background is not enough for an individual, qualitative analysis. What is needed for a qualitative analysis is consideration for other musical elements of the piece as well, the rhythmic frameworks, their interaction with phrase rhythms, all on top of an ordered unfolding layers of middlegrounds and the “ideal” background.

Figure 2.24 shows how Lerdahl&Jackendoff analyzed the exposition of Beethoven Tempest Sonata No:2, with all of the four structural dimensions of GTTM. The layering strategy of different hierarchic levels (foreground-middleground-background) is in-fact very similar to a Schenkerian analysis; but as can be seen not only the GTTM’s approach of analysis was different, but also it covers more aspects of the piece, especially in phrasing (grouping) structures and how they are related with meter, both taking part in prolongational reduction analysis of tensions and relaxations, and the general “rhythmic” sense and shape of the music. Such a detailed analytical strategy, not only shows the prolongations but also the interrelations of

various elements and general the rhythmic quality of music, has not been applied to TMM analysis yet.

Beethooven
"Tempest" Sonata
Op. 31 No:2

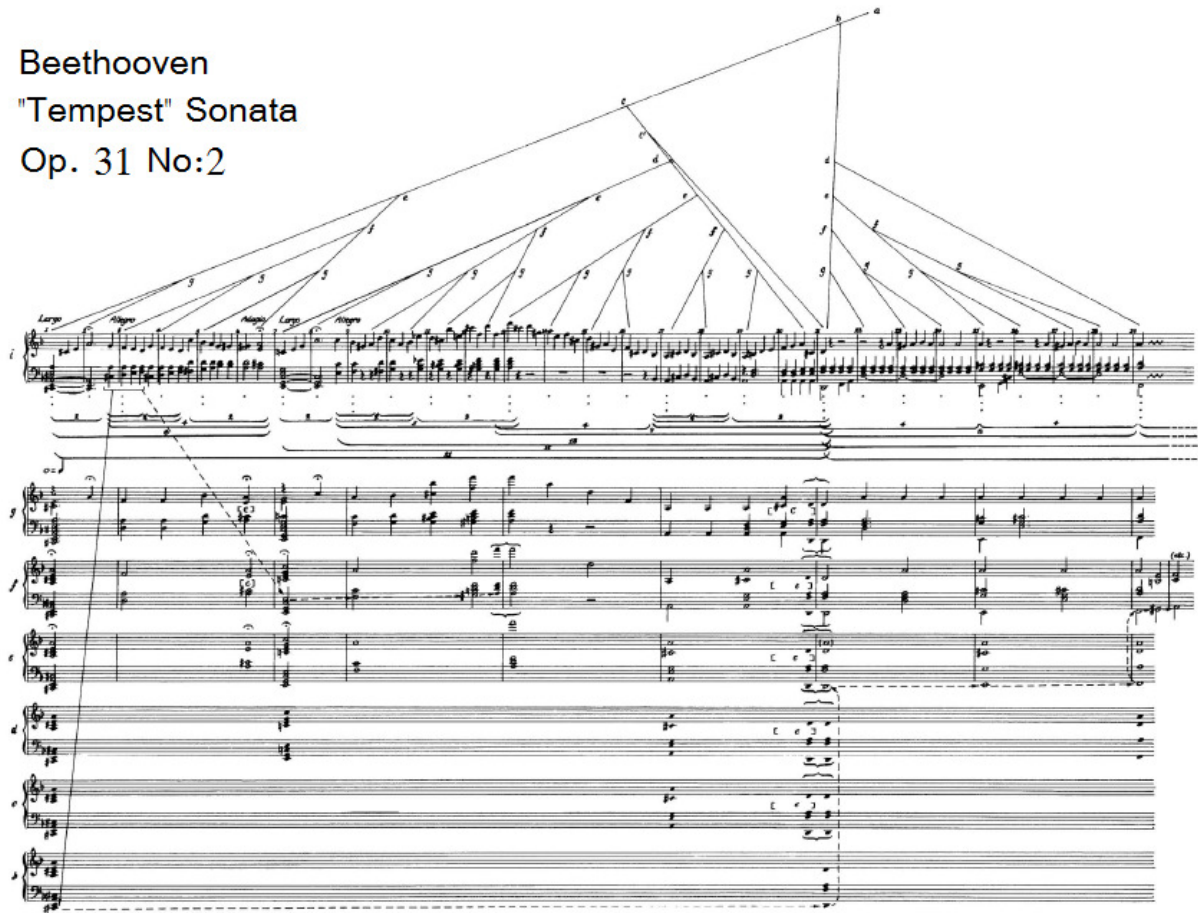


Figure 2.24 : GTTM’s analysis of Beethoven “Tempest” Sonata Op.31 No:2
(Lerdahl, 1999: p.256).

Before starting our preliminary attempts for analysis , it is important to review the theories of another significant scholar, Christopher Hasty as well. Hasty holds a rather different view than the approaches set by Lerdahl & Jackendoff. Whereas GTTM’s theory can be summarized as a “generative gestalt” for music, Hasty’s theorem builds on the idea of music as a process and experience. Influenced mainly by the “Process” philosophers, and their views on life as an active, dynamic ongoing process of experiences along with time (not on time) (Hasty, 1999: p.275)⁵; Hasty states that our perception of music is related with our listening experience, which is

⁵ A rather interest thing here is how the Process Philosophy is closely related with Panteistic and Cabbalistic beliefs, and even the idea of Vahdet-i Vücud we see in Sufi Philosophy, as in Mevlana and İbn-i Arabi.

based on our hearing of “new” events and draw “projections” of those events and build anticipations for later parts in the music. If for example there is a repetition, or a variation, our anticipations are satisfied in relation to the projection we built before on the previous section; if there’s a new event happening then not only our anticipations are unsatisfied, but also that we start building new projections for the upcoming events based on this new event. The following four figures are illustrary examples of his ideas;

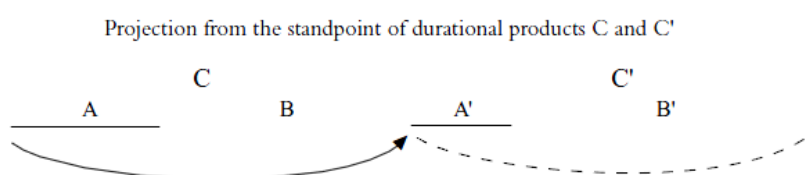


Figure 2.25 : Hasty’s theory of projection – I (Hasty, 1997: p.84).

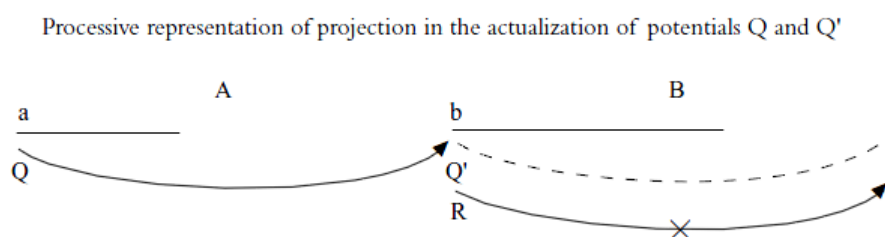


Figure 2.26 : Hasty’s theory of projection – II (Ibid: p.85).

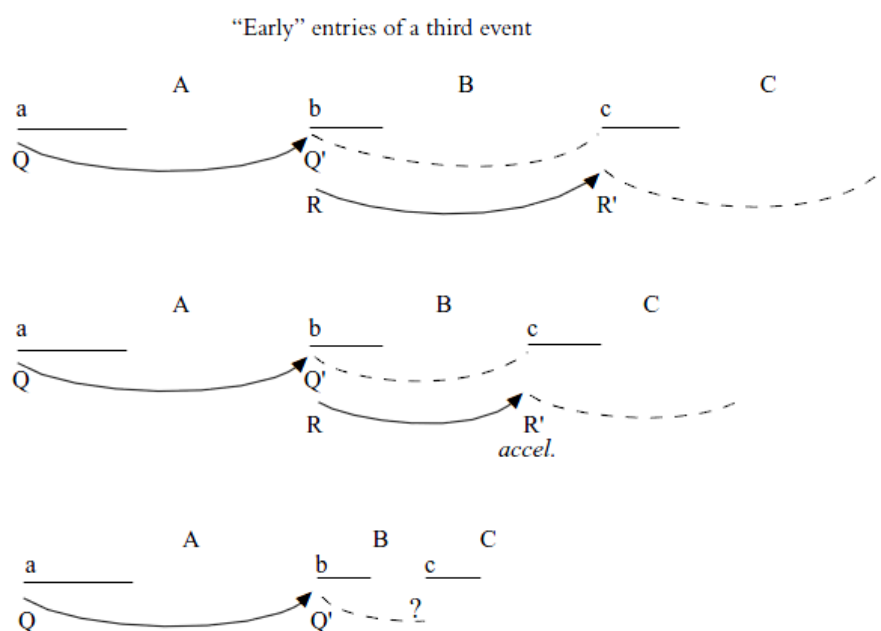


Figure 2.27 : Hasty’s theory of projection – III (Ibid, p.87).

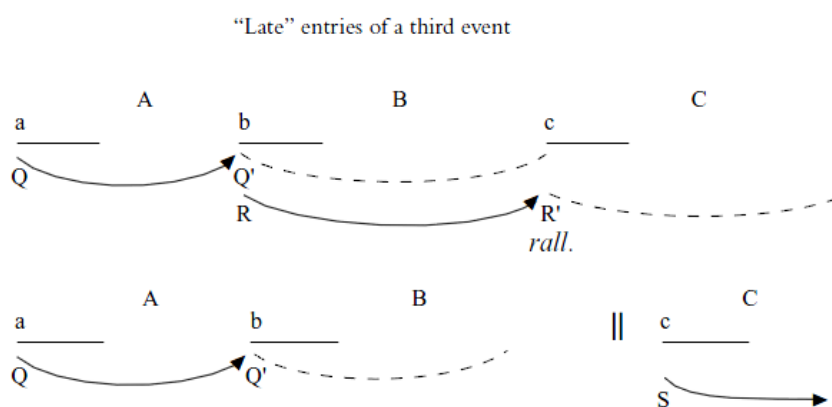


Figure 2.28 : Hasty’s theory of projection – IV (Ibid, p.89).

Thus, a musical experience is all about the overall “rhythm” of all these processes happening altogether. At first sight, this view, similar to Cone’s and Zuckerkandl’s has a qualitative approach , especially to the time aspect. However, Hasty’s major difference, which is also his major contribution to the field with his book “Meter as Rhythm”, is that he takes this argument, and with it denies the differences between concepts as Meter and Rhythm, in fact he denies the notion of Meter as we know for centuries, and defends that it is rather our projections and realizations that are the cause of notions such as pulses (micro-levels), meter (intermediate-levels) and hypermeter (macro-levels). Indeed this is a very radical approach, especially about our generally taken-for granted notions of meter in which object (meter) and subject (rhythm) are distinguished. So there is no such “ground”, a “tabula-rasa” of time on which we hear music; it is all about the ongoing experience of “becoming”; "If meter is to be regarded as itself rhythmic, then the duration that is measured and the measuring itself must be related to present experience and to a becoming that is not given and not fully determined" (Ibid; p.69)

This is a very different view than the semi-cartesian approach of GTTM to the meter too⁶. However it is also true that listening (or composing) habits such as projection and anticipation are significantly important in our identifying the piece on a scale from “expected-boring” to “unexpected-interesting”, and contributing to the quality of music. Hasty’s ideas have been in debate since his publication of Meter as

⁶ The closest argument Lerdahl & Jackendoff brings to Hasty’s idea is that they differentiate the listener into two; those having a more “conservative” listening habit and those with a “radical” listening habit; “In conservative hearing, the listener seeks to retain the previous pattern as long as possible against conflicting new evidence. In a radical hearing he immediately readjusts according to the new evidence” (Lerdahl, 1999: pp.22-25.)

Rhythm in 1997. But, even the scholars who criticize his theory harshly, all admit the leap of perspective change the theory allows when taken seriously;

“The Grand Project, it is clear, is to free the interpretation of musical compositions (and, therefore, theories of compositional structure) from the excessive abstraction of a (would-be) unambiguous formalism in which works are conceived either as inert compilations of distinct structural components, or as perfectly formed organic hierarchies.” (Whittal, 1999: p.363).

We’ll be dealing with these different views again in the following pages. At this moment, we can start experimenting the applicability of the theories and analytical approaches covered so far to some excerpts from Mevlevi Ayin repertoire.

3. PRELIMINARY ATTEMPTS FOR BUILDING A MODEL

3.1 Du Loir's Transcription of "Ey ki Hezar Aferin"

Applying GTTM's four-dimensional analytical strategy to some musical excerpts reveal interesting events. Being a "Western" method of analysis, based on perception, it might be better to start applying GTTM's approach first to an early TMM music interpreted and transcribed to notation by a "Westerner". Our first example is Du Loir's transcription of the İlâhi from Dügah Mevlevi Ayini, unveiled by Tansuğ, as we saw in the last section. In his article Tansuğ transposes Du Loir's manuscript a perfect fifth higher to compare it clearer with the version that's been in practice today. The analysis that has been presented in Figure 3.1 is based on Du Loir's original manuscript; ending with D (Yegah) instead of A (Dügah).

Although "Ey ki Hezar Aferin" İlâhi is practiced in Yürük Semai usûl (6/8 rhythmic framework) today, Du Loir's version is written as Cut-Time (2/2). This we also took into consideration along with the original pitches in the manuscript, as seen on the upper right hand side of the analysis. As can be seen from the figure, the Grouping and Metric Structures, the two structural dimensions according to GTTM are rather coherent in the excerpt, and there is no conflict in this sense. The Grouping structure shows the three main sections of the ilâhi, as five measures each of A and B sections, each of them having two measured phrases that are repeated with an interrupted measure in the middle of each; and later the final section grouped as C in the analysis. The Time-Span reduction shows the three main pillars of the excerpt as they all come together at the highest level of the tree-branches. The Middle-Ground reduction analysis shows the events that are happening below these main pillars, as we see a repeated trichordal descents to the pitches A (C-B-A), G (Bb-A-G) and E (G-F-E) in three main sections as marked with boxes⁷. However when one looks at the background reduction (lowest part), the same trichordal descent can be observed

⁷ Since this transcription is based on Du Loir's interpretation, letter-pitch names are used in its analysis.

*İ ki hıçar a feryn, ay ay, İ ki hıçar
a feryn bu nıde Sulhan olu dıgı-nım
Kıvıllan Kızıler, dıgı-nım, bıfın-a bla-
kan olu.*



at the final pitch D (F-E-D). Thus the excerpt has a prolongational stepwise descent from A to D in the background (A-G-F-E-D). The interesting thing about this is, after the A and B sections, the C section concludes the ilahi in a different kind of “rhythm” and “pace”. The main reason is although this concluding section is nearly the same length as its preceding sections; the background and middlegrounds show that there is actually more activity happening here. Another important thing that we can also see from the analysis is how the pitch D (here both Neva and Yegah) acts as a point of harmonic axis, that has been perceived and notated by Du Loir in that way. This takes place in bars 3 and 8, in other words the interruptions we see in the first two sections. The next figure shows this axis-relationship on a Map of Harmonic Relationships⁸.

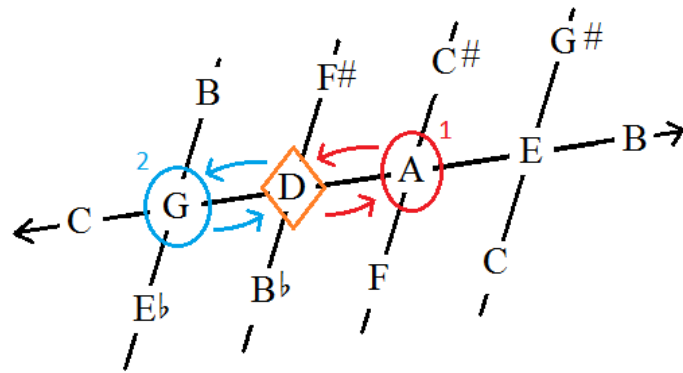


Figure 3.2: Pitch relationships of İlâhi around harmonic map – I.

We have stated that the prolonged pitched of the first section was A, to which there was a main trichordal descent from above. The interruption we see here is as A-D (Dugah-Neva). On the other hand the prolonged pitch of the second section was G, with the similar trichordal descent including transpositions (B becomes B-flat);

⁸ This is an approach that is developed by W.A.Mathieu, and has many similarities with Riemann's Tonnetz. The theory is based on the principle of resonance, and thus the overtone series. The map is not about “harmony” in the Western sense, but rather about how pitches are related overtonally. Since it is built according to the overtone series, the pitches in here are related with just intonation. As we go in the direction of fifths, we are actually going as Pythagorean Fifths (thus by 702 cents instead of 700 cents as in equal temperament), as we go in the direction of thirds we go just (pure) thirds (thus by 386 cents instead of 400cents). This results in the difference of considerable amount of cents in the pitches that have the same letter names(or their enharmonics) but have different placings on the map. Since it is built on “resonance” factor, using the map in analyses might also pave the way to understanding the cognitive motivations behind the composers or listener's selection of pitches. However, it is not in the scope of this paper to discuss these issues.(Mathieu, 1997).

⁹ It is also a very interesting fact that the traditional Turkish instrument Tanbur is tuned as some strings to Yegah and Kaba Yegah, and the other strings are tuned either to Kaba Rast or Kaba Dügah, depending on the piece. (Aksüt, 1994: p.23)

however the interruption does not happen as a perfect 4th relationship here; but rather as G-D (Rast-Yegah). Thus the pitch D interestingly acts as a harmonic axis, and we don't see such a thing happening in the two other transcriptions we had reviewed in the previous section. As can be seen from the map D acts as an axis point between pitches A and G, and slowly establishing itself as the concluding pitch of the excerpt.

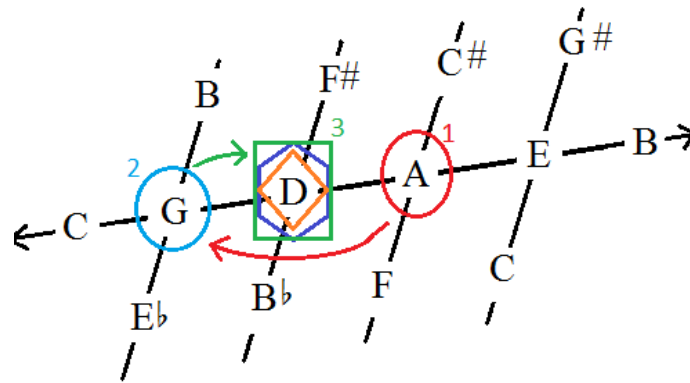


Figure 3.3: Pitch relationships of Ilahi around harmonic map - II.

Another thing that is revealed by the analysis is how the trichordal descent of the first section is “projected” to the second section (marked by dotted arrow), to which, after hearing it for the second time, the listener would naturally make an “anticipated” projection for the last section. However, this anticipation is not realized that easily, as the last section starts F and descends to E, but do not conclude on D, rather leap up to G and start a new trichordal descend from G to E, and finally concluding on the pitch D which was projected and anticipated from the previous sections;

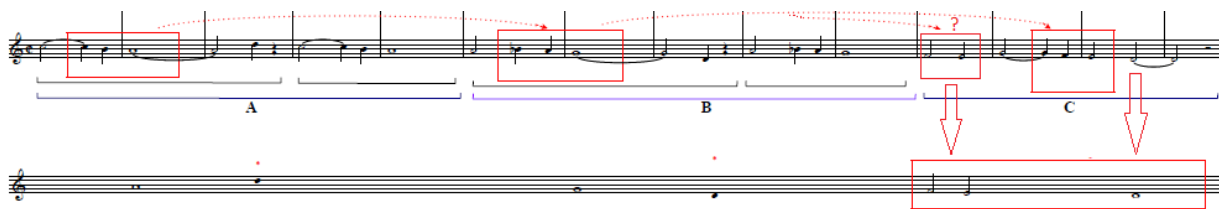


Figure 3.4: Prolongational Reduction & Projections.

This realization, experienced in a different way when compared to the anticipations, not only gives activity to the concluding section but also prevents any form of dullness for the listener as well.

3.2 “Son Yürük Semai”

Our second attempt for analysis will be based on an excerpt from Mevlevi Ayins again; however we will now look at a modern transcription which also reflects how the music is practiced today. The excerpt is a Son Yürük Semai section which closes the Ayin cycle – sometimes followed by a taksim - , and our selected piece is the same music that is found at the ends of different Ayin cycles, including Pençgah, Dügah, Hüseyini, Hüzam...etc.

Bear in mind what we had notified in the previous pages (p.15) about a holistic approach aiming for analyzing the “total sound”, and how we should take rhythmic framework played by the kudüms as well. Yürük Semai sections are – as can be guessed – always played in Yürük Semai rhythm. In modern Turkish notation it is written in a 6/8 framework, and played as;

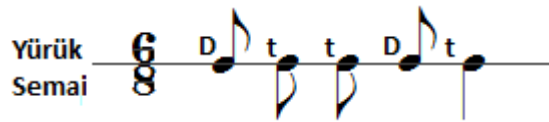


Figure 3.5: Yürük Semai usül written in modern notation.

When we analyze the grouping structure and the pulse-hierarchy (metric structure) we can see the organization of the sounds are quite regular. The measures are divided into two main beats as 1-2-3-1-2-3, however the main reason we mentally assign the stronger beat to the first beat of this couple is not because the first one is played with more accent. In fact it is because of the six-beat periodicity which is the result of the unplayed “tek” at the sixth beat;

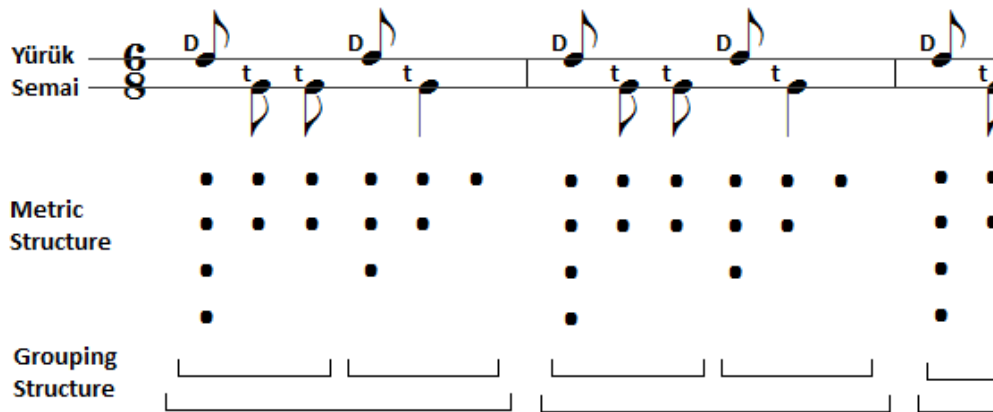


Figure 3.6: Metric & Grouping Structure of Yürük Semai usül.

A similar type of periodicity is also seen when one looks at the melody of the first eight bars, which is actually the first section of the three-sectioned Yürük Semaî;



Figure 3.7: Periodicity in “Son Yürük Semaî”.

