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Svan Funeral Dirges (*Zär*): Musical Acoustical Analysis of a New Collection of Field Recordings

ABSTRACT
This paper is a companion paper to Mzhavanadze & Scherbaum (2020). Jointly, the two papers describe the results of an interdisciplinary study of three-voiced Svan funeral dirges, known as *zär* in Svan and *zari* in Georgian. In the present paper, to which we refer as paper 1, we analyze the musical acoustical properties of a new set of field recordings collected during an ethnomusicological field expedition to Georgia in 2016. The aim of the study is to investigate the tonal organization of eleven different performances of six different variants of *zär*, performed by singers from different villages. For some of the performances, we observe a strong gradual pitch rise of up to 100 cents per minute. The intra-variant differences in the performances of different groups of singers were observed to be remarkably different, including the use of significantly different harmonic tuning systems. In contrast, two subsequent performances of the Mest'ia variant of *zär* by a group of singers recorded in Zargā̆sh were essentially identical. This demonstrates the widespread absence of improvisational elements in these two performances. One of the most interesting results of our analysis is the observation that the musical structure of *zär*, expressed, for example, in its ambitus, the complexity of its melodic progression, and its harmonic chord inventory, change systematically along the course of the Enguri valley.

KEYWORDS
Traditional Georgian Vocal Music
Computational Ethnomusicology
Ethnomusicological Field Recordings

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Preface

The two companion papers in this issue describe the results of a study of Svan funeral dirges (*zär*), in which we combine a computational/acoustical and a classical (ethno)musicological perspective. This study has been a very challenging, but incredibly enriching experience, which took both of us out of our professional comfort zones in the sciences and humanities. It also made us realize how many more aspects should have been incorporated in our study. Due to the limited size of the individual articles, here we can only provide very superficial references to anthropological, historical, and linguistic sources, although we consider them indispensable for the overall understanding of the phenomenon of *zär*. The purpose of this preface is to partially make up for this deficiency by providing a short literature review and a brief discussion of the *zär*-related discourses taking place in these fields[1].

It is also worth mentioning that there have been other considerable efforts in the past to record Svan vocal music, first with phonographs, and later with tape recorders. Unfortunately, many recordings of Svan songs from the early days of the last century have not survived the time. The few audio files obtained are mostly of a very poor quality. On the other hand, the Tbilisi Conservatory has also carried out recordings since the 1950s. Unfortunately, many of these recordings (mainly field recordings from 1980-1990s) were lost during the renovation work at the conservatoire in the late 90s. A small number of more recent audio recordings were made by the ethnomusicologists Erkvanidze and Matiashvili in 2004 (recordings of approximately 25 songs in Lower Svaneti), and between 2007 and 2010 by the State Center of Folklore, both in Lower- and Upper Svaneti, partly with several microphones and in a mobile recording studio. In addition, within the crowd-funded Svan Recording Project performed by American singer Carl Linich in 2010 with members of the Riho Ensemble in Lenjār, 32 songs were supposedly recorded. However, it is unclear whether this project was successfully completed.

All the above-mentioned initiatives have in common that the recordings were purely acoustic. Even with recordings with separate microphones (as in some of the more recent projects), the separability of the individual voices is very limited. In the context of our

[1] All the historical, ethnographical, anthropological and cultural-sociological material on the dirge, which we have collected in combination with the generation of the meta-data of the field work of 2016, is publicly accessible through the Lazar archive (https://lazardb.gbv.de).

own work on the generation and propagation of body-vibration during singing (Scherbaum et al., 2015), we have tested the acoustic separability of individual voices with directional microphones under studio conditions and found that this is lost very quickly even under idealized conditions when singers sing with differing intensity (which they definitely do in Svaneti). In conclusion, to our knowledge the acquired research corpus is currently the only one of suitable size and quality for the application of modern computational/acoustical analysis.

Zär as ritualized dirge

Ritualized mourning[2] in its wide variety of manifestations (solo, choral, etc.) is a universal phenomenon attested all over the world, which can be heard at culturally and geographically distinct areas on earth. Examples of it include: *fuatanga* in the Tikopia island (Love & Kaeppler, 2017: 853-855; Firth & McLean, 2006), *dawawa* in Central America (Graham, 1984), *iavsema* in Mordovia, Russia (Jordania, 2006: 663), and Albanian *vajtim* (Kondi, 2012). In Svaneti (as well as in other parts of Georgia), in addition to the local equivalents of the funeral forms listed above, there is a musically organized funeral hymn, aka *zär* [3], the equivalent of which does not seem to be found anywhere else. To be more precise, on the one hand, the Svan funeral reveals a responsorial form of keening by both men and women (Azikuri, 2002), whose performance is based on human emotion and completely improvised, and on the other hand, it includes group male chanting, which is a well-organized and coordinated musical practice without a verbal text, composed with peripheral vocabulary (Tsuladze, 1971; Bolle Zemp, 1997).

[2] To avoid confusion with using the controversial terms such as: keening, lamenting, wailing, crying, etc. applied to describe ritualized mourning soundscape, in the article we will employ the *keening* for all types of mourning sound manifestations based on improvisational expression of sorrow over loss (solo, responsorial, etc.) and *dirge* (or chant) for organized polyphonic phenomena such as z*är.* This will put a clear line between two distinctive and radically different ritual mourning styles sharing the same functional locus.

[3] To ensure that the transcription of Svan texts (including proper names) is close to the original and reflects the phonetic peculiarities of Svan language, we have combined two transcription systems: for consonants – romanization of Georgian via using Latin script (national system, 2002; https://en.wikipedia.org/wiki/Romanization_of_Georgian); for vowels and some Svan-specific consonants – TITUS http://titus.fkidg1.uni-frankfurt.de/didact/caucasus/kaukvok.htm#SvanUBal and http://titus.uni-frankfurt.de/didact/caucasus/kartlaut.htm

Origin and purpose of zär

The references to the origins of the context and performance form of *zär* in Svaneti are not clear or consistent. Today it is strictly labeled as a mourning ceremonial dirge, however, earlier accounts regarding its function and role in mourning ritual, as well as its verbal content, vary. According to some, it is a kind of funerary "travelling "song" (Paliashvili, 1909; Phillips-Wolley, 1883: 95, 96), while some early authors, portraying funeral ceremonies, including the last procession to the cemetery, never mention *zär*, but describe lamentation of women and men instead (including group wailing) (Goltsev, 1933: 92,93; Dadwani, 1973: 12-14). Some authors claim *zär* to have been performed at the funeral of only the happy deceased (Akhobadze, 1957: 21; Phillips-Willey, 1883: 95, 96)[4]. Today, however, it is sung at any funeral.

Besides, some earlier references claim that *zär* was sung with text (Paliashvili, 1909), which served as a farewell "speech" about the deceased's deeds and personality. However, as of today, considering the musical peculiarities of *zär*, conventional verbal text seems impossible to fit in.[5]

The original purpose of *zär*, which, according to some Georgian scholars (Arakishvili, 1950: 21; Mzhavanadze, 2018), has ancient roots, remains vague[6]. The etymology of the name *zär* is also obscure, and since it is common for the mourning ritual repertoire in other parts (*zari* in Georgian[7], *azar* in Abkhazian[8]), a complex comparative study is needed to reveal how they are related. The musical language of this three-voice chant also

[4] It is believed that some very old deceased was "happy" meaning that his entire family survived his death and thus he never suffered the loss of younger family members. Today the same function (of chanting for a "happy" deceased) is only attributed to another hymn-type "song" *k'viria.*

[5] Judging by the observation of the current state and status of this multifaceted and sophisticated phenomenon, we can say that *zär* is not an emotion-driven spontaneous mourning behavior such as the *planctus* and seems to be more like the *discourse* which is a framed, rationalized, and stylized expression of grief or a "lyrical resolution of suffering" (Lloyd, 1980:407). The emotional outreach and impact of *zär* is controversial and if for some it sounds like a festive hymn (Paliashvili, 1909), for others its musical content can be extremely mourning and/or full of mystics and, therefore, people avoid "singing" it at any other time but funeral. During the field work in 2016, our informants refused to do *zär* inside one's house and we had to go away from the village and find a deserted place to record them.

[6] The word *zär* does not seem to have the mourning connotation until the 17-18th century which complicates the matter even more.

[7] In Rach'a, apart from *zari,* another form of lament is *zruni,* which is a lament with a text telling about the deceased. The song draws a special interest because it is sung in only two Upper Rach'an villages: Ghebi and Glola which historically were inhabited by Svans.

[8] Accounts on *azar* are not consistent. More about this issue see at https://lazardb.gbv.de/search

raises an interest about its relationship to other hymn-type Svan repertoire, which shares some verbal and musicological characteristics.

Within the scope of the theories of origin of Georgian polyphony by the example of Svan repertoire (including *zär*) some authors propose the three-part forms originating from one voice and gradually framed by a parallel fifth (Aslanishvili, 1954: 37, 85, 97). On the contrary, Gogotishvili (1994) introduces the theory of the third voice arising later to fill the space within the fifth interval.

In contrast to the theory of ancient origins of Svan sacred repertoire (including *zär*), Gabisonia (2012) suggests the Svan hymn-type songs to be paganized (simplified) versions of Georgian church music, which he assumes to have been sung during a liturgy in Svaneti in the middle ages. He claims that due to historical hardships, the liturgical practices gradually stopped in Svaneti but people kept the chants in memory trying to employ them in non-liturgical sacred ceremonies. He furthermore assumes that during this long process only bits of words would survive in the form of vowels and syllables. These would be coupled with fragments of the music which represents a kind of compilation of the phrases which are difficult to perceive as accomplished musical image(s). The author sees compositional similarities between *zär* and church chants (e.g. "melodic continuum" held with one syllable) as one of the arguments for this connection (ibid)[9].

Bolle Zemp was the first to investigate musical structure of *zär* in relation with the 'text' (Bolle Zemp, 1997; 2001). She was also the first to apply quantitative methods to the analysis of *zär* in order to improve the interpretation of "non-semantic" text and explain some musical peculiarities of *zär.* Her interdisciplinary approach involves the attempt to understand the ethnographical context of the chant and the investigation of its linguistic and musicological aspects. Employing the tools accessible at that time, she processed the chant through sonographic images and analyzed the musical content of the verbal 'text', explored all the possible references of the utterances employed in *zär,* and visualized the

[9] Although Z. Paliashvili also considers that the hymn was simply deformed over times and that the preserved syllables are remnants of text which had been forgotten, he does not make a notice of church music here (Paliashvili, 1909). Note that A. Dirr's (1914) article on Svan music is a condensed version of Paliashvili's collection of Georgian (including Svan) songs published in 1909. Therefore, the review of the songs as well as the notated transcriptions belong to Z. Paliashvili (ibid).

results in the form of sonograms. Based on the results of her multi methodological analysis, Bolle Zemp suggests a strong correlation between words and music. She hypothesizes that the verbal text takes a leading role in shaping the musical structure of *zär.* She assigns semantic importance to the core utterance *woi,* arguing that as an utterance of mourning connotation, it lies at the root of several vocal formulas of the chant. In her view, 'singers' emphasize human emotions such as pain, dignity, etc. by modification of the sound characteristics of spoken language, e.g. by formation of vowels and consonants in different ways, by manipulation of the interjections, and by stylization of expressions of the spoken language through certain vocal process (valorization, descending glissandi, nasalization). In her view, the structure of the movement of voices, the duration of a sound, the sequence of concomitants, and the interrelationship of consonant and dissonance chords is greatly conditioned by the 'text', which coordinates the musical process (Bolle Zemp, 1997; 2001).

In prior work Mzhavanadze (2018) investigated the ethnological context of *zär*, and explored etymological, linguistic, and musicological aspects via manual analysis of both archive recordings, as well as the variants documented together with F. Scherbaum during fieldwork in Svaneti in 2016 (Scherbaum & Mzhavanadze, 2018). This included a comparative review of some musicological characteristics of the chant as well. She discussed and developed a wide spectrum of hypotheses related to the issue of origins of *zär*, the "asemantic" texts, etymology, polyphonic form, etc. She also challenged mainstream theories of stadial development of Georgian polyphony (Mzhavanadze, 2018: 175-233). Some of the hypotheses have been tested, and some discussions have been reinforced and revisited in the present paper as well.

While concentrating mainly on the problem of the origins of *zär*, some authors investigate semantic and functional aspects of the chant (Kalandadze-Makharadze, 2005) to prove its ancient roots, others make the same assumption based mainly on the arguments related to its musical syntaxes, such as: a narrow span of voice movements, utterance-based musical phrases, syllable and vowel based, "non-semantic text", combination of simple two- and three-part harmonic segments, step-wise movement of voices, sharp alteration of mode or neutral mode, the sacred context and poly-functionality (cult of the dead) (Arakishvili, 1950: 9; Aslanishvili, 1954: 87; Rosebashvili, 1982: 45-48).

The field expedition of 2016

During the summer of 2016, we performed a two-month ethnomusicological field expedition to Upper Svaneti and Svan eco-villages. On this occasion, we collected a new research corpus of traditional Georgian songs, prayers, and lamentations, consisting of audio material of more than one hundred songs, including more than one thousand audio tracks recorded with different types of sensors (headset and larynx microphones attached to the singers' bodies, a stereo microphone in front of the whole ensemble, and a directional microphone on the video camera), video recordings, as well as written transcripts of the extensive interviews with the performers. (Scherbaum & Mzhavanadze, 2018; Scherbaum et al., 2018; Scherbaum et al., 2019). A particular gem in this corpus is the set of recordings of three-voiced male funeral songs, known as *zär* in Svan and *zari* in Georgian, part of which were recorded in their natural context at funerals. Although every Svan village used to have its own variant of *zär*, as we were told by local informants (e. g. by Murad Pirtskhelān in Lakhushd), it is assumed today that only 11 different variants have survived. The collection which was obtained during the 2016 field campaign, and which is the focus of the present paper, consists of 11 recordings of 6 different variants of *zär*. It therefore represents more than half of the *zär* repertoire believed to still exist. This makes it not only a unique dataset for ethnomusicological research, but also an important cultural document of Svan funeral rites.

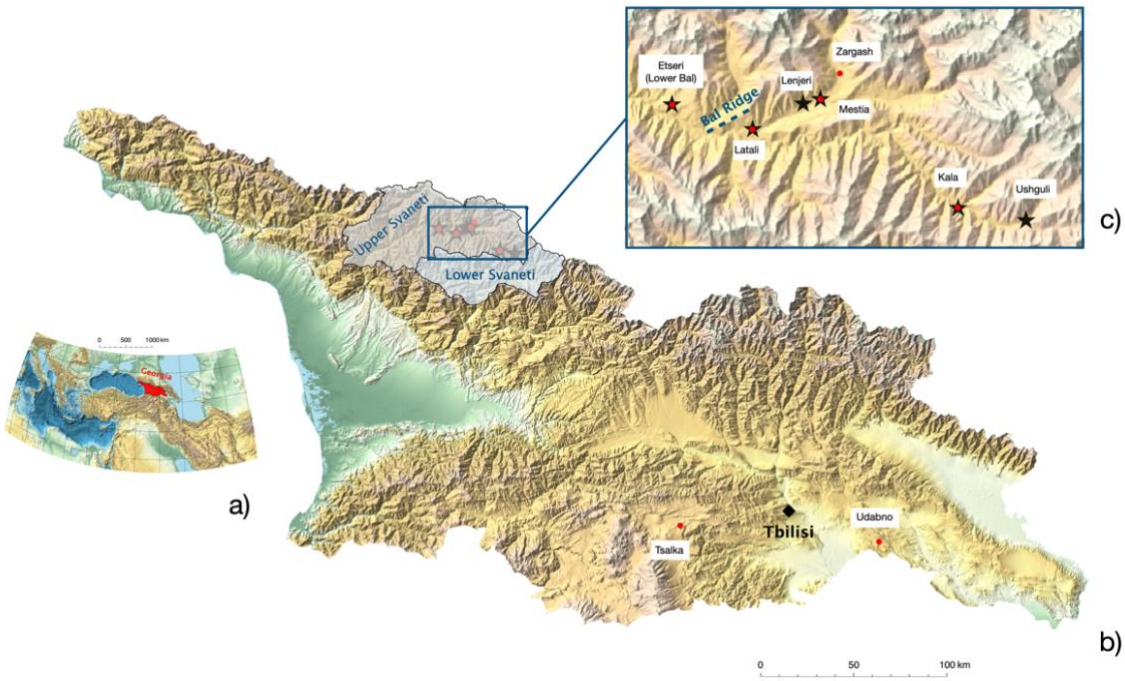

Figure 1. Geographical situation. a) The location of Georgia in its regional context. b) Study area and recordings sites (marked by red solid circles) of the field expedition of 2016. c) Locations of recording sites (red solid circles) and locations of origin of *zär* (black stars) within Upper Svaneti. The Bal ridge (altitude-wise) divides the Lower Bal and Upper Bal regions of Upper Svaneti.

The recording locations and the locations of origin of the different *zär* variants are shown in Figure 1 by red solid circles and black stars, respectively. Apart from the Upper Svaneti area, the field work also covered the eco-migrant Svan communities of Didgori, Tsalka, and Udabno, outside Svaneti, near Georgia's capital, Tbilisi (Figure 1). These recordings may become especially precious because the villages are populated by eco-migrant Svans who immigrated from different communities of Upper Svaneti a few decades ago. The analysis of these performances, we believe, might help to retrieve information about the changes (if any) in the repertoire (including *zär*) and their 'lives' after they have 'dislocated' from their homes to a new geographical and partially social context.

All the recordings of the 2016 field expedition have been made publicly available and can be accessed either through the open access long-term archive at the University of Jena, which also hosts the field report (which also contains all the ethnographic information about the music performers), the videos of the performances, and all other meta data (https://lazardb.gbv.de/search; see Scherbaum et al., 2018 for details), or through the research repository at the University of Erlangen of the GVM project

(https://www.audiolabs-erlangen.de/resources/MIR/2017-GeorgianMusic-Scherbaum, see Figure 2) .

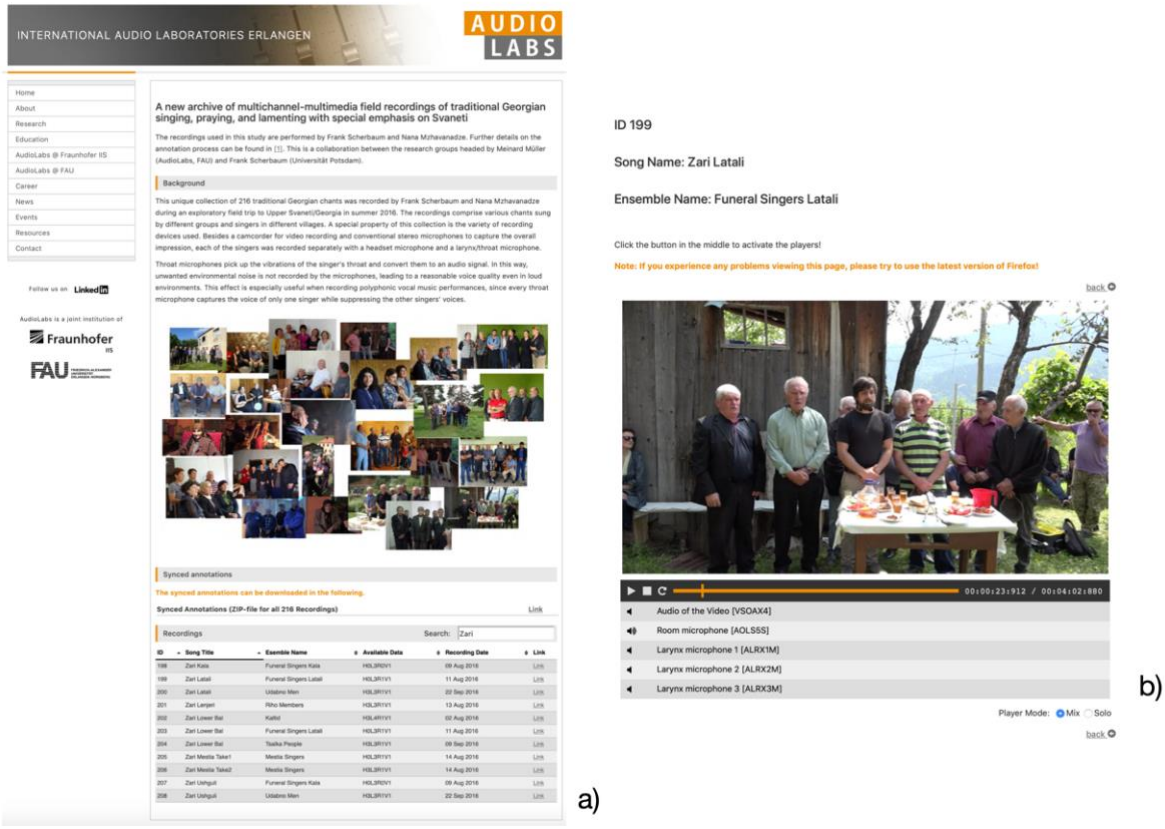

Figure 2. Web interface of the research repository hosted at the University of Erlangen which allows access to the new corpus of *zär* recordings (audio-, video-, and larynx microphones)[10]. a) top level menu showing the meta data of all *zär* recordings in the repository. b) For an individual selected performance, shown here for the Lat'li *zär* (GVM-ID 199), one can playback individual tracks or combinations thereof together with the video of the performance.

The technical quality of the data is good to excellent. All recordings were done as multi-media recordings, in which a high-resolution (4K) video stream is combined with a stream of 3-channel headset microphone recordings (one for each voice group), a stream of 3-channel larynx microphone recordings (one for each voice group as well), and a conventional stereo recording. The systematic use of larynx microphones, which to our knowledge has never been done before in ethnomusicological field expeditions, was motivated by the results of a pilot study in Upper Svaneti in 2015, which showed that larynx microphones allow the undistorted documentation of the contribution of each singer while all of them are singing together in their natural context (Scherbaum et al.,

[10] Access information can be obtained from the first author (fs@geo.uni-potsdam.de).

2015). In addition, larynx microphone recordings were also shown to contain essential information in relation to a singer's voice regarding pitch, intonation, timbre, and voice intensity, which allows the application of computer-based methods to document and analyze vocal music of the oral tradition in new ways, e. g. to apply computerized pitch analysis techniques to determine the fundamental frequency (F0) trajectories and their microtonal structure, to study the tuning systems used by the singers, as well as possible interactions between singers (Scherbaum et al., 2015; Scherbaum, 2016).

Tonal organization

In this section, we will discuss the tonal organization derived from the acoustic analysis of the 11 *zär* recordings from the 2016 field expedition.[11] In this context, we try to derive a quantitative representation of what happens melodically and harmonically during the performance of a *zär* in such a way, that it does not require a transcription into a Western notation system. Rather, we consider the tuning system used by the individual singers as part of the characteristics to be determined in the course of our analyses. This was greatly facilitated by the fact that during this field expedition (in addition to headset, and stereo-microphones) larynx microphones were used systematically (Scherbaum et al., 2018; 2019). Since larynx microphone recordings of individual singers are practically unaffected by the voices of co-singers (Scherbaum, 2016), computer-aided determination of the fundamental frequencies (F0) of individual voices can be achieved with algorithms for monophonic signals, for which a number of stable algorithms exist. In this study we use the TONY software by Mauch et al. (2015). In addition to the analysis of the fundamental frequency trajectories of the signals (also referred to as pitch trajectories or pitch tracks)[12] with the PYIN algorithm, this program also performs an algorithmic determination of the sung notes. Furthermore, it allows subsequent interactive editing of the *note objects* as well as the input of the song lyrics. The results of these processing steps are illustrated in Figure 3 for the three voices of the Ushgul *zär*, performed during a funeral in K'āl on August 9, 2016. The corresponding audio and video tracks can be found on the Erlangen research repository under GVM-ID 207.

[11] A discussion of the tonal organization of traditional Georgian music as a general topic is outside the scope of the present paper. A review of the related discourse can be found in Scherbaum et al. (2020).
[12] For simplification, we use the term pitch, which is a psychoacoustic quantity and cannot be measured directly, interchangeably with fundamental frequency F0, which can be determined from audio signals using so-called pitch tracking algorithms (e.g. Mauch et al., 2015).

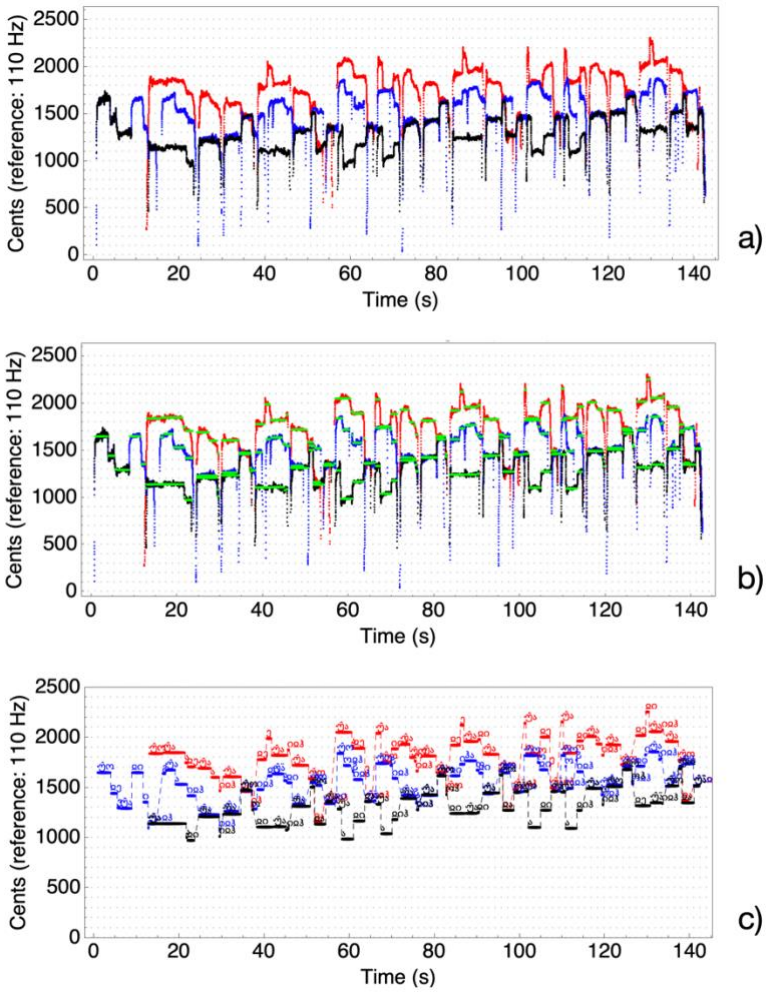

Figure 3. a) F0 trajectories (pitch tracks) for the three voices of the Ushgul *zär* (GVM-ID 207), performed during a funeral in K'āl on August 9, 2016. b) pitch trajectories superimposed by the corresponding note pitches (green horizontal lines). c) note trajectories with added lyrics. All F0 values are given in cents with respect to a reference frequency of 110 Hz.