As can be seen from the figure above, there are 4 phrases each composed of two measures in a form as A-B-A-C. Each phrase interestingly ends as in the same rhythm of the Yürük Semaî, strengthening half-cadences and the suspended on Neva-Neva-Neva and Eviç. Thus one can say that the rhythmic and melodic frameworks are in-synchrony, with the fact that metric periodicity of the usûl is for one cycle (measure), whereas for the melodic line, it is for two cycles. The figure below examines both dimensions for both layers for this section;

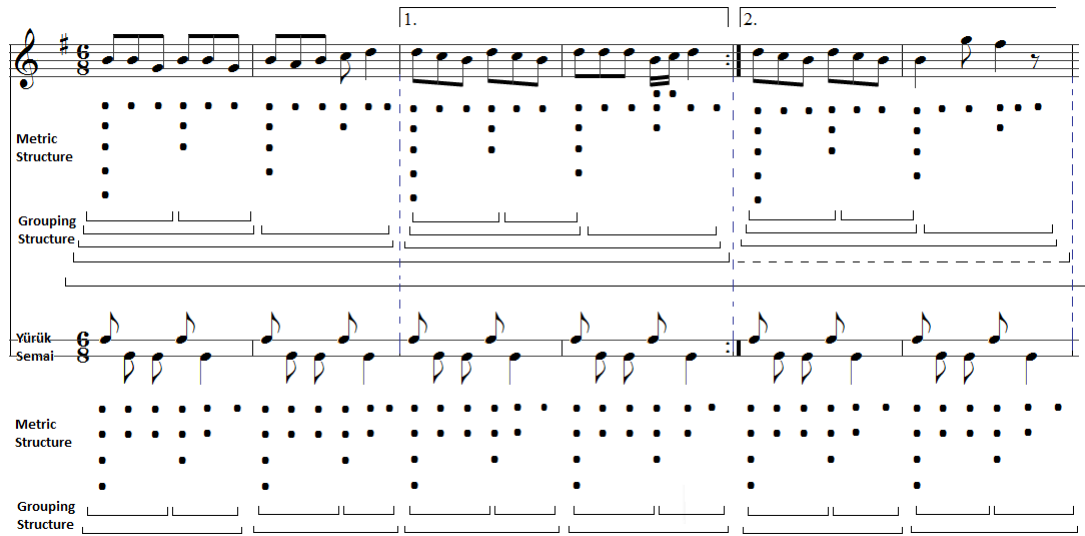


Figure 3.8: Metric & Grouping Structure of “Son Yürük Semaî” section I.

The analysis of Son Yuruk Semaî is provided in Appendix IV, divided into its three main sections and lastly overviewed as a whole. Since we have approved that the rhythmic framework of this section is coherently moving together with the melodic section we have not put the analysis of the rhythmic framework separately. Next to Metric and Grouping Structures of the whole section are Time-Span and

Prolongational reductions. The analyses show how Segah trichord (Segah-Çargah-Neva) is prolonged under “the shadow of Rast” in Section A, eventually leading to Eviç and then going back down to Segah through Neva in Section B, and becomes an axis pitch in Section C, oscillating between its lower (Rast-Dügah-Segah) and upper trichords (Segah-Çargah-Neva), with suspended-cadences (asma-karar) at Dugah and cadencing on Segah. The last figure show how Segah is prolonged overall.

The figures also show another significant thing, which we just mentioned as “under the shadow of Rast”, and needs more explanation. The next figure seen below shows a map of harmonic relationships. Our centric tone, Segah, which is prolonged all through the Yürük Semai section is marked on the map, and it can be seen how the overtonal relations of pitches are in this area; as Segah has a direct overtonal relationship with Rast, to which Neva is overtoneally related;

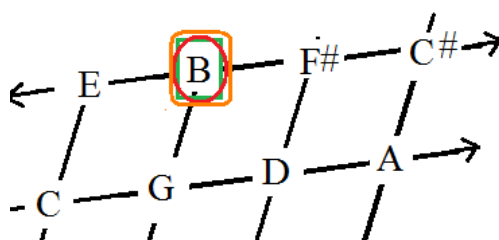


Figure 3.9: Pitch relationships of “Son Yürük Semai” around harmonic map – I.

We said earlier that the map of harmonic relations shows how the pitches are “overtoneally” related. So, although, it is shown as pitch B here, it is actually 14cents lower than the equal-tempered B on piano. Thus, having nearly a 1 comma of difference, it is actually much closer to the Segah note in TMM.

As we saw from the analysis, section A involves prolongation of Segah with half-cadences in Neva. Interestingly the first motion to Neva from Segah has been acquired with the access from Rast;

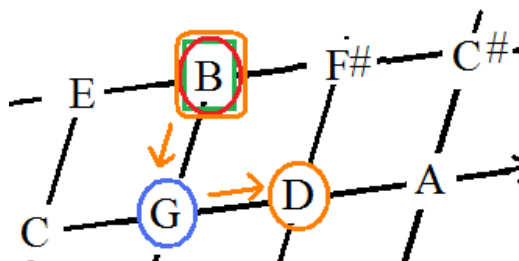


Figure 3.10: Pitch relationships of “Son Yürük Semai” around harmonic map – II.

After this, access to Neva directly from Segah is acquired; which eventually will also move back to Segah;

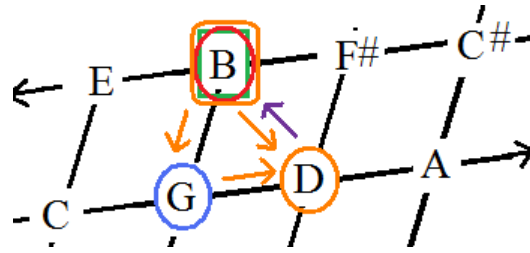


Figure 3.11: Pitch relationships of “Son Yürük Semai” around harmonic map – III.

Section A ends with Eviç, which becomes the first prolonged pitch in the next section and descends back to Segah through Neva in Section B. Interestingly, access to the pitch Eviç at the end of the first section is also acquired from the pitch Gerdaniye;

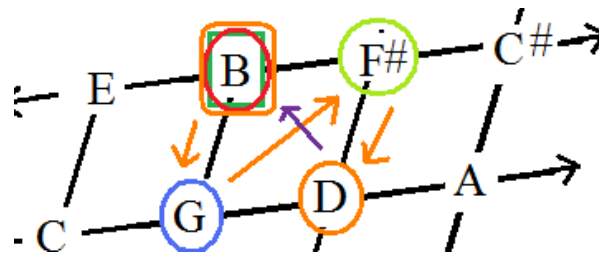


Figure 3.12: Pitch relationships of “Son Yürük Semai” around harmonic map – IV.

After coming back to Segah in the last section we see both the upper and lower trichords of Segah actively moving to itself. Add to this the suspended-cadences we see at Dügah enlarges the operation area of Segah. The final map clearly shows how expansions take place, with arrows showing the transformations throughout the piece;

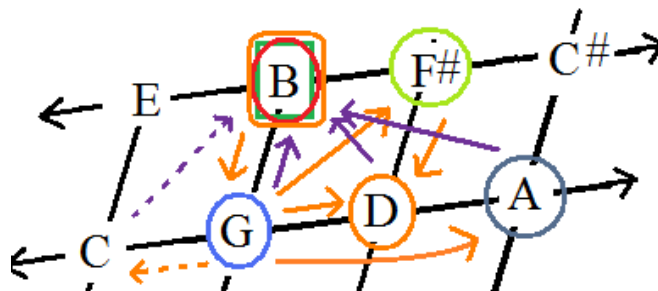


Figure 3.13: Pitch relationships of “Son Yürük Semai” around harmonic map – V.

As can be seen from this active area, the reason we mentioned how Segah is prolonged throughout the piece as if “under the shadow of Rast” is clear; since, except for the pitches Çargah and Hüseyini – which don’t have a structural significance throughout the piece – all the significant pitches are actually overtone descendants of Rast, whether as overtone 5ths or overtone 3rds. Thus the tendency of motion to Rast is evident.¹⁰

In summary, one can say that Son Yürük Semaî has a phrasing of 2 cycles of Yürük Semaî per phrase, with the general rhythmic and melodic frameworks working coherently, (Yürük Semaî usûl providing a concrete mould for the melody and phrasings) along with pitch transformations and expansions as explained above on a seyir that is as follows;

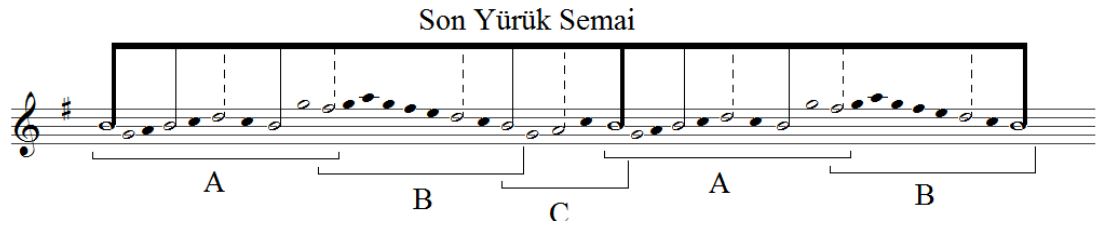


Figure 3.14: *Seyir* in “Son Yürük Semaî”.

3.3 Excerpt from “First Selam” - Pençgah Mevlevî Ayini

So far, along with some other additional approaches we took into consideration, GTTM’s method of approach seems applicable to TMM analysis, providing useful and generative results on a clearer framework. However, both of the pieces we have analyzed were in simple rhythmic frameworks and in short cycles with isochronous metric structures. Now it is best to test our approaches on a music that has larger cycles (usûl) having a non-isochronous metric structure. The excerpt below is from the first six cycles (bars) of Birinci Selam section of Pençgah Mevlevî Ayini, in Pençgah Makam and Devr-i Revan usûl;

¹⁰ Interestingly, the tuning practice of kudüms is also based on “tonic” and “dominant”, as to Rast and Neva in here.



Figure 3.15: Pencgah Mevlevi Ayini – Selam I, cycles 1-6.

As can be seen not only the rhythmic framework of the usûl's are larger and more complicated, the melody and its phrasing characteristics is much more different than the two pieces we have analyzed so far. Below is the metric & grouping structures of the Devr-i Revan usûl;

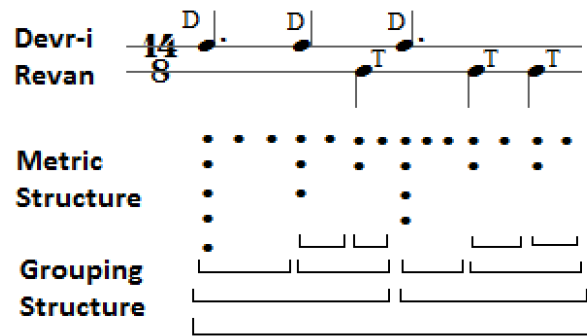


Figure 3.16: Metric & Grouping Structure of Devr-i Revan usûl.

The analysis shows that the 14 nakre's (beats in metric sense or tacts) are actually divided into two groups as 7+7, both having 3 + 4 inner groupings (with different accents). The reason why the second Düm of the first grouping is weaker than the other two Düm's is that it doesn't appear as a new event after the first Düm, thus the ear perceives it as a less significant Düm.

One thing to notify is that we have violated one of the main rules of GTTM's Metrical Well-Formedness Rules when analyzing the metric structure and dividing the hierarchy of beats according to MWFR. To recall from previous pages, GTTM's MWFR required internal divisions to be periodic, as specified in their rule numbers 3 & 4;

MWFR#3: At each level “strong beats are either two or three beats apart”

MWFR#4: At the tactus and immediately larger metrical levels, beats must be “equally spaced throughout the piece”.

As we also mentioned in the previous section, such irregularities, although they are exceptions to MWFR rules are considerable for Lerdahl and Jackendoff; “By keeping MWFR 3 but dropping MWFR 4 we describe a metrical idiom of considerable irregularity, in that strong beats at each level can be indiscriminately two or three beats apart” (Lerdahl, 1999: p. 97).

So, as the 14/8 meter establishes itself and becomes periodic, it mediates the irregular metric foreground.

The reason why the first Düm of the first grouping (beat 1) is marked as it is stronger than the first Düm of the second grouping (beat 8) is because the inner character of the groups differ so that a cycle of 14 beats establishes itself as the main periodicity, of which beat 1 is the strongest beat (in terms of GTTM’s rules). If the inner character of the two groups were the same then the rhythmic framework (by itself) would be indifferent than 7/8’s. When one looks at current textbooks, there are some inconsistencies with GTTM on this subject. In their textbooks, İsmail Hakkı Özkan (Özkan, 1994: p.700) and Zeki Yılmaz (Yılmaz, 2007 :p.65) explains this usül so that it could be divided to 2 x 7/8’s (two Devr-i Hindi’s) with the additon that the first Düm will be played stronger than the third (thus allowing the time & length of 14/8). However, he also adds that the second beat (Düm) and the fifth beat (Tek) are to be played with the same amount of accent (“yarı kuvvetli”). Below figure makes a comparison of both approaches;

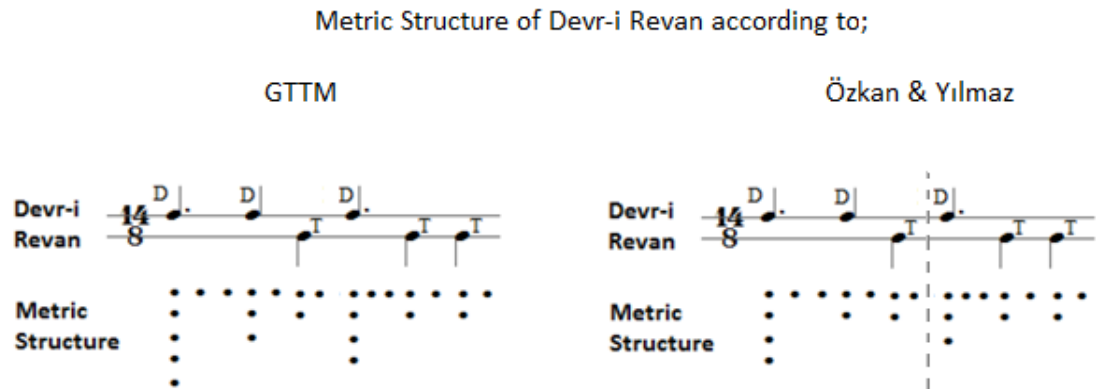


Figure 3.17: Metric structure of Devr-i Revan in different approaches.

There seems to be problems with both of the approaches. First of all, Özkan’s approach suggests that there actually is a “metric” level that is independent of these phenomenal accents (Düm & Tek) which surpasses their function and that the

difference of Düm's and Tek's are actually only phenomenal. On the other hand GTTM's analysis seems ideal but its applicability is not an easy task, as there are three different hierarchic levels between the "Düm"'s with the additional of the weakest level of "Tek". Add to this the fact that these are "Asli Darplar" (Primary beats), if we saw this usül in its velvele form things actually would get even more complicated. In fact, the textbook solution is much more practical in performance. But the real question is; is this approach of ignoring the differences in Düm & Tek is because of its practicality, or is there really another "metric" structure that identify the usüls which is independent of the phenomenal rhythmic accents?. Indeed, Özkan takes this approach to its extremes when defining Devr-i Kebir usül, which consists of 28 nakre's, and having a very non-isocronous Düm-Tek distribution; as he defines the usül as "having a combination of Western meters $6/4 + 4/4 + 4/4 + 6/4 + 4/4 + 4/4$ " and that the accents should be given according to these periodicities, resulting with a strong accent distibution in which Tek's are generally played "stronger" than Düm's. (There are 2 "strong"ly played Düm's in contrast to 4 "strong"ly played Tek's) (Özkan, 1994: p.753).

Aydemir defines usül as follows;

"The term usül comprises all the concepts of 'measure', 'tempo' and 'rhythm'... In pieces in the high forms, the meter of the lyrics is directly related to the beats of the usül. The usül to which each meter may be set to music are strictly defined; without forging a relationship between meter and usül, it is impossible to compose a piece in the "high forms" such as beste, ağır semai, peşrev, ayin, etc... The piece must be performed in conformity with the musical progression of the usul, and within an understanding of its lengthening/shortening beats." (Aydemir, 2010 : p.209)

As can be seen, Aydemir talks about a musical character here, the quality of the usül, and the words "lengthening/shortening beats" not only talk about this nonisochronous nature of some usuls but their musical quality, tension/resolution relationships as well. Here one recalls some of the discussions on rhythm we had done in previous pages, particularly the ideas of Cone, Zuckerkandl and Hasty; who all talked about this qualitative aspect of rhythm as we have seen, Cone using the "ball", Zuckerkandl using the "wave" and Hasty using the "process" analogies. Indeed, ethnomusicologist Curt Sachs also apply this qualitative viewpoint when defining "Oriental Music";

“Basically, harmony conveys the sense of tension and relaxation, of breathing in and out – in short of organic motion in life. To achieve this to and fro requires a change from chord to chord; any series of similar chords would mean a cessation of all motion or life... Oriental music has no harmony. What harmony means to the West, the almost breathlike change from tension to relaxation is in East provided by rhythm. In avoiding the deadly inertia of evenness, rhythm helps an otherwise autonomous melody to breathe in and out just as harmony does in the West.” (Sachs, 1953)

The explanations help us fill-in some spots but also raise even more questions. As it is explained in Aydemir, “the meter of the lyrics¹¹ is directly related to the beats of the *usül*”, but the most important thing missing is which “beats”? Are they “*Düm*”s which naturally sound “stronger”, or could they also be “*Tek*”s which are metrically “stronger” as in textbook definitions? Besides this, the involvement of the “measure” notion in Aydemir’s explanation of *usül* seems actually parallel with all the approaches we have seen, as in GTTM, Özkan, Yılmaz. However, if we take the “meter” factor out of “measure” all we have is the “length” factor. Does this mean phrase-length then? Does Curt Sachs’s explanation “breathlike changes” occur only inside these “length”s (or measures) then? But the irregular beats inside “measures”; actually repeat themselves and become periodic. Then, in terms of Sachs’s thinking, although we see an “irregularity” inside the measures, when comparing from a hypermeasure level the “series of similar [rhythms] would mean a cessation of all motion or life”! So another question comes to mind, whether what Sachs means is limited with the “measure” or something beyond it?

Cem Behar gives a partial explanation to this, as he states that *usüls* are “sometimes referred to as ‘rhythmic mode’ in ethnomusicology.” (Behar, 1998: p.17) This would mean that our notions should be limited with the “measure” concept, although there is no explanation in Behar to why the *usüls* were “sometimes” referred as rhythmic modes, but not “always”. Behar also gives an account of many “outsider” and “insider” perspectives on *usül* in his book “*Aşk Olmazsa Meşk Olmaz*”. In general, all agree with the significant relationship of *usül* and the melody and the function of *usül* as a pedagogic aid for memorization of musical pieces. However there are some differences, for example Charles Fonton describes *usüls* exclusively as “measures” (Ibid. p.18) and “moulds” (*kalıp*) of the pieces, similar to Eugene Borrel (Ibid. p.19); whereas the writings of Ali Ufki, Cantemir, Haşim Bey or Mustafa Nezih vaguely

¹¹ Notice the avoidance of relating meter to the music and instead relating it to the prose rhythm.

state how the “beats” are related with the music. Although not as “strict” as the “outsiders” in their explanations – equating “usül” to “measure”, the “insider” definitions are not very clear and helpful either; again there is no definite statement of “which” beats they are referring to (Ibid. pp. 16-24). There is also an interesting account of how Mustafa Nezh objects Veli Kanık’s attempts of dividing the bigger usüls (those larger than 12 nakre’s) to smaller ones for practical usages (similar to Özkan).

Behar mentions an interesting term though; from the old musiki “jargon”. Although it won’t help us at this moment for clarifications, it surely will give us some hints in the following pages. The term is called, as in Behar, “Usülden düşmek” or “Usülün kaçması”, meaning “loosing” the usül. It concerns the relation of the rhythmic framework with the melody, which should be of the upper-most priority while performing, and not to be lost. Behar states that a mistake of loosing the usül was considered as an unforgiven aesthetic incompatibility (Ibid. p.24). This may be the most helpful statement we have seen this far. It doesn’t say how something should be, but clearly defines how it shouldn’t be. It is true that it doesn’t say particularly “which” beats of the usül again (phenomenally “strong” Düm’s or metrically “strong” beats?) or which level of the usül either (beat level or “measure” level?), but the information is just enough for us to take as a hint and continue analyzing our example piece, and try to draw conclusions out from it with these factors.

We have seen the problematics of metric hierarchy in Devr-i Revan in both GTTM’s and textbook approaches. However, the approaches did not result with much differences in organizing the beats in the case of Devr-i Revan. Thus, although it might seem as an unpractical ideal, we’ll stick with the GTTM’s approach at the moment. Below is the grouping and metric structure analysis of our excerpt;

Devri revan ♩ = 64

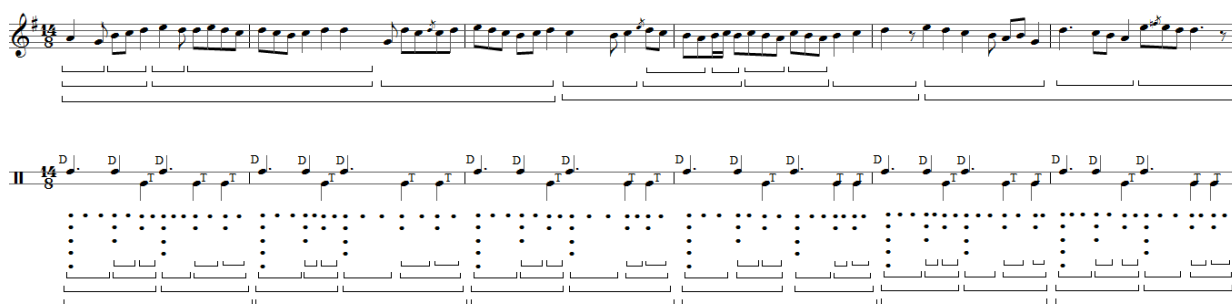


Figure 3.18 : Metric & Grouping Structure of Pencgah Mevlevi Ayin Selam I, opening.