Figure 3 a) shows the raw F0 trajectories, Figure 3b) the superposition of the raw F0 trajectories with the corresponding note objects (green horizontal lines), and Figure 3c) the note trajectories with the inserted lyrics. The red, blue, and black lines in Figure 3 correspond either to the F0-trajectories (in Figure 3a and b) or to the note trajectories (in Figure 3c) of the top, middle, and bass voice, respectively. We convert all the estimated F0-values (given in Hertz) into cents by using

$$\text{Fcents}(f) := 1200 \cdot \log_2 . (f/ f_{ref}).$$

The use of the cents scale in ethnomusicology goes back in time as far as to the last decades of the 19th century (Ellis, 1885). Fcents is actually an interval measure, which measures the distance (in cents) between frequency f (in Hz) and a reference frequency

fref (in Hz). In the following, we define fref = 110 Hz, which corresponds to a frequency of two octaves below the concert pitch of 440 Hz. Through the transformation into the cents domain, one accounts for the logarithmic nature of pitch perception[13].

Several properties are easily noticeable in Figure 3. First, it can be seen that the *zär* starts with a monophonic part which lasts for roughly 10 seconds. It is followed by the three-voiced part, which lasts for more than 2 minutes, and during which the individual voices are mostly clearly separated vertically, except for the times when all three voices meet at the same pitch. There are no signs of voice crossing. Hence, in terms of the chord progression characteristics, the function of the individual singers (bass, middle, top) remains the same throughout the whole performance. This style of polyphonic singing, which is quite typical for *zär*, has been described e.g. as chordal unit polyphony (Aslanishvili, 2010[14]). What can also be seen in the pitch trajectories in Figure 3b) is that the singers intonate with very strong sliding phases, both at the beginning and the end of the notes. This has been observed to be quite typical for Svan vocal music in general.

Yet another striking feature of the *zär* recording shown in Figure 3 is that the pitches rise steadily by about a whole tone (200 cents) during 140 seconds. Such a gradual rise in pitch has been observed for some of the other *zär* recordings discussed below (see also Figure 4 in part 2), but is also well known for other unaccompanied vocal performance traditions worldwide. Specific examples of this phenomenon are discussed for example in chapter 7 in Ambrazevičius et al., (2015). The occurrence of gradual pitch shifts is also a very strong argument against an uncritical transcription of *zär* into a 12-TET (12-tone-equal-temperament) notation system. It does not take much fantasy to realize that the inevitable use of accidentals in connection with trying to transcribe gradual pitch shifts will be easily misinterpreted as indicating key changes.

In the context of analyzing the melodic and harmonic properties of the *zär* recordings in the present study, we are not interested in the very strong sliding phases at the beginning

[13] Logarithmic pitch perception means that differences in frequencies are perceived as identical if the difference of the logarithms of their frequencies are identical. According to basic algebra this is equivalent to the statement that the ratio of their frequencies is identical. E.g. for the interval of a pure fifth, the frequency ratio is always 3/2, independent of where in the frequency range it is measured. This is equivalent to an interval size of $1200 \cdot \log_2 . (3/2) = 702$ cents.

[14] Out of consideration for the international readership, we quote, where possible, English translations or summaries, here for example of Aslanishvili (1954).

and the end of notes. In particular for the determination of the tuning system, we are only interested in the stable segments of the pitch trajectories during identified note objects. Therefore, in the next step of our standard processing chain, we remove all sliding phases from the F0 trajectories by cutting off 0.15 seconds at the beginning and the end of each F0 trajectory within each note.

The result of this procedure for the three voices of the Ushgul *zär* is shown in Figure 4 a). From these 'cleaned' trajectories, new and interesting forms of visualizations of the acoustical/musical information contents can be derived, e.g. the one shown in Figure 4 b), to which we refer as harmonic melograph.

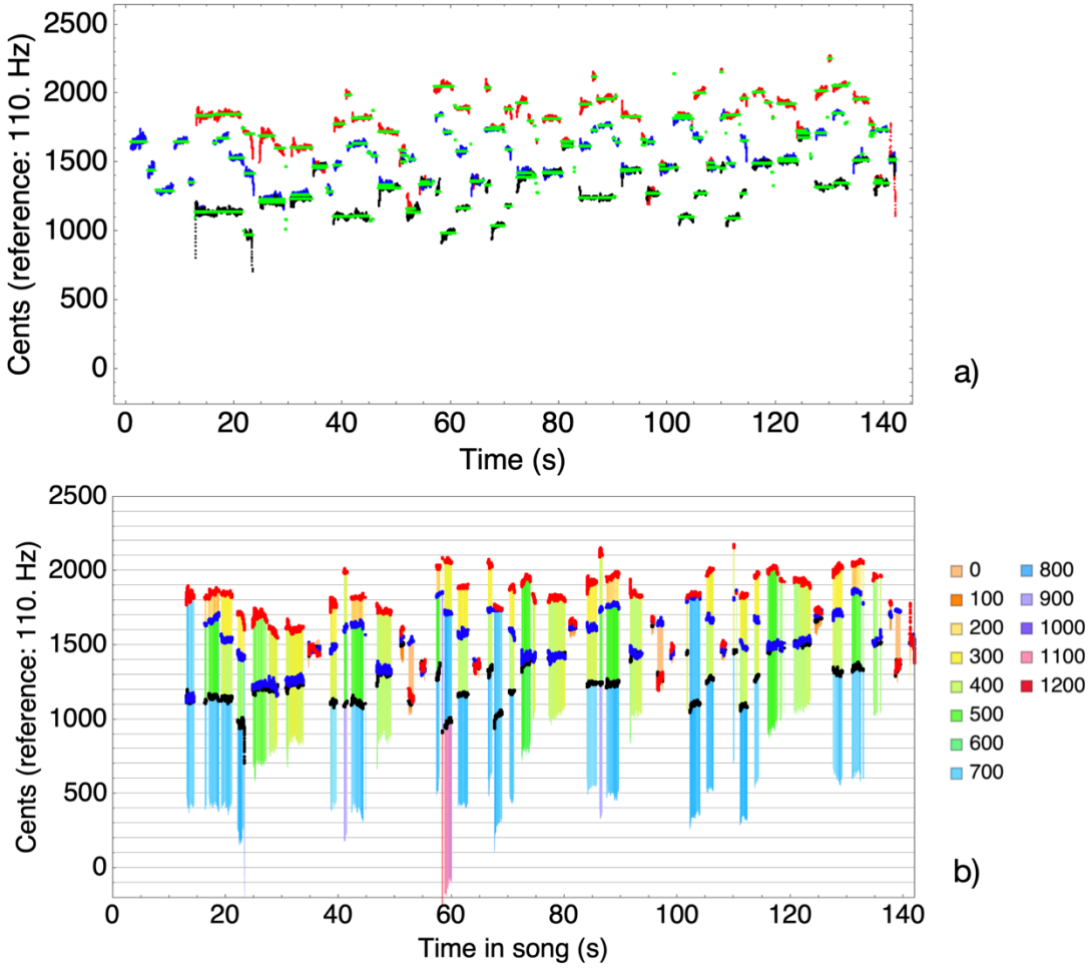

Figure 4. a) Removing the sliding phases at the beginning and the end of each note object from the F0 trajectories. b) Harmonic melograph display. The spaces between the middle and top voice and the bass and middle voice are color coded according to the corresponding harmonic interval sizes between the voices. The space below the bass voice is shaped and color coded according to the interval between bass and top voice.

Although it may take some time to get used to, the harmonic melograph visualization in Figure 4b) is a very powerful way to display both the melodic and harmonic content of the Ushgul *zär* in a single plot. Since the red, blue, and black wiggly line segments show the F0 trajectories for the top, middle, and bass voice as before, they contain all the information about the melodic properties of the chant. In addition, the vertical color-coded lines between the individual voice trajectories encode in their color the harmonic information content at any instance of time. To make this more specific, Figure 4b) shows three dominant colors: blueish, greenish, and yellowish. As can be seen from the legend on the right, the blueish colors correspond to interval sizes of approximately 700 cents, in other words, to fifths. Hence, in one glimpse one can see that the bass and top voice move in parallel fifths for most of the chant, only interrupted by a short segment of reddish colors (approx. 1200 cents, which is equivalent to an octave) at about 60 seconds. The change between darker greenish and lighter greenish/yellowish for the intervals between the bass and the middle voice on the other hand illustrates that the harmonic interval between bass and middle voice changes between fourths (500 cents) and thirds (300-400 cents), once in a while interrupted by a short segment of fifths (700 cents). Finally, by similar reasoning, it can be seen that the interval between the middle and top voice is dominated by thirds sometimes going down to major seconds (200 cents). In other words, in a single glimpse one can see that harmonically the Ushgul *zär* consists of more or less parallel fifths between the bass and the top voice, and differently sized thirds and fourths between the bass and the middle voice, while the harmonic intervals between the top and middle voice is dominated by thirds.

In Figure 5 the harmonic melograph visualization is used to compare all the different realizations of *zär*, which we collected during the 2016 field expedition.

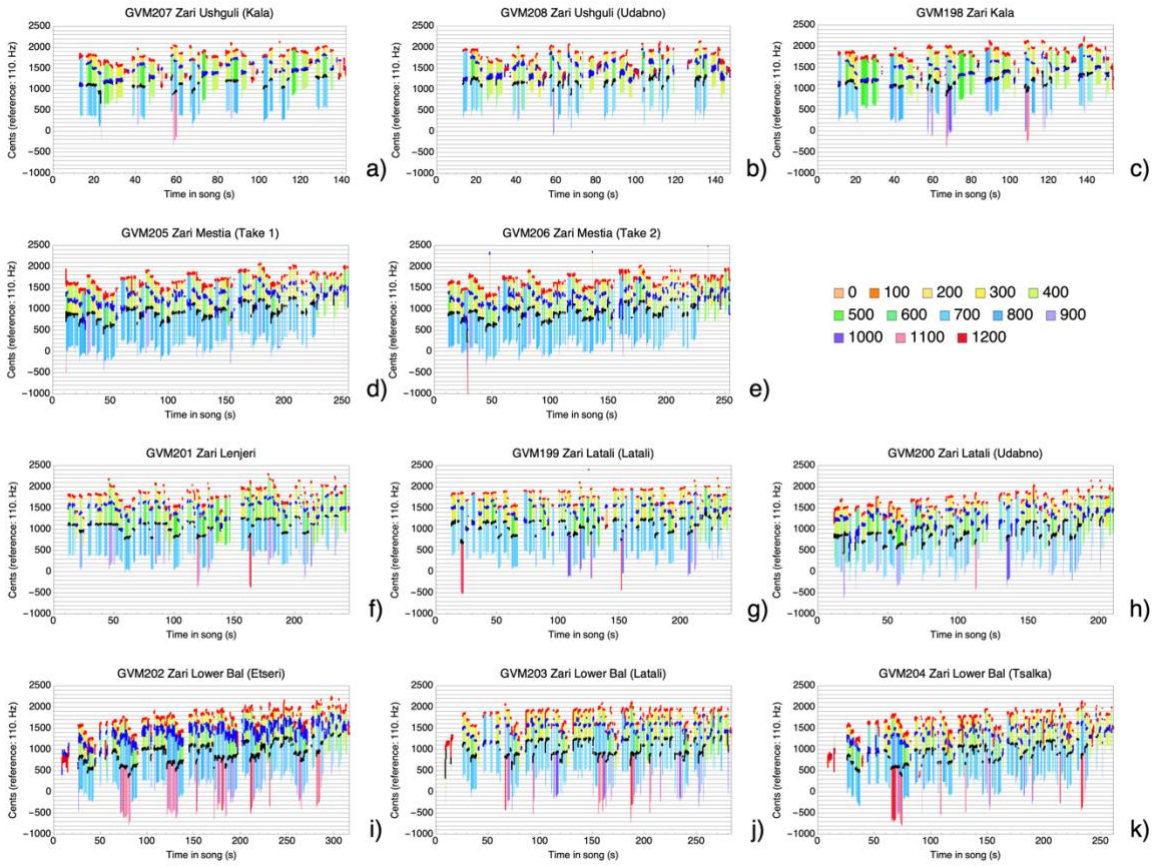

Figure 5. Joint visualization of the melodic and the harmonic content of all eleven zär recordings obtained during the 2016 field expedition. The type of visualization as harmonic melograph plot is the same as in Figure 4.

In Figure 5, the vertical position within each panel corresponds to the F0 difference in cents with respect to the chosen reference frequency of 110 Hz. It is worth noting that the color scale used for the intervals is perceptionally linear. This means that color changes are expected to correlate approximately to the perceived pitch changes related to each interval. The purpose of Figure 5 is to graphically illustrate some systematic changes of basic musical characteristics of the different *zär* recordings in relation to the geographical /topographical positions of the locations of origin of the different *zär*. For this purpose, the individual panels in Figure 5 are arranged from a) to k) in such a way that the altitudes of the locations of origins of the *zär* (see Figure 1) change systematically along the course of the Enguri valley from the highest location (Ushgul at approx. 2150 m) down to the lowest ones in the Lower Bal region. Interestingly, this correlates with a systematic change of some basic musical properties of the *zär*. First, it can be seen that the ambitus of the *zär* systematically increases from the top to the bottom panels. At the same time, judged simply by the increased complexity of the visual images, the musical

structure of the *zär* becomes more 'complex'. For example, the Lower Bal variant of *zär* no longer consists only of parallel fifths between the bass and the top voice, which persist for the whole chant, but the reddish colors indicate several segments in which this interval increases in size up to an octave. This behavior seems to be indicated already in the Lat'li *zär*. Two other aspects are worth mentioning at this point. First, it can be seen that some *zär*s show a very pronounced gradual rise in pitch, while some do not. Secondly, caused by the heavy rain during the first recording (Take 1) of the Mest'ia *zär* shown in Figure 5 c), only larynx microphones were used. However, because of the strong emotional impression which this performance had on us, we decided, even under the risk of water damage of the very delicate headset equipment, to rerecord the performance with full equipment. To our surprise, the pitch trajectories of two 4-minute-long recordings are nearly identical. In particular, although the steepness of the gradual pitch rise in both cases is slightly different, the ending F0 values are essentially identical in both cases. Furthermore, this demonstrates, in contrast to what one could suspect as a naive listener of *zär*, that it does not contain strong improvisational elements. This naturally raises the question how a *zär* is actually learned? Our informants told us that *zär* cannot be taught or learned but that one has "to grow up with it".

In the context of music perception, it has been suggested to distinguish between the sequential (horizontal, melodic) and the concomitant (vertical, harmonic) structure (Nikolsky, 2015). For *zär*, the harmonic aspect is perceptionally clearly dominant, as can easily be checked by listening to the recordings[15] or by simply considering how long the individual notes are perceived (e. g. Figures 3 and 4). In order to analyze the harmonic content, we have determined all concomitant pitches in all three voices, and from them determined all the jointly perceived intervals. Their frequencies are shown as gray shaded histograms in Figure 6.

[15] https://www.audiolabs-erlangen.de/resources/MIR/2017-GeorgianMusic-Scherbaum.

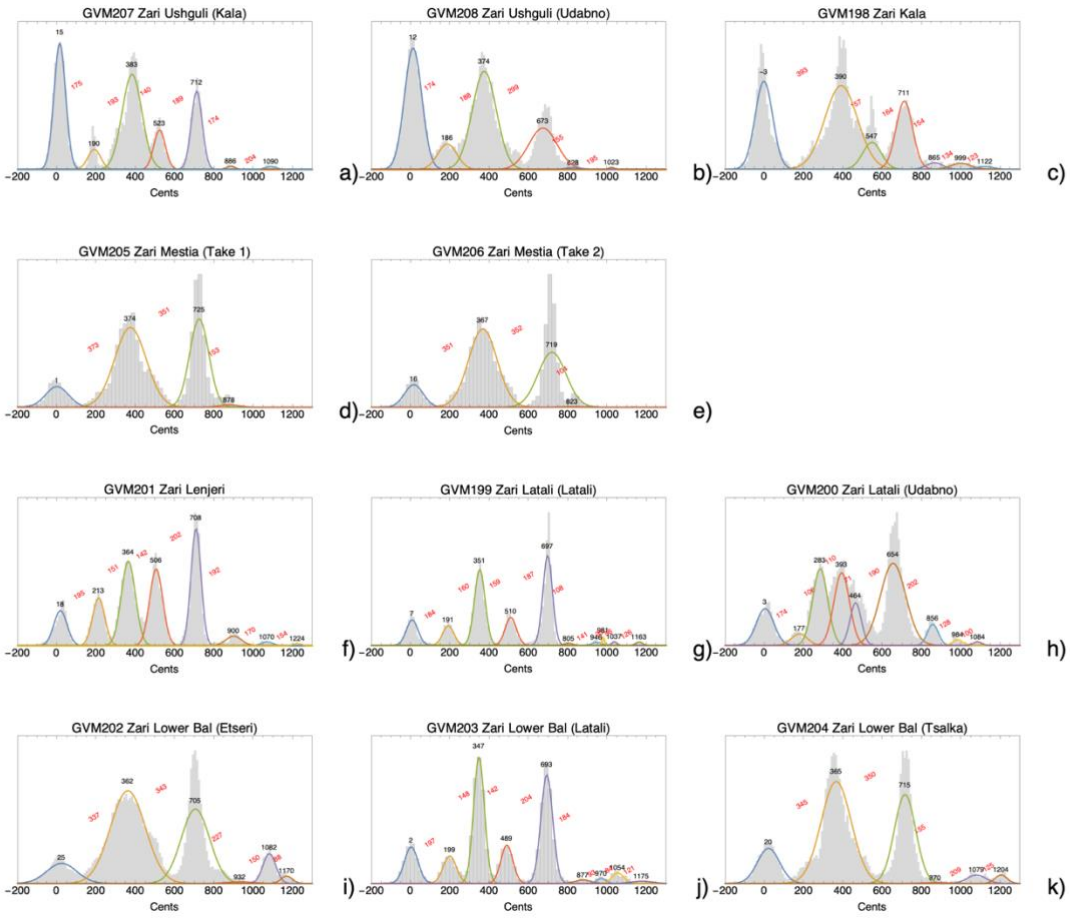

Figure 6. Harmonic interval frequency histograms for all concomitant pitches in the pitch trajectories of all *zär* realisations[16]. The black numbers correspond to the mean sizes (μ_k) for each interval group in cents while the tilted red numbers represent the differences between the interval groups in cents.

As we can see, intervals appear more or less strongly clustered. This justifies trying to model them as Gaussian Mixture Models (GMMs), which are simply weighted mixtures of individual Gaussian distributions $\mathcal{N}(\mu, \sigma^2)$, each of which is defined by a mean value μ and a standard deviation σ (Frühwirth-Schnatter, 2006). For the case of K interval groups, this results in a representation as $\sum_{k=1}^{K} w_k \, \mathcal{N}(\mu_k, \sigma_k^2)$, which corresponds to the smooth bell-shaped curves in Figure 6. Table 1 displays the mean values and standard deviations for the GMMs of the harmonic intervals for all *zär* realizations.

[16] The panel to the right of panel e) was left empty on purpose. This way, the sequence of rows from top to bottom more systematicall reflects the change of the geographical locations of the origins of the *zär* from Ushgul to Lower Bal.

GVM207	15 ± 30	190 ± 33		383 ± 50		523 ± 29	712 ± 28	*886 ± 22*		*1090 ± 28*	
GVM208	12 ± 44	186 ± 49		374 ± 61			673 ± 72	*828 ± 40*		*1023 ± 14*	
GVM198	-3 ± 44			390 ± 83		547 ± 47	711 ± 42	*865 ± 40*		*999 ± 48*	*1122 ± 40*
GVM205	1 ± 58			374 ± 80			725 ± 49	*878 ± 50*			
GVM206	15 ± 42			369 ± 71			717 ± 38	*845 ± 38*			
GVM201	18 ± 34	213 ± 31		364 ± 36		506 ± 33	708 ± 26	*900 ± 40*		*1070 ± 29*	*1224 ± 18*
GVM199	7 ± 29	191 ± 28		351 ± 27		509 ± 29	699 ± 27		*960 ± 54*	*1038 ± 13*	*1164 ± 15*
GVM200	3 ± 44	177 ± 41	283 ± 38		393 ± 40	464 ± 29	654 ± 64	*859 ± 28*	*984 ± 24*	*1084 ± 22*	
GVM202	25 ± 76			362 ± 89			705 ± 72		*932 ± 64*	*1082 ± 33*	*1170 ± 28*
GVM203	2 ± 34	199 ± 33		347 ± 27		489 ± 30	693 ± 30	*877 ± 40*	*970 ± 24*	*1054 ± 30*	*1175 ± 52*
GVM204	20 ± 57			365 ± 77			715 ± 54	*870 ± 73*		*1079 ± 47*	*1204 ± 30*

Table 1. Mean values and standard deviations, written as $\mu_k \pm \sigma_k$, for the GMMs of the harmonic intervals for all *zär* realizations.

The mean values of the individual Gaussians (the μ_k) correspond to the center values of the individual interval groups. They are assumed to define the interval sizes which (on average) would be perceived, while the standard deviations (the σ_k) define the variability within the associated interval group. The larger the area under an individual bell-shaped curve (Gaussian), the more often the corresponding interval group is repeated in the complete *zär*. Because repetition of pitches increases their anchorage in memory, Figure 6 together with Table 1 represent the harmonic content in a simple, but perceptionally meaningful way, without having to make any further assumptions (Deutsch, 1972; 1975).

As can be seen in Figure 6, overall, the three most salient harmonic interval groups (the ones with the largest areas under their bell-shaped curves) are thirds (with central values μ_k between 350 and 400 cents), unison (μ_k close to 0 cents), and fifths (μ_k around 700 cents). In some realizations (e. g. for GVM-IDs 199, 201, 203, and 207) harmonic fourths (μ_k close to 500 cents) also appear as distinct interval group, while in others they are barely apparent (e. g. for GVM-ID 208) or appear as merged with the thirds (e.g. for GVM-IDs 200, 202, 204, 205, 206). A similar observation can be made for major seconds (around 200 cents), which appear only in a subset of the *zär* realizations. Overall, the harmonic interval inventory used seems to strongly depend on the ensemble and less on the location of origin of the *zär* (cf. Figure 6 and Table 1). For example, in the realization of the Ushgul *zär* by the singers from Udabno (GVM-ID 208), the singers use a different harmonic interval inventory than the singers from Ushgul (GVM-ID 207). When singing the Lat'li *zär* (GVM-ID 200), the singers from Udabno also use a different harmonic interval inventory than the singers from Lat'li (GVM-ID 199).

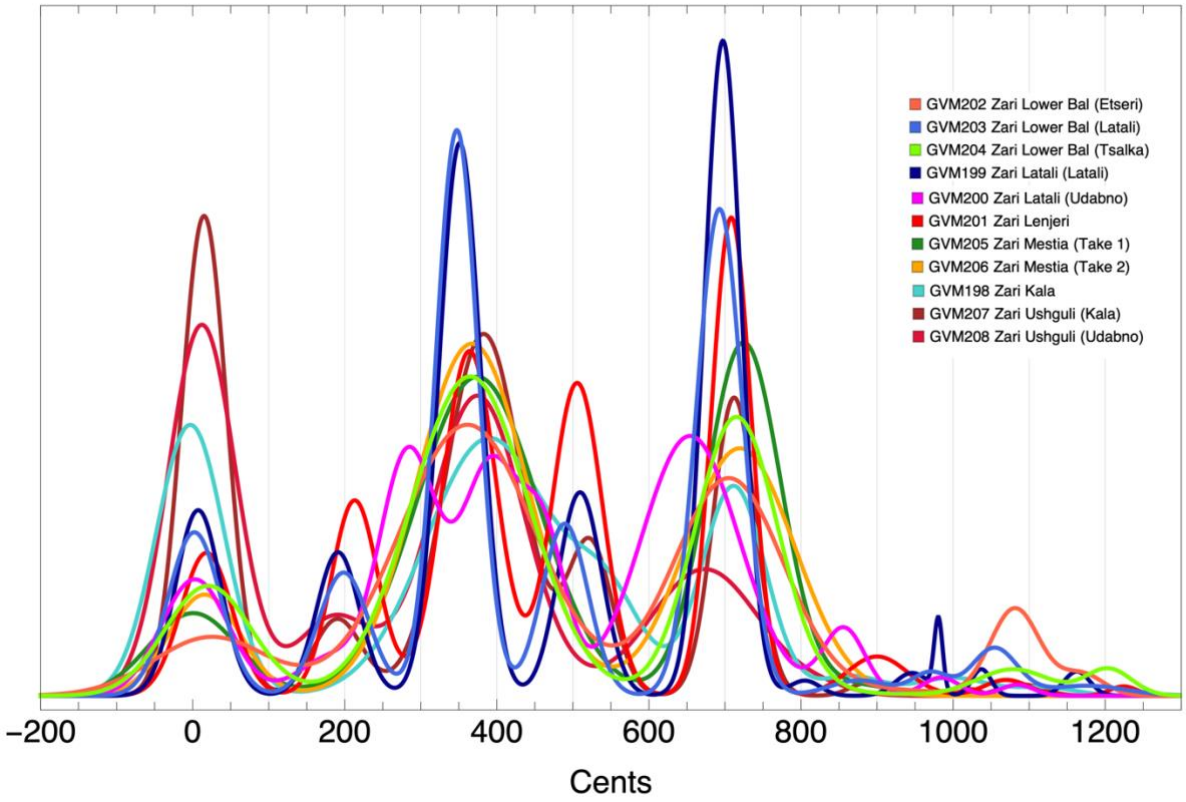

Figure 7. Superposition of all the Gaussian Mixture Models for the harmonic interval distributions of the different *zär* realisations shown in Figure 6.