It can be stated that the melodic line starts in coherence with the rhythmic framework supplied by the Devr-i Revan usül. But just after its coherent start, the melodic phrasings get out-of-synch with the usül at the “measure level”s, although keeping its basis in relation with the “Düm” beats. The next figure might show the relation of “Düm”s throughout this section with their relation with phares (and subphrase) beginnings and cadences more clearly;

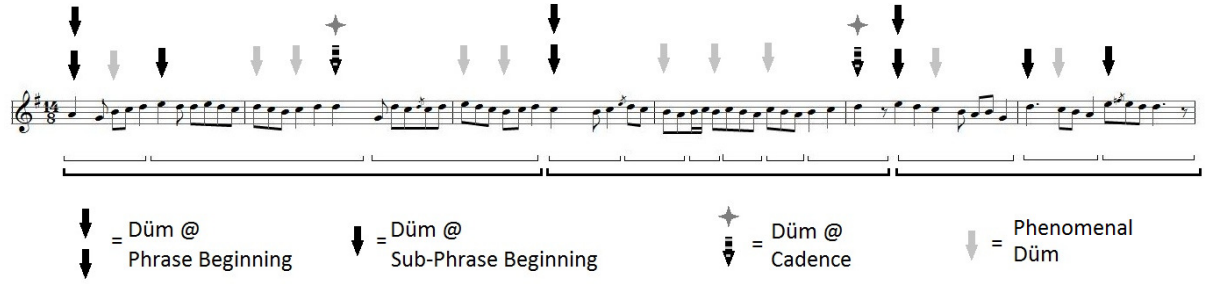


Figure 3.19 : Phrasing & rhythmic accent relationships.

As can be seen there are 3 main phrases in this section; and all of them start with a Düm (marked with double arrow: ↓). However, the places of all these three “Düm”s are different. We also see Düms at subphrase beginnings, as well as cadential points of phrases/subphrases while we also see many Düms (marked as gray; ↓) that are played - in between - the phrases, having an indefinite function other than their “phenomenal” rhythmic contribution to music. This example proves that, although there may be a natural hierarchy among the Düm beats in an usül when they are played by themselves seperately (without any melody), it is only of phenomenal importance. The Düms of the bigger cycles are not used in the same context of the shorter cycles. The “strength” of the Düms are actually dependent on in which context they are used in, and that is the points such as phrase beginnings and cadences (whether authentic-half or suspended), which are structurally more significant moments of the seyir. We are confident in stating these because if we had considered these instances as “loosing the usül”, this example, which is an excerpt from an Ayin that is going to be taken as a model for later Ayin’s would surely be a bad model.

In his article, David Temperley makes a distinction between two kinds of phrases, either as “Beginning-accented” (those in which the strongest beat is at or near the beginning) and “End-accented” phrases (strongest beat is at or near the end), and

how they are important at defining structural points, as well as explain the importance between recognizing the differences between the two phrase types, since both provide different effects to music. His article includes analyses from the common-practice period and although show that the “beginning-accented phrasings” are favored in common-practice period, “end-accented phrases” provide an effect of “out-of-phasesness” to the music but at their end points give a much more higher effect of closure to the music. (Temperley, 2003) “End accented phrase” is similar to what we describe here as “Düm (Accent) at the cadence”, as the “Beginning accented phrases is “Düm at the phrase beginning”. Making a distinction between the two and including these in our analyses might also prove useful for revealing stylistic differences. In fact, Temperley uses such an approach in his other articles, when analyzing musics from different styles/cultures. To give some examples, with his analyses he argues that African music, seems to be favoring strong beats at the ends of phrases rather than at the beginnings (Temperley, 2000), while he states that in much of popular or rock music there is a tendency of having high accented events occurring on weak beats that are just before a much stronger beat, which he terms as “syncopation shift” the strongest beats. (Temperley, 1999) Such analytical approaches to phrasings might show beneficial results in our analyses also.

One thing all the previously discussed theorists shared was that the structural moments (or points) of a music are defined by how different structurally important elements overlapped/coincided. For example when following a dominant chord, we use a tonic chord at the first beat of the measure; that point becomes a significant structural point. Interestingly we have a similar thing happening here; the phrase beginnings are surely written in accordance with the placing of “Düm” strokes; but there is no ordered hierarchy between the Düm strokes (in contrast to what is actually written in textbooks), which allows the phrase-lengths to be rather indefinite, and - as Sachs points out – avoids the “deadly inertia of evenness, [helping] an otherwise autonomous melody to breathe in and out.”.

The relationship between the beats and the melody is not only about such macro-levels of phrase relationships, that provide the pillars of music. Indeed, when one looks at micro-levels, as in this example especially accents created by sub-phrase beginnings and how the other beats are distributed one will see very interesting relationships. Consider the second phrase of our excerpt, which starts with Çargah,

prolongs it and eventually makes a half cadence at Neva. Let's analyze this section with the velvele version of Devr-i Revan. To see what is happening more clearly, it would be beneficial to ignore the barlines as well as notational beams provided by the original transcription, and rather re-write the phrase as how it is heard;

The figure shows a musical score with two staves. The upper staff is a treble clef with a key signature of one sharp (F#). It contains a melodic line with various notes and rests. Above the staff, several symbols are placed: a large downward arrow, a smaller downward arrow, a star, a downward arrow, a star, a downward arrow, a star, a downward arrow, a smaller downward arrow, a star, and a double downward arrow with a star above it. The lower staff is a bass clef with a key signature of one sharp (F#). It contains a rhythmic line with notes labeled 'D', 'd', 'm', 't', 'k'. Some notes are circled, and lines connect them to the upper staff. Below the staves, a legend defines the symbols: a large downward arrow = Düm @ Phrase Beginning, a double downward arrow with a star = Düm @ Cadence, a smaller downward arrow = Phenomenal Düm (Velvele), a downward arrow = Düm @ SubPhrase Beginning, a downward arrow = Phenomenal Düm, and a star = Subphrase Beginning (without Düm).

Figure 3.20 : Phrasing & rhythmic accent relationships reworked.

The upper part of the notation shows in symbols the important events at those particular moments. The amount of symbols shows how busy the section is actually, and how the rhythms and the melodic subphrasings are actually moving not coherently but rather as inter-related complementary layers; as if there's a "counterpoint of intensity changes"¹². Notice how the figure is imitated in the melody at such an instance having no "strong" beat below it, but distinctively comes into prominence for its gestural character and creates an accent by itself. Apparently there is an interrelation between the two different layers (melody & rhythm) that provides a distinct character than the inter-relations we saw in the macro-level.

The reason I've quoted Berry's definition is to make a point. For what really happens here is very similar to the technique of counterpoint seen in Western Music. This doesn't mean polyphony for sure; but rather an existence of multi-layers. In his investigations on Central African music, Simha Arom (Arom, 2004: p.204) also explains a similar thing. It is that, although the African polyrhythms are organized

¹² A definition used by Wallace Berry for interrelated, busy and loaded layers. (Berry, 1986)

periodically, the term “isoperiodic” would be more appropriate to use than using the term meter; since “meter” implies not only the periodicity but also a hierarchy of “strong” and “weak” beats, as GTTM views it and we have been applying without any doubts until now. But the African rhythm on the other hand is organized around a single primary pulse level; the accents are actually provided by a web of interlocking, periodic rhythmic patterns and “What is called meter in music is thus the simplest form of rhythmic expression” (Ibid. p.204) . Arom discusses the “contrapuntal” aspect we have just mentioned as follows;

“Generally speaking, rhythm operates at two different levels in regularly accented music, whether monodic or polyphonic: the first derives from the distribution of beats into a given number of similar reference frames (or *measures*), which are defined by the regular repetition of an accented beat; the second is determined by the durations of sounds and silences... Western rhythm is thus two-sided. Rhythmic complexity is directly proportional to the extent of offsetting and ambiguity between the two levels.

The measure is always a temporal matrix and a reference unit. To draw an analogy, the measure is to the organisation of time as the *cantus firmus* (in the strict sense) is to the organisation of the other parts in polyphony. The *cantus firmus* is the basic part, expressed in long and often equal values. It stands at a lower level of organisation than the parts it supports and provides them with a *melodic* reference. In the same way, the measure as the basic level of rhythmic organisation provides a *temporal* reference for the musical durations.

It might be objected that accents and attacks do not usually coincide in heavily syncopated music. The durations are thereby freed from the framework of the measure and depend only on the second level of rhythmic organisation. If, then, the measure is really a part of rhythm, it should remain audible as rhythm itself does. The reply to this reasoning is that, even when the parts in polyphony are deprived of the *cantus firmus*, they still continue to refer to it. In the same way, the measure may be inaudible, but is nonetheless still taken as the temporal reference of the musical durations.” (Ibid. p.204).

Owen Wright uses two terms to explain developments in TMM between 16th-19th centuries; “rhythmic retardation” and “melodic elaboration” (Wright, 2000). His analysis is correct, and his choice of terminology also show his awareness of the subject matter, similar to what we read in Arom’s discussion. “Rhythmic retardation” is related with the *usûl*’s, and what it means is not the rhythmic “delaying” – general dictionary definition – nor “slowing down”- definition from Grove Dictionary of Music. What is meant by rhythmic retardation is actually the rhythmic “augmentation” of the beats of the *usûl*s. Wright avoids using this more correct definition, because the word “retardation” also has contrapuntal implications, as we often see in contrapuntal-part-writing. Thus, his explanation for the musical

developments is that, the space between the beats of the *usûl* enlarges (augmentation/rhythmic retardation), and in between this enlarged areas, there is actually more available space for “melodic elaboration”. This definition is very similar to the definition of melismatic organum actually, as in it we see a rhythmic augmentation in the *cantus-firmus* on top of which there is more available space for melodic elaboration;

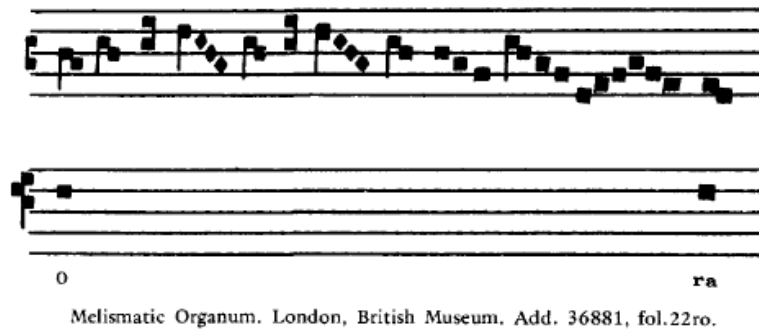


Figure 3.21: Melismatic organum, example (Ultan, p.58).

Similar discussions about such “contrapuntal” relationships and questioning of meter we also see in the works of Lewis Rowell (Rowell, 1988) and Martin Clayton (Clayton, 2000). These all support our argument that there is no meter in TMM, at least not in the Western sense, especially in these bigger cycles, and that the closest things to the idea of meter are either Arom’s idea of “isoperiodicity” and Hasty’s idea of meter; which is all about the musical process. But if there is no meter, one asks, why do we have notations such as Time-Signature or barlines in TMM? In relation to this question Martin Clayton criticizes Western ethnomusicologists;

“Time-Signatures may undoubtedly sometimes be appropriate to the description of non-Western musics. What is clear, however, is that this may not be assumed to be the case, without an examination of the issues involved. The problems encountered by ethnomusicologists in notating the rhythm of musics from around the world have been severe, even if many have remained unaware of them. If in many cases the results have been unsatisfactory, one reason for this must be a failure to address the issues which are inevitably involved in adapting non-Western music to Western notational conventions.” (Clayton, 2000: p.29.)

Indeed if one makes a research on the development of the concepts such as meter, time signature, barline; one will clearly realize that these developments actually go hand-in-hand with the concept of “tonality”; “The evolution of tonal harmony and meter during the same period is not accidental” (Bar-Yosef, 2007: p.279).

As tonality develops meter develops and becomes “strict”er in terms of its hierarchical organizations of pulses;

“It was the pedantic insistence on the relative strength of pulses in a meter which gave rise to the “tyranny of the barline, producing a mass of purely metrical rather than rhythmic music.” (Creston, 1961).

“The relation of rhythm and harmony, [...], is confirmed by an irrefutable chronological fact: The transition, inside Europe, from an additive to a divisive rhythm occurred at exactly the time in which the contrapuntal (horizontal) concept of polyphony yielded to the harmonic (vertical) concept. It began essentially around 1400 and had been completed by 1600, with a few predecessors in the fourteenth century and a few stragglers in the seventeenth.” (Sachs, 1953: p.92)

On the other hand, as tonality decayed (or collapsed) by 20th century, meter starts to be used more flexibly, or even freely - as we see in 20th century music. In fact this notion was what Christopher Hasty was talking about in his book *Meter as Rhythm*, as he was discussing the two things are indifferent, what makes us think that they are different is actually grounded on our notational practices;

“...all our systematic theories of meter draw upon a conceptual framework grounded in the technology of metric notation. Moreover, [...] the assumptions of homogeneity and determinism that derive at least in part from notational practice (and in part from more general assumptions concerning time) are responsible for the opposition of meter and rhythm.” (Hasty, 1997: p.6)

The next set of examples show how music notation and the concepts of meter and barline developed in the past millenium. All of the examples are transcriptions with a critical consideration of their respective original documents.

The first one is a Gregorian Chant example (Figure 3.22). Notice how the barlines (double, whole and half) are used rather as punctuation marks at points of phrase endings with full cadence or half or suspended cadences.

Examples seen in Figure 3.23 are from 16th century modal polyphony, from Lassus and Palestrina. The barlines employed here between the staves are called *Mensurstrich*. In this period we also see barlines used on the staves, however it is only for practical reading purposes, as it was notified that “the performer should be aware of the absence of bar lines in the original notation and avoid the undue sense of regular stress that the bar line sometimes elicits.” (Randel, 2003: p.86)

The sixth example as seen in Figure 3.24 is one of Haydn’s String Quartets (Op.42) from 1785. As the common practice period starts, functional harmony is settled and

clearly the barlines marks the harmonic rhythm and the accent hierarchy of meter is distributed according to such a change.

Alleluia



Alleluia. The righteous will blossom as the lily and will flourish forever in the presence of the Lord.

Figure 3.22 : Gregorian Chant example.

Lassus: Beatus vir

Cantus
Be - a - tus vir qui in Sa -

Altus
Be - a - tus vir qui in sa - fi - en -

10
pe - en - ti - a mo - ra - - bi - tur, et qui in ju -
ti - a mo - ra - - bi - tur, et qui in ju -
in jus - ti - ti - a me - li - ta - bi - tur,
oti - ti - a me - di - ta - bi -

20
et in sem - su co - gi - ta - bit cir -
tur, et in sem - su co - gi - ta - bit
cum - spec - ti - o - nem De - i cir - cum - spe -
cir - cum - spec - ti - o - nem De - i cir -

30
ti - o - nem De - i
cum - spec - ti - o - nem De - i

Blessed is the man who will remain in wisdom, and who will exercise himself in justice, and who will meditate within himself on thoughts of God.

Palestrina: Tu nobis dona fontem lacrymarum

Altus
Tu no - bis do - na

Tenor
Tu no - bis

Bassus
Tu no - bis do - na, do -

fon - tem la - cry - ma -
do - na fon - tem la - cry - ma -
na fon - tem la - cry - ma - rum,
rum, fon - tem la - cry - ma - rum, je - ju - ni -
rum, fon - tem la - cry - ma - rum, je - ju - ni - or -
fon - tem la - cry - ma - rum, je - ju - ni - or -

Figure 3.23 : Mensurstrich & 16th century modal polyphony example.

Beethoven, Piano Sonata in F Minor, Op. 2/I, i, 1-8

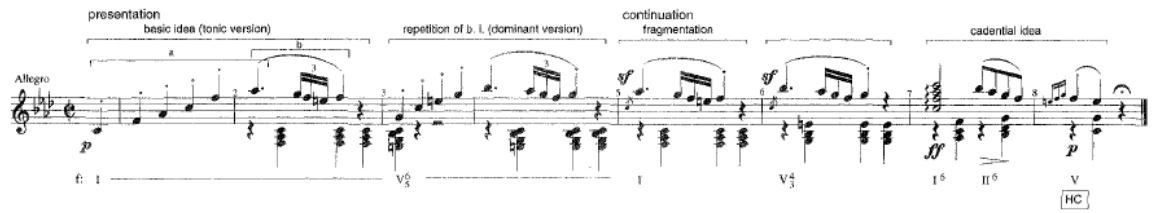


Figure 3.25 : Beethoven Op 2/I – 1795 (Caplin, 1998, p.10).

really the “backbone” of the TMM, as all the scholars state, then this means that our theories on TMM might have been tyrannized by this same “imported” technology¹³.

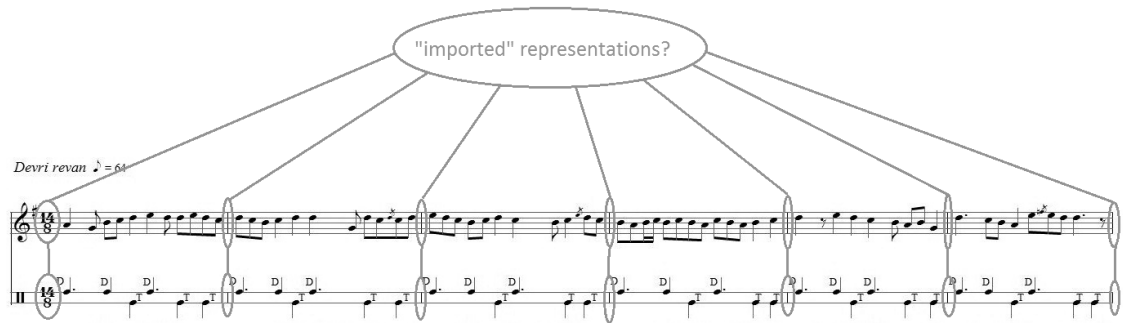


Figure 3.26 : Technology of Barline in TMM.

Yalçın Tura also states this great problem of direct adaptation of the Western notation system in his articles (Tura, 1988: p.58) and books. In his research, translation and transcription of Kantemir’s Edvar and notations, he ignores using the barline for subgroupings of the *usul* – which was a proposed strategy by Veli Kanık (Kanık, 1954) – and rather chooses to use dotted barlines on music IF the melodic subgrouping of music allowed such a thing. However, we still see the usage of barline in the bigger cycles at the measure-level. (Tura, 2001)

All these facts show the collapse of the “metric structure” dimension of the analysis model we adapted from GTTM. We need to make some revisions especially for investigating the relationships of *usûls* and melodic line in macro-levels (phrase-

¹³ This indeed is not only ironic but tragic as well, because that the current TMM theory is not only making the “learning” and “pedagogy” process any easier as Aydemir states, but indeed it might also be working against its own tradition and making TMM actually nothing but “monophonic” with a “deadly inertia of evenness” This hypothesis can be checked by a comparative analysis of compositions written today with the old repertoire. There surely is a difference that can be recognized clearly by hearing as the “modern” compositions are being more “metrical” rather than “rhythmic” because of this fact. Such an investigation is beyond the scope of this thesis.

levels). The hierarchical differences between the DÜms depend on phrasings, and since there would be no such hierarchy between DÜms if we subtract this phrase-factor from the equation, what we will have is actually something similar to the example below when analyzed from the perspective of GTTM's metric structure;

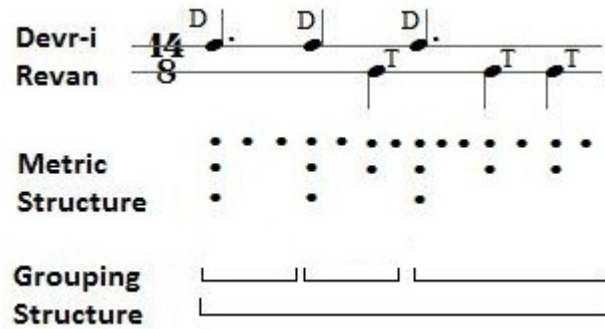


Figure 3.27: Metric & Grouping Structure of Devr-i Revan usûl reworked.

However, if such a thing exists, then this also means that the same figure can be written as the following two as well;

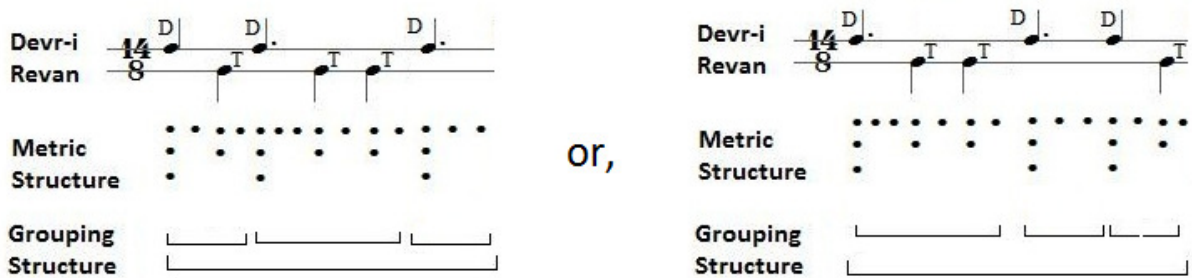


Figure 3.28: Metric & Grouping Structures of Devr-i Revan arranged differently.

The two figures seem obviously wrong from this perspective if we were to define the rhythmic framework of Devr-i Revan with them. But in a way they help us to change our perspective. Seeing all three of the figures help us grasp the notion of cyclicity even more, a notion of no “beginning” nor “end”. Indeed, for centuries - as well as today - , the term “cycles” are used as a name especially for these larger usûls. It is now beneficial to go back in time and see how these “conceptual frameworks” were represented and conceptualized in the older times.

3.4 Külliyyat, Cycles and Different Perspectives on Time

Following is a short survey and examples of how rhythm and rhythmic frameworks are represented as seen in various Edvars in different periods. The definition of Edvar is actually time and cycles, and Kitab-el Edvar means book of cycles, in which both the makams and the usûls were explained using cycles till the end of 19th Century (Doğrusöz).

The rhythmic cycles in Abdülkadir Meragi (14th-15th century) are visually depicted as cycles. The cycles are equally divided by the number of nakre's of the rhythmic framework. On these are marked the types of ika's and rhythms that the usûl is composed of. The divisions respond to different syllables (related with the prosody; openness-closeness) having different durations and eventually providing a rhythmic-framework. The name of the cycle is written at the center, around which the cycle revolves. Below is a transcription of Devr-i Sakiyyî Evvel usûl found in Meragi's edvars;

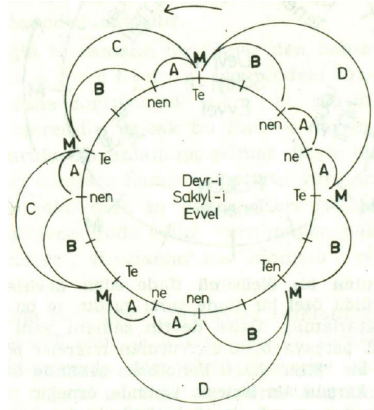


Figure 3.29: Devr-i Sakiyyî Evvel usûl in Meragi (transcribed by Bardakçı) (Bardakçı, 1986: 84).

Figure 3.30 is from Kırşehirli Edvarı which dates from 15th century. Again, at the very center written is the name of the usûl – Hafîf – around which is distributed the accented beats in order. We should also note here that these books were not only about music theory, but also had an interdisciplinary nature and invited “philosophical/cosmological discussions, merging theoretical knowledge and aesthetic/ethical views by covering such diverse domains as music, language, poetics, astrology, theology, spirituality, numerology, and psychology.” (Ertan, 2007, p.31). In fact, using the word interdisciplinary might have some flaws here and it might be correct to explain it as an holistic nature, because all of these “fields” were



Figure 3.30: Hafif usul as seen in Kırşehirli Edvarı, 15th century (Doğrusöz).

woven together, unitarily just as the circular representation imply. There is a center, “the object” and all the rest are “possible ” “subjects”are around it, and there is no hierarchy between these subjects. Similar to the Greek Doctrine of Ethos, Islamic music theory also has this notion of “spherical” motions; that explains the soul, the planetary motions and the total cosmos. Sema whirling is also connected to this philosophy, it symbolizes many thing as the revolutions and harmones of celestial bodies, the sun, the moon and the human soul; but more importantly the act of Sema, or the experience of Sema also means something, it has stages such as “knowing, finding, and being”. So it is the relationship of “subject” with the “essence” actually; the act of “turning” is nothing but the “subject”’s search for the “essence”, becoming “one” with him, and again returning to the “subject” stage again. So it is a cyclical experience; “...the act of ‘turning’ becomes a medium for the dervish in search for the Divine Lore, which symbolically has no beginning nor end.” (Ertan 2007, p.50)

What the circle also implies is a motion of “turning”, a “recurrence”; not a “forward” motion of “transformation” as one might see in a linear time-line; so the two perspectives are rather different as can be observed from Figure 3.31. The line figure on the left has a definite beginning and an end, and what happens in between is related with these definite spots, as “movings away” and “towards to”, thus much more goal-oriented. The circle figure on the other hand doesn’t have such a definite beginning nor an end.

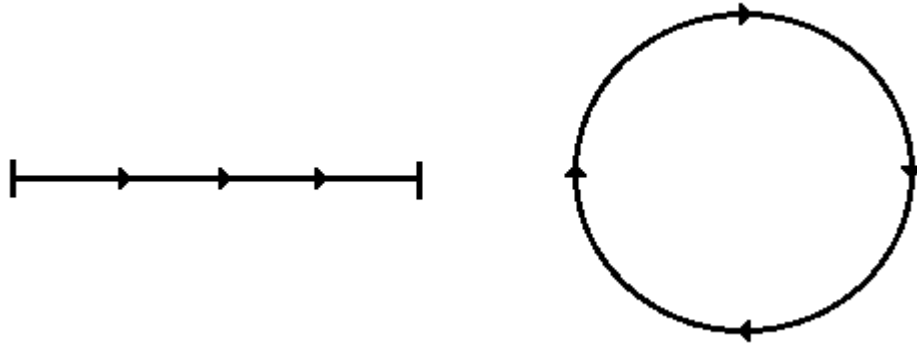


Figure 3.31: Linear vs. Circular Time.

In fact, one sees that circle and cycle are two of most common representative metaphors in Eastern cultures, whereas linearity and its implications such as “progress” and “change” is much more related to the Western thought. In his book “Time’s Arrow, Time’s Cycle” Stephen Jay Gould (1987) discusses these two perspectives of “Linearity” and “Circularity”;

“At one end of the dichotomy—I shall call it time's arrow—history is an irreversible sequence of unrepeatable events. Each moment occupies its own distinct position in a temporal series, and all moments, considered in proper sequence, tell a story of linked events moving in a direction.

At the other end—I shall call it time's cycle—events have no meaning as distinct episodes with causal impact upon a contingent history. Fundamental states are immanent in time, always present and never changing. Apparent motions are parts of repeating cycles, and differences of the past will be realities of the future. Time has no direction.

I present nothing original here. This contrast has been drawn so often, and by so many fine scholars, that it has become (by the genuine insight it provides) a virtual cliché of intellectual life. It is also traditional—and central to this book as well—to point out that Judeo-Christian traditions have struggled to embrace the necessary parts of both contradictory poles, and that time's arrow and time's cycle are both prominently featured in the Bible.”

(Gould, 1987; pp.10-11)

In his article, Kramer (1981) discusses the same issue of linearity and how it is apparent in many parts of Western thinking and culture. He also adds how the concept of tonality is linked with linear thinking, and gives an account of the development of such perspective. His discussion supports our arguments we had stated in the previous pages about the parallel development of tonality and barline in Western notation system;

“Western thought has for several centuries been distinctly linear. Ideas of cause and effect, progress, and goal orientation have pervaded every aspect of

human life in the West at least from the Age of Humanism to the First World War.

...science has been dominated by the temporally linear theories of Newton and Darwin; even our languages are pervaded by words that refer to goals and purposes. In music, the quintessential expression of linearity is the tonal system. Tonality's golden age coincides with the height of linear thinking in Western culture: having roots in the fifteenth and sixteenth centuries, tonality became fully developed shortly after 1600; the system started to crumble in the late nineteenth century, and only remnants still function today.” (Kramer, 1981. p.539)

The linear writings of *usûl*'s have been written first by Ali Ufki. However, although his choice of representation of the *usûls* are “barlined” and linear; we don’t come across any barlines in Ali Ufki’s musical transcriptions (Figures 3.32 & 3.33).

On the other hand Cantemir also preferred circular depictions when explaining *usûls*. His method was different though, as he did not divided the circle according to the *nakre*'s (beats) but according to the types of beats (not quality, but quantity), and below them wrote the length of time they are going to be used in (Figure 3.34).

Recently, circular representations of rhythm and meter are getting more and more significant attention and consideration, not only by music theorists but by composers, musicians, and even cognitive psychologists. In his paper, John Neelin shows evidence that the nonlinear approaches to rhythm education may be complementary to traditional linear approaches in rhythm perception and that “rhythm perception may involve many non-linear, self organizing, and interrelated processes that are sensitive to the microstructural subtleties of expressive performance” (Neelin, 2006).

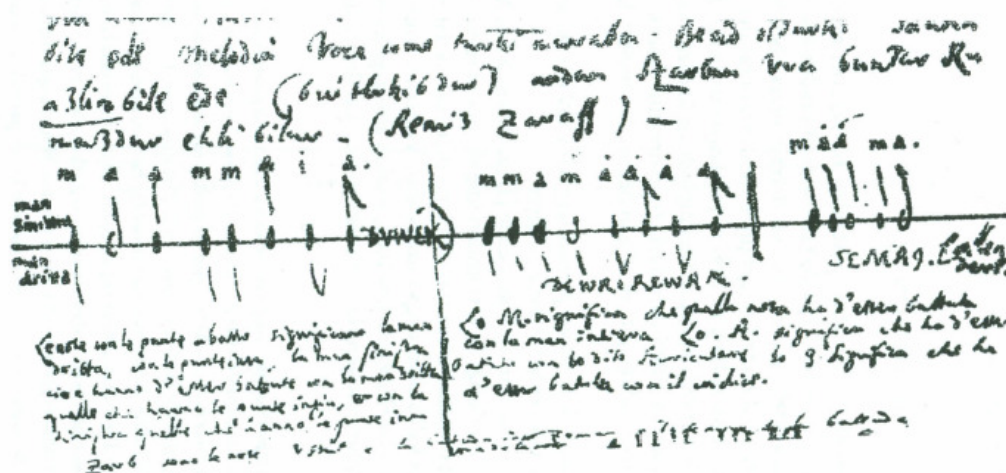


Figure 3.32: Ali Ufki’s transcriptions – I (Behar, 2008, p.92).



Figure 3.33: Ali Ufki's transcriptions – II (Elçin, 1973, p.178).

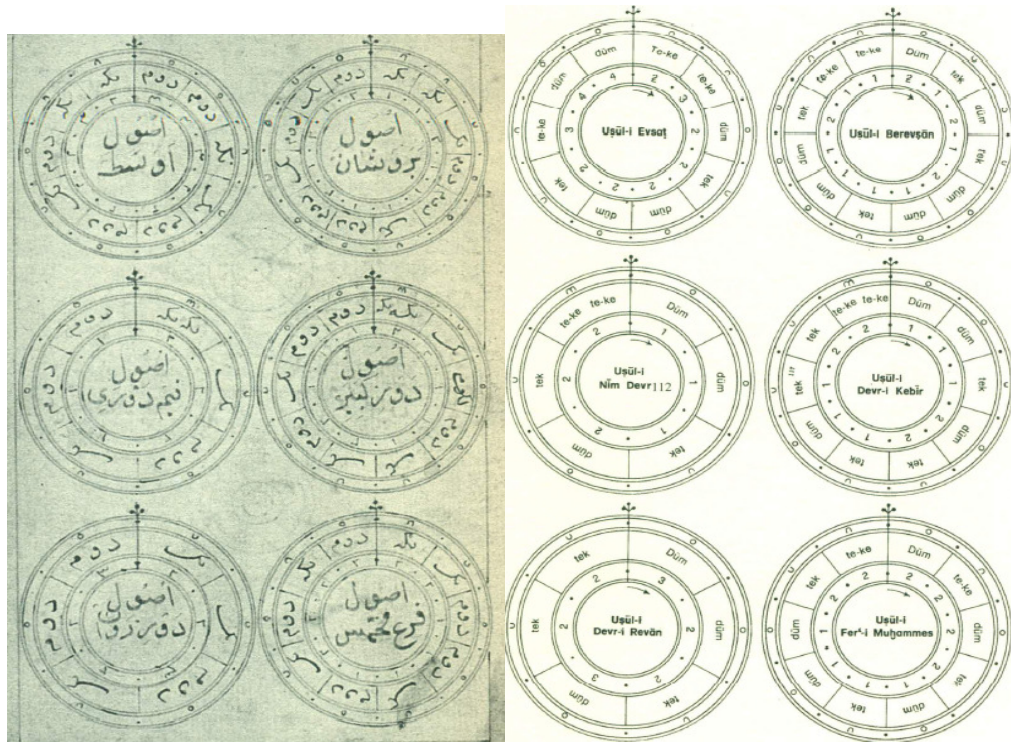


Figure 3.34: Circular representation of usûl's in Cantemir (Tura, pp.164-165).

Another scholar is William Sethares, who in his book “Rhythm and Transforms” (Sethares, 2007) explains rhythm and poly-rhythmic relations all by using circular representations. Sethares also credits Safiyuddin for his “necklace notation”s. Figure 3.35 shows how Sethares transforms the 6/8 linear notation to circular notation.

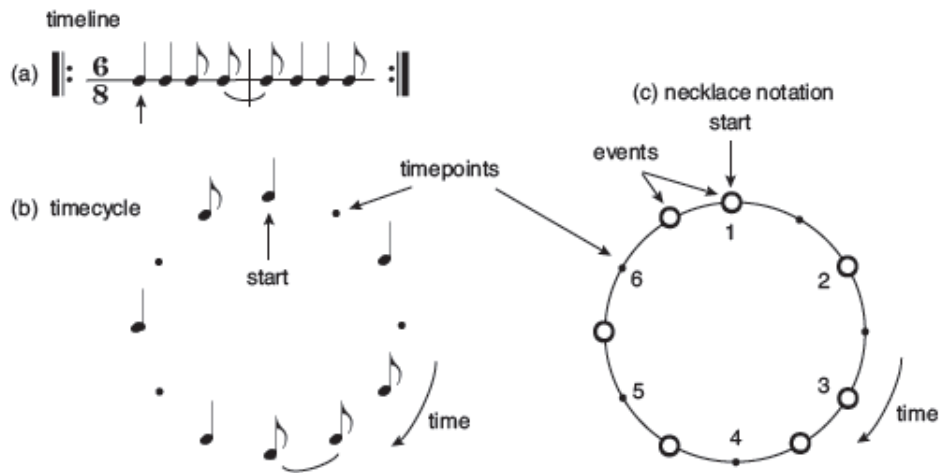


Figure 3.35: Sethares's "Necklace Notation" (Sethares, 2007, p.28).

Notice how polyrhythms, which are composed of different number of basic rhythms, can be represented holistically and clearly by circular notations;

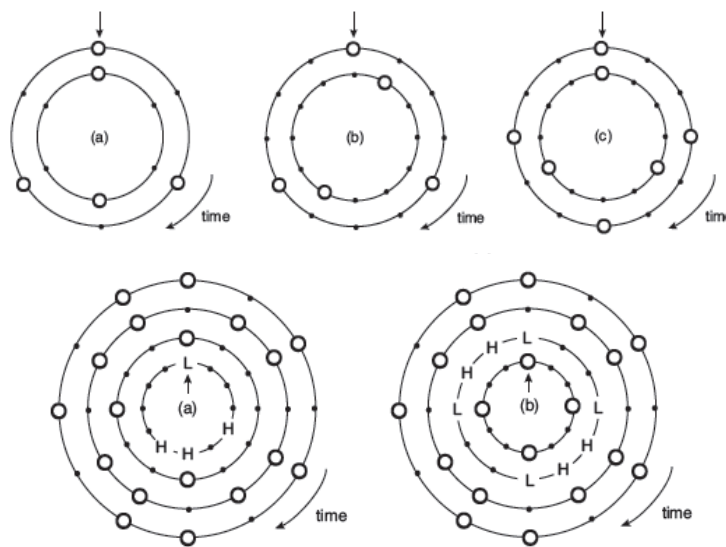


Figure 3.36: Sethares's "Necklace Notation" & Polyrhythms (Sethares, 2007)

In his book, "Hearing in Time: Psychological Aspects of Meter", Justin London also prefers showing the characteristic differences of different meters by circular notations, as well as using them to aid his music analyses. His drawing of lines between the tactus point to show the shape of the rhythms is very similar to Ibn-i Arabi's depictions as can also be seen in Figures 3.37 and 3.38;

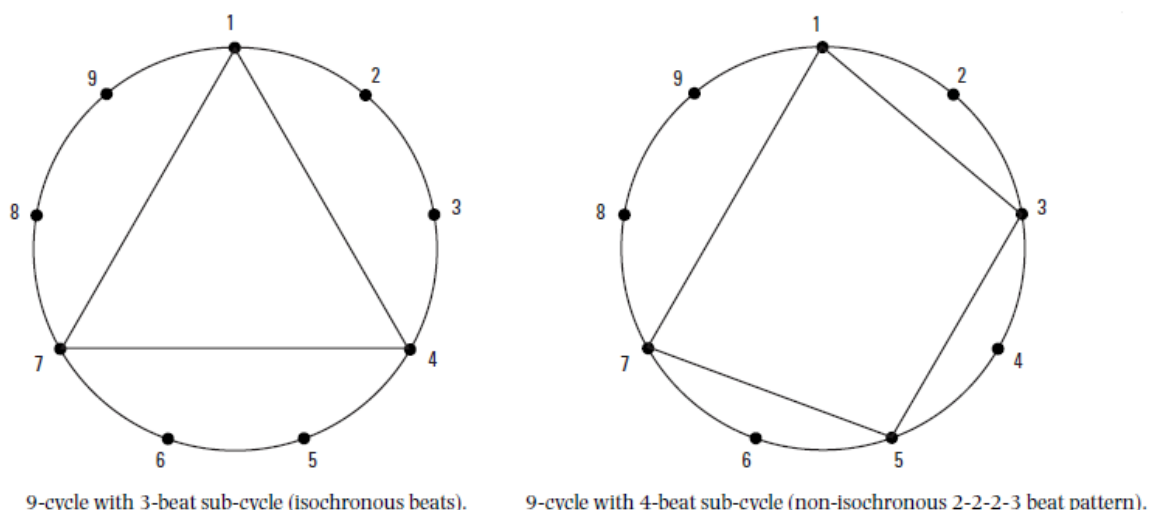
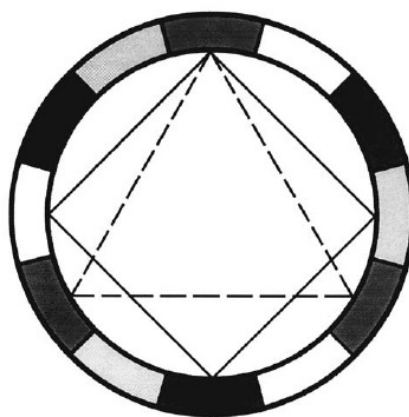


Figure 3.37: Rhythmic shapes inside circular representations in London (London, 2004, p.101).



The duodenary structure of the *atlas* sphere according to Ibn 'Arabi.

Figure 3.38: Ibn Arabi & sphere structures (Akkach, 2005, p.133).

London is an advocate of Lerdahl and Jackendoff's GTTM, but he also adds the importance of the cyclicity fact of meter, which he states that GTTM "misses" this aspect (London).

In his "Time in Indian Music", Michael Clayton, gives a very clear and concise survey of the discourses about time and cyclicity in music (Clayton, 2000: pp.12-26). Among his discussion he also gives an account of Subhadra Chaudhary's thoughts on the issue of representing the cyclicity of time. According to Chaudhary, the two visual concepts, circle and cycle should not be mixed; as the circle implies "returning to the beginning" whereas cycle moves forward gradually in a spiral. (Clayton,

2000.p.20). This is indeed a very interesting idea that is unfortunately overlooked by Clayton in his remarkable survey. Chaudhary actually combines Gould’s ideas of “arrow” and “cycle” and present them in the same “circular” context. The “circle” is the “object”, whereas “cycle” (and the spiral motion) is the “subject”. I’ll return to these two differences in the next section.

Now, with all these “retro”-fresh informations we can start revising our model.

3.5 Revising Circular Representations & the Cyclical Analysis Model

What London also missed was to properly apply the GTTM’s hierarchic dot notation theory to his circular representations; thus to bring the “quality” aspect to the representation. In fact what Cantemir does with his circular notation is to bring out this “quality” aspect next to Safiyuddin or Meragi’s quantitative divisions of the circle. However, by bringing out the qualitative distributions, his model sacrifices the quantitative distributions. So, we need a revised circular model that should visualize both of these differences equally. The dot-notation of GTTM, described the hierarchic levels on top of each other through time. It will be logical then to apply it to circular model by adding outer rings;

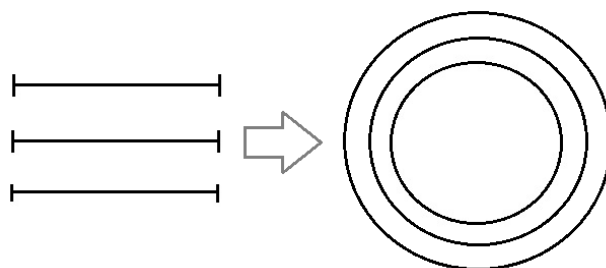


Figure 3.39: Transforming simultaneous layers of time from linear to circular.

Thus, a Devr-i Revan usul can be visualized in hierarchic dot-notation and in circles, providing both the quantitative and qualitative differences (Figure 3.40). As can be seen, there are three rings around each other¹⁴. The innermost ring provides us the tactus, or the “nakre” level, as there are 14 equally spaced dots around it. The

¹⁴ The blank dots are written here as a consideration of how accented the beats are played.

outermost circle is our “Düm”s, thus our strong beats (main beats), and the in-between ring provides the weak beats, “Tek”s or “Ke”s ...etc¹⁵.

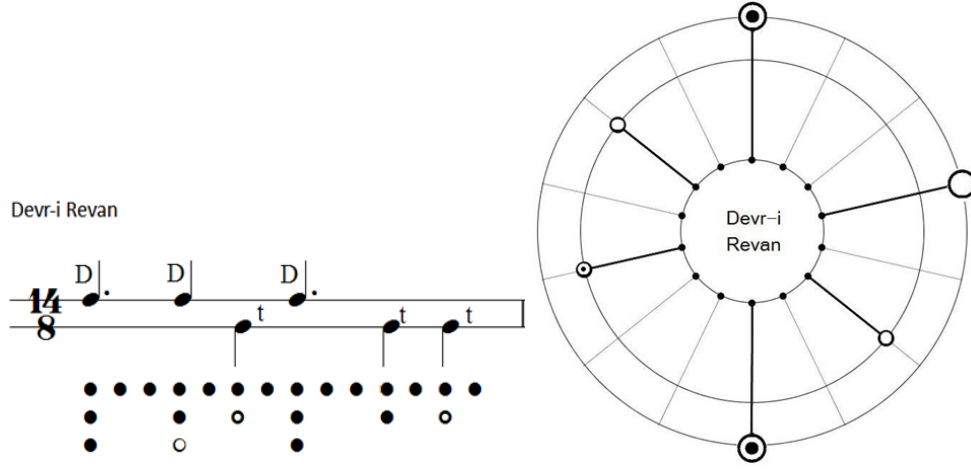


Figure 3.40: Devr-i Revan usül transformed back to circular representation.

This representation of Devr-i Revan also shows how reciprocally distributed its beats are as seen in Figure 3.41.

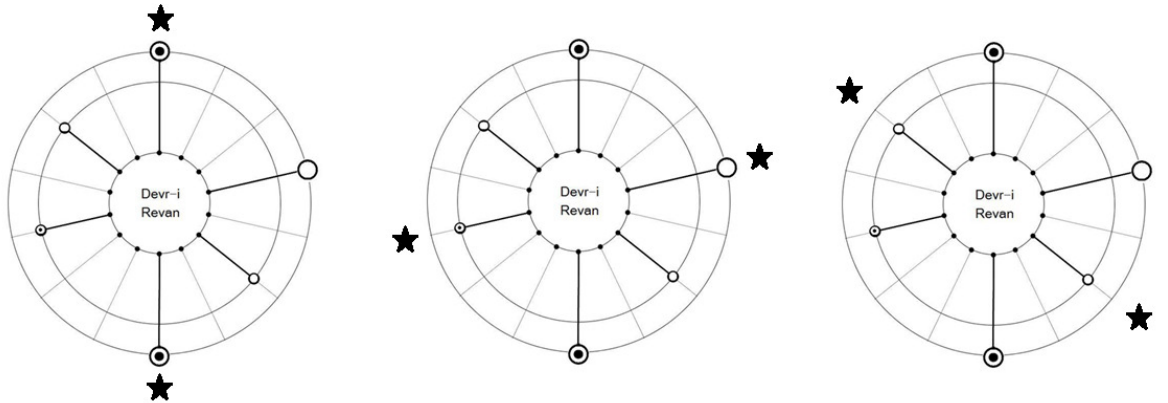


Figure 3.41: Geometric structure of the Devr-i Revan usül.