Of particular interest in this case are the properties of the harmonic interval inventory of the Udabno singers regarding harmonic thirds. This can be seen especially well in Figure 7, where all the Gaussian mixture distributions for all realizations of *zär* are superimposed in a single plot. Figure 7 shows that for most of the interval groups, the central values of the individual Gaussians (the μ_k) deviate, but not very much, from each other. Except for the Lat'li *zär*, sung by the Udabno singers (GVM-ID 200, magenta curve), thirds are never minor or major (300 or 400 cents), but distributed around an intermediate value (approximately around 350 cents). This recording is also special in that most of the harmonic fifths are flat (less than 500 cents), and their values scatter widely (σ_k = 76 cents; Table 1).

In order to better understand this behavior, but also to provide yet another perspective on the harmonic tuning systems used in the different *zär* realizations, Figure 8 shows how the harmonic intervals evolve as a function of time. This is done for all three voice combinations, which are differently color coded.

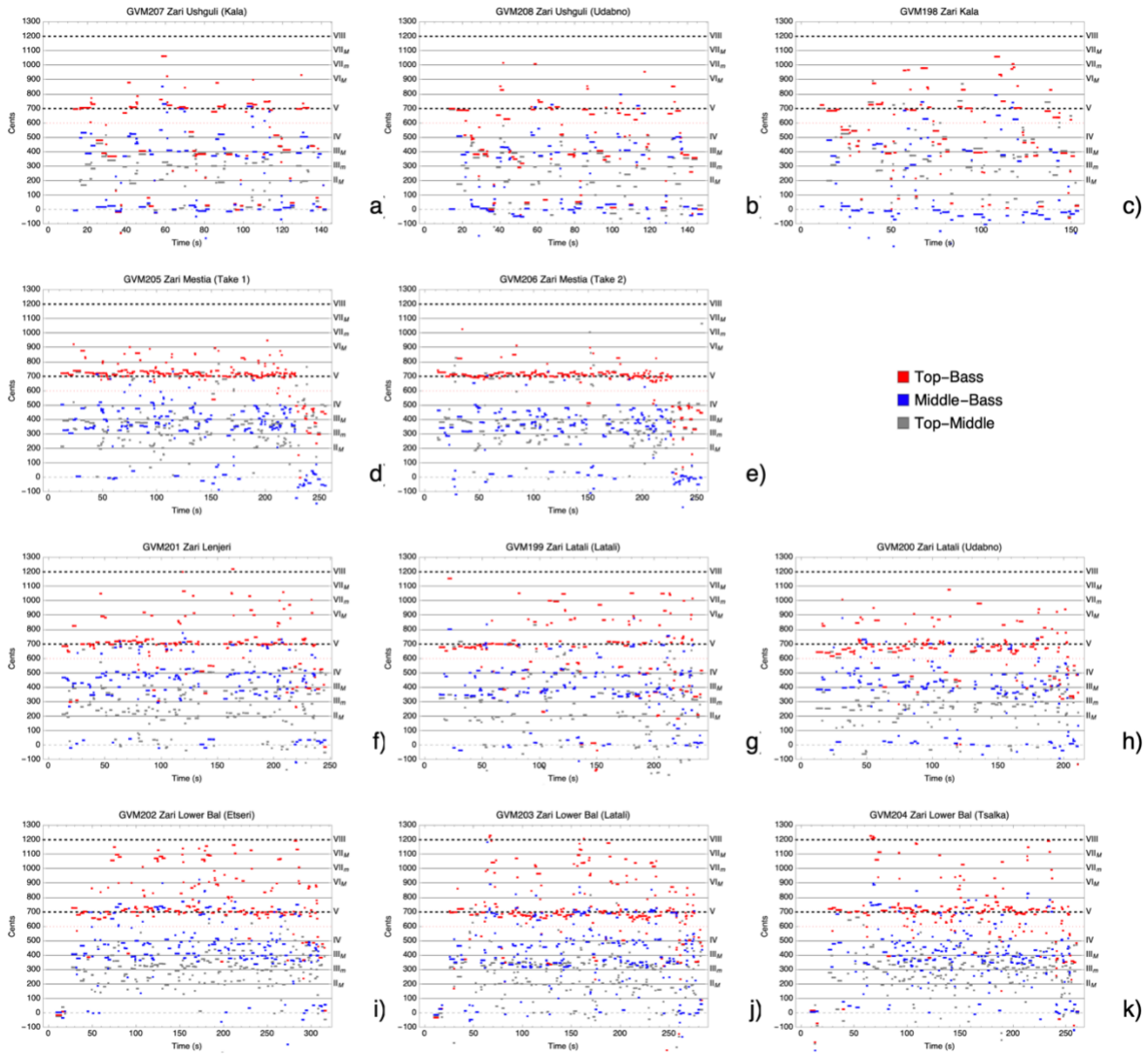

Figure 8. Harmonic interval structure in all *zär* recordings as a function of time. The different color codes indicate different voice combinations.

Figure 8h) illustrates that the 'minor thirds' in the harmonic interval inventory of the Lat'li *zär* sung by the Udabno singers (GVM-ID 200) appear predominantly between the top and the middle voice (gray color), while the 'major thirds' appear between the middle and the bass voice (blue color). Furthermore, the flat fifths appear predominantly between the top and the bass voice (red color). All Udabno singers of the Lat'li *zär* were originally from Lat'li and had moved to Udabno during the 1980s. A flattened fifth between top and the bass voice, although not as strong as in the case of GVM-ID 200, is also visible in the recording of the Ushgul *zär*, sung by the Udabno singers (Figure 8b). The top and bass voice singers in both realizations are the same, while the middle voice singer in case of the Ushgul *zär* was from K'āl, not far from Ushgul (see Figure 1).

Figures 6 – 8 provide different perspectives on the harmonic part of the tonal organization represented in the different *zär* recordings. Regarding the melodic tuning system, we face the challenge having to correct the pitch trajectories for the gradual pitch rise present in some of the recordings, e.g. in our running example GVM-ID 207, shown in Figure 3. The way we do this is illustrated in Figure 9.

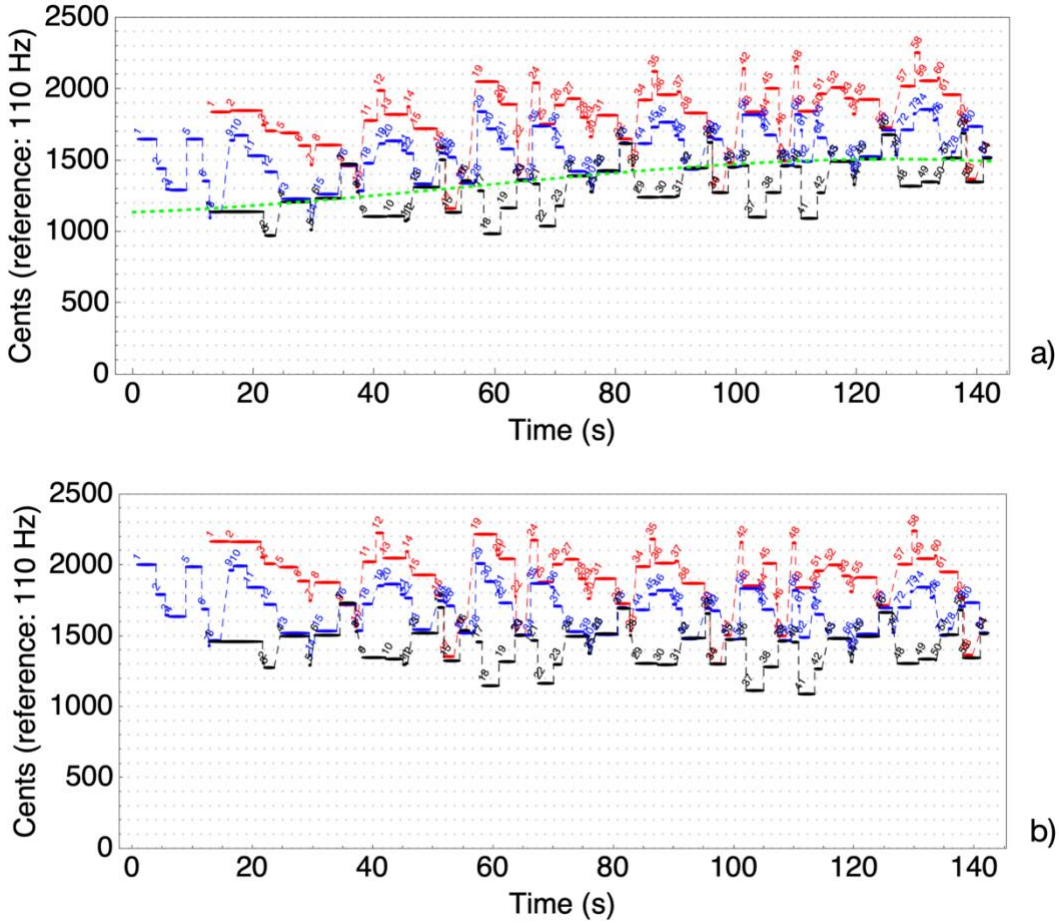

Figure 9. a) Note tracks for the three voices of the Ushgul *zär* (GVM-ID 207). The green line corresponds to correction curve for the pitch drift. b) Pitch-drift corrected note tracks.

Since visually the pitch drift can be easily identified in the note tracks, we first produce a plot of the note tracks, in which the note text is replaced by the note number (running from 1 to the total number of notes). Subsequently, we identify the sequence of notes in one of the voices, which we believe best represents the gradual pitch drift by a small number of samples. Finally, a regression curve (a third-degree polynomial) is calculated, which passes through the selected notes, and which then quantifies the pitch drift in a functional form. This is the green line shown in Figure 9a). This functional form is then used to correct all the pitches in the raw F0 values and note trajectories, so that the

gradual pitch drift is removed from the resulting trajectories (Figure 9b). In order to facilitate the visual comparison of the pitch inventories of the different recordings, we also shift all the F0 values by a constant amount (which differs for each *zär*) in such a way that the pitch group, which contains the final long note (with a duration of at least 1 sec) in the middle voice, has a center F0 value of 1500 cents. Figure 10 shows the resulting note tracks for all pitch-drift corrected *zär* realizations.

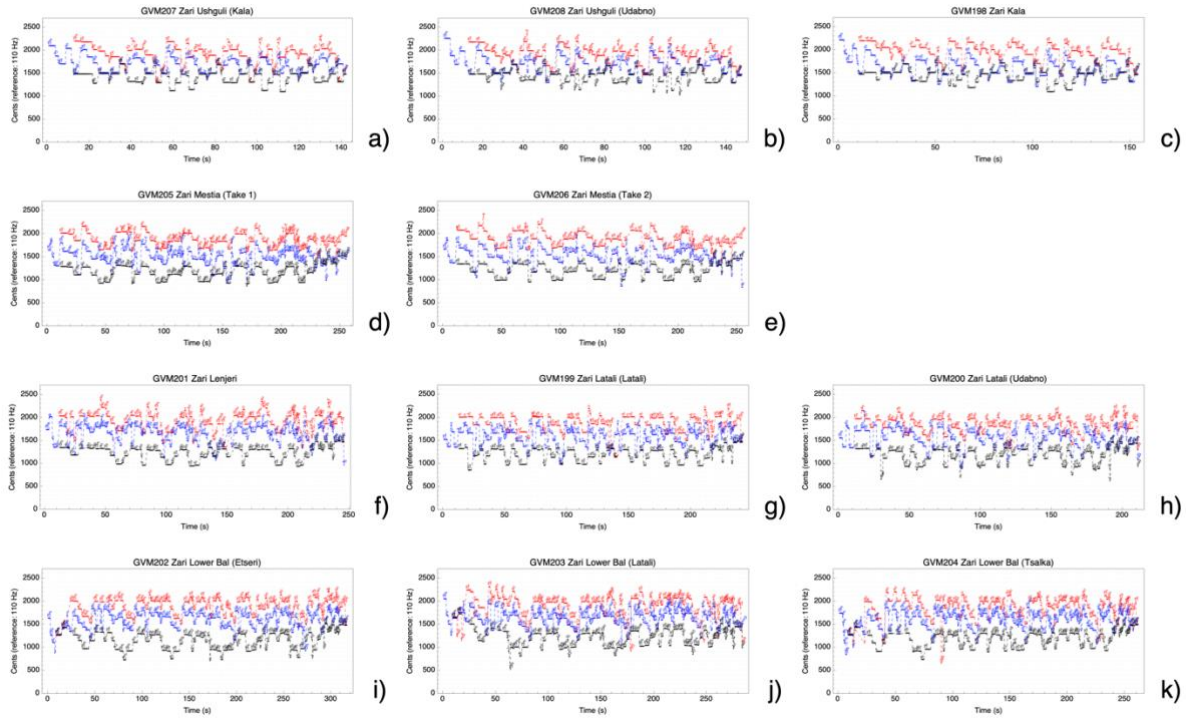

Figure 10. Pitch-shift corrected note tracks for all *zär* realizations.

Subsequently, we calculate F0 histograms from the pitch-drift corrected cleaned pitch trajectories and model them as Gaussian Mixture Models (GMM), as we did for the interval distributions. The results are shown in Figure 11 and Table 2.

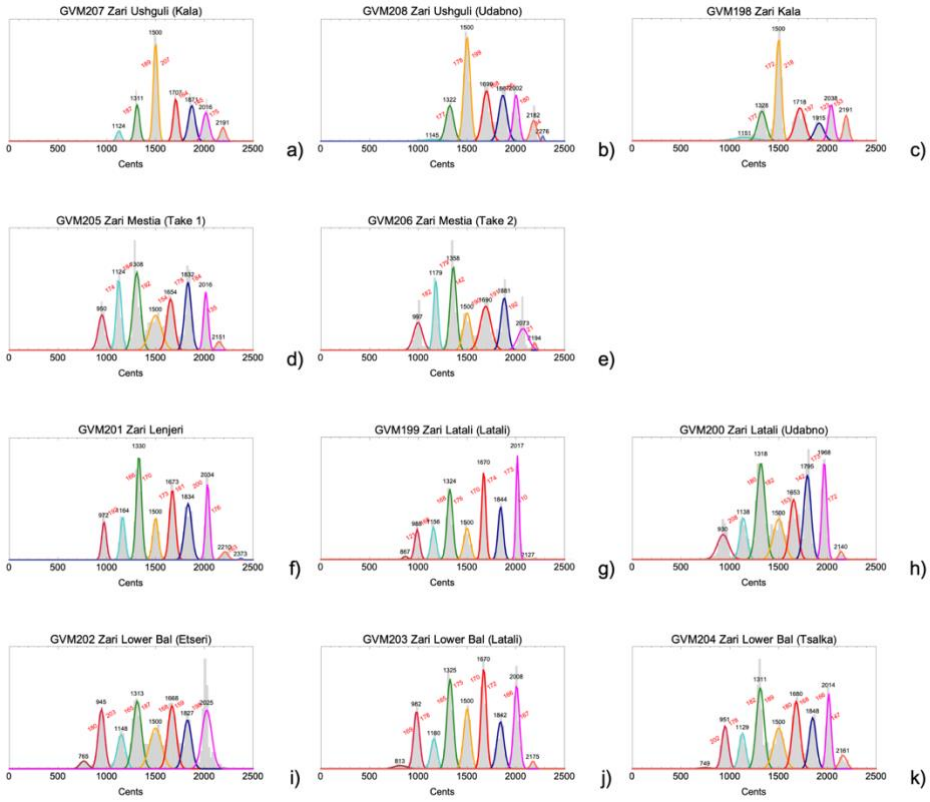

Figure 11. F0 value histograms and corresponding Gaussian Mixture distributions calculated from the pitch-drift corrected pitch trajectories of all *zär* realizations.

GVM207			1126 ± 33	1318 ± 30	1500 ± 29	1710 ± 38	1872 ± 38	2008 ± 34	2186 ± 32	
GVM208			1145 ± 116	1322 ± 40	1500 ± 33	1699 ± 42	1867 ± 42	2002 ± 29	2182 ± 31	2276 ± 11
GVM198			1151 ± 121	1328 ± 44	1500 ± 27	1718 ± 50	1915 ± 47	2038 ± 29	2191 ± 26	
GVM205		952 ± 38	1126 ± 27	1309 ± 38	1500 ± 61	1656 ± 39	1834 ± 33	2017 ± 24	2153 ± 30	
GVM206		1000 ± 37	1179 ± 23	1358 ± 29	1500 ± 37	1701 ± 52	1887 ± 32	2067 ± 23	2189 ± 19	
GVM201		972 ± 24	1164 ± 25	1330 ± 27	1500 ± 28	1673 ± 30	1834 ± 36	2034 ± 21	2210 ± 34	2373 ± 15
GVM199	867 ± 25	988 ± 25	1156 ± 27	1324 ± 29	1500 ± 34	1670 ± 21	1844 ± 26	2017 ± 16	2127 ± 233	
GVM200		930 ± 59	1138 ± 36	1318 ± 43	1500 ± 55	1653 ± 40	1795 ± 37	1968 ± 24	2140 ± 23	
GVM202	765 ± 40	945 ± 34	1148 ± 41	1313 ± 43	1500 ± 61	1668 ± 42	1827 ± 42	2025 ± 50		
GVM203	813 ± 68	982± 30	1160 ± 32	1325 ± 33	1500 ± 35	1670 ± 27	1842 ± 35	2008 ± 28	2175 ± 23	
GVM204	749 ± 70	951 ± 33	1129 ± 33	1311 ± 39	1500 ± 53	1680 ± 39	1848 ± 36	2014 ± 24	2161 ± 36	
Mean	**799**	**964**	**1147**	**3122**	**1500**	**1680**	**1851**	**2019**	**2172**	**2324**
Difference		*165*	*183*	*175*	*178*	*180*	*171*	*168*	*153*	*152*

Table 2. Mean values and standard deviations, written as $\mu_k \pm \sigma_k$, for the GMMs of shown in Figure 10.

In a situation without a temporal pitch drift, Figure 10 would represent the melodic tuning system, or, in other words, the structure of the scale. In the present situation, however, this interpretation has to be considered very carefully because it depends strongly on a) how well the pitch-drift correction works and b) if the concept of a melodic scale is appropriate at all for *zär* (or other situations with gradual pitch shifts). Nevertheless, Figure 10 and Table 2 reveal some interesting properties which, similar to the harmonic interval distributions shown in Figures 6 and 7, show a systematic correlation with the altitude of the locations of origin of the different *zär*.

For the *zär* from Ushgul and K'āl, the note group containing the final note (shown in orange in Figure 10) corresponds to the third-lowest mode degree, while for the Lower Bal variants it becomes the central mode degree. In addition, the ambitus of the *zär* increase more or less systematically from Figure 10 a) to k).

Finally, as the last aspect of the tonal organization, we determined the histograms of the melodic step sizes for all the *zär* representation (Figure 12). They show that the melodic progressions in all *zär* variants happen mostly in single steps, and only rarely in jumps (thirds, and sometimes fourths and fifths). The step sizes of the single steps are not constant, however, but rather, fluctuating between 150 and 180 cents. Similar values have been observed for a dataset of Georgian liturgical chants sung by the master chanter Artem Erkomaishvili (Scherbaum et al., 2020).

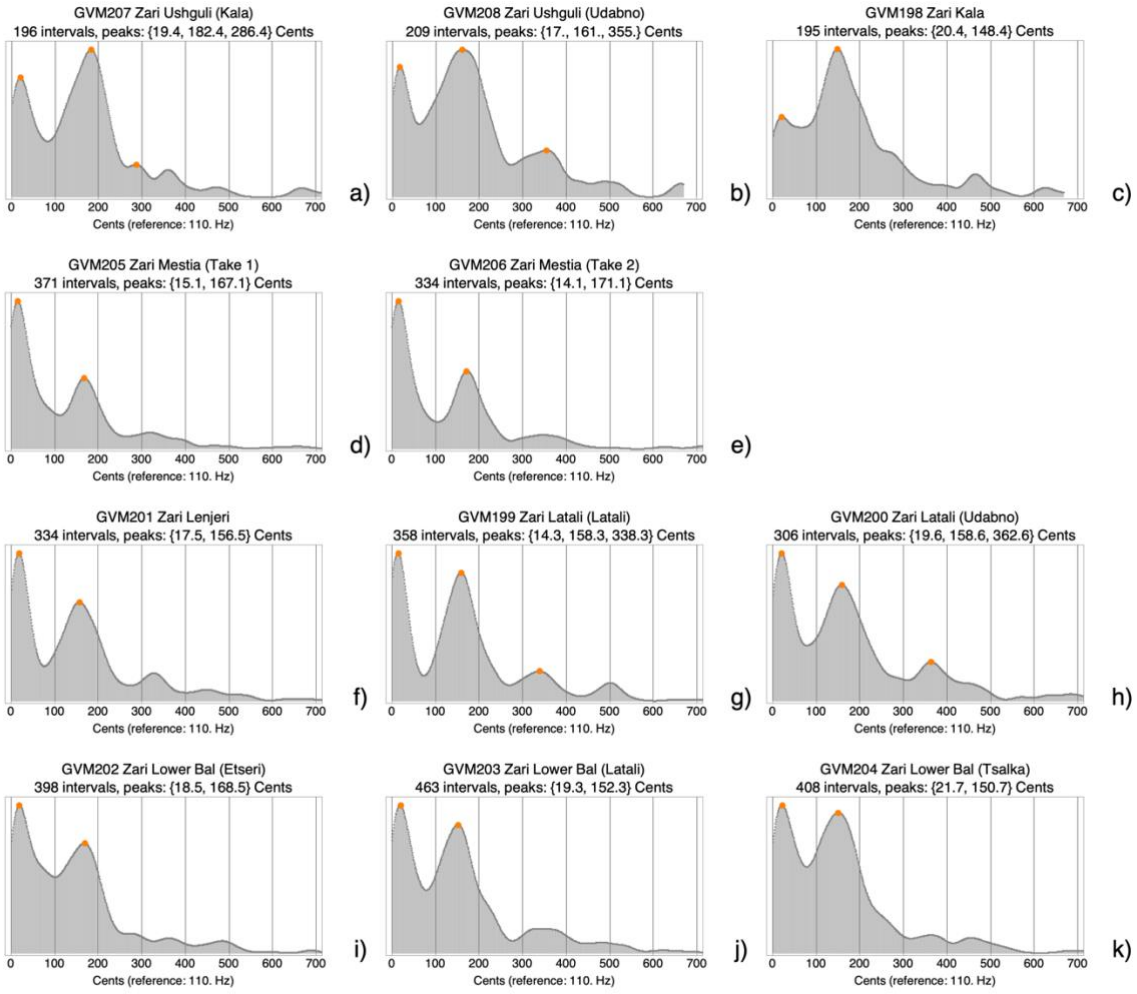

Figure 12. Melodic step size histograms for all recorded *zär* realizations.

Discussion

In this part of our study, we have analyzed the harmonic and melodic tuning systems of eleven different performances of six different variants of *zär*, performed by singers from different Svan villages. For all eleven recordings, the joint visualization of their melodic and harmonic content as harmonic melograph plots shows that the bass and the top voice predominantly move in parallel harmonic fifths. One of the most interesting results of our analysis is the observation that the musical structure of *zär*, expressed for example in its ambitus, the complexity of its melodic progression, and its harmonic chord inventory, change systematically along the course of the Enguri valley. In the upper course of the river (between Ushjgul and Mest'ia) the durations of *zär* are rather short, with little diversity in the harmonic inventory, and the harmonic interval between the bass voice and the top voice rarely exceeds a fifth. In contrast, the durations of the Lower Bal variant

of *zär* increases significantly (roughly a factor of 2), the harmonic inventory becomes much more diverse, and the ambitus reaches an octave and more. The intra-variant differences of the musical properties for different groups of singers were observed to be remarkably different. This includes the use of significantly different harmonic tuning systems and strong gradual pitch rises of up to 100 cents per minute, which are maintained for the complete duration of a chant. In other words, the properties of the tonal organization observed in the recorded performances depend more on who performs a particular variant than the *zär* variant itself. The observation that the two subsequent performances of the Mest'ia variant of *zär* by a group of singers recorded in Zargā̱sh were essentially identical demonstrates the complete absence of personal improvisational elements in these two performances. We interpret this observation together with the absence of any–at least for non-ethnophores–obvious textual, melodic or rhythmic mnemonic anchors in *zär* as a sign that the singers recall *zär* from their long-term memory.

Acknowledgements

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Svan Funeral Dirges (*Zär*): Musicological Analysis

ABSTRACT
This paper is a companion paper to Scherbaum & Mzhavanadze (2020). Jointly, the papers describe the results of an interdisciplinary study on three-voiced Svan funeral dirges, known as *zär* in Svan and *zari* in Georgian. In the present paper, to which we refer as paper 2, we focus on the (structural) musicological aspects of *zär*. Bluntly speaking, we want to obtain a basic understanding of 'how *zär*s work'. Based on the results of the acoustical analysis of a new collection of field recordings from eleven different performances described in paper 1, where we developed a phenomenological description of the general building blocks, here we try to derive a simple model for the syntaxes of *zär*.
The complexity of the musical structure of the *zär* shows a very clear connection to the history of the Svans' settlement along the Enguri River, which is obviously systematically reflected in the Svans' music.
Finally, we see the most interesting aspects of our entire study in the implications it has for the discourse on the historical dynamics of Georgian polyphony. Thus, the results of our study challenge the generally accepted view of the development of Georgian traditional music from monophony to polyphony.

KEYWORDS
Traditional Georgian Vocal Music
Ethnomusicology
Ritual Funeral Music

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Introduction

To understand *zär*'s musical syntax, we did a musical analysis of it, trying to cover as many aspects as possible. On one hand, we did this through a (holistic) form analysis including its static compositional structure, in order to delineate its formal 'boundaries' and to observe the dynamics of its implementation (in time). On the other hand, we analyzed musical elements such as melody, harmony, rhythm, and verbal text in order to determine the musical content of the internal structural elements (phrases, cadence formulas, pitch and interval inventory, etc.). The combination of the results of the structural analysis with the contextual data (ethnographical, sociological, geographic, etc.) was used to achieve a more holistic understanding (in the sense of the methodology of "holistic analysis" by Mazel (1960), Zuckermann and Mazel (1967) and Zuckermann (1970). However, we are aware that we were unable to cover all of its features (for example, timbre, style). In addition, such aspects of analysis as "analysis as a practical aesthetics" (Kholopov, 1985:131) were used for the qualitative evaluation of musical elements. The purpose of this was to observe how Svans understand and employ these elements in their musical language. For example, we learned that while the harmonic fifth forms the 'building' frame of the compositional structure, the harmonic fourth seems to carry a more aesthetic meaning, emphasizing emotional tension. Thus, despite our attempts to analyze the musical elements as objectively as possible, we had to label them (for the above reasons), which therefore still reflects our interpretation (in the sense of Heidegger).

Although we use classical music terminology to describe and discuss the musical components of *zär* (e.g., unison, fifth, fourth, octave, melody, etc.), we want to note that these terms are not conceptually identical to their European classical music equivalents. For example, interval names are used to help you orientate better by formally linking them to intervals in classical music. In fact, however, these intervals, on one hand, reveal less strictly defined acoustic limits, and on the other, their functional applications in Svan music (*zär*) are based on their own rules.

Considering that the *zär* is an integral part of the Svan funeral rite (in other cases it is strictly forbidden to perform it), the ritual perspective of studying the phenomenon is important. If we theorize a complex of components of the funeral rite that embody the

Svan understanding of death, then *zär* can be viewed as a liminal relic of 'being' (cf. '*გარდაცვალება*' is the Georgian word for 'death', which means change of form and '*ქუნელიცხდი*'– change of soul in Svan). This is the theoretical framework within which ethnomusicologists would study *zär*. However, while we considered broader contextual data (ethnographic accounts and local understanding of death) in interpreting the results of our musical analysis, we had to focus on a more specific musical perspective within the presented format. Thus, by trying to shed more light on the musical syntaxes, we hope to complement other perspectives.[1]

In paper 1 (Scherbaum & Mzhavanadze, 2020), we have performed an acoustical analysis of the *zär* corpus, which we recorded in 2016. In the course of this analysis, we aimed at the determination of the pitch inventories and the melodic and harmonic interval inventories used by the singers. While this is important musical information in its own right (e.g., to describe the tuning system), it only provides the acoustical skeleton on which the musical structure of *zär* is built. In contrast, in the present paper, we try to describe the musical structure itself. This is a challenging task, particularly from a computational perspective. As one can easily see (and hear) from the recorded material[2], the music lacks explicit rhythm,[3] which ruled out the use of commonly available tools to detect strong and weak beats algorithmically. In addition, the absence of clearly expressed melodic contours, the very slow tempo, and almost equally distributed pitch lengths, combined with more or less constant intensity of vocal production, make it difficult to find acoustical patterns that would help to algorithmically decipher the temporal structure. Though in computer visualization of songs it is possible to notice a certain temporal structure (e.g., Figure 10), we could not find a consistent way to determine the relevance of these visually identifiable elements concerning musical structure of *zär*. Therefore, we decided, as a first step of our analytical chain, which is shown in Figure 13, to approach the problem from a perceptional perspective. Since the

[1] Given the importance of the understanding of the cultural context of *zär*, in addition to the discourse in paper 1 (Scherbaum & Mzhavanadze, 2020) we are providing two related documents from our field work in 2016 at: https://www.uni-potsdam.de/fileadmin/projects/soundscapelab/PapersMusic/2020/Z%C3%A4r_V0_Final2.pdf (Mzhavanadze & Scherbaum, 2020) and https://lazardb.gbv.de/detail/9168 (Scherbaum & Mzhavanadze, 2018).

[2] https://www.audiolabs-erlangen.de/resources/MIR/2017-GeorgianMusic-Scherbaum

[3] Some subtle rhythmical features in *zär* have been observed to be generated implicitly, for example through the use of particular vowel sequences, e.g. i-e-o or articulation style. This is the subject of an ongoing separate study.

first author (N.M.) is an experienced singer with a long-standing exposure to Svan music (which helps to observe the music partly from the point of view of the locals), she immersed herself deeply in *zär*'s recordings, listening to them over and over again trying to absorb musical texture as a musician. This eventually led to the perceptional recognition of the phrases and their inner structure (motives, smaller units within these phrases). Once she felt that she had fully absorbed the music on a perceptional level, she performed a classical transcription into European music notation system (in XML format) (Figure 13c[4]). What was important in this context, was that in the process, she manually corrected the significant continuous shift in pitch in the performances. Based on these transcriptions, she performed a structural analysis. In this context, it was absolutely important to detect the tonal center,[5] and how it changes during singing, because phrases and micro phrases, it turned out, were built around it. In addition, she tried to identify and mark all cadences, bridges and jumps.

Subsequently, from this digital score, a harmonic melograph[6] was calculated, which allows to visualize the melodic and the harmonic content of a three-voiced song in a single plot (Figure 13e). However, in this context, for the color coding of the harmonic intervals, we made use of the fact that the music is non-tempered and that harmonic thirds, sixths, and sevenths are neither major nor minor, but can best be described by distributions with a certain spread, centered on pitches somewhere – in western language – between minor and major (c.f. Figure 11 of paper 1). To conceptualize (in Figure 13e), we color coded 3rds, 6ths, and sevenths as neutral intervals.

[4] To facilitate the comprehension of the figures and their relation to each other, their numbering has been continued from paper 1.

[5] Here we use the terms "tonal center" (TC) and "main tonal center" (MTC) in the sense of Reck (1977, 277-279), to describe pitch values, which carry a particular functional weight within the tonal organization. According to Reck these can be established in various ways: e.g., by emphasis, repetition, harmonies or by drones. In *zär* the MTC is maintained by the bass voice and undergoes only a few temporary shifts (transpositions) the magnitudes of which vary from one to three degrees downwards and one degree upwards (depending on the variant). Therefore, when the weight shifts from the main tonal center to another degree, we call the latter a temporary tonal center (TTC). The difference between the two is referred to as relative mode level.

[6] The harmonic melograph is a visualization technique, which displays the melodic and harmonic information content of a three-voiced song in a single plot by color coding the spaces between pairs of two voices according to the corresponding harmonic interval sizes between them.

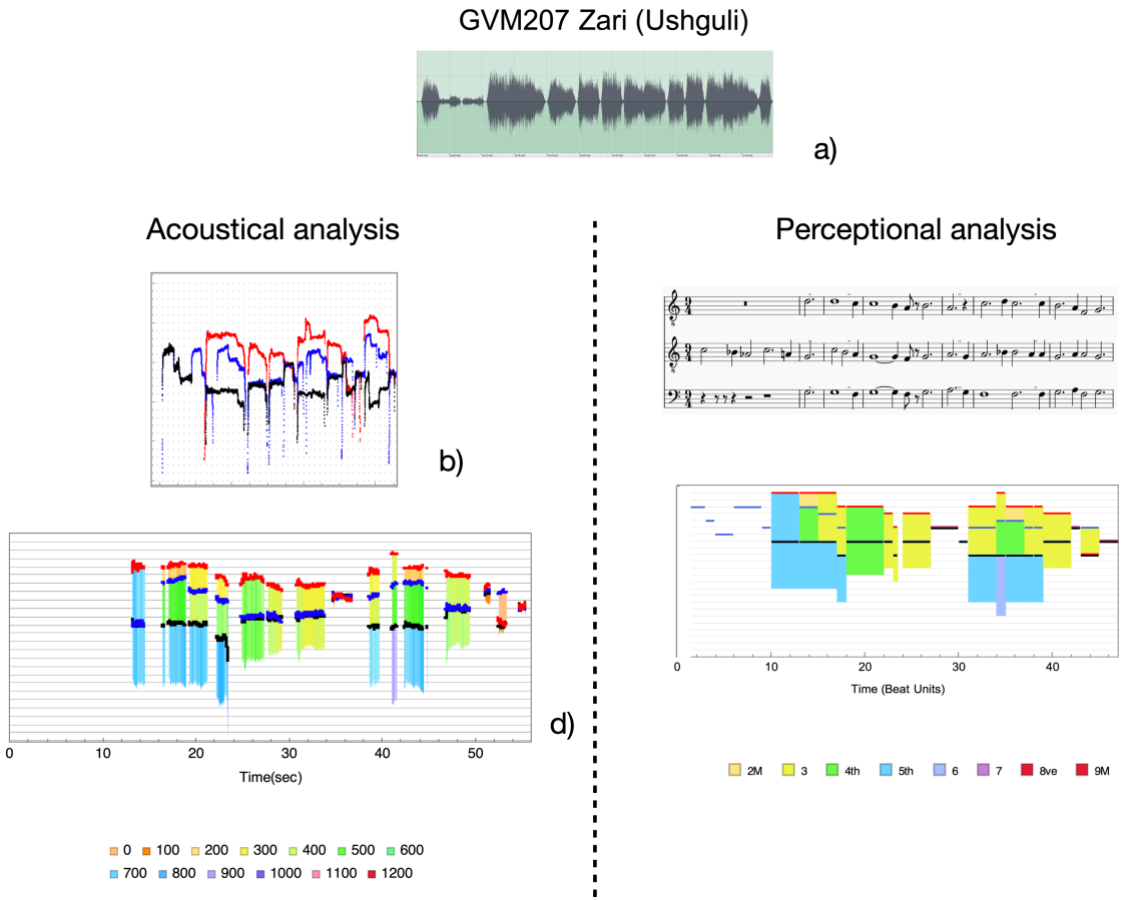

Figure 13. The principle of the generation of harmonic melographs by acoustical analysis (left panel) and by computer-aided perceptional analysis (right panel). a) Waveform of the first 60 seconds of the Ushgul *zär*. b) Corresponding fundamental frequency (F0) trajectories for the three voices. c) Transcription of the first 60 seconds of the Ushgul *zär*. d) Harmonic melograph plot corresponding to the polyphonic part of b). e) Harmonic melograph derived from the digital score shown in c).

As a result of this process, to which we refer as computer-aided aural transcription, we have obtained a new type of visualizations of the musical structures of the analyzed *zär*, which are close in their acoustic properties, such as the melodic contours of individual voices and the content of harmonic intervals – similar to the plots of harmonic melograph presented in paper 1 (cf. Figure 13d and e) – but based on the aural transcription of an experienced singer and trained (ethno)musicologist. As a consequence, this visualization concept is the same as in paper 1, except that here it should be seen as a conceptual representation of what has been perceived and not, as in paper 1, only what has been measured. These plots finally helped us to visualize and analyze the temporal development of *zär* and decipher their inner harmonic and melodic structure as detailed in the next section.

The 'compositional' structure of *zär*

Independent of the duration of a *zär*, which ranges from approximately 2.5 to 5 min, a human listener, even on first hearing, will perceive some obvious structural characteristics, e.g. that each *zär* is introduced by a short monophonic part, sung by the middle voice. This monophonic introduction (call) seems to encode the whole concept of the chant, both in musical and verbal aspects. It prepares the *zär* group of performers for 'what' (which variant) will be sung and serves as a compressed synopsis for the dirge.[7] In other words, it contains all the important information about this variant. The tonal range of the introduction introduces the ambitus of the dirge and to some extent prepares the vertical framework. It also introduces the main tonal center (MTC)[8] around which the group should build their parts and also introduces the articulation style (e.g., intense or soft). In addition to their structural role, the introductions may also contain valuable information concerning the interpretation of the ritual 'function' of *zär*, which will be discussed in detail in section 4.

Once the introduction has served its purpose (which usually takes 10-15 seconds), the polyphonic part starts with the first phrase by introducing a perceptionally very strong harmonic framework of parallel fifths. In the polyphonic segments, voices never cross (only in rare cases of some cadences), but merge from time to time. In other words, the voices of *zär* move[9] in chords, which, therefore, has been referred to as chordal unit polyphony (Aslanishvili, 2010) or synchronous polyphony (Gabisonia, 2007).[10]

[7] To avoid confusion with using the controversial terms such as: keening, lamenting, wailing, crying, etc. applied to describe ritualized mourning soundscape, in the article we will employ the *keening* for all types of mourning sound manifestations based on improvisational expression of sorrow over loss (solo, responsorial, etc.) and *dirge* (or chant) for organized polyphonic phenomena such as *zär.* This will put clear line between two distinctive and radically different ritual mourning styles sharing the same functional locus.

[8] Here we use the term 'main tonal center' (MTC) in the sense of Reck (1977, 277-279), to describe a pitch value, which carries a particular functional weight within the tonal organization. According to Reck these can be established in various ways: e.g. by emphasis, repetition, harmonies or by drones. In *zär* the MTC is maintained by the bass voice and undergoes only a few temporary shifts (transpositions) the magnitudes of which vary from one to three degrees downwards and one degree upwards (depending on the variant). Therefore, when the weight shifts from the main tonal center to another degree, we call the latter a temporary tonal center (TTC). The difference between the two is referred to as relative mode level.

[9] The word 'movement' should be taken with a grain of salt, as in reality sometimes voice may not move, but through the articulation of the same pitch with different vowels/syllables creates an illusory impression of movement (motion).

[10] While classifying the polyphonic forms of the Svan repertoire, some Georgian scholars describe it as chord polyphony, meaning that all three voices move synchronously and predominantly in parallel in time.

In addition, overall pitch may start to gradually rise. This has been observed for some of the performances described in paper 1 and may lead to overall pitch differences of up to 500 cents (a fourth) between the beginning and end of a *zär*, regardless of the duration of the dirge. Since it is obvious that this phenomenon depends not on the variant but on who makes it (the variant), we do not consider this a structural effect.

Structurally, the group (three-voiced) parts of the *zär* consist of sequences of repeated and elaborated phrases, which, in turn, consist of typical musical elements such as motifs, different types of cadences, bridges, and leaps. In the next two subsections, these elements and the way they work together are discussed for two selected variants, the Ushgul *zär* and the Lat'li *zär*.

The K'ăl-Ushgul zär

Figure 14 shows the harmonic melograph plot for the K'ăl-Ushgul *zär*. The skeleton of the plot is built by the melody contours of the three voices that are shown by the red, blue, and black solid line segments for the top, middle, and bass voices, respectively. As the time unit we use the beat units from the transcription part of the processing chain Figure 13c. The spaces between the melody contours of the top and middle voices and between the middle and the bass voices are color coded according to the corresponding harmonic intervals. The intervals between the bass and the top voices are displayed as color coded mirror images (hanging below the melody contour of the bass voice).

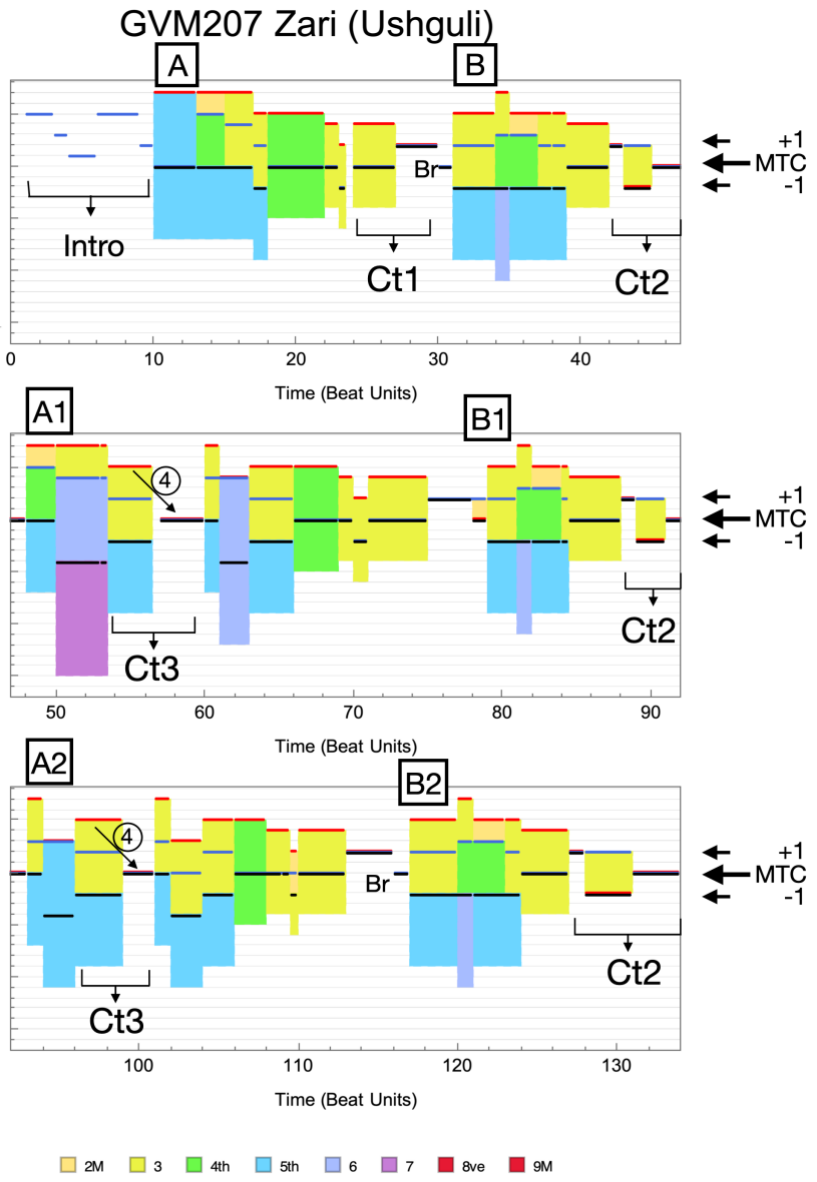

Figure 14. Visual representation of the 'compositional' structure of the K'āl-Ushgul *zär* (GVM-ID207) as harmonic melograph, superimposed by the structural elements described in the text.

What is important to note regarding the color code used for the harmonic intervals is that the thirds, sixths, and sevenths are not divided into minor or major intervals. This reflects their acoustical properties discussed in paper 1, e.g., that the distribution of thirds usually have a very large dispersion in comparison to the so-called pure intervals (fourth, fifths, and octaves). As a consequence, the color codes of thirds, sixths, and sevenths correspond to their neutral values (350, 850, and 1050 cents). This should only be seen as a conceptualization.

Figure 14 contains all the basic building blocks and some of the mechanisms used by the Svans to construct and shape all the recorded *zär*. Visually, the most obvious structural

units are what we refer to as phrases, which are indicated in Figure 14 by framed letters (A, B, A1, B1, A2, B2). Each phrase ends through a closing formula, a cadence, which appear in the Ushgul *zär* in three different varieties, labeled Ct1, Ct2, and Ct3. [11]

As already mentioned above, the first temporal segment of any *zär* is a melodic introduction (labeled as Intro in Figure 14) that initiates the main tonal center (MTC) and signals which variant of *zär* is proposed to be performed. It is the middle voice that introduces and repeatedly confirms the MTC. The moment when the middle voice initiates the MTC simultaneously marks the point at which the polyphonic part begins, with the upper and bass voices joining the middle voice at the MTC. For the Ushgul *zär* this happens at beat unit 10 (Figure 14). The first phrase (A) begins with the MTC pitch and ends with the first type of cadence (Ct1). At the beginning of Ct1, the middle voice meets the bass voice at the MTC. In the subsequent note, all three voices come together at a pitch level which is one degree above the MTC pitch. We call this pitch level relative mode degree (RMD) level +1. Phrase B starts with a short bridge (labelled Br) where the bass and the middle voice briefly come together on the MTC pitch before the bass voice moves to the RMD level -1 and the *zär* becomes fully polyphonic again. At the end the second phrase (B) returns to the MTC via the second type of the cadenza (CT2), in which the final unison is reached at the MTC pitch via a movement from a unison at RMD level +1, followed by a short two-voice segment, where the top and the bass voices come together at RMD level -1, while the middle voice stays at RMD level +1. As a consequence, the penultimate harmonic interval is a 3rd.

The first two phrases already convey the main musical content of the whole dirge, incorporating all the basic music-making features, such as the main tonal center, bridges and cadences and, therefore, conceptualizes the whole model. In the third type of cadence (Ct3), which is realized in the subsequent phrase (A1), the final unison is reached through a downward jump of one of the voices by a melodic fourth (marked with a tilted downward arrow, which is labelled by an encircled 4). These downward leaps by a melodic fourth appear also as an intra-structural feature as will be discussed in more

[11] Although, despite the fact that in *zär* we observe some types of cadences, which Arom and Vallejo (2010) describe based on the analysis of the entire Georgian repertoire, we have classified them somewhat differently.

detail below[12]. Phrases A1 and B1 repeat and alter the basic structures of phrases A and B. By the end of phrase A1, the pitch of the tonal center has shifted to RMD level +1.

Thus, the compositional structure of the K'āl-Ushgul variant is based on the repetition method and leads to the following sequence of phrases: A, B – A1, B1 – A2, B2. The whole chant is held together by the main tonal center (MTC), which begins and ends the polyphonic part. It also shows that the tonal center can shift temporarily to pitches which are one above and below the MTC pitch.

Since the K'āl-Ushgul *zär* is the shortest of all *zär* in duration, the phrases are also very short, and therefore they represent a chain of pure cadences. However, despite the short duration, the K'āl-Ushgul *zär* reveals a compressed model of almost all types of events that occur in more advanced versions. For example, in the first cadence (Ct1) of the first phrase, the main tonal center is shifted one step higher (to RMD level +1), although in other variants such shifts occur only at the very end of the chant and never before, as in the Ushgul variant. Therefore, it seems that the first phrase (A) is an embryonic model of the structure containing/compressing all the structural and compositional features of *zär*, which was later developed and advanced in different directions, including the K'āl-Ushgul *zär* itself (for example, the cadence Ct3). In other words, the first phrase of the K'āl-Ushgul *zär* already contains the completeness of the form: the main tonal center, temporary tonal centers and the shift upward with the full cadence in unison.

The Lat'li zär

The Lat'li *zär* (Figure 15) is a vivid demonstration of one of the extended (advanced) variants of the main compositional structure of *zär*. Besides, it is the only surviving example of a hidden two-choir (antiphonal) shape of the dirge, information about which has been preserved in historical sources (Paliashvili, 1909: 8-9). Today *zär* is performed by a single group and we did not expect to find any antiphonal variants. But when analyzing the recordings, although Lat'li *zär* is performed by only a single group, an in-depth observation of the structure revealed features that may serve as evidence, supporting the hypothesis that in the past it was performed by two choirs. In fact, the structure can be divided into two equal parts, each of which has a vocation (introduction

[12] It should be noted here that this type of cadence (Ct3) is typical for hymn-type Svan ritual songs.

call), and the second part is almost identical to the first part. In other words, almost all the phrases are repeated in the second part, which ends with a coda. Such antiphonal performance of *zär*, however, may be connected not only with the same variant, 'sung' by two choirs (which has been lost today), but also with the tradition of performing different variants of *zär* by different choirs in a row (when one choir performs one variant from one village, and another variant from another village follows). This type of antiphonal singing can sometimes be heard today.[13]

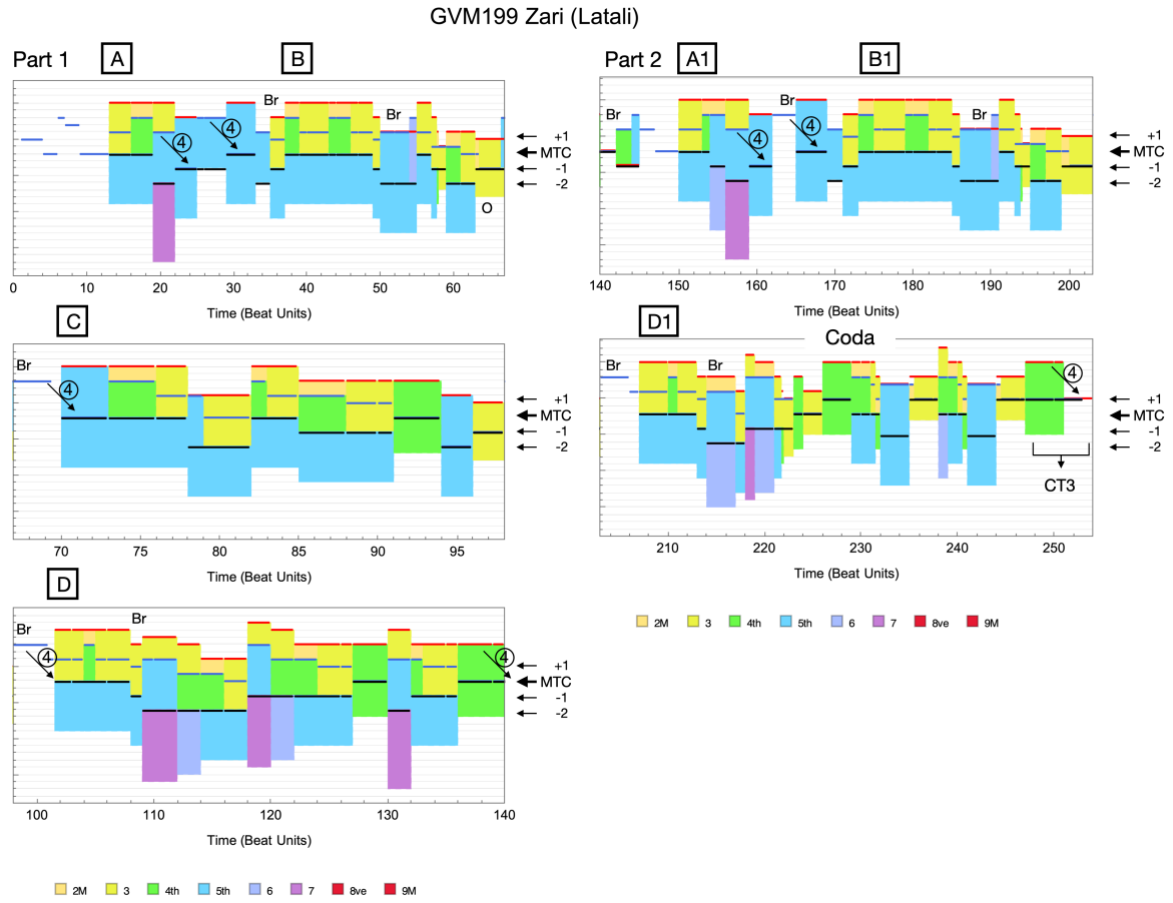

Figure 15. Visual representation of the 'compositional' structure of the Lat'li *zär* (GVM-ID199) as harmonic melograph, superimposed by the structural elements described in the text.