Notice how the strongest Düm’s are placed reciprocally, as well as the weakest Tek’s, and the weakly played Düm and the strongly played Tek. Such a visualization clearly shows the inner dynamics and the gestural character of the usül more efficiently than its linear counterpart. In fact it also shows how some usüls are very similar and how they are rather different as well as their inner complexities (or simplicities);

¹⁵ These design are made with using the program Processing, which can be downloaded freely from its main web-site processing.org. The program-code written for these designs are provided in Appendix. A complete coverage of all the usüls in circular re-modelings can also be seen in the Appendix

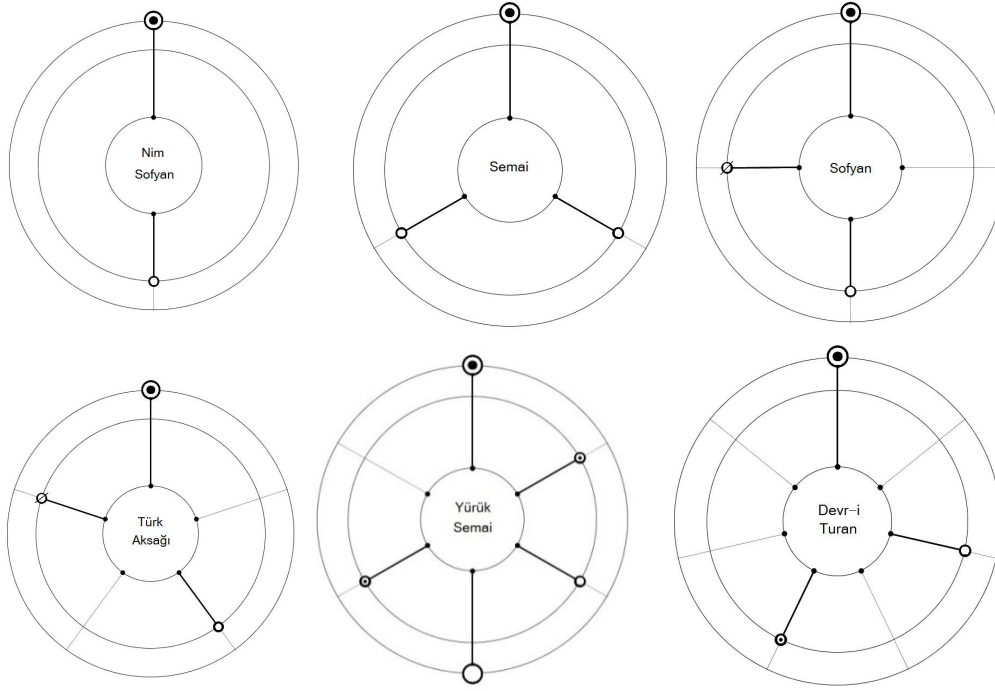


Figure 3.42: Examples of circular representations of some usûls.

We have designed our own version of “metrical structure”, combining the circular representation figures as seen in old Edvars with GTTM’s dot-hierarchy. What is left is how to show grouping structure in this version. The solution is not hard after reviewing such important philosophical discourses and beliefs on the aspect of time in previous sections, especially of “being” and “becoming”; “object” and the “subject”. Figure 3.43 combines “Time’s Arrow” by bending it spirally around “Time’s Cycle”, which in this example is Devr-i Revan usûl. As can be seen the motion of the “seyir” (“subject”) revolves around the usûl, the “cycle” (“object”). However, this is only one dimension of the analysis, since the usûl is not the sole representative of the “object” by itself. The other dimension should be our pitch-space, with its hierarchy of tones from the most “centric” essential ones to non-essential ones. We should not also forget that makams were also defined with such circular representations. Figure 3.44 is again from Kırşehirli Edvari, and it is used in explaining makams. At the core level, the heart of the circle is written the name of the Makam. Around it, is the second level, is written the pitches of the makam. At

the third level, is the outermost circle, is explained the seyir of the makam, the motional characteristics and how it is used¹⁶.

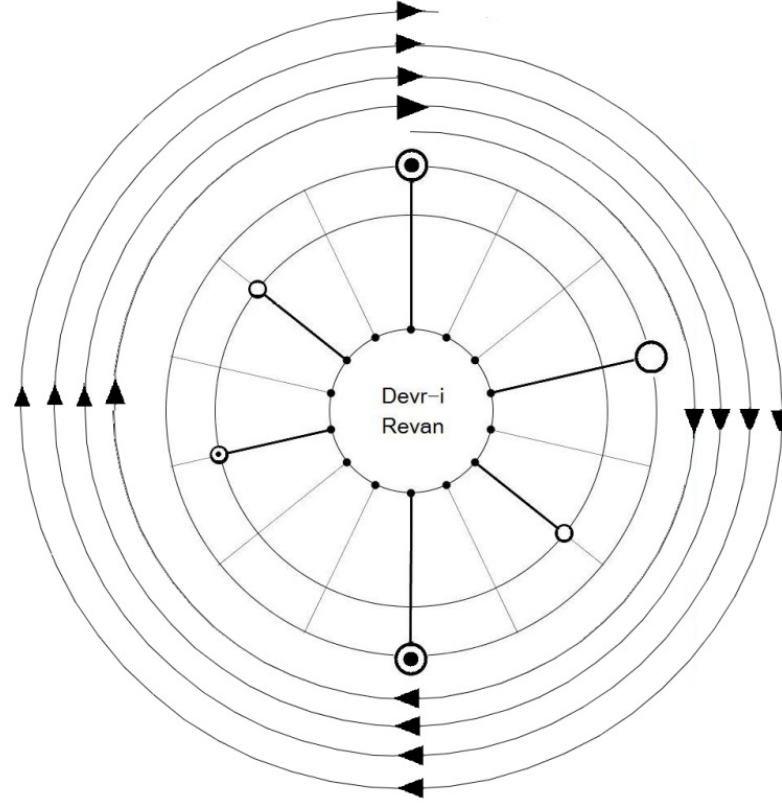


Figure 3.43: Circular & Cyclical representation of Devr-i Revan Usül.

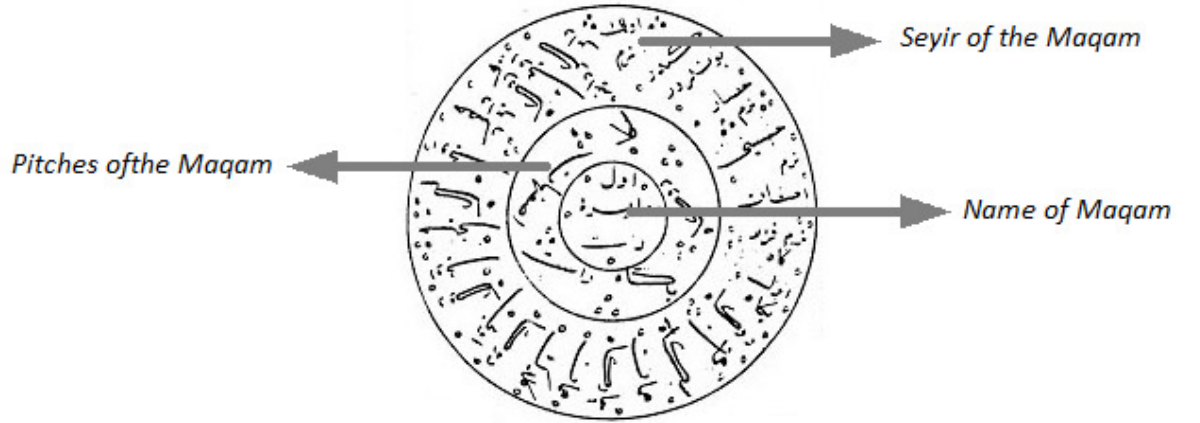


Figure 3.44: Definitions of makams as seen in Kırşehirli Edvarı, 15th century (Doğrusöz).

¹⁶ As can be seen the model here is also a generative one. A seyir can not be irreducible to a one single example; as the example will only provide a façade, a shadow of it. We will be discussing these subjects in the following pages.

So what we have is actually two circular dimensions that complement each other. Since we have analyzed the previous two excerpts using GTTM's Time-Span & Prolongational reductions efficiently, we don't think that we need to revise it too. However it might prove beneficial to mark the phrasings around the cycles and mapping the essential and prolonged pitches.

Now with these tools let's continue our analysis of the excerpt from Pençgah Mevlevi Ayini I.Selam. Our excerpt is the opening section of I.Selam, which was composed of three main phrases, each having subphrasings;



Figure 3.45: Pençgah Mevlevi Ayini, I.Selam, cycles 1-6, subphrasings.

The first phrase (A) starts around Rast (tonic) and immediately proceeds to Neva through the Rast pentachord, establishes it and makes cadences on it. The next phrase starts with a prolongation on Çargah as we see motions to Dügah through Uşşak tetrachord, with which it then ascends and cadences on Neva again. Notice the ascending Segah trichord to Neva in most of the cadences in phrases (A) and (B). The last phrase (C) acts as a closing phrase for this section making a prolongational descent from Hüseyini to Neva; which includes a restatement of Rast pentachord at its beginning. After this a new section will begin, the first phrase of which will start with the first “Düm” of the Devr-i Revan. As can be seen from the circular analysis next column, The first section takes a total of six-full cycles of Devr-i Revan, but what is more interesting is that all three phrases of the section start on a different “Düm” of the Devr-i Revan cycle (Figure 3.46).

Now let's look at these phrases separately. The opening phrase can be grouped under three subphrases (Figure 3.47). The first of these (A-1) starts “near” Rast , “shows” it and establishes the Rast pentachord with an initial ascend to Neva, marking the end of this subgroup. The pitches of this initial ascent (Segah-Çargah-Neva) are encountered in the following lines, and interestingly all ending a subgroup similar to

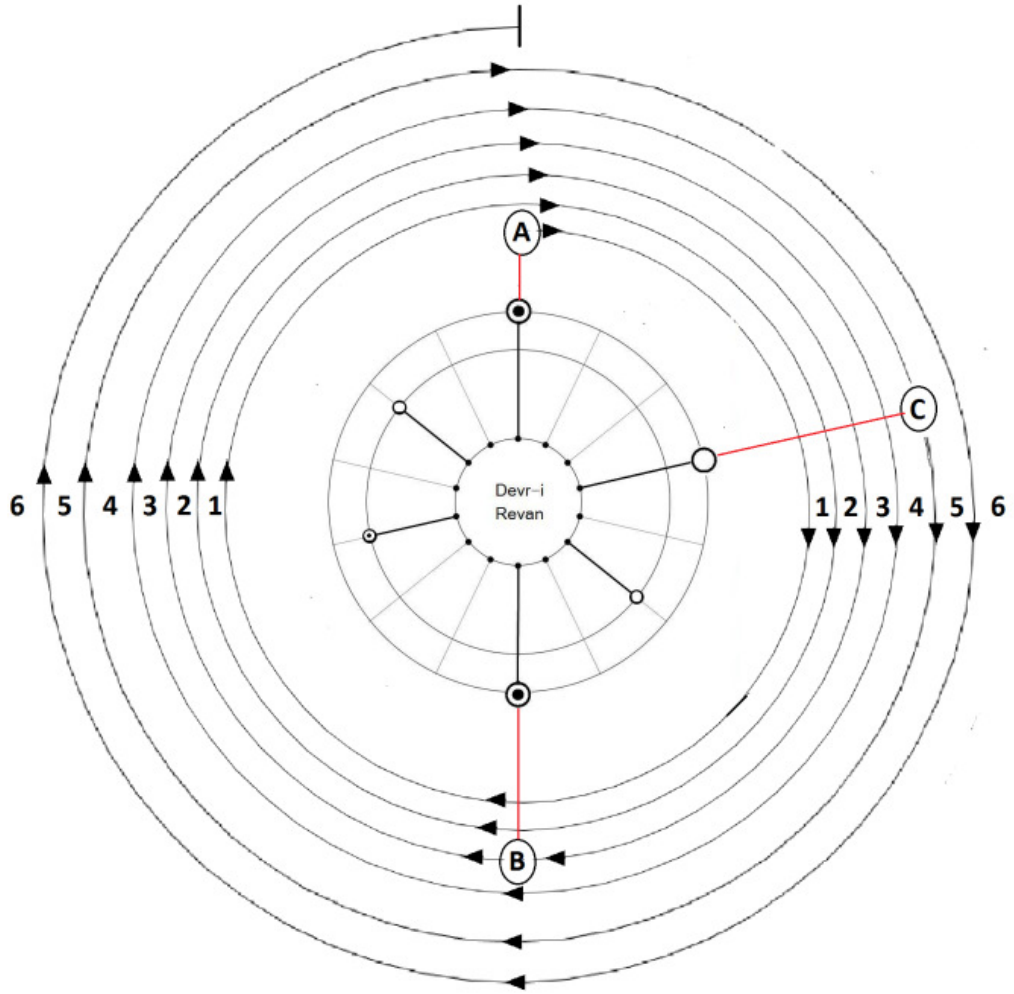


Figure 3.46: Pencgah Mevlevi Ayini, I.Selam, cycles 1-6, cyclical phrase analysis.

the first one. The next grouping start very similar to the beginning (Dügah-Rast) with a rhythmically and intervallically identical approach, the only difference is that the approach is to the dominant this time (Huseyni-Neva). Notice how this approach is backed-up by the same usül pattern, as the upper neighbor pitches are played with “Düm”s and the essential tones are played with “Tek”s. The subgroups (A-2) and (A-3) have similar *seyirs* as can be seen from the reduction below; both prolong the established pitch Neva, with ornamentations from its upper and lower neighbor notes (Hüseyni and Çargah). The circular analysis also maps the essential pitches and marks their progression through the phrase. Notice how the approaches of the neighboring tones Dügah & Hüseyni to Rast and Neva in (A-1) and (A-2) are reciprocals actually (marked with ▼). Another interesting thing is how the trichordal

cadences to Neva (Segah-Cargah-Neva) conclude at the same cadential point (marked with ★) in this phrase.

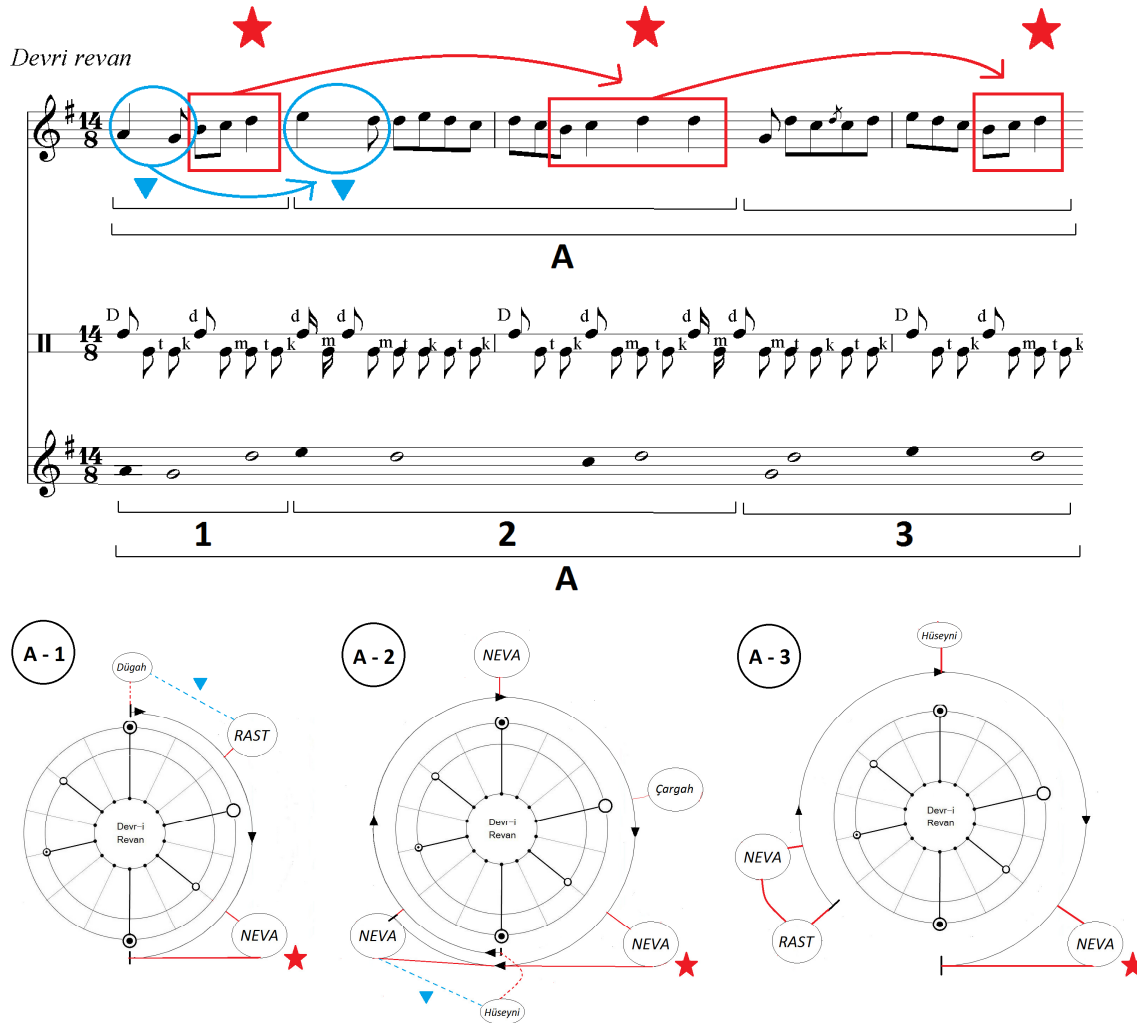


Figure 3.47: Phrase A Analyses.

In the next phrase (B) (Figure 3.48) the same trichordal motion can be observed at the cadence, however it is at a different place of the cycle, and ends on a strong beat (Düm); making the phrase (B) both beginning accented (Düm @ Çargah) Çargah prolongation moving towards an End-accented (Düm@ Neva) Neva cadence. We have already analyzed the micro-level relationship of pitch motions and rhythmic accents of this section which, until its cadence point is quite intense; thus the resolution at Neva is much stronger than the previous ones as it cadences at a strong beat (end-accented) and with an “anticipated” trichordal motion (4th time now).

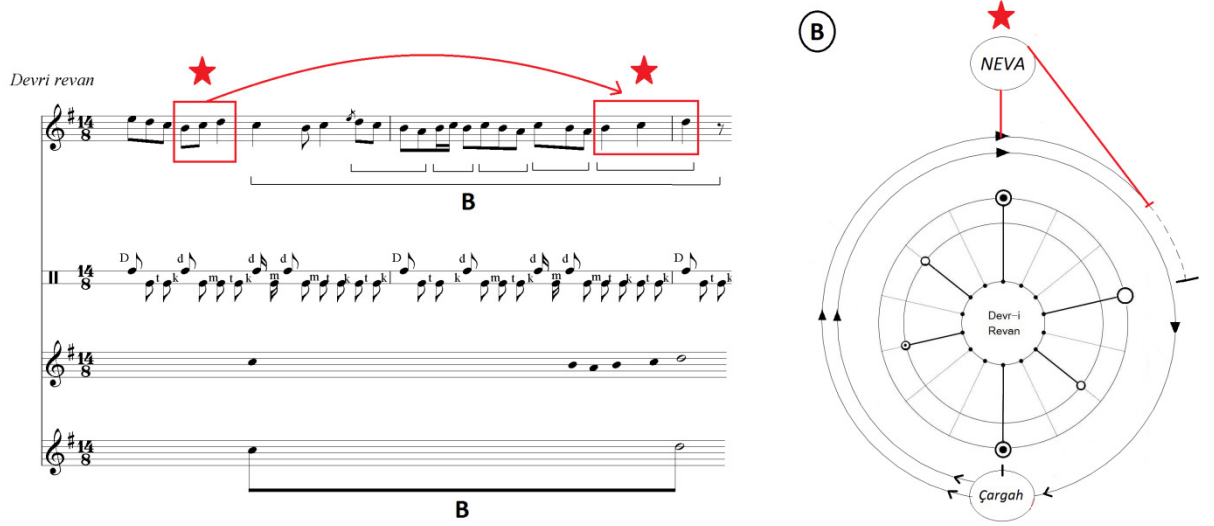


Figure 3.48: Phrase B Analyses.

As we have mentioned before, the last phrase C (Figure 3.49) functions as a closing phrase for this section with a final cadence on Neva. Notice from the figures below, how the Hüseyini-Neva motion (marked as ▼) is recalled from (A-2) and how it starts



Figure 3.49: Phrase C Analysis.

and ends this part. There are three subgrouping as can be seen from the figure below, which are also in accordance with the Gestaltian rule of “Good-Continuation”; the leap from the first subphrase ending to the next one (Rast-Neva) is also projected to the leap we see from Dugah to Hüseyini; not only that Rast and Dugah are the last pitches of their respective groupings, but the first pitches of the following groupings are also backed by the “Düm” strokes in the rhythmic framework. Thus the accents caused by the leaps get even more stronger and become important focal points. The cyclical analysis also shows this projection, again the processes happen at the reciprocal sides of the cycle as can be seen in Figure 3.50.

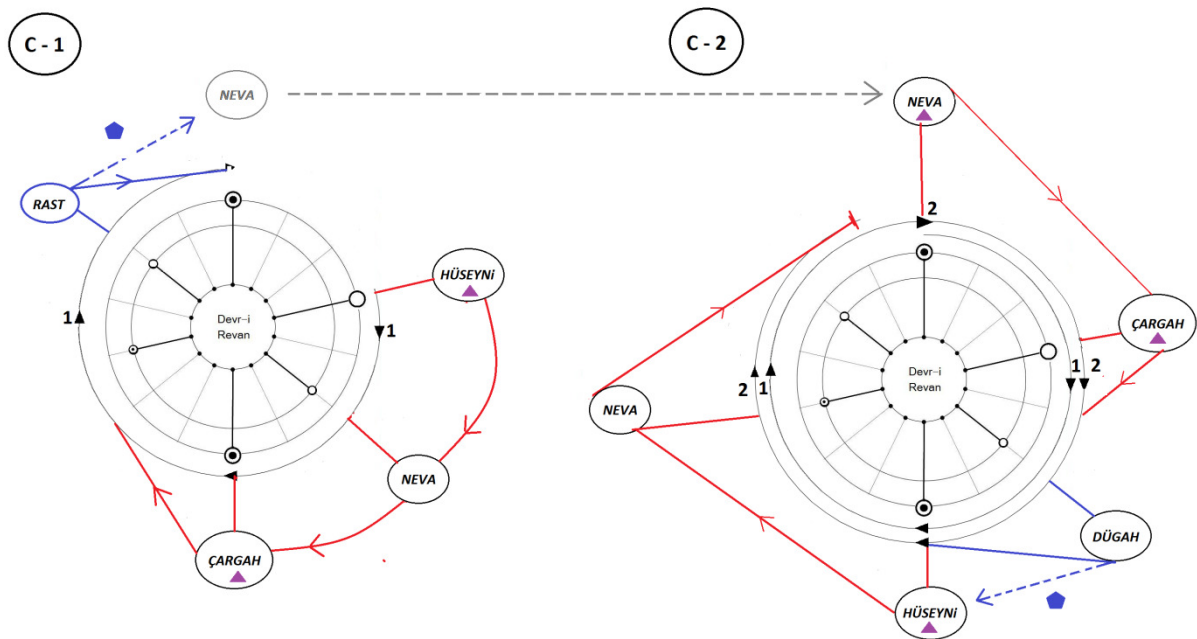


Figure 3.50: Phrase C Cyclical Analysis.

Below is the background reduction of the whole excerpt, with the ornamental and non-essential pitches discarded;

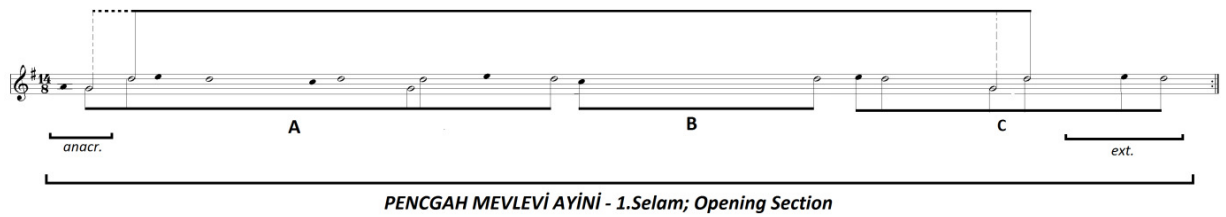


Figure 3.51: Pencgah Mevlevi Ayini – First Selam, Opening Section –Prolongations.

Notice how Neva is prolonged throughout the passage after having its initial ascent from Rast at the beginning. Another noticeable thing is the similar lines in the background as Neva-Hüseyni-Çargah-Neva with some Rast-Neva leaps in cadential moments. In fact there seems to be a row of these pitches, appearing again and again with their durations changed¹⁷, and also at different points in the rhythmic cycle, thus on a different context. If we also happen the other two less essential pitches Segah and Dugah , and try to build a generative model we can have something similar to this;

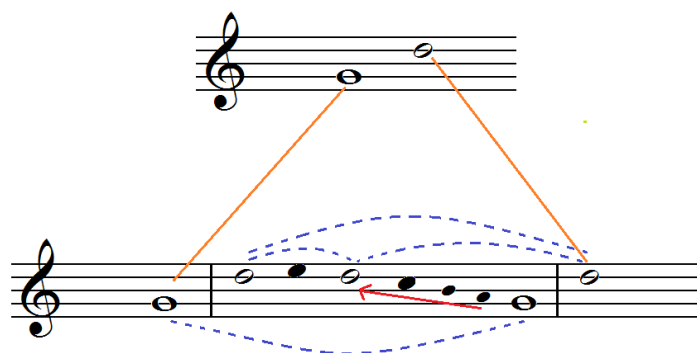


Figure 3.52: Generative model for Pencgah based on cycles 1-6.

The upper staff has only the two most essential pitches; the tonic Rast and the dominant Neva. Notice that in our background also we had these two pitches in the beginning and at the end. So the lower staff shows the generative “seyir” processes we have throughout this prolongation/ornamentation.

This can also be shown with circular representations. Recall that in old Edvars there were three levels of circles; at the heart was the name of the makam, around it were the pitches and around that was the description of seyir. If we try to revise such a definition and try to show only the hierarchical relationship of pitches and the seyir of this section (as we have done in the figure above) by using circles we can have a figure as seen in Figure 3.53.

¹⁷ Kind of like an *iso-melos* formula. The pitches appear again and again but never as the same; either they are now in different disguises (with different durations) or the rhythmic framework they are on top is different (Similar to Herakleitos’s idea of bathing in the river; either you have changed or the river.).

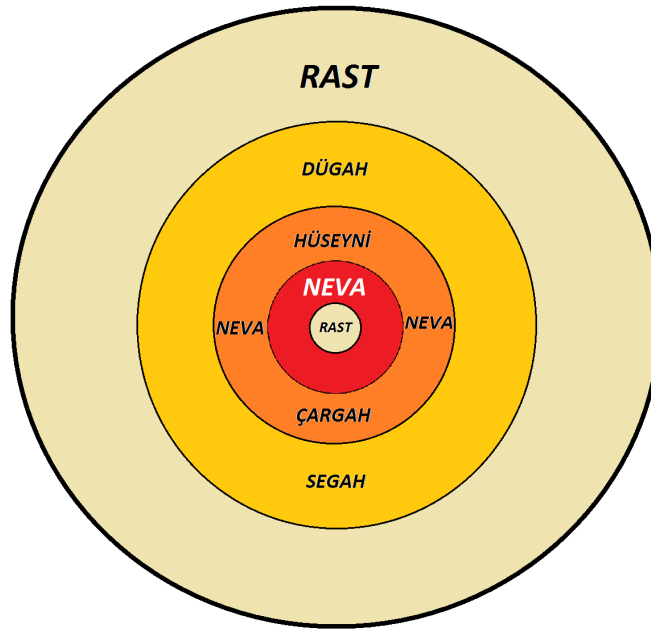


Figure 3.53: Generative circular model for Pencgah based on cycles 1-6.

Here at the heart, the nucleus is our tonic; Rast. Around it, is the dominant, Neva. In the next level we start to have the approach tones to Neva, the ornamental notes of the background; Hüseyini & Çargah. The reason the pitch Neva is also in the third level is because all these individual circles move circularly; thus at the third level we can have either a Hüseyini-Neva-Çargah-Neva circle or a Çargah-Neva-Hüseyini-Neva circle or a Neva- Hüseyini-Neva-Çargah-Neva circle...etc. This is also valid for the next outer circle which has Dügah and Segah; thus either an ascent as Dügah-Segah or a descent as Segah-Dügah. The important pitches that may act as gates in changing the between these hierarchical layers are written paralel. As an example when we are at the fourth level (circle), The ascending motion Dügah-Segah can continue with Segah-Çargah which are written on top of each other. Similarly, the descending motion Segah-Dügah can continue either by Dügah resolving to Rast – which is also at the outmost circle that covers all the space inside – or can leap to Hüseyini as we have seen in the excerpt. Both Dugah-Rast and Dugah-Huseyni are written in paralel as can be seen from the figure.

Rast is at the nucleus of the circle, it is also the most stable pitch, absolute, and that every other pitch is “subject” to it. Both the circular explanations of makams and seyirs in the old Edvars and this layered generative circular model also reminds us of

Islamic philosophies – which also affect aesthetics – of existentialism including those of Ikhwan al-Safa, al-Ghazali, Ibn’Arabi ...etc;

“At the heart of the Ikhwan’s ontology and indeed all Sufi theology is the concept of al-tawhid, the unity of all things in the Divine presence. All things generate from Allah, the One, the Creator, and movement away from and toward the Universal Oneness defines existence. For the Ikhwan al-Safa, motion is not predicated on cause, but is inherent in the divine being; movement is alive because the universe and being are alive.”(Vicente, 2007, pp.53-54)

Figures below depict Ibn-i Arabi’s existentialist writings on the “essence”, and the “possible beings” that born out of it, and revolve around it, and move away and toward it;

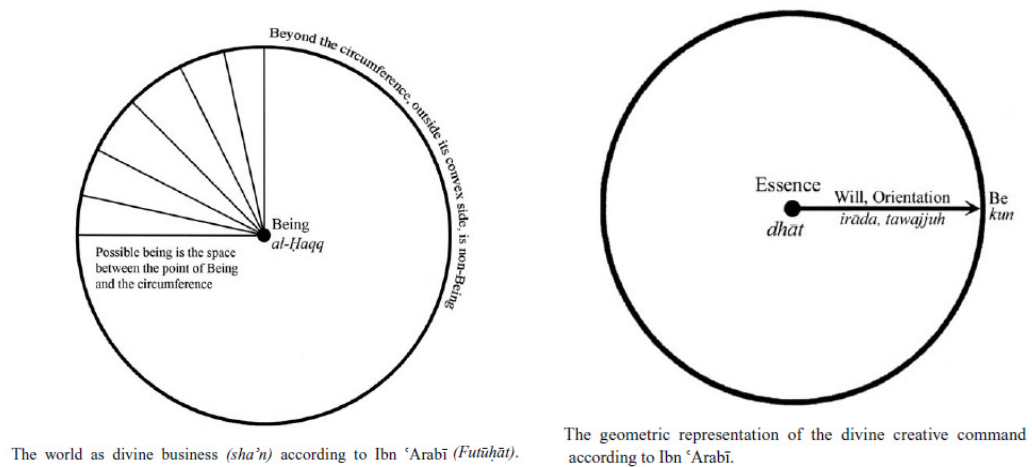


Figure 3.54: “Essence” & “Possible Beings” in Ibn’ Arabi (Akkach,2005, pp.70-72).

4. FURTHER ANALYSIS & DISCUSSIONS

4.1 Prolongational Reduction & “Shadows” of the *Seyir*

We have concluded the previous chapter with deriving a generative “seyir” process model for Pencgah. Our model was based on the opening section of I.Selam, which was composed of 6 cycles of Devr-i Revan repeated 4 times, making a total of 24 cycles. Recall our figures from the last chapter;

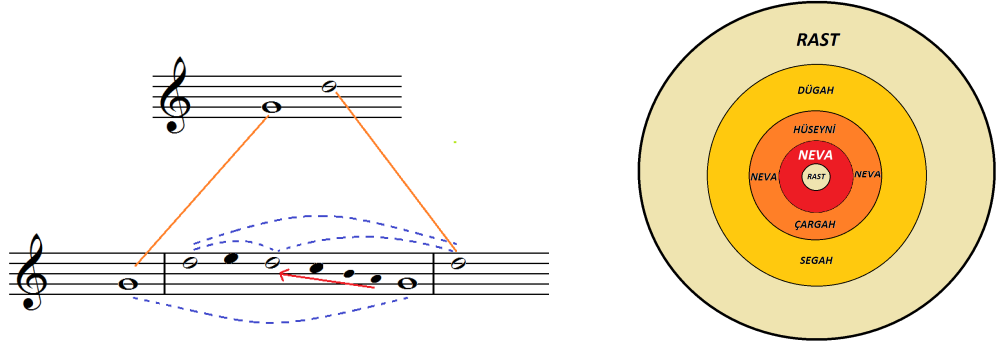


Figure 4.1: Generative models for Pencgah based on cycles 1-6.

When one analyzes Pencgah Mevlevi Ayini through Selams I-IV, one would clearly see the existences of this background structure in various movements and sections. In fact, some of the background reductions – that can be derived from the generative seyir model we have just mentioned – seem to be alike, although the foreground melodies are not. The following examples will present an account of this fact.

The first example compares two sections, both from Pencgah I.Selam, as marked in Figure 4.2 as A (opening 6 cycles repeated 4 times) and D (cycles 32-36) sections. Notice that these two sections, although having similar melodic fragments in some places, are different. However, the background reduction clearly shows how isomelodically similar they are.

The next examples as seen in Figure 4.3 and Figure 4.4 are from five different sections of the same ayin. The first two are from I.Selam (both in Devr-i Revan), the



Figure 4.2: Background consistencies in Pencgah Mevlevi Ayin – Selam I.

third from II.Selam (in Evfer) and the other last two are from III.Selam (Devr-i Kebir & Yürük Sema). Notice how the shape of the melodic skeletons support our generative seyir model for pencgah, all having the same isomelic backgrounds;

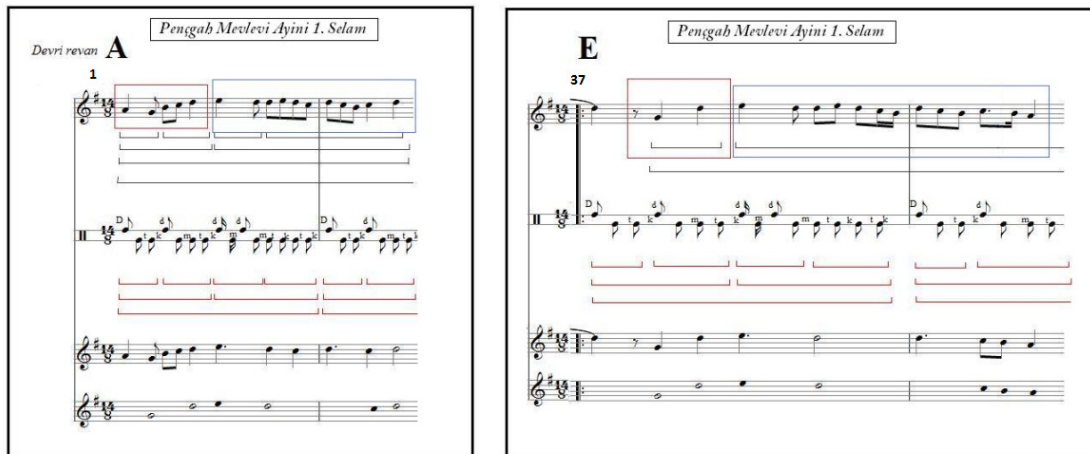


Figure 4.3: Melodic Motions in Pencgah Mvl.A. – I.

Pengah Mevlevi Ayini 3. Selam

A

1

Dev-i kabir

Pengah Mevlevi Ayini 2. Selam

B **B'**

Evfer

Nevâ → Rast → Nevâ → Nevâ → Rast → Nevâ → Dügâh → Rast

Nevâ to Rast

Pengah Mevlevi Ayini 3. Selam

I

Yürük Semai

Figure 4.4: Melodic Motions in Pengah Mvl.A. – II.

Although one sees this isomelic material appearing again and again throughout the ayin in different variations and disguises, it shouldn't be confused with the concept of "theme" that is seen in Western art music. What we have here is never linearly expressive and personally assertive. The aesthetic is actually based on the reworking of a model – which is Pecgah makam here - again and again. This characteristic is apparent in other Islamic arts and literature as well;

"It is easy to respond to the beauty of Islamic art and literature, but fully appreciating the aesthetic of the Islamic arts tradition requires a leap in understanding for those accustomed to some of the more aggressive and representational features of Western Art. In comparison with Western Literature, much of which is made up of linear storytelling, or of poetry that expresses the personal sensations or views of the poet, classic Islamic poetry is dense with ideas and images drawn from earlier sources, arranged in an aesthetically pleasing pattern that shows only subtle signs of the artist's viewpoint." (Kuiper, 2009, p.221)

"A wall painting in an Egyptian temple or a Buddha figure in an Indian temple are both repeated countless times in order to print the picture, as it were magically, on the memory, and, on the same principle, we find wearisome repetitions in the Buddhist writings, the hour-long performances or Arabian song-cycles and the reiterated melodic phrases of Egyptian witches... The European creates a work of art with a view to one single, short, intensely passionate moment of aesthetic appreciation: the Oriental repeats the representation, or provides it with almost unnoticeable variations, so that the appreciation of it becomes a form of meditation." (Wellesz, 1932. p.11)

One can say that, prolongational reductionist approach provides the isomelically reworked structure of the seyir; which is actually an ideal, that is built traditionally and can only be modeled generatively. As it was discussed in the previous chapter, what we have in the foreground is just a shadow of a background, which is in fact also a shadow of the general "idea" of the makam ("seyir"). This is also similar to the hierarchy of shadows one comes across in Ibn'Arabi (Figure 4.5).

Figure 4.6 shows a similar case. The analyzed excerpt is from Dügah Mevlevi Ayini - Selam I, and it shows the musical activity among cycles 25-28. Notice that all of the phrasings (and ornamentations) are actually built around the same pitch-row, which is a descent from Neva to Segah. Here, it would be more beneficial to explain this as a prolongation of the same musical idea (trichordal descent), rather than a specific pitch – which in this case would be Neva (the dominant in Dugah Makam). Also notice how the phrase grouping structure seems out-of-phase with the rhythmic

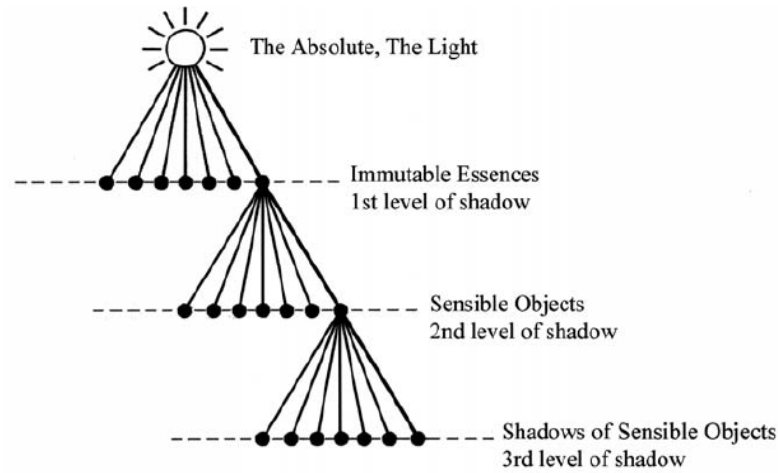


Figure 4.5: Hierarchy of shadows in Ibn' Arabi (Akkach, 2005, p.34).

grouping structure (of Devr-i Revan). This out-of-phasesness will continue for longer (until 43rd cycle), and one can see many similar events in other Selam I's of the Beste-i Kadims as well. However, if we examine with our cyclical model, we can see that there's no such lack of synchrony between usül and the melody; but rather a shift of accent between the beats of the usül. Notice that the phrasings are the same in length and their revolutions around the usül are symmetrical and balanced. It is rather the second “düm” of usül that carries the phrase-rhythm with its reciprocally related “tek” – marked with their respective phrasings a,c,e,g and b,d,f, h. Notice that all these phrasings could have been done as starting from the first “düm”; in fact it would have fitted much more “perfectly” to Devr-i Revan usül, since the reciprocal of the first “düm” is actually the third “düm” of the usül, as can be seen with the differences in Figure 4.7. The effect that is provided by such a usage is not a syncopation, but rather a shift of the accents of the usül, as we have just mentioned. This can also be considered as a reworking of the same rhythm, similar to the reworking of the same melodic “essences”.

Now let's see how such “essences” (seyir) are casted on specific “moulds” or “objects” (usül) and become concrete works – “shadows of sensible objects”.

25 29

1 2 3 4

a b c d e f g h

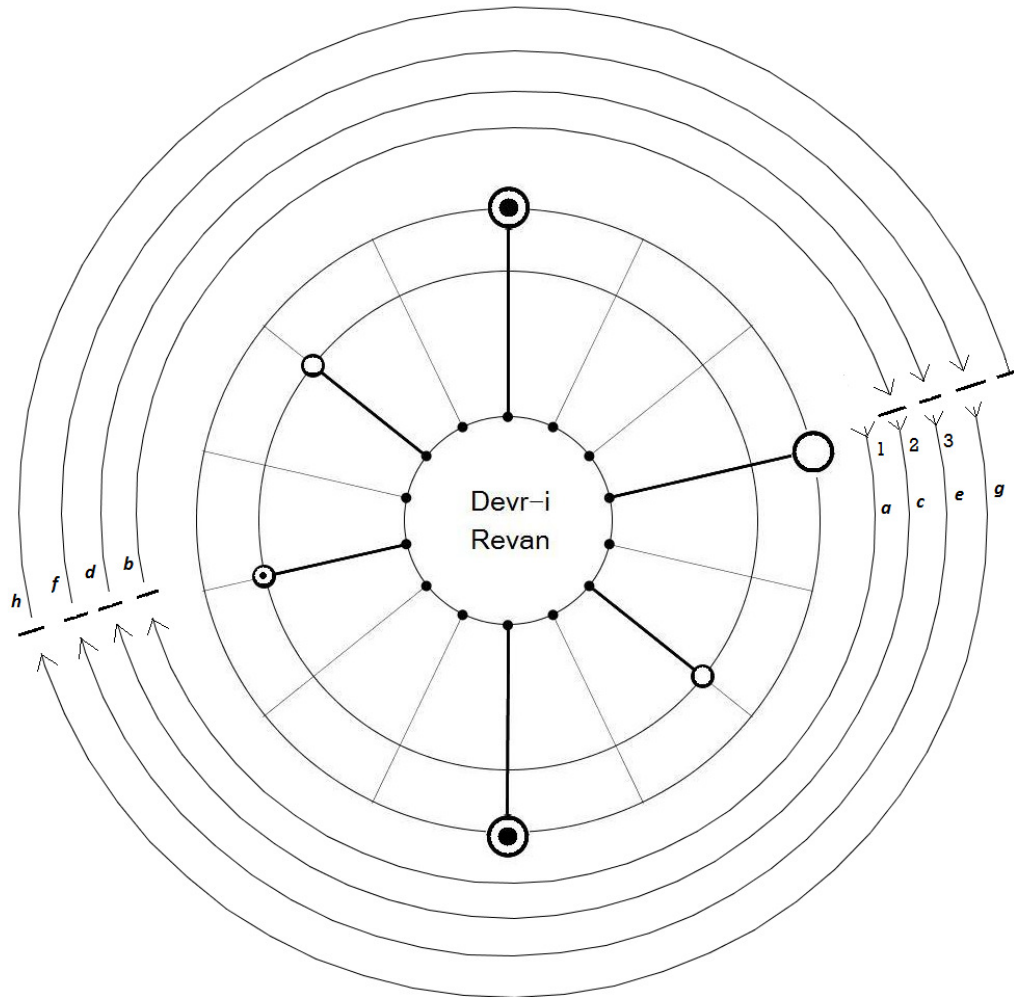


Figure 4.6: Düğah Mevlevi Ayini – Selam I; Cycles 25-28.

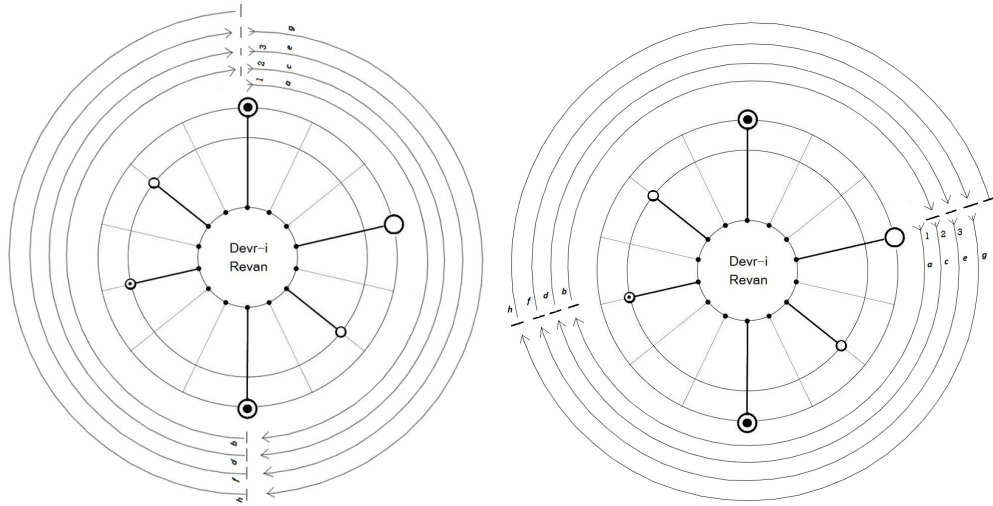


Figure 4.7: Phrase Mappings around Devr-i Revan.

4.2 Layered Approaches to Melody & Rhythm: Seyir vs. Usuls

In this section we will make further analyses, using both prolongational reduction models, and also analysis models that will allow us to see the relationships of melodic and rhythmic elements more clearly. As we have seen at the end of last chapter mapping the phrases around the cyclical representation of usül provided us important data; showing how two different layers of music interacted.

In his article “Rhythmic Layers in Turkish Instrumental Improvisation”, Signell also touches on this aspect briefly, as he categorizes ten different layers that could be analyzed simultaneously. His identification of rhythm covers any of the activities happening from micro to macro levels; thus his categorizations also include layers such as rhyme scheme, poetic meter, text emphasis, modulation duration ...etc. Figure 4.8 shows his layering analysis of Beyati Mevlevi Ayini Fourth Selam. The analytical framework, in terms of its holistic approach is similar to the approach we have presented with the cyclical models in the last chapter. However, Signell overlooks one important factor. It is that the focal points of a seyir, including either prolongations, “tonic”s or “dominant”s, its contour, and the interaction between the focal points of both melodic and rhythmic layers also create a rhythmic activity of its own - if one were to define the concept of rhythm in such a broad perspective. Thus, it would also present important findings if one were to take such activities into consideration, isolating the focal points and lastly make comparisons between different sections/works. The fact that Makam music is an oral tradition, and open to

different versions of embellishments and ornamentations – not only in velvele’s but also melodic phrases – will also support this perspective. Such an analytical procedure can also provide grounds for generative applications in the future.