The structure of the first part (Part 1 in Figure 15) can be formulated as follows: Introduction, A, B, C, D, followed by a final cadence of the third type (Ct3) followed by a bridging step-down movement in top and bass voices, and then again, a call in the middle voice. In the second part (Part 2 in Figure 15) the structure of the first part is repeated sometimes with very slight variations in the following sequence: A1, B1, D1. The whole

[13] Antiphonal singing is characteristic of Georgian traditional music in general.

chant concludes with a coda, wherein the tonal center shifts to one degree above the MTC pitch. Such a shift of the tonal center in the final phrase is observed in all *zär* variants except in K'āl-Ushgul (here it occurs in the very first phrase). As for temporary tonal center changes inside the phrases, they reflect the same pattern and in addition, select new (temporary) tonal centers down to two degrees away from the MTC. This extends the ambitus of the chants and makes the musical texture of the phrases more complex.

In addition to the increased number of temporary tonal centers, the complexity of Lat'li *zär*, as well as of all other variants (except K'āl-Ushgul *zär*), manifests itself in the types of endings of phrases (cadences), creating the impression of a continuous musical dramaturgy with more vague phrase boundaries. This continuous movement of the musical narrative is achieved through open ends of phrases before the final end of the structure. In contrast to the variant of K'āl-Ushgul, a closed cadence takes first place at the end of the first part, followed immediately by a bridge movement allowing a new call to begin the second part ('second' chorus) and then at the very end of the whole dirge ending one degree above the MTC.

When we talk about 'open ends' here, we mean that unlike the main tonal center, temporary tonal centers (TTC) are not reinforced and are not repeated by (full/unison) cadences.[14] Each arrival of a temporary tonal center simultaneously serves as a transition to a new temporary tonal center or as an arrival to the main tonal center (Figure 15).

As mentioned earlier, the boundaries between phrases are also marked by leaps. In other words, broad melodic steps are not typical for intra-phrasal movements. As in the K'āl-Ushgul variant, leaps indicate only transitional steps or initial/end parts of phrases. The transient/bridge steps are usually performed a fifth above TTC to provide a natural transition back to the MTC from one degree below.

Such changes of tonal centers, on one hand, help enrich the musical idea by adding new colors to the phrases, and on the other hand, have a pronounced compositional function. For example, temporary shifting of a tonal center by one step down indicates that it is not the end yet, and predicts a new beginning (Lat'li *zär*, between the first and second part). In contrast, a shift to one degree above the MTC indicates the end of the chant for all *zär*

[14] We speak about closed cadences which end in unison.

variants except K'āl-Ushgul[15]. At the same time, it also reinforces the emotional state (mode), in combination with other expressive tools, such as the persistent emphasis on certain concomitant intervals (fourth+fifth in Lat'li *zär*, or the interval of fourth in the Mest'ia *zär*, for example), articulated by verbal exclamations with strong mourning connotation (semantic meaning). Thus, the last part in form of a 'coda', which confirms the transposition one degree above MTC, also represents the emotional and compositional peak of the chant.

The above-described musical phrases, separated by cadences, especially in advanced samples, consist of smaller, nucleus units, the combination of which constitutes these phrases. These units often serve to confirm the tonal centers by means of short cadences. Such small nuclei and micro-phrases (motives) can also be detected, as we stated earlier, via some articulation features, which seem to matter as a form-detecting tools. A simple and intuitive visualization of this is shown in Figures 3a) and b) of paper 1. Indeed, we can see that the sliding phases up and down coincide with the boundary contours of structural units. Some of them are very symmetrical and applied by all voices simultaneously. This suggests that, despite the absence of explicit markers for detecting strong and weak beats and metric and rhythmic boundaries, the manner of articulation, expressed in deep slides up and down, shows what the notion of a smallest unit of the phrase for performers is (see Figure 3 of paper 1).

The tonal organization of *zär*

In the following section, we are going to discuss the main musicological aspects of the tonal organization of *zär*, as they reveal themselves in the results of the acoustical analysis, described in paper 1. In the first place, this concerns the melodic and harmonic tuning systems (pitch and interval inventories) employed by the particular ensembles, and how they are used to shape the musical texture of *zär*. Metaphorically speaking, we are moving from the shape of the 'compositional' skeleton of *zär*, to what one could call its texture.

[15] The latter explains the reason why, for example ch'uniri (folk bowed string instrument) players, every time after the end of singing suddenly play a step up with the instrument to finish with. This seems to be a stylistic feature that points to the end of the song.

Pitch inventories

As described in detail in paper 1, some of the ensembles performed with a gradual pitch-rise, which leads to considerable pitch differences between the start and the end of the *zär*. Since the pitch rise is mentally ignored for the perception of the melodic progression, it also has to be corrected (as described in paper 1) in the context of determining the perceived pitch inventories (technically speaking these are F0 value histograms). Figure 11 (in paper 1) shows the results of overall F0 value distributions for each *zär*, thus demonstrating the diversity of shapes that seem to be changing systematically from Ushgul to the Lower Bal region. In order to understand the reasons for this on a musicological level, in Figure 16 we have separated the contributions of each voice group to the F0 value histogram in form of a stacked histogram.

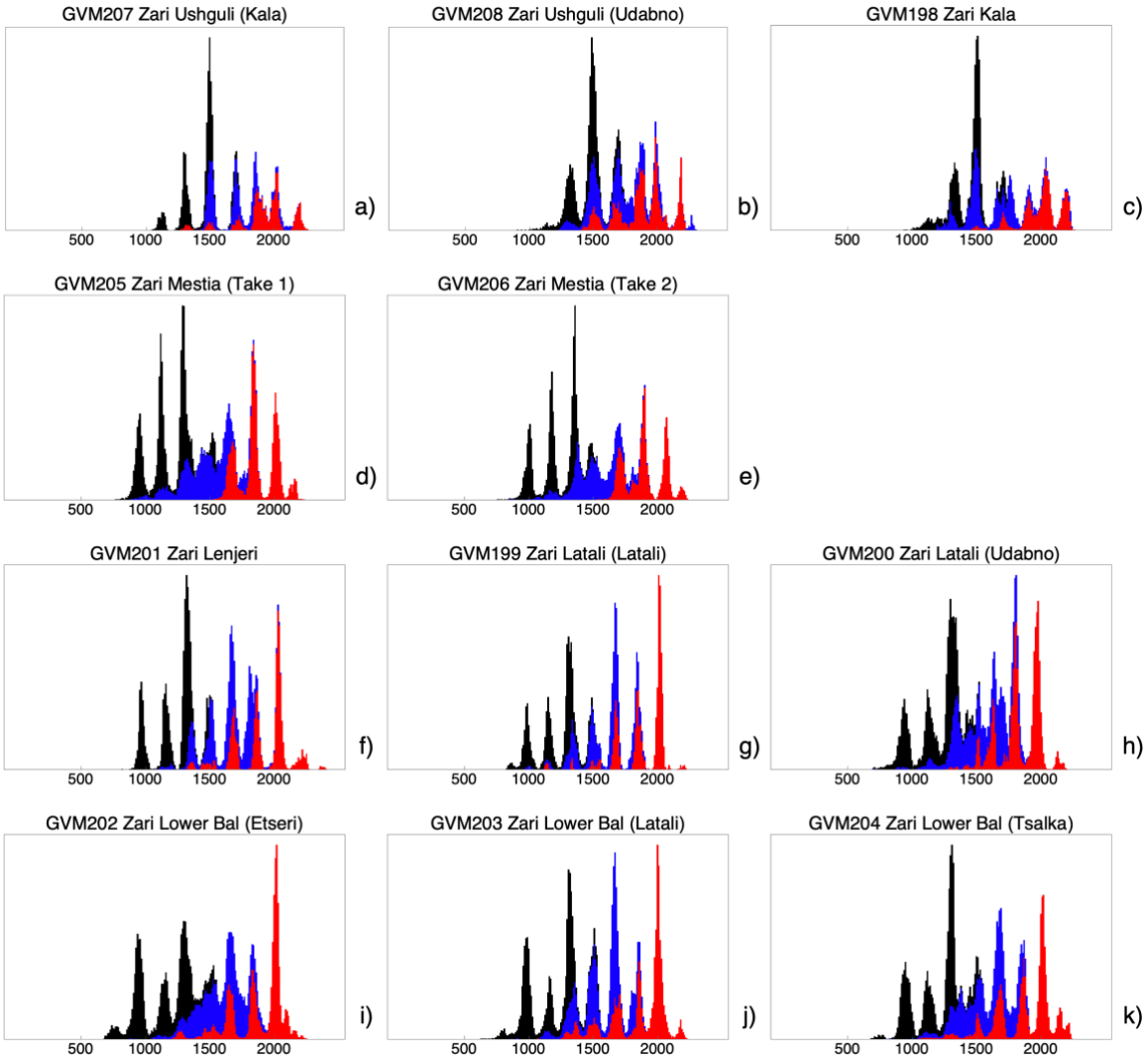

Figure 16. Stacked F0 histograms in which the height of each histogram bin corresponds to the sum of the contributions of all voices. Black, blue and red correspond to the contributions of the bass, the middle and the top voice pitches, respectively. The units of the horizontal axis are cents with respect to a reference frequency of 110 Hz.

Figure 16 reveals some common properties of all *zär*, but also illustrates differences that make them individual and unique. The first and most important difference is in the 'weight'[16] of the individual pitch categories and how it is distributed over the histogram. For the Ushgul and K'āl variant (Figure 16a-c), one can see that there is a single pitch category, centered at 1500 cents, which carries a very large weight, while all the other categories have a much lower weight. In the Mest'ia variant (Figure 16d-e), the pitch category centered around 1300 cents is the most prominent, but it does not stick out as

[16] Mathematically, the weight of an individual pitch category can be defined as the area under the corresponding pitch group, divided by the total area under the full histogram. This corresponds to the relative duration with which the corresponding pitch category is heard in that variant. E.g. a weight of 0.1 would mean that the corresponding pitch is heard for 10% of the total duration.

much from the other categories than in the case of the Ushgul and K'āl variants. Finally, in the case of the other variants (Figure 16f-k), the weights become even more equally distributed over all categories. In addition, the pitch inventory range also differs. It gradually expands, as we move down from Ushgul to Lower Bal. As a consequence, individual voices have more options to move. Thus, more and more pitch categories are used, which results in a more even distribution of weights.

The F0 value histograms in Figure 16 show that category boundaries can either be clearly separated from each other as in Figure 16a-c, or can penetrate each other, depending on 'who' performs, but also which voice. In particular, the contributions from the middle voice (blue) often show very blurred category boundaries.

Based on the combined aural transcription-based analysis from this part of our study and the acoustical analysis described in paper 1, we can draw some conclusions regarding the functional roles of some of the individual pitch categories. In the variants of K'āl-Ushgul (Figure 16a-c) example, the pitch category centered at 1500 cents, after being initiated and confirmed by the introductory call, is maintained by the bass voice throughout the chant. Because of the way the pitch drift correction in paper 1 was done, the pitch category centered at 1500 cents is always the pitch category of the final note. Sometimes, upper voices merge with it at moments that mark the endpoints of a structural pattern (c.f. Figure 10, part 1). This makes it the stable pitch throughout the dirge and designates it as the main tonal center (MTC). In other variants, however, it can be observed that the peak at 1500 cents loses its dominance and the most prominent peak, in terms of weights, is observed slightly above 1300 cents. The reason for this is that the main tonal center shifts to one pitch category below the final note. If in the K'āl-Ushgul variant, the main tonal center remains until the end of the chant, in all other variants it changes to the final pitch category only at the end. This is clearly visible in Figure 16 in the shift of the highest peak of the bass voice contributions between Figure 16a-c and Figure 16d-k. In other words, there is no difference between these variants on the functional level, as the main tonal center retains its role and function throughout the dirge, although in Figure 16a-c the main tonal center has a center pitch of 1500 cents, while in the other variants – a center pitch of about 1300 cents.

Figure 16 also clearly demonstrates that the differences in the pitch inventories for different *zär* variants depend obviously not on the 'what' (which variant) the groups perform, but on the 'who' (which group) performs them (c.f. Figure 16g-h for the Latal Figure 16i-k for and the Lower Bal variant). However, in all variants some pitch categories are always very similar in shape and weight and show clearly separated category boundaries. This is first of all true for the pitch categories below the main tonal center or for the temporary tonal centers. We believe that this is due to the function of these low-pitched tones both within the whole song and inside the phrases. They seem to serve within cadence structures and are, therefore, most stable and clear at the individual tone level as well.

Another reason for the diversity of the shapes of the pitch inventories within the higher pitch ranges, is the effect of the vertical conditions. In other words, singers adjust their melodic steps to the harmonic intervals to be achieved.

To conclude the issue of the melodic tonal organization, although the pitch inventories in Figure 16 are well-defined, their dependence on 'who' performs them does not allow to introduce a single *zär* tuning system for all recorded performances.

Harmonic interval inventories

From the harmonic perspective, the most prominent features are a) an abundance of parallel fifths, which occur in all variants and which are realized without exception by all ensembles, and b) the perceptionally also very strong, although not so frequent, parallel fourths between the bass and the middle voice. Whenever they occur concomitantly, they generate the 1-4-5 chord, which is considered to be the hallmark of Georgian traditional music (with a major second as byproduct). This happens in all *zär* variants, as can be seen in Figure 17. This demonstrates that both fourths and fifths are very strong concepts for Svans, despite minor fluctuations, which depend on who performs.

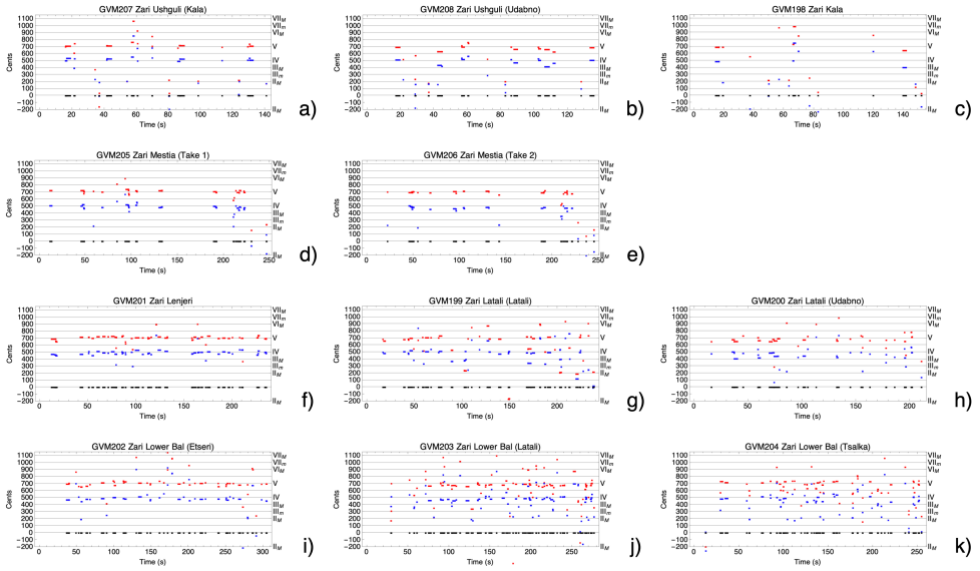

Figure 17. The appearance of harmonic fourths in any of the voice combinations. All note tracks have been corrected for the bass voice pitches (black). As a consequence, the bass voice interval appears at 0 cents. Red and blue correspond to the top and middle voices, respectively.

In contrast, one can observe abundant applications of different degrees of thirds, the size of which ranges somewhere between 300 and 400 cents. This demonstrates that the concept of thirds is not based on a single interval size. This can be nicely seen for example in Figure 18d-e.

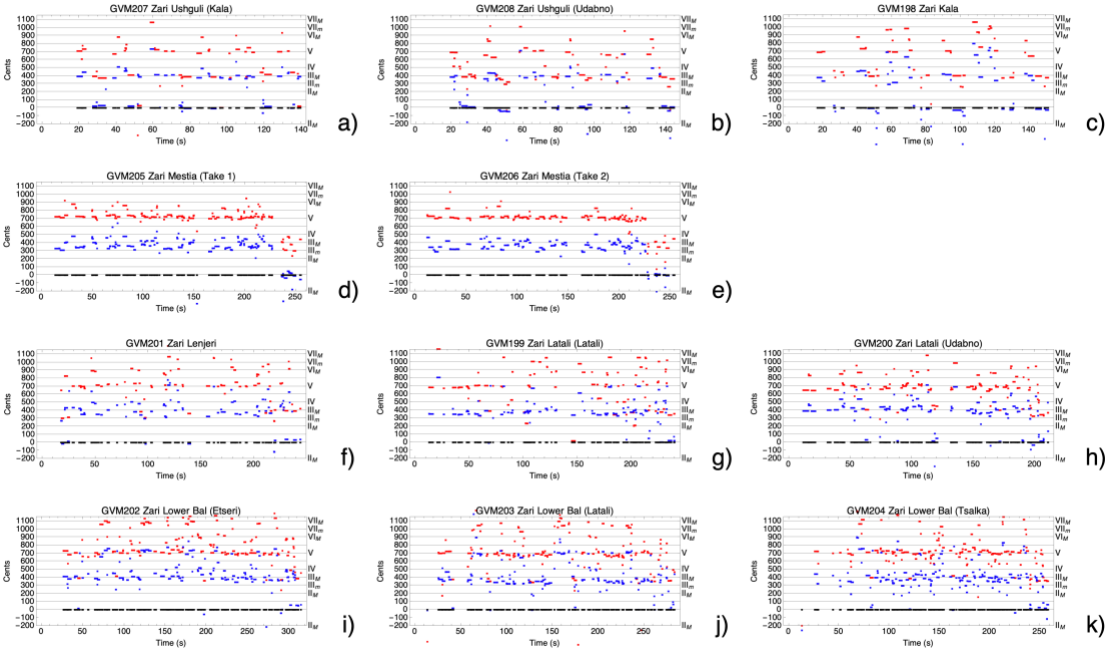

Figure 18. The appearance of harmonic thirds in any of the voice combinations.

Along the course of the Enguri river

One of the most striking results of our study, both from the acoustical, as well as from the perceptional perspective, is the systematic change of the musical properties along the course of the Enguri river. Below, these properties are discussed in detail, following the course of the river from the highest altitude to the lowest for the individual variants.

K'āl-Ushgul zär

In general, the inventory of harmonic intervals varies from the unison to the fifth, which serve as the main building material for the musical (harmonic) texture. As for very few sixths and sevenths, they seem to have melodic origin (see also Figure 8 of paper 1).

The music of the dirge is based on very slow and synchronous movements of all three voices, resolved in the main tonal center in unison. Thus, there is no voice that shows a hierarchical dominance, in terms of the development of the melody. Therefore, the inventory of harmonic intervals remains the same, including in cadences. But every once and again, the upper or bass voice 'ornaments', i.e., makes a bigger or additional step, which slightly changes the vertical structure and leads to a wider interval between the upper and bass voices.

The K'āl-Ushgul variant is a perfectly harmonious texture. It does not allow one to grasp a melody, except for the introductory call. However, it demonstrates a modest attempt to break the boundaries of fixed harmonic frames and explore neighboring areas.

An important difference between the K'āl-Ushgul and all the other variants of *zär* is the application of the unison interval. The prevalence of unison in the K'āl-Ushgul variant indicates a peculiarity of its compositional form, based on closed phrases (main tonal center or a temporary tonal center). As for the other variants described below, the significantly reduced number of unisons demonstrates different forms of cadences. This means that, in most cases, phrases are resolved in open cadences and musical development is therefore open/continuous as discussed earlier.

Mest'ia zär

In the Mest'ia variant, the absolute dominance of the pure fifth (see e.g., Figure 6d and e of paper 1) is due to the tendency of the upper voice to move in parallel with the bass

voice, which goes down and explores new steps below (c.f. Figure. 8d and e of paper 1). In contrast to the K'āl-Ushgul *zär*, the cadences in the Mest'ia variant are not closed (voices do not meet at unison), and phrases grow into each other through open ends. In other words, temporary tonal centers (TTC) are not emphasized by cadenzas. However, the ornamentation, which in the K'āl-Ushgul variants of *zär* occurs in very small, 'embryonic' form, develops further in the Mest'ia and also in the Lower Bal variant discussed below.

What is most striking in the Mest'ia *zär,* is the number and diversity of harmonic thirds employed. The fourths are mainly heard in the cadence parts of the phrases. Although the fourth is hidden under the shadow of a very dispersed third in Figure 6d-e of paper 1, the concept of the former is as clear as that of the fifth as can be seen Figure 17d and e.

Lenjār, Lat'li and Lower Bal variants

Moving to the Lenjār region and further down the Enguri river, the musical texture, both horizontally and vertically, is expanding and becoming increasingly sophisticated.

The Lenjār *zär* shows great dedication to the combination of the fourth and the fifth, in other words to the 1-4-5 chord so characteristic of traditional Georgian music (c.f. Figure 17f). Here we see how far the bass starts to move, which leaves a wider space between the bass and the middle part, allowing the middle part to freely oscillate between different realizations of the interval of the third (Figure 6i-k, paper1). At the same time, middle and top voices explore higher pitch ranges, leading to harmonic sevenths and the sixths. We believe that these intervals are of melodic origin, that is, singers try to develop more freely and find new ways of expression.

This tendency is growing and extends even to wider intervals in the Lower Bal variant. In other words, from time to time, the melody (horizontal development) takes over the harmonic (vertical) dominance, in order to communicate the intended musical idea.

The *zär* variants sung by the Lenjār and Lat'li groups show very well-defined harmonic interval categories, including thirds and fourths. This can be explained by the fact that

most of the singers of Lenjār and Lat'li groups are members of the Riho choir, led by Islam Pilpān, who has been the leading master of Svan songs for decades[17].

Similar to the Mest'ia *zär*, the prevalence of the harmonic thirds and their diversity for the Lower Bal variant of Etseri and Ts'alk'a villages (Figure 6i-k, paper 1) somewhat overshadows the fourths in the interval distributions, although they are clearly present and well-defined at certain times in the dirges (c.f. Figure 17i-k).

What about introductions?

In all the discussions about the musical properties and how they might reflect contextual information such as the geographical location, which, in turn, is affecting other aspects such as settlement history etc, we have not really touched upon the monophonic introductions, which precede all *zär*, and which set the stage for the subsequent polyphonic part in several respects. They seem to bear the whole concept of the chant, both in musical and verbal aspects.

However, despite the fact that each call is a variant specific (in other words, each call indicates which *zär* will be performed), the analysis of monophonic calls revealed melodic formulas (templates), which are associated with some other songs from not mourning, but still ritual (sacred) repertoire with a hymn-type musical structure and vague verbal (or mainly syllabic and vowel) content. For example, the monophonic call of K'āl-Ushgul *zär* is either identical to the introduction of the hymn-type 'songs', such as Lile, K'wiria, and Elia lərde (GVM198 and 208), or repeats the melodic contour with slightly different degrees of pitches or pitch categories of constituent steps (GVM207) (Figure 3, paper 1).

[17] Islam Pilpān was not only a folk singer, but also had a classical musical education.

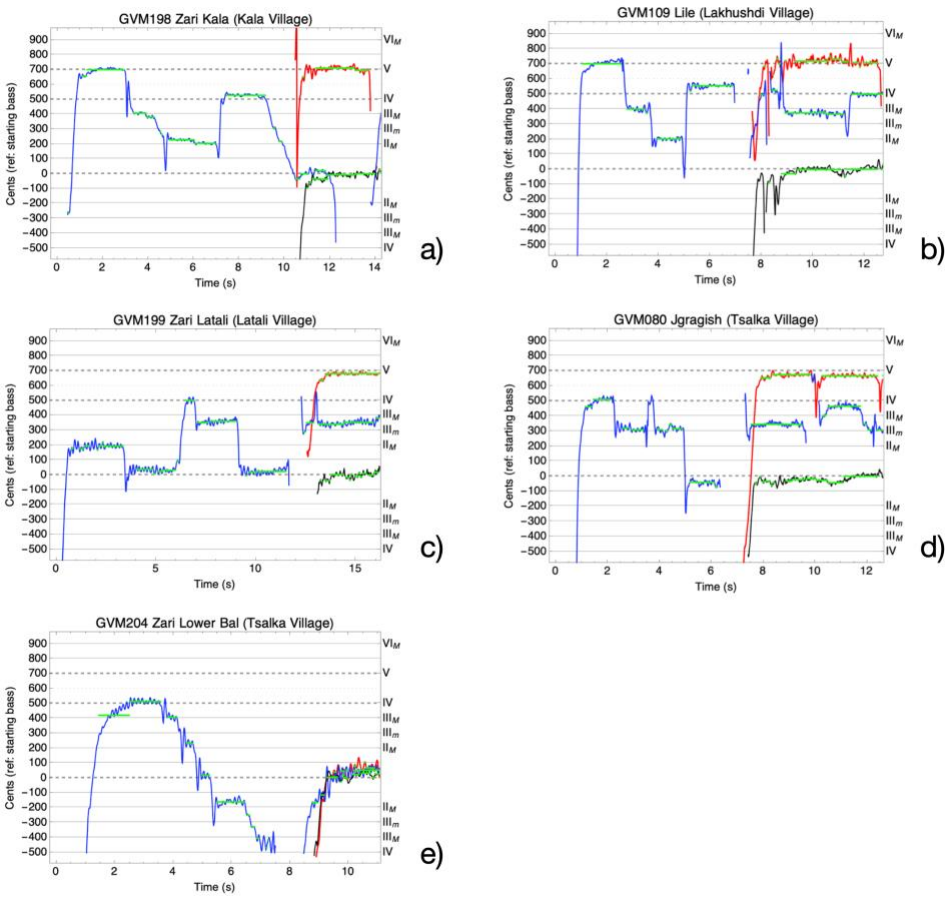

Figure 19. Introductory calls for different variants of *zär* and some selected hymn-type songs.