Figure 4.8 displays a musical score for the 'Fourth Selâm' by Köçek Derviş Mustafa Dede (d. 1684). The score is presented in a layered format, showing the Usul (rhythm), Embellished (melodic ornamentation), Melody (main melody), and Prosody (vocal line) for eight measures. The lyrics are: 'Sul - ta - ni me - ni a - ni sul - ta - ni me - ni E - ni - der di - lü can (segment) i - man - ni me - ni'.

Figure 4.8: Signell’s layered approach to analysis (Signell, 2009, p.151).

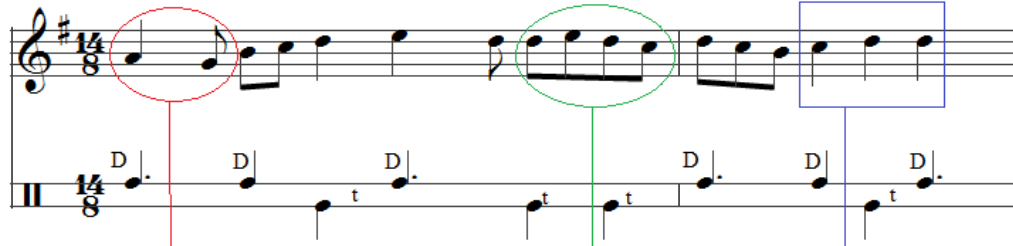
4.3 Comparative Relations at Micro-Levels & Possible Architectural Strategies

The first 1,5 cycles of musical activity in the first Selam of the three Beste-i Kadims presents interesting data if we are to make a comparative micro-level analysis of the melodic and rhythmic layers.

We have already covered the characteristics of Pençgah makam, Rast and Neva being the tonic and dominant, with a descending-ascending seyir. This motional characteristic is also similar to Hüseyinî, which has Dügah and Hüseyinî as its tonic and dominant. Whereas Dügah – which is the modern Uşşak – has an ascending seyir characteristic, having Dügah and Neva as its tonic and dominant. Figure 4.9 shows the opening 1,5 cycles of music seen in the three Ayins. The similarity between the

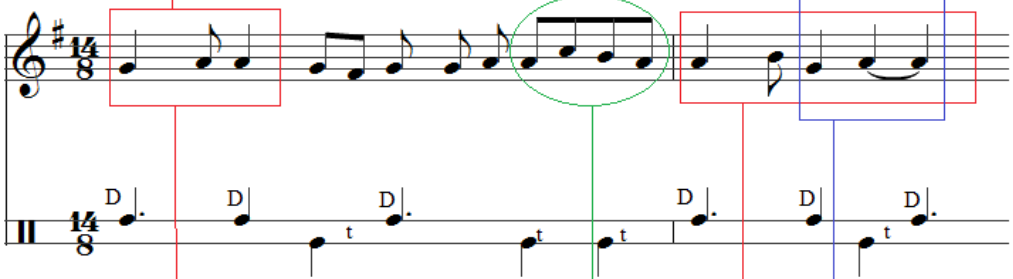
Pençgah Mevlevi Ayini I.Selam - Opening

Devri revan



Düğah Mevlevi Ayini I.Selam - Opening

Devri revan



Hüseyni Mevlevi Ayini I.Selam - Opening

Devri revan



Figure 4.9: Comparison of the first Selam of the three Beste-i Kadims.

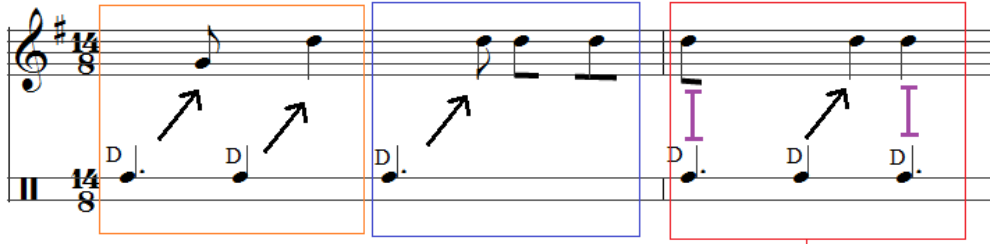
rhythmic activities in all of them (at the same moments) is apparent, in fact some parts not only share the same rhythms but melodic motions as well. Pencgah half-cadences at the dominant whereas Dugah and Huseyni aim for the tonic, however their cadential motions are identical. Besides this, the first notes of music in all three of them are identical in rhythmic character as well as their approaches to essential

pitches. Both Pencgah and Huseyni immediately make an ascent to the dominant, after showing the tonics, in which Pencgah keeps prolonging it and Huseyni makes a descent back to the tonic. Dugah, on the other hand, starts with a leading note approach to the tonic and prolongs it for 1,5 cycles. All three examples have the similar four eight-note figuration corresponding to the two “tek” beats at the end of the cycle. Such similarities, starting at the beginning of the three different ayins, also makes one wonder whether they could have been written by the same composer. More importantly, the motions to the essential pitches (tonic & dominant) of the melody, and how these pitches are placed according to the position of the essential beats (düms) is much more interesting, if one isolates these essential points. Figure 4.10 provides this isolation and shows the contrapuntal relations of the essential points of the melodic and rhythmic layers in all three of Beste-i Kadims. This 1,5 cycle of music can be divided into three phases, marked by the three boxes in the figure; the entrance in which the tonics are showed and an initial ascent is made to the dominants (in Pencgah and Huseyni), the prolongation or elaboration, and lastly the first cadence. The last phase is exactly identical in all three of the examples, whereas the second phase is identical in Pencgah and Dugah, and the first phrase has strong similarities that show how the düm beats and the isolated pitches are related.

Such an analysis shows a possible compositional approach strategy. Treating the essential rhythmic points of the usül – which’s positions are fixed – as a quasi “cantus”, one can cast essential melodic points that would provide another rhythmic layer to the beats of the usül. After such essential pitches are positioned according to the essential beats, one can decide which of the essential pitches (tonic, dominant, or even a modulation) could be preferred, bearing in mind the melodic contour and seyir characteristics of makam. Having established the focal points of both of the layers one can work with the filling in the intermediary pitches, which can either provide prolongations or motions between essential pitches. Lastly, one can rework with this draft by providing the rhythmic embellishments (velvele) and ornament the melodic skeletal line considering the new (embellished) rhythmic layer, thus creating an interaction at this foreground level also. The four-step procedure is very similar to architectural construction; laying the foundation, grounding the columns, adding the walls and lastly engraving.

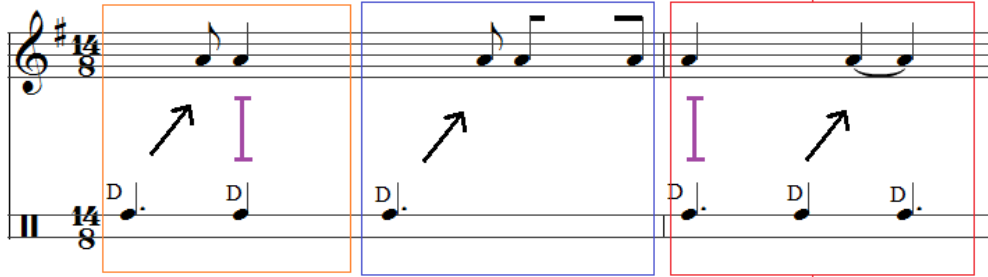
Pencgah Mevlevi Ayini I.Selam - Opening

Devri revan



Dügah Mevlevi Ayini I.Selam - Opening

Devri revan



Hüseyini Mevlevi Ayini I.Selam - Opening

Devri revan

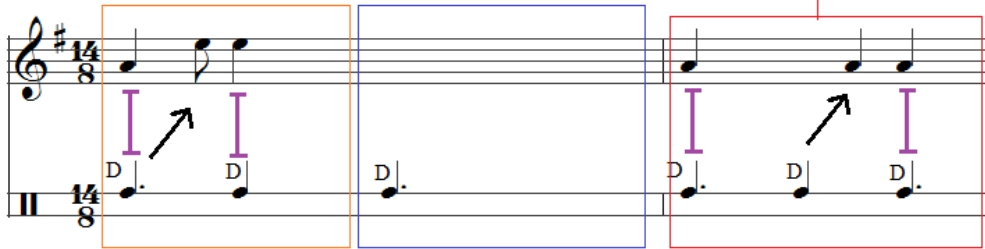


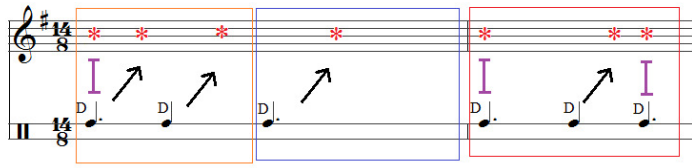
Figure 4.10: Isolating the essential rhythmic & melodic points.

The figure below presents such a backwards reworking approach, that is modeled upon the same 1,5 cycle phrasing structure of the previous three examples, eventually producing an opening for Pencgah makam in Devr-i Revan usul in four compositional steps. The positions of the essential pitches are also marked around the circular representation of Devr-i Revan. Note that the filling in the intermediary pitches is also done according to the generative seyir model we had presented before.

Step 1:

Positioning the essential pitches according to essential beats

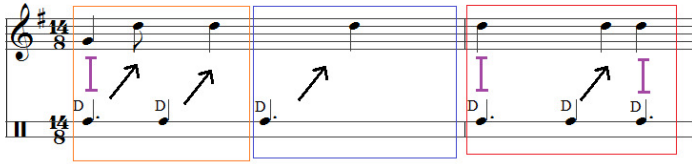
Devri revan



Step 2:

Placing the essential pitches of Pencgah

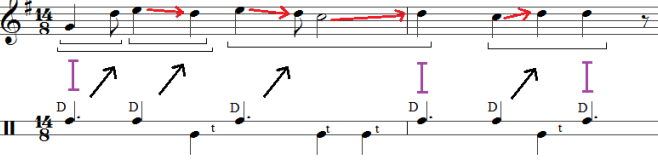
Devri revan



Step 3:

Filling in the intermediary pitches according to Pencgah seyir

Devri revan



Step 4:

Ornamentations

Devri revan

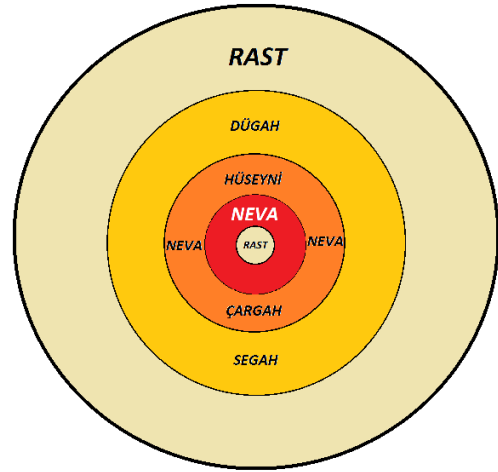
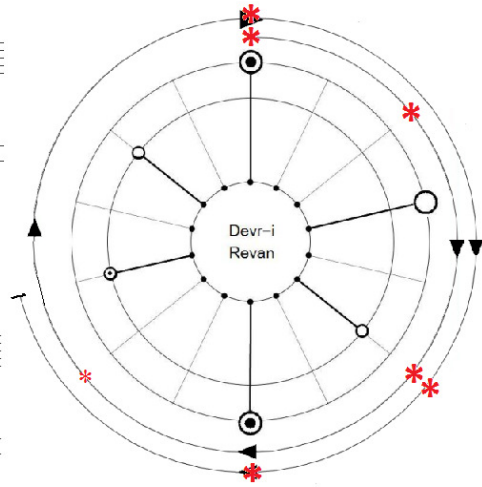
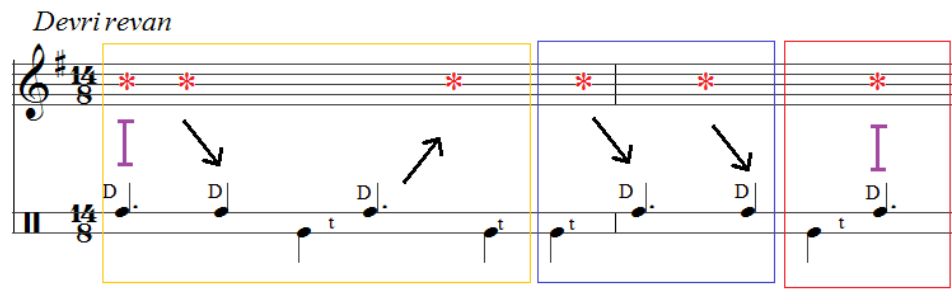


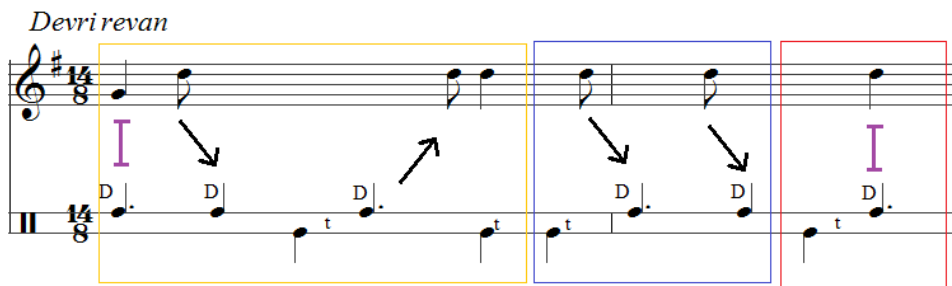
Figure 4.11: Architectural Strategies I.

The example shows the crucial importance of the rhythmic interaction between the focal points of both the melodic and rhythmic layers we have discussed in section 3.3. However, we should make a one last note before moving further. Bear in mind that we have arranged the new melody according to the model we derived from the three examples, which involved three separate phases. More importantly, we have considered the melodic focal points as somewhat similar to a retardations, that followed the main “düm” strokes. A different scenario can also be considered, in which some of the focal points in the melody can act as anticipations to the “düm” strokes, which might not only change the interaction between the two layers, but the inner-phrasings as well.

Step 1:



Step 2:



Step 3:



Step 4:



Figure 4.12: Architectural Strategies II.

And of course selecting a different the time-length (here it was 1,5 cycles) would open ways to much different scenarios as well.

4.4 Phrase Rhythm & Time Relations across/within cycles

Now we will discuss two more examples regarding phrase rhythm and time, using the cyclical analysis model we have covered in the previous chapter.

The figure below is the Devr-i Kebir section of the third Selam of Pencgah Mevlevi Ayini. As can be seen it is composed of four cycles (in a-b-a-c form) that repeat three times ($4 \times 3 = 12$ cycles of Devr-i Kebir¹⁸) until the Yürük Semai section.

Devr-i kebir



Figure 4.13: Pencgah Mevlevi Ayin, Selam III; Devr-i Kebir section.

The following figures provide the phrase groupings and circular analysis of this section. As can be seen, the “a” sections (cycles 1 & 3) involve the ascents from Rast to Neva whereas the “b” and “c” sections (cycles 2 & 4) descend back to Rast. The skeletal lines of these three sections are also provided below the analyses.

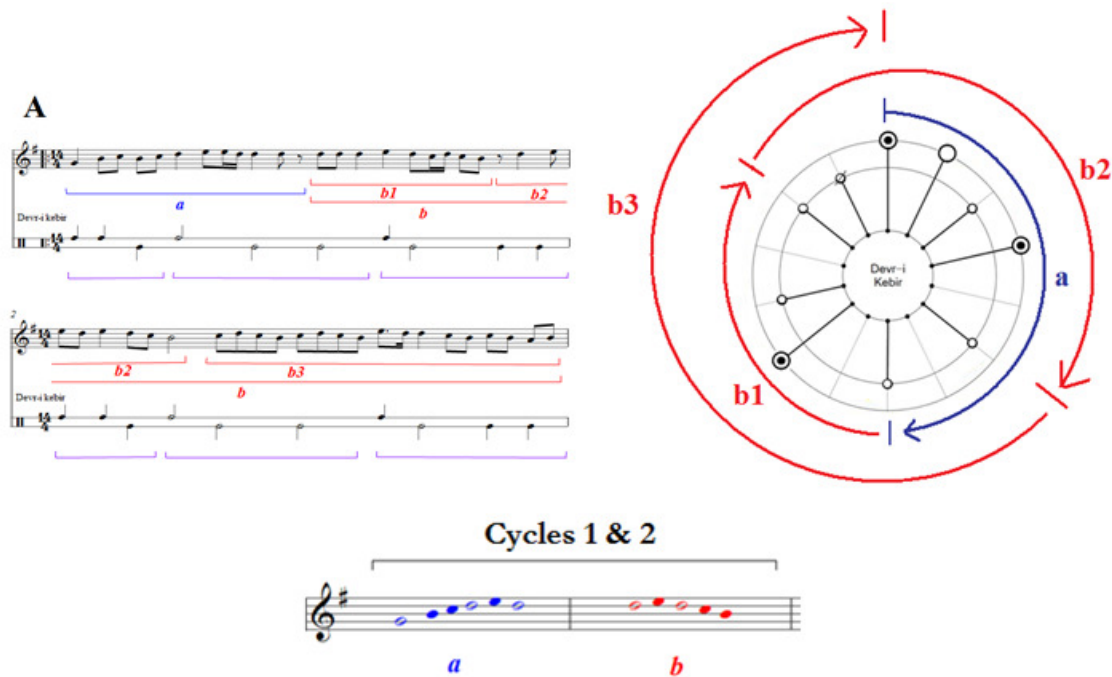


Figure 4.14: Cycles 1 & 2 analysis.

¹⁸ Devr-i Kebir usûl seen here is composed of 14 beats, and it is actually the oldest usage of the usûl as seen in old edvars as Kantemiroğlu (Tura, 2001) or as Yekta mentions (Yekta, 1934). In the later periods, we see an augmentation of the usûl as it becomes 28 beats, which is also mentioned as rhythmic retardation in Wright.

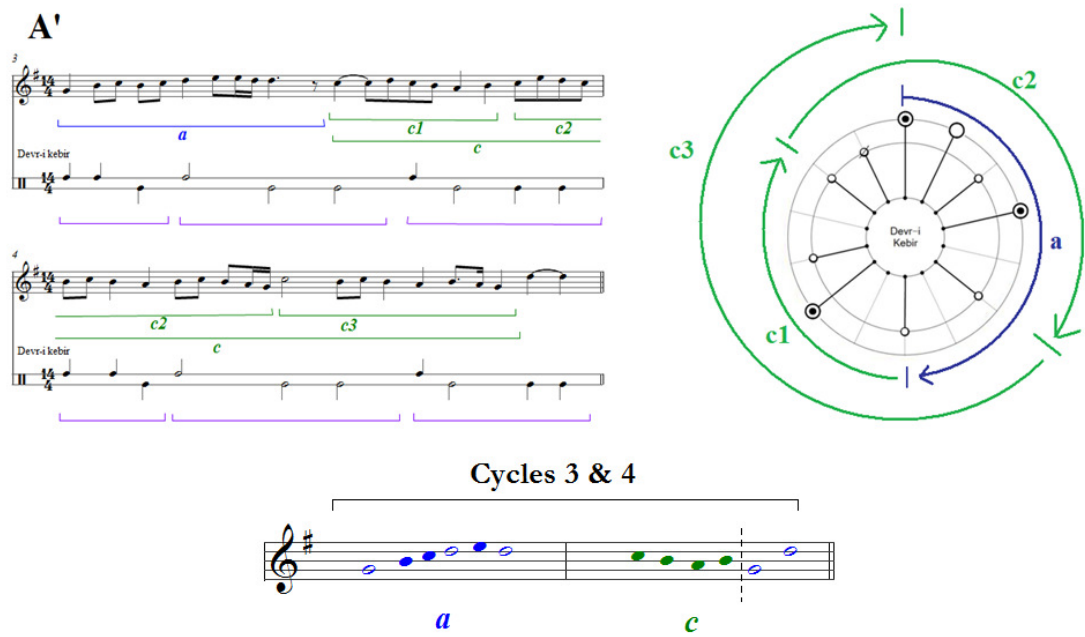


Figure 4.15: Cycles 3 & 4 analysis.

Figure 4.16 provides the overall analysis of the Devr-i Kebir section, showing the different phrasings revolved around the circular representation 4 times. Interestingly, although “b” and “c” sections differ musically, their inner-phrasing lengths are quite parallel, as both are composed of three ornamented sub-phrases, covering the same areas of time as can be observed from the cyclical mappings in the figure. This cyclical analysis, along with the skeletal lines that are supplied, clearly summarizes the musical activity of this section, with its tension and relaxation points. The initial ascents from Rast to Neva provided by the section “a”, produces “inhaling” moments and a rise in musical tension and energy, that lasts half a cycle each. In response to this, sections “b” and “c”, both lasting one and a half cycle allows for relaxation and space for “exhaling”. This release of energy – exhaling – is also achieved in three similar motions in both of the sections, (b1,b2,b3 & c1,c2,c3), at the same instants of time as can be observed from the cyclical analysis.

Moreover, what is more interesting is that although the phrasings seem to get in synchrony with the strong beats (Düm) of Devr-i Kebir by every two cycles, it might not be so. Notice that each subphrase of phrase “b” starts with an ascent toward Hüseyini after which it starts to descend back to Rast. Here Hüseyini becomes an important focal point not only because it is the highest note, but that every time it

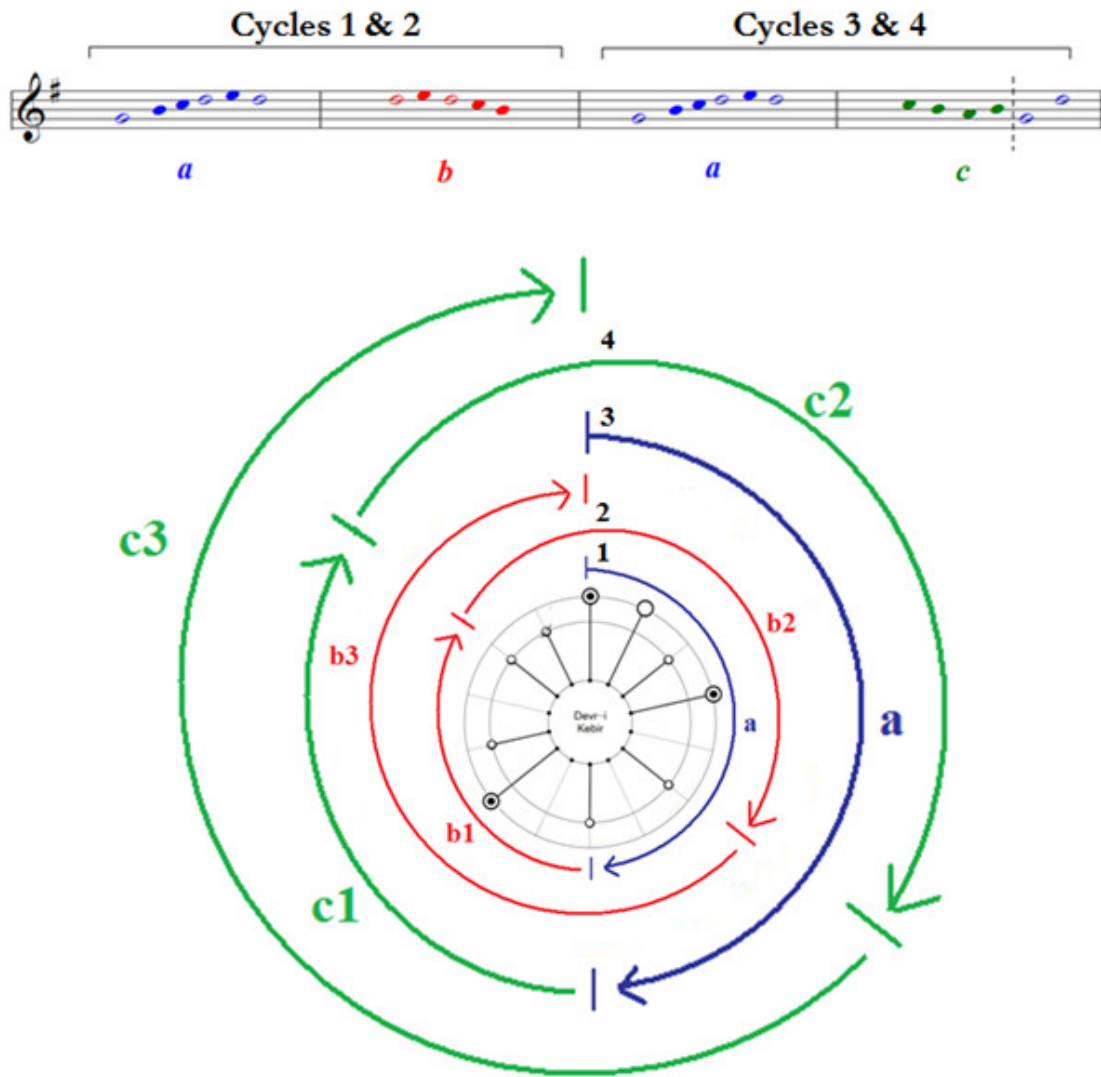


Figure 4.16: Pençgah M.A. Devr-i Kebir section, Cyclical phrase analysis.

occurs it is backed by a strong beat, a Düm stroke; therefore the pitches moving towards it act similar to pick-up notes or anacruses¹⁹ as can be observed from Figure 4.17. This argument also holds parallel with Lerdahl & Jackendoff's "arc of tonal motion" concept we had discussed in the first chapter.

Figure 4.19 presents the same sections, with the pick-up notes (and their respective areas around the cycle) eliminated. This clearly shows how the same descents from Hüseyini to Segah were ornamented differently and have different musical foregrounds. The new circular analysis also shows how the first and fourth "düm"

¹⁹ In fact, this also reinforces the four-step architectural strategy we have discussed in the previous section. Among the three marked pick-up areas, the first two involves the dominant pitch, Neva, acting as the focal point of the melody anticipating the "düm" stroke of the rhythm.

strokes of these two cycles of music are the most “structurally” important ones in this section.

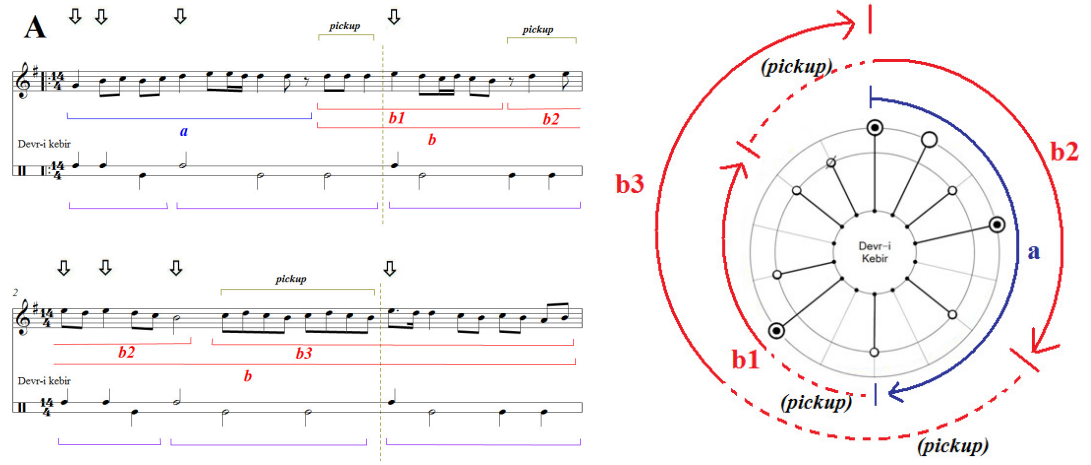


Figure 4.17: Cycles 1 & 2 analysis (with anacrusis).

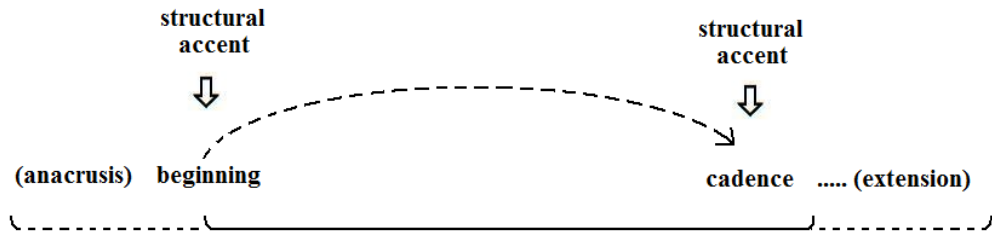


Figure 4.18: Arc of Tonal Motion revisited.

As can be seen, mapping the phrasings around the circular representation of *usûl* has many advantages that lead to extended observations about the musical activity, not only in micro-scale (as relations of essential melodic & rhythmic points), but in macro-scales as well. Such “bar-line”-independent circular observation also shows us the relationships of musical activities during different cycles but at the same moments of “time”, as the previous examples showed. Now, we will analyze one last excerpt that also show a possible different feature that can only be seen with the aid of our cyclical analysis model; the relationships of musical activities within the same cycle, but at *reciprocal* moments of “time” – which we have briefly touched upon during section 3.5.

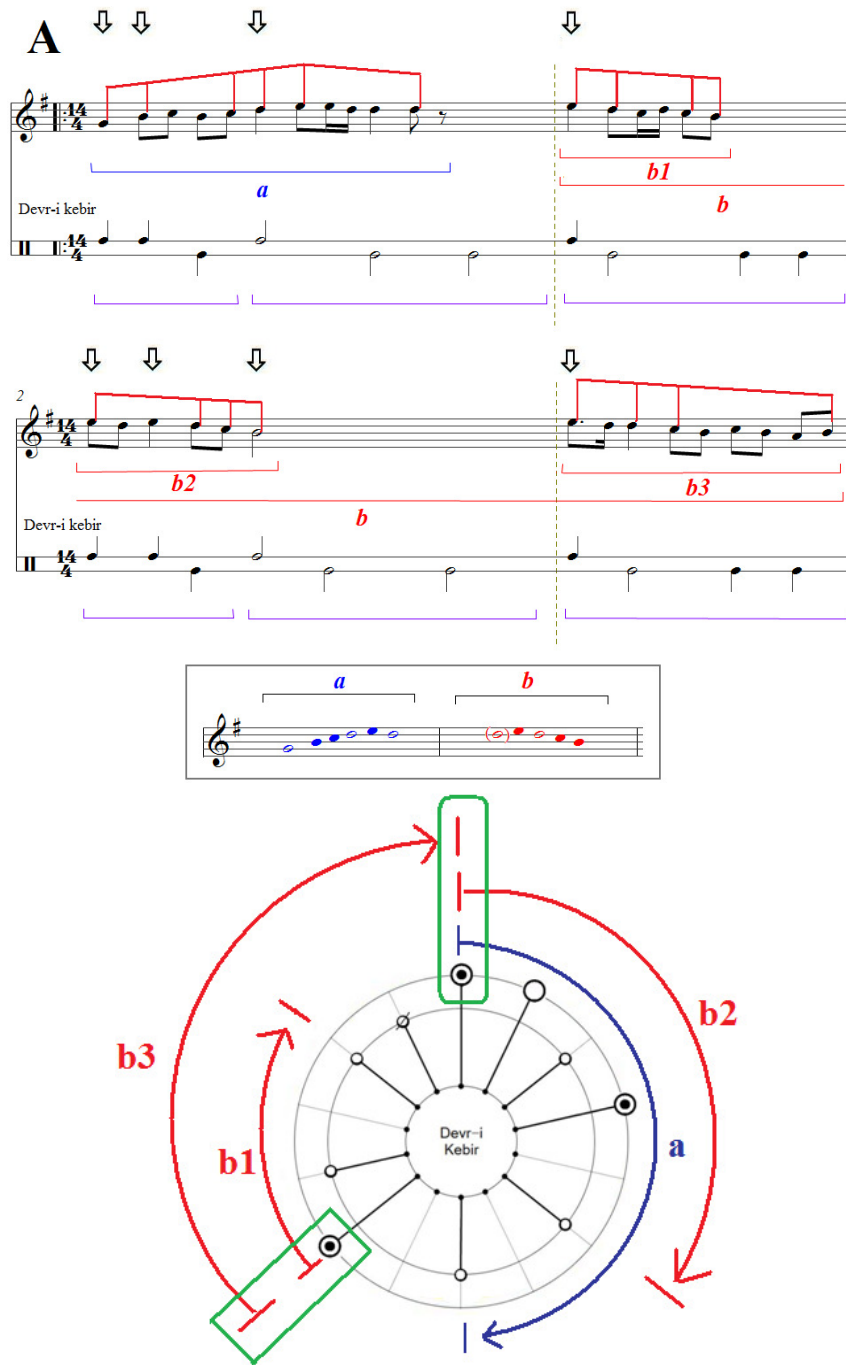


Figure 4.19: Cycles 1 & 2 analysis – reworked.

Our last excerpt is from Dugah Mevlevi Ayini, Selam III, including the first two cycles of the Devr-i Kebir section. The phrasing and prolongational analysis has been made in the following figure. The section can be divided into four areas, although the first two – “a” and “b” can be grouped together, as both of them presents a quasi “reaching over” process that leads to the octave of Dugah, Muhayyer in “c”.

Figure 4.20: Dugah Mevlevi Ayin, Selam III, Devr-i Kebir section, cycles 1-2.

The prolongational analysis shows this leap from Dügah (tonic) to Hüseyini through Neva (dominant), continued by another leap to Muhayyer followed by a contrary motion back to Hüseyini. After an ornamented prolongation of Hüseyini, subsection “c” ends with a cadence at Neva, which subsection “d” starts with. Here in section “d” we see a similar tetrachordal descent as we saw before (Muhayyer to Hüseyini) from Neva to Dügah. The opening of this Selam (“a” and “b”) has also interesting retrograde similarities with the opening of Pencgah Mevlevi Ayini Selam I we had covered previously. Figure 4.21 presents the cyclical phrase analysis of these two cycles of music.

As in the previous example (Pencgah Selam III Devr-i Kebir), the relationships of musical activities during different cycles but at the same areas is apparent. Here the fourth beat – which corresponds to the third “düm” – and the ninth beat are important moments of time in cycles 1 & 2; as they both mark ending and starting points of different subsections. One may also consider the pitches at the ninth beat –

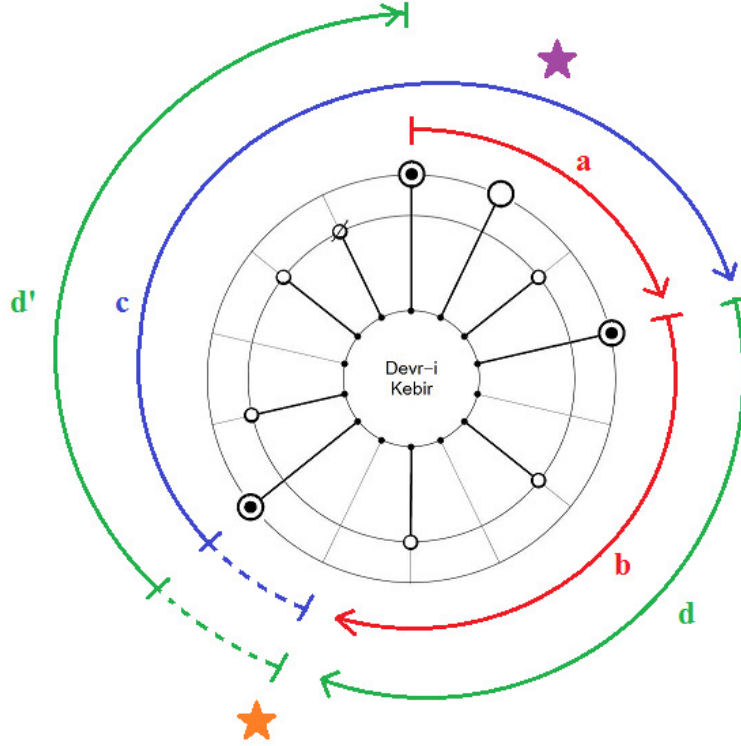


Figure 4.21: Cyclical phrase analysis, Dügah Mevlevi Ayin, Selam III.

Muhayyer at cycle 1 and Neva & cycle 2 – as anacrusis that lead to the prolonged tetrachordal descents of each subphrase – Muhayyer leading back to Huseyni and Neva to Dügah), as we discussed in the previous example; eventually making the third and fourth “düm”’s structurally important for two cycles of time. However what is more speculatively interesting to observe here is the presence of a reciprocal relationship within each cycle, that can only be seen with the circular representation. Notice the star signs over beats two and nine which are actually reciprocally related, both at opposite edges of the cycle. Notice that, during the first cycle beats two and nine correspond to the tonic, Dügah and its octave Muhayyer, with the area in between marking the octave expansion (“reaching over”) that will eventually descend back to Hüseyni. On the other hand, during the second cycle both of these two reciprocally related beats correspond to the dominant, Neva, and the area in between is ornamented around Neva, as it is prolonged till beat nine. In both of the cycles beat two mark the concluding pitch of its respective subsection, whereas beat nine mark the opening pitch of its respective subsection – though it might be considered anacrusises as well. Such an analysis shows how structurally balanced the opening section is, as well as the structural importance of the second “düm”, making its accent stronger than taht of the first “düm”. Although this last approach might

seem a bit speculative, it is worth thinking of other reflections of it in numerology, astronomy and such proportional sciences in Islamic culture.

5. CONCLUSION

This thesis has presented a possible approach to implement prolongational theories to Turkish Makam Music. The significance of such theoretical practices is clearly observable in the analysis of Western Music, as they provide new perspectives and wider understandings for the observer and eventually adds to the listening and performance experience.

Obviously, such an implementation might have proved problematic if one did not considered the cognitive, cultural and philosophical factors behind the theory. All these factors were reviewed at the beginning. The resulting prolongation analyses outlined the motions of seyir clearly, uncovering the columns, skeletal melody and ornamentations in progressive layers. This approach eventually allowed grounds to built generative models. However it was not until the realization of the differences between sign languages, notations and representations of time between TMM and Western Music that allowed the completion of an holistic model that also brought the rhythmic framework & time factor into this equation. Thus our model also needed a new visual representation to allow us grounds for building the new conceptual framework we sought. This was done by a reconstruction of the older representations of cycles (usûls) in Edvars with a consideration of the previously reviewed factors.

The circular representation of cycles not only provided the basis of the cyclical analysis model, but also showed the periodicity of the rhythmic cycles clearer as well as revealing the rhythmically dense areas within the cycle and the distribution of the relative accents more accurately then its linear counterpart. A discussion of linear vs. cyclical characteristics of time was also made questioning the efficiency of our conventional theories on usûl and rhythmic structures of makam which are based on an “imported” representations of Western music notation.

The cyclical analysis model is constructed by combining the two concepts of time on top of each other; by bending the “linear” time spirally around time’s “cycle” which is denoted by the reconstructed circular representations. The model is advantageous

in observing phrase rhythm (including the seyir) & time (including usül) holistically and how these two separate dimensions are interrelated. The prolongational analyses we have implemented until finalizing our model also proved significantly important as the analysis of “bended” linear time is primarily analyzed according to prolongational theory we had set up.

The analyzed excerpts were drawn from the *Beste-i Kadim Mevlevi Ayins*. Our main source was Rauf Yekta’s 1934 publications. A reason for selecting *Beste-i Kadim Mevlevi Ayins* is that these were the oldest examples of Mevlevi Ayin repertoire and that the later Ayins were written according to the model these three ayins had primarily set. With our prolongational and cyclical analysis models, important observations were made. The prolongational approach provided the isomelically reworked structures of the seyir; which is actually an ideal; a general “idea” of the makam. The connections of this aesthetic was also made between other Islamic arts, literature and philosophies as well. On the other hand a cyclical approach proved how this “possible subject”s – of seyir – were related to the fixed object – usül -, clearly demystifying the process of how the makam was “casted” on the “mould” of usül and the music was “forged”. It was observed that the strong beats of the usül were important pillars as well as some of prolonged pitches of seyir, and the structural pillars of music were formed when these two essential points coincided. Along with this analysis, it was observed how the phrasing structures were not motivated by the first beat and that the first beats relatively heavier weight was only valid across sections (“hypermeter”). Thus, each strong “düm” beat essentially bears an equal weight within the cycle, however this weight changes according to the respective phrasing structure of the melody. Such an argument – as it was also mentioned by Tura and many other notable musicologists - advocates an emancipation from our “imported” notions that is also conceptually grounded by the usage of barline in makam notation today.

A further research topic can be analyzing pieces from different periods of makam music and tracking the stylistic changes regarding this usage of time until 20th century. It is hypothesized that after 19th century, due to popularization process of music as well as Western music influences, the multi-layered cyclical characteristics of music – as we have witnessed in *Beste-i Kadims* – start to become linear, showing more homophonic-like characteristics between usül and seyir as the phrase rhythms –

although becoming melodically more elaborate – start bonding with the *usûls*. Thus, what might be witnessed is a natural and spontaneous “rationalization” process of makam music during the 19th century which comes to a standstill during the music reforms of the Turkish Republic in 20th century.

Another research area that can take its reference point from this thesis is the application of the cyclical analysis model to similar musics from different cultures that show same cyclical characteristics, as Indian ragas or Javanese gamelans. What might be overlooked or seen as complex structures when using traditional Western analysis models might reveal other important aspects and become clearer this way.

In short, this thesis has presented a possible alternative approach for a deeper understanding of how makam music operated. Understanding and perception, these are two key factors for transformation. It was only by becoming reflexive that Western art music transformed itself along with its technological and social changes. Turkish makam music could not have that chance. As the society was busy with rapid modernization changes both in technological and social spheres, such a reflexive era had to be skipped and what rather happened was an import of texts, codes and signs in many cultural spheres. Once the “oriental”, became the “self-oriental”; and the music got trapped between never-ending debates and issues of authenticity and being contemporary. Transcendence of such issues should be Turkish Makam Music’s next step of transformation. Such road will only be paved with a deeper understanding, perceptions and experiences of the musics themselves.

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APPENDICES

APPENDIX A : Processing Code for drawing Circular Devirs

APPENDIX B : “Son Yürük Semai” from Hüzam Mevlevi Ayini Analysis (in CD)

APPENDIX C : Pençgah Mevlevi Ayini Prolongational and Grouping Analyses (in CD)

APPENDIX D : Devirs Revised - Selected Examples (in CD)

APPENDIX A

The program for using this code is Processing. It can be downloaded for free from processing.org.

```
//MUSICAL INFO
int n = 14; //number of beats
int[] arr = { 2, 2, 1, 2, 0, 1, 0, 1, 0, 2, 1, 0, 1, 1 };
// 2 = dum, 1 = tek

//INITIAL ARGUMENTS
int s = 700; //window size

int gcw = 1; //guide circles weight
float glw = 0.5; //guide lines weight
float rlw = 2.5; //reaching lines weight

int s_ime = 10; //innermost circles size
int s_ie = 20; //inner circles size
int s_oe = 40; //outer circles size

float im_rpos = s/400.0; //innermost relative pos
float i_rpos = s/167.0; //inner relative pos
float o_rpos = s/133.0; //outer relative pos

int icc = 0; //inner circle check
int arr2[] = append(arr, 0);
float c;

//LAYOUT PROPERTIES
void setup() {
  size(s, s);
  background(255);
  noLoop();

  //inner circle check logic
  if (n > 7) {
    c = TWO_PI/(n * 0.5);
  } else {
    c = TWO_PI;
  }
}

}

stroke(0);
strokeWeight(glw);
line(s/2+g, s/2+h, e+s/2, f+s/2);

//circles
noStroke();
smooth();
fill(0, 255);

//array loop
for (int j = 0; j < 3; j += 1) {

  if (arr2[icc-1] == 0) {
    ellipse(0, 0, 0, 0);

  } else if (arr2[icc-1] == 1) {
    //circle
    ellipse(a+s/2, b+s/2, s_ie, s_ie);
    //line
    stroke(0);
    strokeWeight(rlw);
    line(s/2 + g, s/2 + h, a+s/2, b+s/2);

  } else {
    //circle
    noStroke();
    smooth();
    ellipse(e+s/2, f+s/2, s_oe, s_oe);
    //line
    stroke(0);
    strokeWeight(rlw);
    line(s/2 + g, s/2 + h, e+s/2, f+s/2);
  }
};

saveFrame("x2.tif"); //uncomment this line to
save

//rhythm inner most circles
for (float i = 0; i < TWO_PI; i += PI/(n * 0.5)) {
  float a = degrees( sin(i) ) * im_rpos;
  float b = degrees( cos(i) ) * im_rpos;
  noStroke();
  smooth();
  fill(0, 0, 0, 255);
  ellipse(a+s/2, b+s/2, s_ime, s_ime);
};

//dum-tek circles
for (float i = 0; i < TWO_PI; i += PI/(n * 0.5)) {
  icc += 1;
  float a = degrees( sin(i) ) * i_rpos;
  float b = degrees( cos(i) ) * i_rpos;
  float e = degrees( sin(i) ) * o_rpos;
  float f = degrees( cos(i) ) * o_rpos;
  float g = degrees( sin(i) ) * im_rpos;
  float h = degrees( cos(i) ) * im_rpos;

  //guide lines
```

Revision of the “Cycle model” designed by Ozan Baysal – I.T.Ü.

Program code written by Taylan Cihan – Cornell University

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- Baysal, Ozan: Circular Representations & A Cyclical Analysis Model for Makam Music. Porte Akademik, Yıl:1 Sayı:2 Müzikte Temsil & Müziksel Temsil II.Sempozyumu Bildirileri Dosyası. Şubat 2011, Istanbul
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