As for the variant of Lower Bal, it seems to repeat the melodic contour of the K'āl-Ushgul call, develops it, and extends the range of the pitch inventory. Here we can say that it is also based on the melodic formulae of the above-mentioned hymn-type repertoire.

Similarly, the introduction of the Lat'li *zär* (GVM199, 200) reproduces the melodic (also verbal) pattern of other hymns such as, for example, Lower Bal *zär* and 'Tskhaw Krisdēsh'. Such repetition of the tune raises the question of how it turns out that two different genres use the theme of a dirge, which is considered a bad sign (attracting misfortune) if performed at any time except for the funeral. This similarity is particularly striking when the verbal text is also repeated in the context of a funeral (Lat'li *zär* and '*Jgərāgish*'). Here ethnographic reports come to the aid, which claim that *zär* was performed only at the funeral of the happy deceased (Arakishvili, 1950: 23l; Akhobadze, 1957: 21) and that the chant contained words of praise. In general, it made an impression of a solemn hymn.

As for the calls of the Mest'ia and the Lenjār *zär*, although they look similar at first glance, it seems that even a small difference matters and gives each of them an individual signature. However, obviously, it has a more individualistic development within a three-part structure.

As mentioned above, the introduction signals which *zär* will be offered, which tone will be the main tonal center and which range of vertical-horizontal movements will be used as the framework. For example, the K'āl-Ushgul variant has its own melodic call that extends into a small (short) range and covers only five pitches, of which the ending tone is the tonal center to which the bass voice gets connected (Figure 10a, paper 1). This reference pitch is 1500 cent and remains stable throughout the whole dirge. If we compare the same *zär* variant in the performance of the Udabno and K'āl groups, we will see that some of the pitches of the call sound in different degree (color), which makes us assume that performers are free to manipulate some pitches and replace one category with another (Figure 10b, c), but the main tonal center, together with pitches, which make the melodic intervals of the fourth and the fifth, remain intact[18].

As we move from Ushgul down to the Mest'ia Valley, and even further towards Lower Bal, the calls become more complex, expanding in range and using more area around the basic pitch framework. Accordingly, the movement space for each individual part is also increasing. A very vivid example of this is the Lower Bal variant from Ts'alk'a. The call range reaches seven steps and even uses almost every step within the range, giving a signal about what the scale will look like. In addition, it contains the structural features of the entire dirge, which represents a much more advanced and complex (sophisticated) composition than other *zär*s. It provides a kind of space for the group to take advantage of this opportunity. Thus, we can see how the vertical (harmonic) inventory is broadened, and how voices are expanding and developing in the proposed space. In addition, in the Lower Bal variants, the call also models the final modulation up by one step, thus already covering (embracing) the tonal frame of the entire dirge (Fig. 10).

[18] There are insignificant but still some differences (related to mild ornamentation and articulation aspects) between the recordings of the Ushgul group on one side, and the K'āl and Udabno groups, on the other (although in fact both belong to the same variant). The identical recordings of K'āl and Udabno group can be explained by the fact that one of the leading singers of the group of Udabno (eco-settlement of Svans near Tbilisi) emigrated from K'āl and, obviously, practiced this variant with his fellow singers from Udabno, who mainly emigrated from Lat'li.

This discussion of *zär*'s compositional structure, including the introduction, as we can see, outlines the form of its musical idea and shows that each larger structural unit (built via phrases and motifs) helps shape its musical narrative. At the same time, each phrase (motif) itself is formed with the help of musical 'ingredients,' including horizontal (melodic) and vertical (harmonic) tones and intervals. Therefore, the study also focuses on the tonal (both horizontal and vertical) organization of *zär*, which we will briefly review (discuss) below.

Discussion and conclusions

With the present study, in which we have combined a computational/acoustical perspective (Scherbaum & Mzhavanadze, 2020) and a classical musicological view (this paper), we have attempted to contribute to a better understanding of Svan funeral dirges. To us, three aspects seem worth mentioning in this context.

First, the results of the acoustic analysis and the results of the musicological structural analysis, both show very clear relationships to the settlement history of Svans along the Enguri River, which obviously reflects in the music of the Svans in a systematic way. As we have demonstrated in paper 1, the ambitus, duration, and complexity of the harmonic and melodic structure of *zär* systematically change along the course of the Enguri river. In this paper we see that this tendency is also manifested in the complexity of the compositional structure, which is formed according to two main compositional principles: repetition (most simple variant) and elaboration (advanced variants). The K'āl and Ushgul communities, as the most remote settlements in Upper Svaneti, were separated from the rest of the region for almost six months during the year because of the harsh climate, and therefore led a more closed lifestyle. Their variant seems to represent all the structural building blocks and building principles of Svan *zär* in an embryonic form: A-B-A-B. As for the variants of settlements further downstream, such as Mest'ia, Lenjār, Lat'li, and Lower Bal, the phrases are not only repeated, but also elaborated and enriched with new phrases and coda: A-B-C-A1-B1-coda. Compared to the K'āl-Ushgul variant, the complexity of the intra-phrasal structure and ambitus significantly increases, which seems to indicate a greater desire for melodic (horizontal) development. We believe this development may be due to intensive communication and closer exposure to the neighboring musical dialects of western Georgia. At the same time, although this more

complex musical texture manifests itself in the highly developed and complex use of harmonic and melodic elements, the original skeleton is preserved and can be found by analysis.

The second aspect concerns tonal organization. While the harmonic interval inventory for all *zär* variants is consistently identifying the unison, fourth, and fifth as stably defined interval concepts, this is not the case for the third, which appears as a poorly defined pitch category with a large dispersion (spread). Regarding the melodic interval inventory, which could only be determined after correcting the F0 trajectories for the gradual but non-consistent pitch-drift observed for almost all of the variants, it turned out that the existence of a single *zär* tuning system is very unlikely. Instead, tuning system used depends more on WHO makes the *zär* than WHAT (which variant) is performed.

Finally, we see the most interesting aspects of our study in the consequences that arise for the discourse on the origins of Georgian polyphony widely discussed over decades by Georgian music scholars (Arakishvili, 1950; Aslanishvili, 1954; 2010; Gogotishvili 1994; Chkhikvadze, 2010; Chokhonelidze, 2010; Gabisonia, 2006; Javakhishvili, 2010; Khardziani, 2003). There are two different lines of thought on this topic, the first of which is associated with the evolutionary development of monophony into a three-part polyphony. This theory is discussed in more detail in two models. The first one, which we call the 'fourth model', goes back to Aslanishvili (1954). According to this model, Svans' three-part music initially developed from unison into two-part music (with the fourth as core interval), to which later on an upper voice was added that moves parallel to the bass voice in a fifth[19].

The second model proposed by Gogotishvili (1994), we would call the 'fifth model'. In the 'fifth model' the first voice is the upper one, to which the second voice is added at the bottom. The voice added here as the third voice is the middle voice, which is a fourth above the bass voice.

In contrast to the evolutionary models, Ficker (1929) and, more recently, Jordania (2006, 2010) suggested that polyphony can be an original form of musical creativity. Ficker (1929) has argued that polyphonic sounds are an indispensable part of any natural

[19] This is the main theory, which is still shared by most Georgian ethnomusicologists.

soundscape and therefore should be considered as a primary sound form. Jordania (2006, 2010) has suggested that group singing was part of the original pre-human communication with great advantage for survival.

As for *zär*, the results of our analysis cannot be explained by any of the stadial development hypotheses, in which a 'melody voice' is augmented by additional voices in order to create the vertical structure. First of all, none of the *zär* voices take the role of a melody, except for the middle voice in the monophonic introductory call. For the K'āl-Ushgul *zär* for example, the harmonic fourth, the core interval in Aslanishvili's hypothesis, appears only intermittently, starting at about 20 seconds within the dirge (Figure 18a), while the harmonic framework of parallel fifths between the bass and the top voice is established immediately at the beginning of the polyphonic part (Figure 8a, paper 1). Figure 8a also shows that the middle voice in the polyphonic part wanders in a highly variable (in terms of harmonic intervals) fashion between the top and bass voices, without building a stable harmonic relationship between either of the voices. Gogotishvili's (1994) hypothesis is also inconsistent with our results, since the harmonic framework of parallel fifths starts only after the middle voice has finished its introductory call. In addition, the fourth seems to have semantic meaning to intensify the expression of pain and grief. In *zär*, it comes with the interjection of *wai*, which is specific to the funeral context. Therefore, it seems unreasonable to assume that the middle voice was added later. Finally, as a crucial argument against both evolutionary models, the tonal center, around which the whole musical structure is built on, is maintained by the bass voice, which is actually ruled out by both evolutionary models as a primary voice.

To conclude:

- For all *zär* variants and all *zär* performances in our collection, we found a strong harmonic framework of parallel fifths between the bass and the top voice.

- In *zär,* the fourth seems to have a semantic meaning to enhance the mourning expression.

- The acoustic features and the compositional structure of the various *zär* variants are closely linked to the geographical location of their origin along the Enguri River.

- The systematically increasing complexity of the various *zär* variants downstream the Enguri River reflects the increasing influence of the neighboring non-Svan music styles.

- As for the origin of *zär*, we believe that all the results of our analysis exclude evolutionary models at least in its supposedly oldest living tradition associated with the notion of 'death and pain of loss'. The strong presence of pure harmonic intervals in the highly conceptual harmonic structure suggests that the three-part texture of *zär* most likely represents its original form.

Finally, we would like to speculate about the strong presence of fifths and fourths in *zär*. Fifths and fourths together seem to embody the simultaneous realization of overtone frequencies as a physical property of nature, as an original sound form (*Ursprüngliche Klangform*) in the sense of Ficker (1929), or in the words of Reck (1977), in that 'the pure relationships of overtone sequences… are reflected in the harmony all over the world'. In that sense, we believe that Svan *zär* is a vivid demonstration of how the natural law manifests itself in the musical 'thinking' of the man.

Acknowledgements

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Traditional References of the Modern *Ballade* by Akses

ABSTRACT
The pioneer composers of contemporary classical music in the Republic of Turkey (aka Contemporary Turkish Music) created their first musical compositions by incorporating some of the components of traditional Turkish music — scale, rhythm, motif, and style — and abstracted forms thereof. The *Ballade*, a one-part orchestral piece dating back to 1947, composed by one of the first-generation composers, Necil Kazım Akses, is an example of this approach to composition. Both the concert program notes and various concert criticisms give an idea about the structures of traditional Turkish music in the *Ballade*. However, the *Ballade*, as an example of programmatic music, requires a more detailed analysis, especially in terms of motif and rhythm. In this study, which aims to establish the connection between the composition at hand and primarily traditional Turkish music, I examine the composition in terms of rhythm, motif, scale, and style, and the findings are correlated with the original structures of traditional Turkish music. The findings showed that Akses used rhythmic (*usûl*) abstractions in his work more than the modal (maqam) structures. When examining the modal structure of the work, I also detected that the composer preferred to abstract the motifs exhibited by the maqams, instead of abstracting the maqam structures directly. The study especially reveals Akses's creative approach to motivic abstraction, with the explanation of how the basic motif of *Ballade* was created.

KEYWORDS
Necil Kazım Akses
Ballade
Contemporary Turkish Music
Maqam
Rhythm
Analysis

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Introduction

The first-generation composers of Contemporary Turkish Music of the 20th century acted with the idea of bringing together the many components of traditional Turkish musics (folk and art music) — such as the *usûl* (rhythmic pattern), the maqam (modal pattern), scale, timbre, style, and form — and Western classical tuning system, musical instruments, and forms together. This approach determined the position of Necil Kazım Akses (1908-1999), too, and he produced sixty-nine works — mostly for orchestra — (Deniz, 2016: 297), which incorporated some abstractions of traditional Turkish music elements.

Even the titles of Akses's program music compositions, such as *Bir Divandan Gazel*[1] (Ghazal from a Divan) and *Itrî'nin Nevâ Kâr'ı Üzerine Scherzo*[2] (Scherzo on Itrî's *Nevâ Kâr*), give an idea of the extent of inspiration by traditional Turkish music; there are also absolute music compositions that reveal the composer's connection with traditional Turkish music, such as the 2nd movement of his *Viola Concerto* and the 3rd movement of his *Symphony No. 1*. In these above-mentioned works, although the composer adapted the scales specific to traditional Turkish music to the equal-tempered system and used a polytonal writing style, the atmosphere created by the melodic and rhythmic organization allows the structure of traditional Turkish music to be easily distinguished.

Akses's 1947 composition, *Ballade*, favors these structures of traditional Turkish music. Due to this aspect, as well as its importance to the composer's biography, it holds a special place. *Ballade*, which is a one-part composition written for the grand orchestra and has the feature of being the most performed work of the composer abroad, initiates both the second period of his composing and a period of silence that will last about ten years (İlyasoğlu, 1998: 108, 110). The work was premiered on April 2, 1948, by the Presidential Philharmonic Orchestra under the baton of Ulvi Cemâl Erkin at the opening ceremony of the Ankara State Opera and Theater (*Devlet Opera ve Tiyatrosu*, 1948: 6; *Devlet Tiyatro ve Opera*, 1948: 3). Two years later, it was performed and broadcast on BBC radio London; in the following years, it was performed by various conductors and orchestras in cities such as Edinburgh, Birmingham, London, Brussels, Bucharest, Vienna, Teplice, Prague, and Cairo (Göğüş, 1993: 33).

[1] Link to listen: https://www.youtube.com/watch?v=mTYoQvkVRE4 (Mouzafphaerre, 2011).
[2] Link to listen: https://www.youtube.com/watch?v=M217AwcpnSY (Arda, 2011).

Gültekin Oransay summarizes the composition with the following sentences in the concert program note he wrote for *Ballade*:

"*Ballade* can be called a narrative of a mood. It involves a deep philosophical thought and examines the symptoms of it in the abstract character it creates. The themes were conveyed through traditional Turkish art music in the first half of the work, and folk music in the second half. *Ballade* is a dance story of a mystical character, who travels through the material world to find real pleasure, then returns to its realm with disappointment" (as cited in Başeğmezler, 1993: 67)[3].

In his same article, Oransay exemplifies the simultaneous use of art and folk music terms, with the '*çeng-i harbî* rhythm', and the '*bozlak*' folk song performed by the E♭ Clarinet (as cited in Başeğmezler, 1993: 66-67). However, the work, which was introduced as "the new Turkish music" (Ebcioğlu, 1948: 4) after the first performance, contains many more elements of traditional Turkish music.

As a result of the literature review, it has been determined that there is no study — academic or not — of Akses's *Ballade*, except these concert program notes. This study, as the first piece of analytical research on *Ballade*, first examines the work in terms of motif, rhythm, maqam, and style, to highlight the elements in question, and then, analyzes the connections of the detected structures to traditional Turkish music.

Method

This analysis is based on the 1971 edition of the composition published by Ankara State Conservatory. The analysis steps are as follows:

First of all, parts of the composition, which are related to traditional Turkish music in terms of motif, maqam, rhythm, and style, have been identified. Then, each constituent structure of these parts has been reviewed as an 'Example'; these structures have been described by defining their connections to traditional Turkish music. The charts

[3] Translated by the author. The original text in Turkish is as follows:
"*Ballad'e bir ruh halinin anlatımı denebilir. Derin bir felsefe düşünüşünü içine almakta ve yarattığı soyut tipte bunun belirtilerini incelemekte. Tem çalışmaları bağdanın ilk yarısında geleneksel Türk sanat musikisi, ikinci yarısında halk musikisi havası içinde yürütülmüş. Ballad, mistik bir tipin, gerçek zevki bulmak için maddeler dünyasında dolaştıktan sonra hayal kırıklığına uğrayıp yine ilk çıktığı yere, kendi içine dönüşünün raksla hikâyesidir*" (as cited in Başeğmezler, 1993: 67).

presented under the title of 'Conclusion and Assessment' have been formatted by using Microsoft Excel® and Audacity 2.4.2® programs.

Analysis and Findings

In this part of the study, *Ballade*'s connection with traditional music is investigated through eight examples selected for their contents.

Example No. 1: *m.1*[4]

The leading melodic structure of the work, which can be described as the 'basic motif', is seen at measure 1 in the Bassoon II, Violoncello and Contrabass staves:

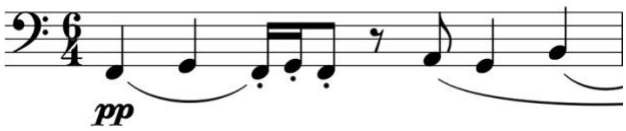

Figure 1.1: Akses, *Ballade*, m.1 (Bassoon II) (Akses, 1971: 1)

The structure in Figure 1.1 is represented by various intervals throughout the first 60 measures of the work, which consists of 492 measures. Also, it continues uninterruptedly between mm.81 to 94, and mm.474 to 492. Although there is no maqam reference of the scale of this material used in the structure in question, the 'rhythmic segmentation' of the motif in 6/4 is largely similar to the beginning of one of the significant works of traditional Turkish music. This work is *Nevâ Kâr*[5], composed by Buhûrîzâde Mustafa Itrî Efendi (1640-1712), which started with the lyrics *Ey gülbün-i îyş mîdemed sâkî-i gül-izâr kû*[6,7] by Hâfız-ı Şirâzî (d.1390):

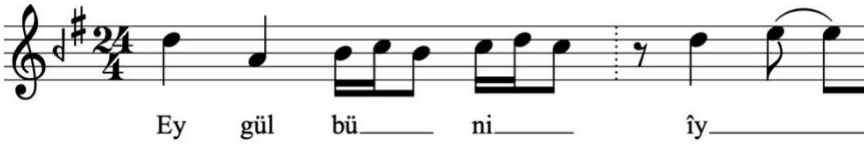

Figure 1.2: Buhûrîzâde Mustafa Itrî Efendi, *Nevâ Kâr*, m.1 (Kosal, 1987)

[4] m: Measure number
[5] Link to listen: https://www.youtube.com/watch?v=-Tf_PZbZGrE (Ferahfeza Birşab, 2014).
[6] *While the rose seedling of the pleasure and joy community is blooming, where is the rose-faced cupbearer?*
[7] The inner quest of the mystical character in *Ballade* also coincides with the rhyme of Itrî's work: "*kû*" (*where*).

The graphic similarity between these motifs can be easily recognized by the following points:

- the first two quarter notes,
- two sixteenth notes, an eighth note, and an eighth rest,
- the last quarter notes again.

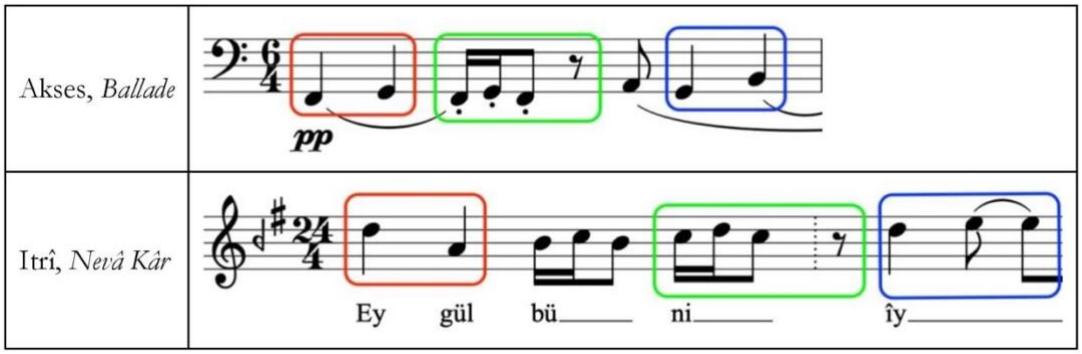

Figure 1.3: Similarities between the motifs in question

The fact that Akses also composed a *Scherzo* (1969) on Itrî's *Nevâ Kâr* shows that he had done an analytical study of it. From this point of view, it is possible that the creation of this motif of *Ballade* was inspired by *Kâr*, which does not reference any maqam structure. Akses also used the ode (ghazal)[8], which started with the lyrics *Celîs-i halvetim, vârım, habîbim, mâh-ı tâbânım*[9], and which he chose from the divan (poetry book) written by Muhibbî[10] (1494-1566) in his 1976 composition titled *Bir Divandan Gazel* (Ghazal from a Divan) for tenor and orchestra. This case shows his interest[11] in divan music[12] and divan poetry of the Ottomans.

Hikmet Şimşek (1999: 6) states that although most of the contemporary composers of his period look to traditional folk music for inspiration, Akses was one of the Turkish composers who benefited from 'divan music' the most. Birkan (1999: 20-21) references Akses's works titled *Scherzo on Itrî's Nevâ Kâr* and *Ghazal from a Divan* as clear signs of

[8] The entire poem can be reached from the following source: Ak, 1987: 551.
[9] *My resident of solitude, my everything, my beloved, my shining moon.*
[10] Muhibbî is the pen name of Suleiman the Magnificent.
[11] The reason for this may be related to the fact that Akses was born in Ottoman culture and his first musical and violin education was based on divan music of Ottoman (see Refiğ, 2012: 27).
[12] Divan music is a traditional art music of the Ottomans, which is called Turkish classical/art music today.

the composer's special interest in divan literature and music. He states that this effect is also seen in *Ballade*, in addition to traditional folk music elements.

"I like divan music, but divan music [Ottoman style] is not meant to be the *Alaturka* [Alla Turca]. Great masters have arisen"[13,14] (as cited in Gizli, 1989). Akses's expressions and the emphasis on 'great masters' are complemented by the composer's explanation of his *Scherzo*:

"You know, I am a composer who loved divan music; but it is a sin to take this music and make it polyphonic. Its beauty is in its monophonic structure. But I chose *Nevâ Kâr* thinking that something could come from getting inspired by it, and because there were various themes or motifs in it, I attempted to write it in a Scherzo style, in my own notion" (as cited in Özkoç, 2013: 109)[15].

At this point, it is necessary to mention the historical process of Akses's work on Itrî and his *Nevâ Kâr*. The completion date of Akses's Scherzo was 1969, but an interview published in 1945 indicates that Akses had been working on Itrî's work, since 1943-1944:

"I had the opportunity to listen to one of the works of the great Turkish composer Itrî, who lived 300 years ago, and I felt I had an affinity for him. Thus, getting inspired by his *Nevâ Kâr*, I decided to write a symphony, as much as I could, as a tribute from our generation to this artist who was as fantastic as other composers of other lands, within the frame of the techniques of his land. I am about to realize this decision of mine.

So as not to be presumptuous, I wanted to ensure the merit of dedication to Itrî by putting the artistic grandeur of a great poem as a chorus at the end of the symphony. Undoubtedly, you know: This poem is Yahya Kemal Beyatlı's great poem named *Itrî*. My symphony is in

[13] Translated by the author. The original text in Turkish is as follows:
"*Ben, Divan musikisini severim. Ama Divan musikisi demek, alaturka demek değildir. Büyük ustalar çıkmıştır*" (as cited in Gizli, 1989).
[14] Akses emphasizes the difference between the Divan music in his own time (Ottoman style) and the later the *Alaturka* style of *gazino* (Turkish night-club) music.
[15] Translated by the author. The original text in Turkish is as follows:
"*Biliyorsunuz, ben Divan musikisini seven bir besteciyim; fakat bu musikiyi alıp da çokseslendirmek günahtır. Onun güzelliği tekseslilığindedir; fakat bundan ilham alarak bir şey yapılabilir düşüncesiyle Nevâ Kâr'ı seçtim ve onda muhtelif temler veya motifler bulunduğu için, onu bir tertiple, kendi düşünceme göre, Scherzo havası içinde yazmağa yeltendim*" (as cited in Özkoç, 2013: 109).

four movements and it takes approximately over an hour" (as cited in Ediboğlu, 1945: 15)[16].

In light of this interview, the following detail about *Nevâ Kâr* provides enlightening information about how the basic motif of the *Ballade* could have been constructed. According to Özalp's quotation (1992: 13; 2000: 415) from Ruşen Ferit Kam, Akses mentioned that: "When you fold the score of the *Nevâ Kâr* randomly, new counterpoints emerge."[17] Based on this explanation, it is conceivable that Akses created a 6/4 rhythmic structure by 'folding' the first 3 beats of *Nevâ Kar* symmetrically.

It is highly probable that the rhythmic structure of the 'basic motif' in question was created through the following three steps:

1) Forming a 6/4 structure by folding the first 3 beats of *Nevâ Kâr* and obtaining a horizontal symmetry,

2) Making the structure into a monophonic rhythmic pattern,

3) Modifying the 4th beat.

[16] Translated by the author. The original text in Turkish is as follows:
"*Bundan 300 sene evvel yaşayan büyük Türk san'atkârı Itrî'nin bir eserini sık sık dinlemek fırsatını bulup, ona yakınlık duydum. Ve onu tanıma isteğini kuvvetlendirmeye çalıştım. Böylece, zamanında kendi aleminin tekniği içinde diğer alemlerin büyük bestekârları kadar büyük olan bu san'atkâra neslimizin bir kadirşinaslığı olmak üzere, gücümün yettiği kadar, yine onun "Nevvakâr"ından ilham alarak ve ona ithaf edilmek üzere bir senfoni yazmayı düşündüm. Bu kararımı gerçekleştirmek üzereyim.*
Belki kendini bilmezlik olur diye, büyük bir şiirin san'at azametini senfoninin sonuna koro halinde koymakla Itrî'ye ithafın liyakatını sağlamak istedim. Şüphesiz bilirsiniz: Bu şiir Yahya Kemal Beyatlı'nın "Itrî" adlı büyük şiiridir. Benim senfoni, dört kısımlıdır, takriben bir saatten fazla sürmektedir" (as cited in Ediboğlu, 1945: 15).
[17] Translated by the author. The original sentence in Turkish is as follows:
"*Nevâ Kâr'ın notasını rastgele katladıkça yeni yeni kontrpuanlar ortaya çıkıyor*" (as cited in Özalp, 1992: 13; 2000: 415).

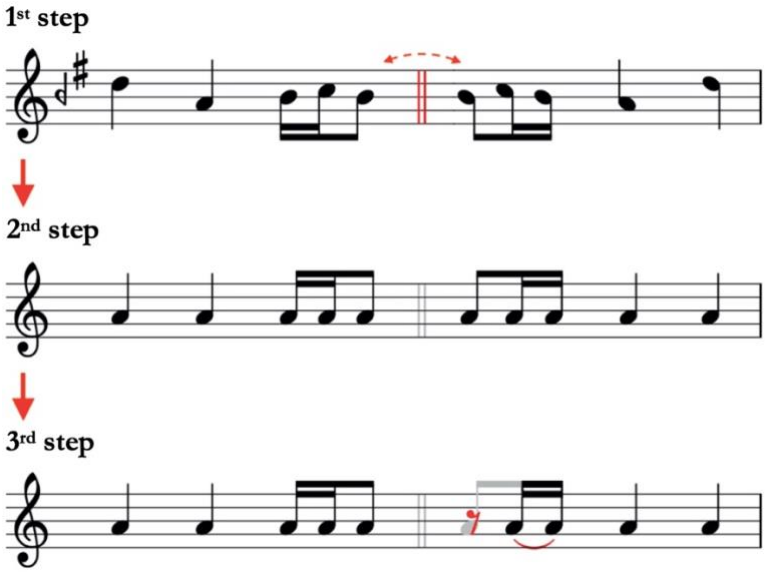

Figure 1.4: The steps of creating the basic rhythmic structure of *Ballade*

The rhythmic structure of the example, which is 6/4, also indirectly contains a connection with traditional Turkish music and shows similarity with the contour of the *Yürük Semâî usûl*. Arel describes the 'second extent' of this 6-beat *usûl* with the following scheme:

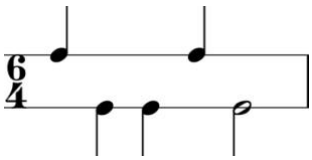

Figure 1.5: The scheme of *Yürük Semâî usûl* (Arel, 1968: 35)

However, while the mentioned rhythm is divided into two as '3+3' in traditional Turkish music with the consideration of strong beats (Ezgi, 1935: 6; Rauf Yekta Bey, 1986: 103; Karadeniz, n.d.: 39), the basic motif of *Ballade* is divided into three as '2+2+2'. Focusing on the second type of division in question and considering the date of composition of the work (1947), there is a strong possibility that Akses might have associated the 6/4 structure of the basic motif in his work with *Yürük Semâî usûl*. The book named *Türk Mûsıkîsi Nazariyatı Dersleri* (Lessons in Turkish Music Theory) by the composer and musicologist Hüseyin Sâdeddin Arel, who was also a close friend and father-in-law of Akses, was published in 1968. However, the chapters of this book which consisted of the notes of the lectures Arel gave at the Istanbul Municipal Conservatory between 1943 and 1948, had been previously published in the early issues (including the first one) of *Musiki Mecmuası* (Music Magazine) in 1948. Remarkably, this date is close to the completion year of the *Ballade*. In this book, Arel (1968: 35) states that the *Yürük Semâî usûl* is formed by

the combination of two *Semâî* (3/4) or three *Nim Sofyan* (2/4), and indicates both types are found in repertoires.

Arel (1968: 36) also states that sometimes in the compositions in *Yürük Semâî usûl*, there are measures which consist of three half notes, and it is customary to beat these measures as the third extent of the *Semâî usûl* (3/2). He gives the following example:

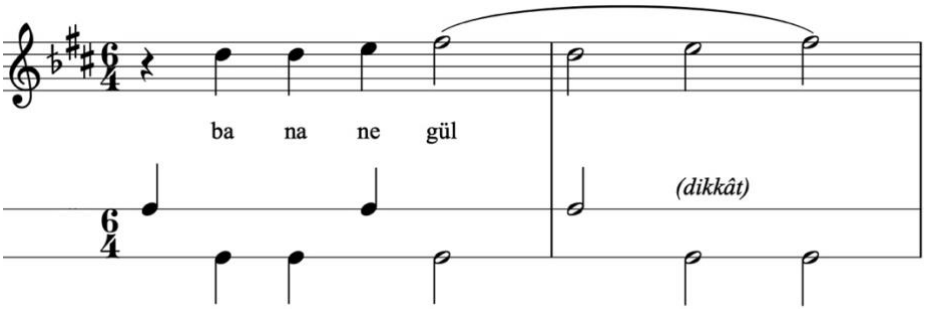

Figure 1.6: Kassamzâde Mehmed Efendi, *Nikriz Nakış Yürük Semâî*, mm.7-8 (Arel, 1968: 36)

Akses also includes both types of division, as in Arel's example.

It is clear that the basic motif is divided as 2+2+2, but Akses diversified this pattern as 3+3 divisions, beginning from the 6th measure of the work. As we can see in Figure 1.7, the composer uses the division of 2+2+2 in the Bassoon II, Violoncello, and Contrabass staves, and the division of 3+3 in the English Horn, Bassoon I, and Viola staves 'simultaneously'; in this manner, he abstracts the *Yürük Semâî usûl* in question within a 'polyrhythmic' structure[18]:

[18] For one of the many examples that can be shown regarding the relationship between the rhythmic pattern of *Ballade* and *Yürük Semâî usûl*, see Appendix A.

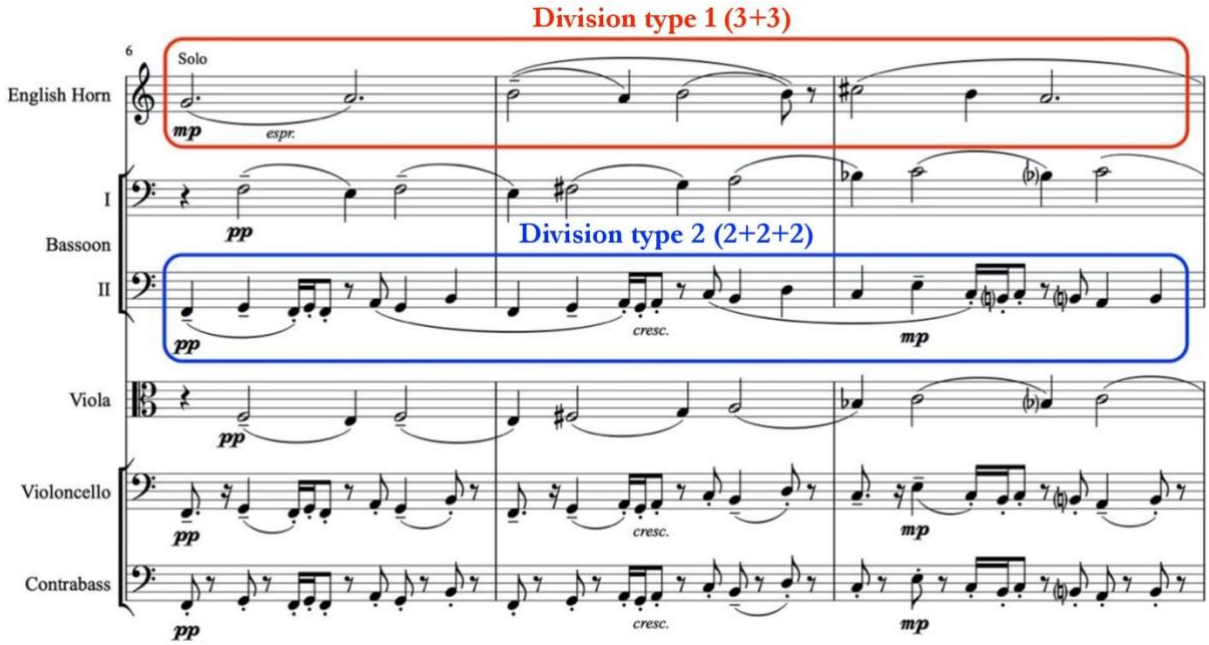

Figure 1.7: Akses, *Ballade*, mm.6-8 (Akses, 1971: 3)

Apart from the example given by Arel, the second type division of *Yürük Semâî* is frequently encountered in many compositions[19]. In this case, it is possible to evaluate the rhythmic structure at the beginning of *Ballade* as an abstraction of *Yürük Semâî usûl*. Thus, we can see that the structure examined in 'Example No. 1' contains references to traditional Turkish music, not only due to its motivic kinship with *Nevâ Kâr,* but also because of the division, encountered in *Yürük Semâî usûl*.

Example No. 2: *m.44*

The work also has sections that present maqam structures of traditional Turkish music with both the melodic contour and the scale characteristics directly. This kind of use is first seen in the 44th measure of the work in the Horn II and Viola staves:

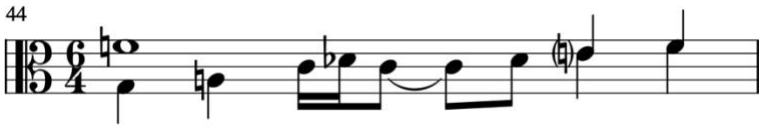

Figure 2.1: Akses, *Ballade*, m.44 (Viola) (Akses, 1971: 15)

[19] As an example of the division in question; it can be given that measure 7, 16, 34 and 43 of Hamamîzâde İsmail Dede Efendi's *Mâhur Yürük Semâî* (Salgar, 2004: 215-216); and measure 4, 7, 19 and 22 of Zekâî Dede Efendi's *Hicazkâr Yürük Semâî* (Altınbilek, Kırım and Gözkân, 2010: 176).

It is clear that the motif consists of the notes of the *Sabâ* maqam scale in the key of A:

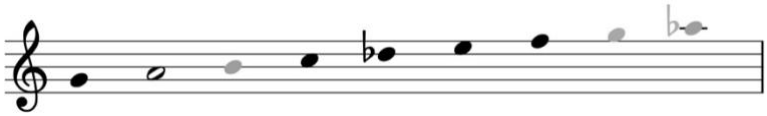

Figure 2.2: *Sabâ* maqam scale adapted to the equal temperament[20]

The scale of the *Sabâ* maqam provides the [●2◉2●1●1●3●1●2●1●] scale formula[21], when expressed in a type of step, in which each half-interval is accepted as one unit. The structure in the example can also be evaluated as an abstraction, in which the second, seventh and eighth degrees of the scale are not included.

The first-generation composers of Contemporary Turkish Music, who grew up in the 1930s, preferred to use the 'maqam' as a way to surpass tonal harmony, and each composer chose a path according to their own style, inspired by traditional Turkish music (Başeğmezler, 1993: 51). Necil Kâzım Akses also used the maqam structures, beginning with his earliest works, but he started to signalize the 'Akses style', especially in his symphonic works, in the 1940s. This style has an 'amodal' character, in addition to its maqam features. Therefore, it is possible to state that, in Akses's music, the themes are based on maqam, but abstracted by the amodality. Akses explains this concept as the following: "Amodal does not mean it is not modal. It starts from a specific mode or maqam but moves forward, without allowing its dominance" (as cited in Başeğmezler, 1993: 51; Aydın, 1999: 30)[22].

In this example, although the *Sabâ* maqam structure is in the key of A, the orchestra also plays the notes F and C simultaneously (see Appendix A). In this way, the structure is heard as a part of the F Major triad and exemplifies that the tonic of the maqam is 'not allowed to dominate', as stated by Akses. It would be appropriate to consider this type of multi-axis or polytonal usage as a characteristic of the composer.

[20] The half (semibreve) note symbolizes the tonic, and notes which the motif does not contain are shown in gray.
[21] The symbol "◉" in the scale formula denotes the tonic, and the symbols "●" refer to the other degrees of the scale. And the numbers between them are the equivalents of the intervals between the notes in the type step.
[22] Translated by the author. The original text in Turkish is as follows:
"*Amodal, modal değildir anlamına gelmez. Belirli bir mod, makamdan yola çıkılır, fakat bu makamın egemenliğine izin verilmeden yürünür*" (as cited in Başeğmezler, 1993: 51; Aydın, 1999: 30).

Akses's statements about his style are enlightening for the explication of traditional Turkish music elements in his works:

"My style is not to take a maqam and make it polyphonic, but I use that maqam. I sometimes use the maqam in its technical meaning and I sometimes use it in a different melodic contour through the same notes" (as cited in Özkoç, 2013: 108)[23].

The above example of this type of abstraction is the first of the maqam references. Similar abstractions, regarding different maqam structures will be discussed in the subsequent (6th and 7th) examples.

Example No. 3: *mm.56-57*

In *Ballade*, another motif, which is well-known in traditional Turkish music, is located in mm.56-57 (in the Piccolo, Flute, Oboe I, E♭ Clarinet, Violin I and II staves), and mm.72-73 (in the Flute I and II, Clarinet I and II, and Violin I and II staves). The 'descending motif' in question is shown below:

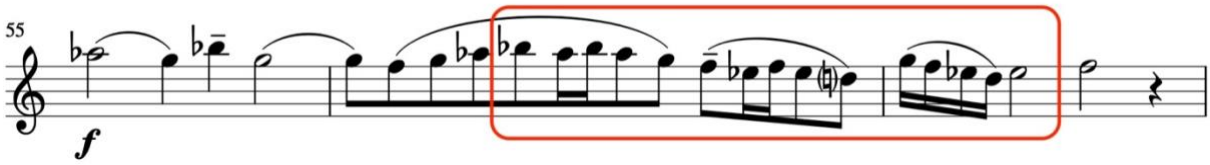

Figure 3.1: Akses, *Ballade*, mm.55-57 (Violin I) (Akses, 1971: 19-20)

The motif, highlighted by the frame, can be found in many works of traditional Turkish music repertoire, with minor differences. In this sense, these works can be served as examples:

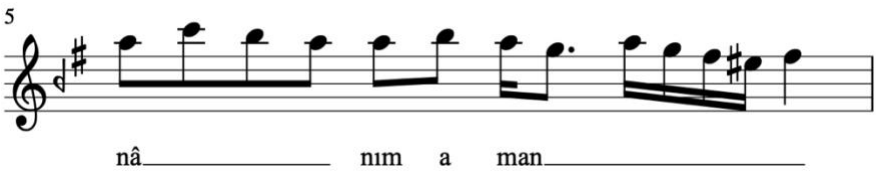

Figure 3.2: Hamamîzâde İsmail Dede Efendi, *Evc-Bûselik Ağır Semâî*, m.5 (Salgar, 2004: 154)

[23] Translated by the author. The original text in Turkish is as follows:
"*Benim yazı biçimim, bir makamı alıp da çokseslendirmek değildir; ama o makamı kullanırım. Makamı, bazen makamın teknik mânâsı içinde kullanırım, bazen o makamı, makam seyri içinde değil, aynı notalarla başka bir seyir vererek kullanırım*" (as cited in Özkoç, 2013: 108).

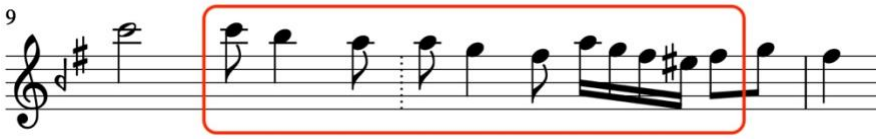

Figure 3.3: Tanbûrî Cemil Bey, *Nevâ Peşrev*, mm.9-10 (TRT, 2006: 161)

Example No. 4: *mm.115-118*

The usage of the *usûl* can be distinctly observed in *Ballade*. The first of these is '*Çeng-i Harbî*', which is one of the 10-beat *usûl*s of traditional Turkish music. This structure continues between the 151st and 162nd measures of the work uninterruptedly, and repeats between mm.370-461.

Arel (1968: 41) defines the *Çeng-i Harbî usûl* as consisting of two *Nim Sofyan* (2/4) and two *Semâî* (3/4), and describes the second extent of this *usûl* as follows:

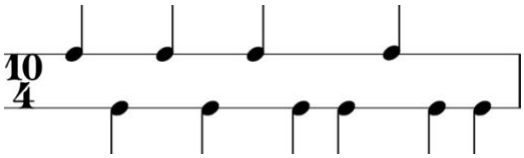

Figure 4.1: The scheme of *Çeng-i Harbî usûl* (Arel, 1968: 41)

It is apparent that Akses also used the structure in question regularly:

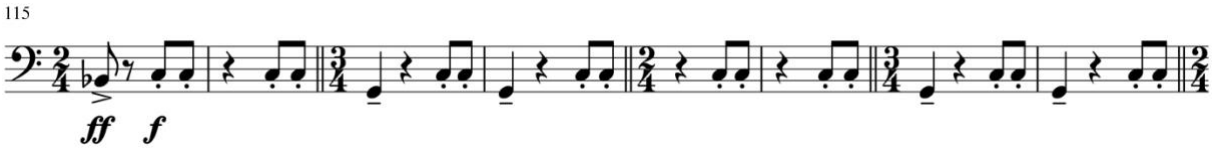

Figure 4.2: Akses, *Ballade*, mm.115-122 (Timpani) (Akses, 1971: 41-42)

According to Oransay, the *Çeng-i Harbî usûl*, which means spear war, symbolizes the warrior character created through the 'quest' within the semantic context of the work (as cited in Başeğmezler, 1993: 66). Therefore, this passage also provides a '*mehter*' emphasis with its unique rhythmic character.

Example No. 5: *mm.163-223*

There is also a reference to the Western Music tradition in *Ballade*: The theme of *Dies Irae*.

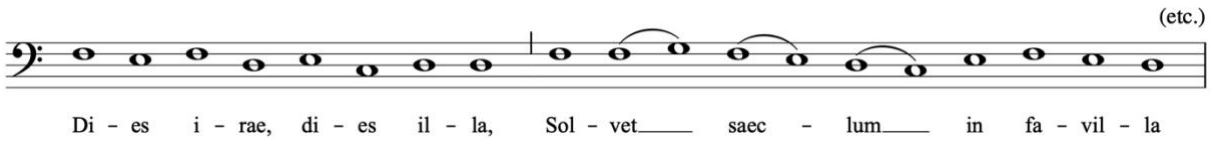

Figure 5.1: The theme of *Dies Irae* (Bennett, 1995: 85)

A part of the Mass, the ritual music of the Catholic Church, *Dies Irae* (The Day of Wrath) is a poem by Thomas of Celano (1185-1260), which forms a part of the Requiem Mass. Its plainsong melody is sometimes quoted in compositions by the 19th and 20th century composers to bring into the listener's mind the symbol of death, horrifying thoughts of the Day of Judgement, and fear of the supernatural (Bennett, 1995: 84).

As we can see in Figure 5.2, the motif is heard (simultaneously in the Piccolo, Flute, Oboe, Clarinet I-II and Trumpet I-II staves) for the first time between 163rd and 168th measures and is repeated by various musical instruments up to m.223 uninterruptedly. It repeats for the second time between mm.263-280[24].

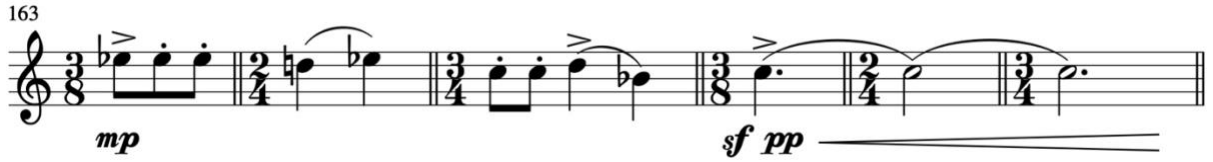

Figure 5.2: Akses, *Ballade*, mm.163-168 (Oboe) (Akses, 1971: 48-49)

The rhythmic pattern of the structure corresponds to the '*Şarkı Devr-i Revânı*' *usûl*, which is one of the 13-beat rhythms of traditional Turkish music. It appears in between mm.163-213 and mm.224-310. Arel (1968: 44) explains the *usûl* in question by dividing it as 3+4+4+2 and shows it as follows:

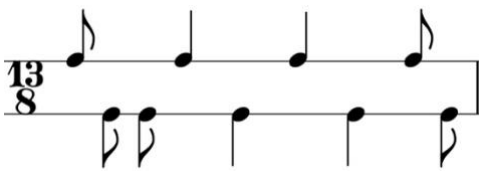

Figure 5.3: The scheme of *Şarkı Devr-i Revânı usûl* (Arel, 1968: 44)

[24] In that repetition, the motif takes part together with a maqam structure, which is defined in the next example.

This motif is also presented by the Timpani as a rhythmic abstraction:

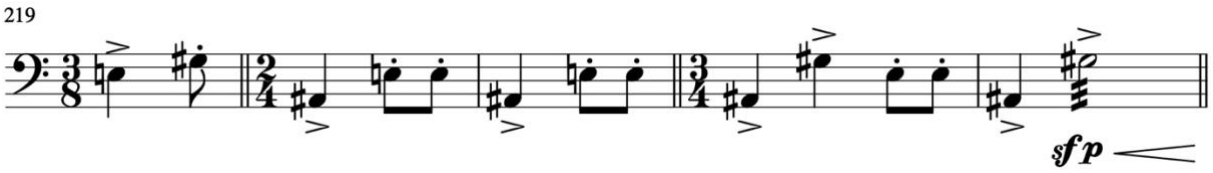

Figure 5.4: Akses, *Ballade*, mm.219-223 (Timpani) (Akses, 1971: 56)

Example No. 6: *mm.224-229*

Another maqam abstraction is seen between 224th and 229th measures in the Flute I, Oboe I and Violin I-II staves. The basic motif of the example is formed by repeating two consecutive 'cells'[25] (a and b):

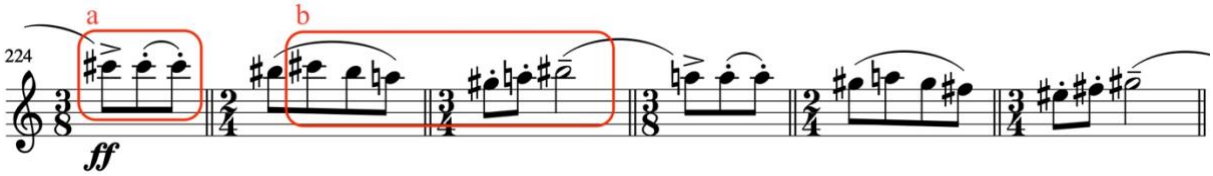

Figure 6.1: Akses, *Ballade*, mm.224-229 (Flute I) (Akses, 1971: 57-58)

This musical phrase in G# is formed through these measures in this example, and likewise, repeats through the following six measures. The structure, which forms the [●1●2◉1●3●1●] scale formula, is similar to the scales of the '*Hicaz*' maqam (Arel, 1968: 21-23; Karadeniz, n.d.: 104-106; Özkan, 2006: 164-178) family.

Therefore, it is clear that the structure in question points to the scale of the *Hicaz* maqam in G#:

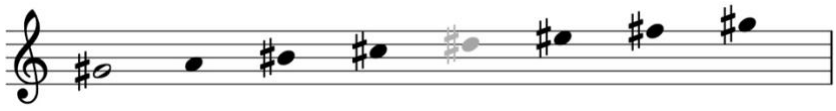

Figure 6.2: *Hicaz* maqam scale adapted to the equal temperament[26]

[25] "Cell: a small rhythmic and melodic design that can be isolated, or can make up one part of a thematic context" (as cited in Nattiez, 1990: 156). "It is the smallest indivisible unit; the cell is distinct from the motif, which can be divided; the cell can, itself, be used as a developmental motif" (as cited in Nattiez, 1990: 158).
[26] The half (semibreve) note symbolizes the tonic, and notes which the motif does not contain are shown in gray.

The structure moves with different maqams of the *Hicaz* family until the 314th measure. These differences are provided by changes in the sixth and seventh degrees of the scale in addition to the tonic change; thus, the structure creates transitions between *Hicaz*, *Uzzâl*, and *Zirgüleli Hicaz* maqams. At this point, it is possible to evaluate this scale as a conventional *Hicaz* maqam scale. Because in this part of the work the composer does not even use the whole scale, he uses the 'augmented second' interval through different tonics, and in this way, abstracts the maqam and creates a modal atmosphere.

The course of the melody can be encountered in the repertoire of traditional Turkish music. For instance, 'the cells' in question are similar to the motif of the *Bektâşî Nefesi*[27] in '*Hicazî Uşşak*' maqam:

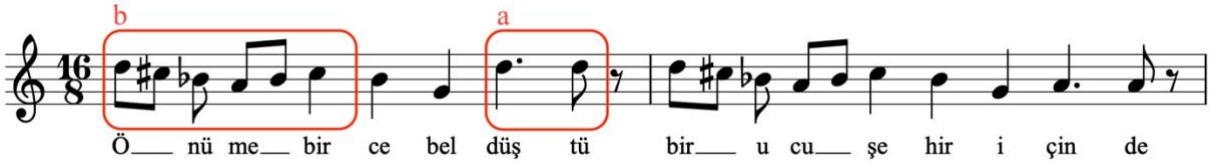

Figure 6.3: *Hicazî Uşşak makamında Nefes*, mm.1-2 (Rauf Yekta, 1933: 221; Gölpınarlı, 1992: 347)

The fact that F# and C# notes are seen in the orchestra staves, while the maqam is moving in G#, reduces the dominance of the tonic (see Appendix B). As a feature of the Akses style, this type of use is an example of the composer's method of abstraction. In addition to that, the rhythmic pattern of this example is also in the form of the '*Şarkı Devr-i Revânı*' *usûl* explained earlier.

Example No. 7: *mm.370-462*

Another example that can be considered as an instance of maqam abstraction starts at the 370th measure in the E♭ Clarinet staff. The 15-beat rhythmic pattern of this example, which forms a long episode close to the finale of the composition, is also part of the *Çeng-i Harbî usûl* explained in 'Example No. 4'. However, the feature of this episode is that the melody line of the E♭ Clarinet moves in a 'free-rhythmic' character, such as '*uzun hava*' or '*bozlak*', and not as an explicit rhythmic structure. The initial measures of the example are as follows:

[27] Link to listen: https://www.youtube.com/watch?v=TPRuPJx6jcQ (Uğur, 2014).

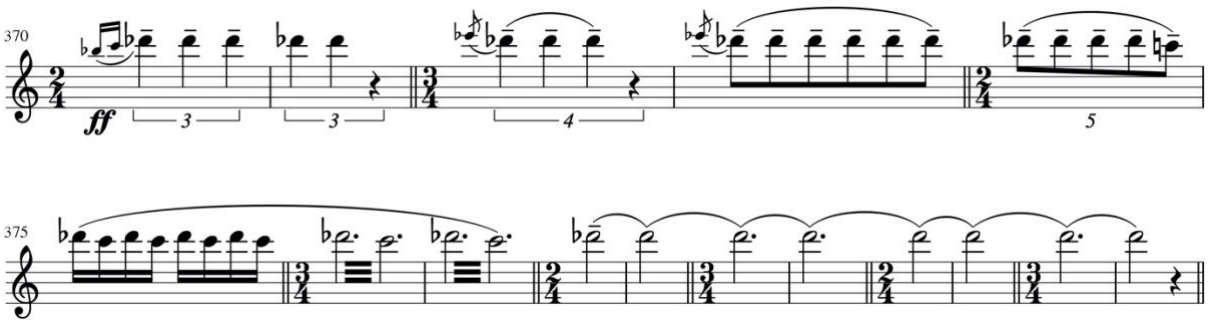

Figure 7.1: Akses, *Ballade*, mm.370-385 (E♭ Clarinet) (Akses, 1971: 89-91)

The final measures, in which the free-rhythmic solo reaches the tonic (A#), are as follows:

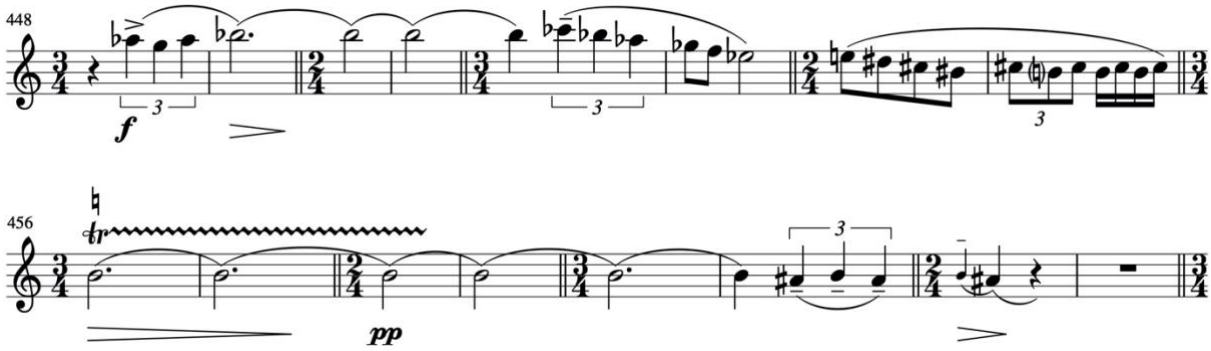

Figure 7.2: Akses, *Ballade*, mm.448-463 (E♭ Clarinet) (Akses, 1971: 103-106)

The focused melodic structure gains meaning with the abstraction of a maqam brought by the atmosphere of the '*bozlak*' it contains. This melodic structure, as Oransay (as cited in Başeğmezler, 1993: 67) has stated, is an adaptation of traditional folk song which started with the lyrics *Hem okudum hem yazdım*[28,29] set to the free rhythm.

Considering the scale and melodic contour characteristics of the melodic structure, a reference to *Muhayyer Kürdî* maqam in axis A# emerges. The pitches of D♭$_6$ and E♭$_6$, which are the highest notes of the section (see Figure 7.1), correspond to the '*Tiz Çargâh*' (C$_6$)[30] and the '*Tiz Nevâ*' (D$_6$) frets (pitches) of the *Muhayyer Kürdî* maqam, which is a '*Dügâh*' (A$_4$) centered maqam. As a result of its descending melodic contour, this maqam stays on the '*Muhayyer*' (A$_5$), then '*Hüseynî*' (E$_5$), and finally '*Dügâh*' (A$_4$) frets[31] (pitches),

[28] *I have both read and written.*
[29] Link to listen: https://www.youtube.com/watch?v=XutbxRrBSNg (Odeon Türkiye, 2016). The score of this folk song can be accessed from the following source: Turhan, 1999: 211.
[30] In scientific pitch notation, a specific octave is indicated by a numerical subscript number after the note name, and the middle C (the fourth C key from left on a standard 88-key piano keyboard) is designated C$_4$.
[31] These central frets are described as "central identifier frets" by Bayraktarkatal and Güray (in press: 12).

respectively (Karadeniz, n.d.: 100). The equivalents of these pitches in the example are the notes B♭5, F5, and A#4, respectively. The measures of the stays in these three 'central pitches' can be seen in the table below.

Measure	Central pitch - Written	Central pitch - Concert	Central fret (in Maqam scale)
395-401 404-405 408-411 426-427 449-452	B♭5	D♭6	*Muhayyer*
419-423 431-436	F5	A♭5	*Hüseynî*
440-441 443 461-462	A#4	C#5	*Dügâh*

Table 1. Distribution table of the fret (pitch) centered stays by E♭ clarinet solo in accordance with the *Muhayyer Kürdî* maqam structure

In the *Muhayyer Kürdî* maqam, first the *Muhayyer* maqam is performed, then, while going to the tonic, the *Kürdî* maqam is indicated using the *Kürdî* fret (Arel, 1968: 117-118; Karadeniz, n.d.: 145). In accordance with this description, we can see from the 454th measure of Figure 7.2 that the *Segâh* fret (B#4 in score) has been converted to the *Kürdî* fret (B4 in score). Moreover, the axis of the structure (C# as absolute) is also supported by the orchestra (see Appendix C).

Another feature of this example is that it is referred to the traditional folk music for the first time in *Ballade*. In other words, there is some indication that the 'classical Turkish music' tradition is not recognized by the composer separately from the Turkish folk music tradition. The composer — who describes the 'Modern Turkish Music' as benefiting from 'folklore and historical Turkish music' sources (*Modern Türk musikisinin mânası*, 1950: 3) — describes the tradition, which is handled as a whole within its melodic and rhythmic patterns, as stream that flows into Contemporary Turkish Music:

"Today, the works of our well-known composers in and out of the country have generally taken their inspiration from the folk music pulsating at the heart of the country and from

old Turkish art music. And they have formed examples of new Turkish music by using the language of international expression of our time" (Akses, 1950: 4)[32].

Similarly, Tura evaluates these two branches of the same music culture together:

"One of the mistakes that need to be corrected is the notion that the authentic Turkish [classical] music is traditional folk music. Essentially, folk music is not different from Turkish [classical] music. It consists of performing Turkish [classical] music according to native attitudes among the public. Its tone system is based on maqams, *usûl*s, and there are many more other commonalities (…) The claim that *Fasıl* music is the music of a handful of 'intellectuals' around the Palace [of Ottoman State] is nonsense, so is the claim that the people have another music completely separate from it" (Tura, 1986: 47)[33].

Example No. 8: *mm.462-464*

Following the 15-beat rhythm, the *Çeng-i Harbî usûl* of the previous example, a new rhythmic pattern appears in the composition: the *Devr-i Tûran usûl*, which is characterized by the division 2+2+3. The *usûl*, which is performed 4 times between the measures 462 to 473, also changes the texture of the composition to 'Molto sostenuto' beginning from the first beat:

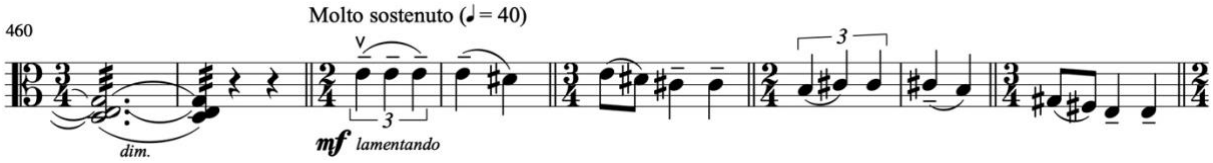

Figure 8: Akses, *Ballade*, mm.460-467 (Viola) (Akses, 1971: 106-107)

[32] Translated by the author. The original text in Turkish is as follows:
"*Bugün, muhtelif tesadüflere dayanarak memleket içinde ve dışında tanınmış bestecilerimizin eserleri, genel olarak ilhamlarını, memleket nabzında atan halk musikisinden ve eski Türk sanat musikisinden almış ve zamanımızın milletlerarası ifade tekniği ile dillenerek yeni bir Türk musikisinin örneklerini teşkil etmiştir*" (Akses, 1950: 4).

[33] Translated by the author. The original text in Turkish is as follows:
"*Düzeltilmesi gereken yanlışlardan biri de, gerçek Türk Mûsıkîsinin Halk Mûsıkîsinden ibâret olduğu görüşüdür. Halk Mûsıkîsi, aslında, Türk Mûsıkîsinden farklı, başka bir mûsıkî değildir. Türk Mûsıkîsinin, halk arasında, mahalli şivelere, tavırlara göre icra'ından ibârettir. Dayandığı ses sistemi, makamları, usulleri ve daha pek çok şeyi müşterektir, birdir. (…) Fasıl Mûsıkîsinin, Saray ve Saray çevresindeki bir avuç "aydın"ın Mûsıkîsi olduğu, halkınsa, ondan tamamen ayrı, başka bir mûsıkîye sahib bulunduğu iddiası, tamamen safsatadan ibârettir*" (Tura, 1986: 47).

This *usûl* functions as a transition between before the example in question and after. In the previous section (see Example No. 7), the 15-beat and dynamic *Çeng-i Harbî usûl* was used for as long as 92 measures. However, in the final measures of the work, the atmosphere created by the main theme, which has the 6-beat rhythm (*Yürük Semâî usûl*) and calm character at the beginning (see Example No. 1), is repeated. At this point, the 7-beat *Devr-i Tûran usûl* is used to modulate the rhythmic and thematic transition between these two characters.

Conclusion and Assessment

Findings obtained in the previous part of the article reveal that *Ballade* contains four *usûl*s, three motifs, three maqams, and two styles from traditional Turkish music. However, one motif is from the Western (classical) music tradition. Each of these structures is shown in the table below, along with the measure and the number of the example, in which it is examined:

Type of Content	Name of Content	Measure	Example
Usûl	*Yürük Semâî*	1-94, 474-492	1
	Çeng-i Harbî	115-162, 370-461	4, 7
	Şarkı Devr-i Revânı	163-213, 224-310	5, 6
	Devr-i Tûran	462-473	8
Motif	*Nevâ Kâr*	1-60, 81-94, 474-492	1
	Bektâşî Nefesi	224-304	6
	Descending	56-57, 72-73	3
	Dies Irae	163-223	5
Maqam	*Sabâ*	44	2
	Hicaz	224-314	6
	Muhayyer Kürdî	370-462	7
Style	*Mehter*	115-162	4
	Bozlak	370-462	7

Table 2. Contents of the *Ballade* with measure and example numbers from traditional Turkish music and Western classical music

The distribution chart of the mentioned structures of measures throughout the composition is as follows[34]:

[34] The abbreviations in charts are as follows: *Yürük Semâî* (YS), *Çeng-i Harbî* (ÇH), *Şarkı Devr-i Revânı* (ŞDR), *Devr-i Tûran* (DT), *Nevâ Kâr* (NK), *Bektâşî Nefesi* (BN), Descending [motif] (D), *Dies Irae* (DI), *Sabâ* (S), *Hicaz* (H), *Muhayyer Kürdî* (MK), *Mehter* (M), and *Bozlak* (B).

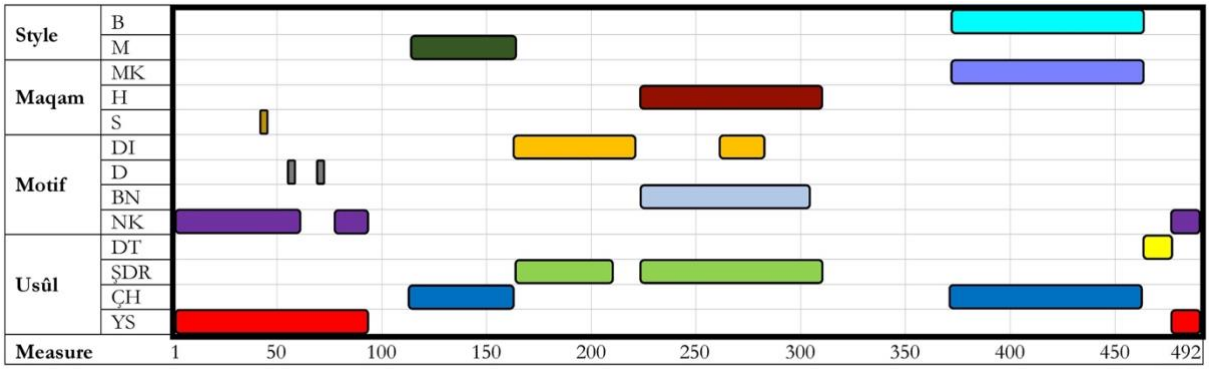

Chart 1. Distribution chart of traditional references to measures throughout the work

Due to the intensive use of the *usûl*, the time signature is frequently changing during the composition. The usage of seven different time signatures in a wide range from 3/8 to 6/4 requires creating a second distribution chart that focused on the duration of the *Ballade*, which lasts about twenty-two minutes. The chart below clearly shows the time values of the traditional structures heard[35]:

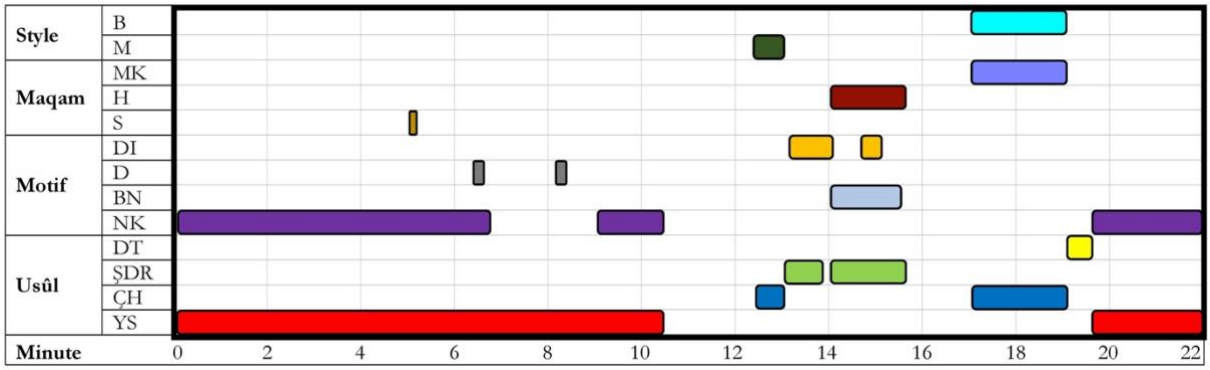

Chart 2. Distribution chart of traditional references, with respect to duration throughout the work

Each example discussed in detail in this study can be summarized as follows:

- **Example No. 1:** The basic motif derived from Itrî's *Nevâ Kâr* is, interestingly, performed with the second rhythmic pattern of the *Yürük Semâî usûl*.
- **Example No. 2:** The *Sabâ* maqam scale, which is written in adaptation to the equal-tempered system, is also abstracted by skipping the second degree.

[35] The performance of the RTB Symphony Orchestra under the baton of Daniel Sternefeld (Arda, 2012) was used in the establishment of the chart.

- **Example No. 3:** In the composition, a descending motif frequently found in the traditional repertoire is given twice.

- **Example No. 4:** The usage of the *Çeng-i Harbî usûl* with a violent atmosphere creates the '*mehter*' ambience, required by the programmatic content of the music.

- **Example No. 5:** The *Dies Irae* theme, which belongs to the Requiem tradition of Western music, is performed with a rhythmic pattern of traditional Turkish music: the *Şarkı Devr-i Revânı usûl*.

- **Example No. 6:** A new motif in the *Hicâz* maqam presented with the previous *usûl* is also a variation of another traditional motif: *Bektâşî Nefesi*.

- **Example No. 7:** A '*bozlak*' air in the maqam *Muhayyer Kürdî*, which is concurrent with the *Çeng-i Harbî usûl*, is exhibited in a free rhythm similar to the traditional usage.

- **Example No. 8:** In order to smooth the changeover from the 15-beat rhythmic pattern to the 6-beat rhythmic pattern, a new 7-beat *usûl* is employed as a 'transition': *Devr-i Tûran*.

The table and charts show that the connection of *Ballade* with traditional Turkish music was most intensely established through rhythmic structures (*usûl*s). Then, motif, maqam, and attitude structures were identified. Rather than using maqam structures concretely or abstractly, the composer tended to make use of the motifs exhibited in traditional Turkish music before and preferred to include specific motivic contours in his work directly. The steps explained in 'Example No. 1' (see Figure 1.4), which were likely followed in order to create the basic motif of *Ballade*, reveal how creative the composer is in terms of 'motivic abstraction'. However, it is also remarkable that when it comes to rhythm and style, the composer used elements of traditional Turkish music almost exactly (see Figure 4.2). It is possible to assess this type of preference as Akses's composing approach.

All these implications reveal that this one-part orchestral work has considerable content in terms of elements of traditional Turkish music. As a valuable work of the Modern/Contemporary Turkish Music repertoire, *Ballade* exemplifies how components of traditional Turkish music such as maqam, *usûl*, motif, and style can be positioned within a modern structure.

Reflecting this intensive use in the concert program notes will also enable this programmatic music to be understood more clearly by the audience.

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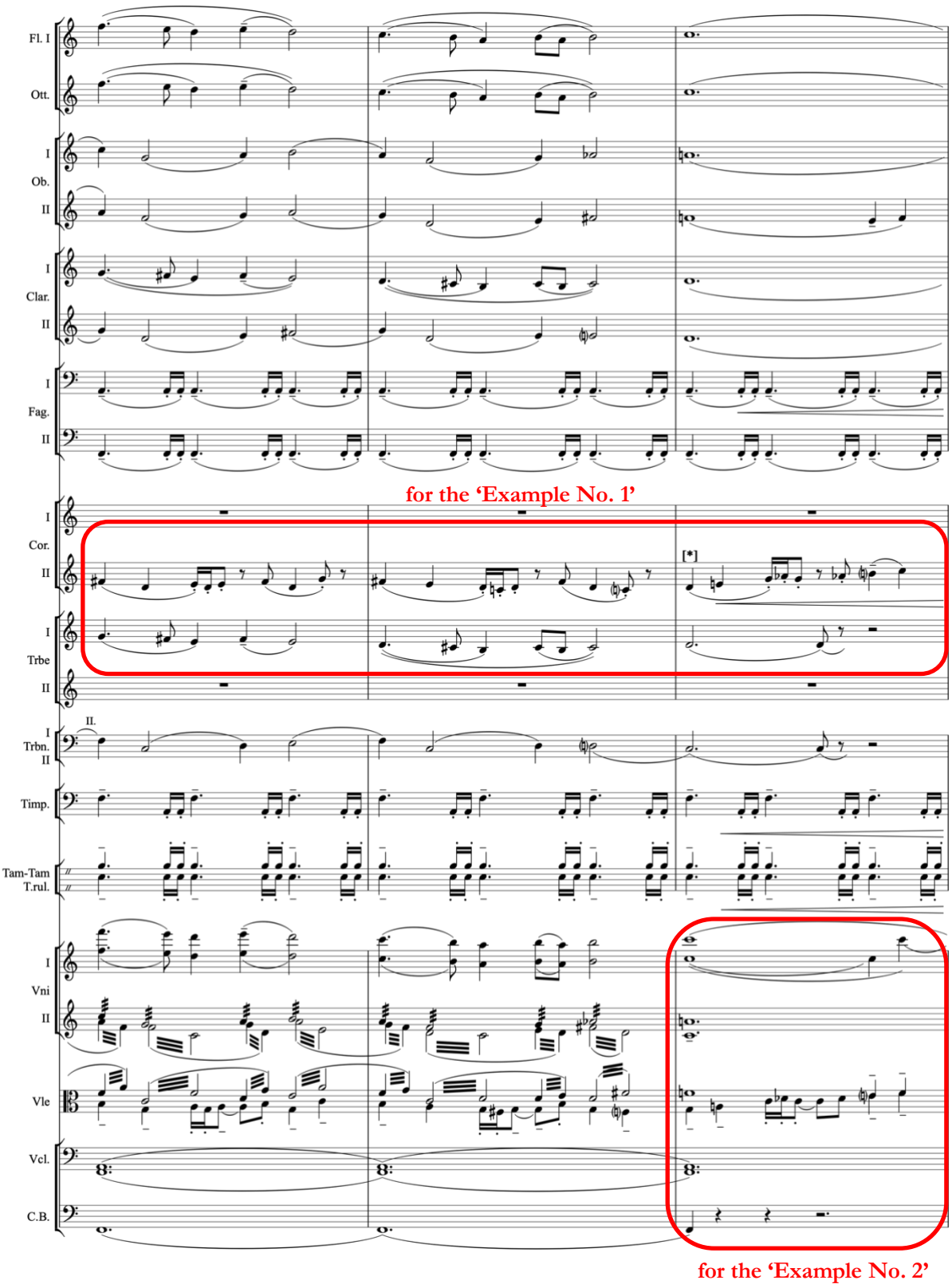
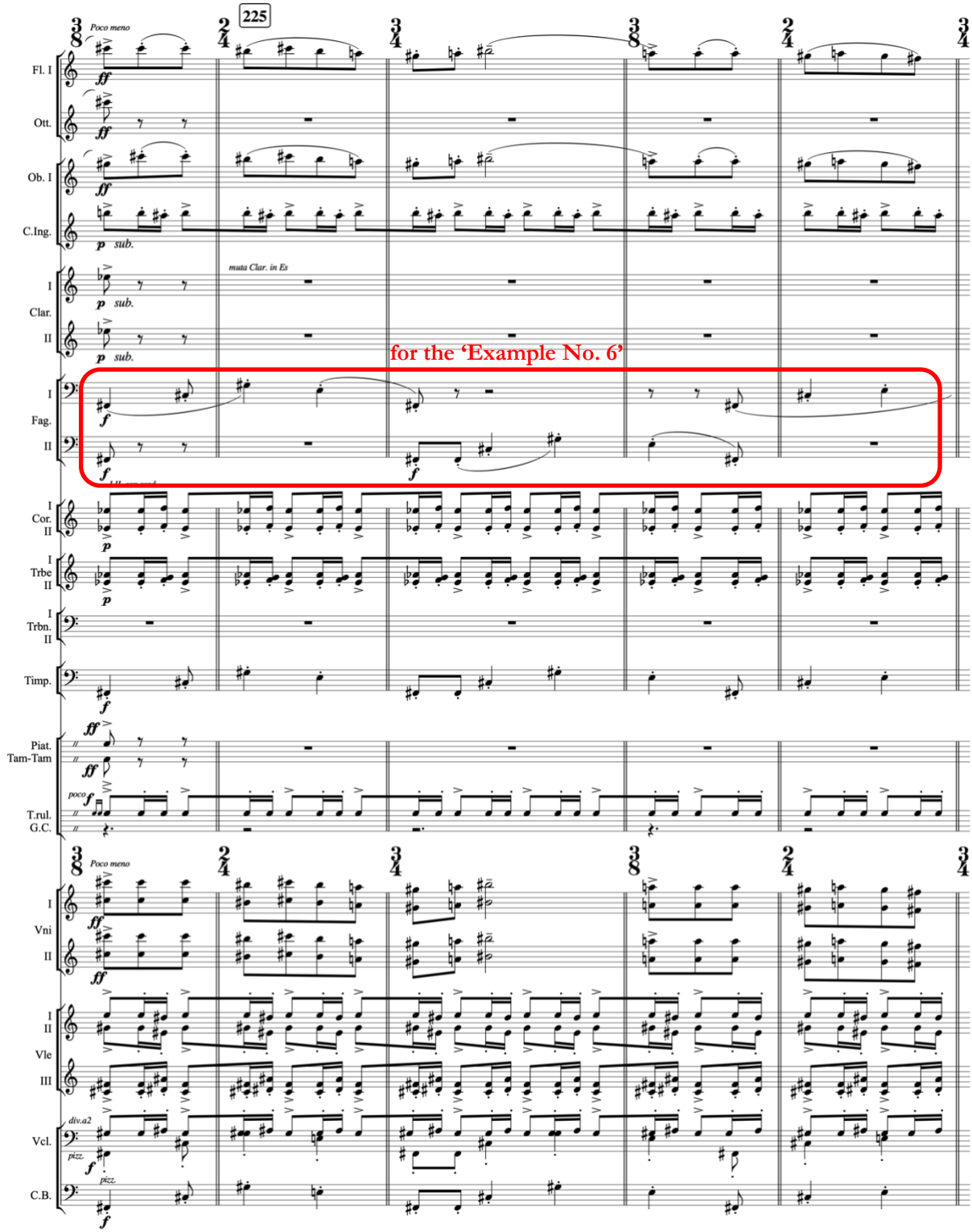
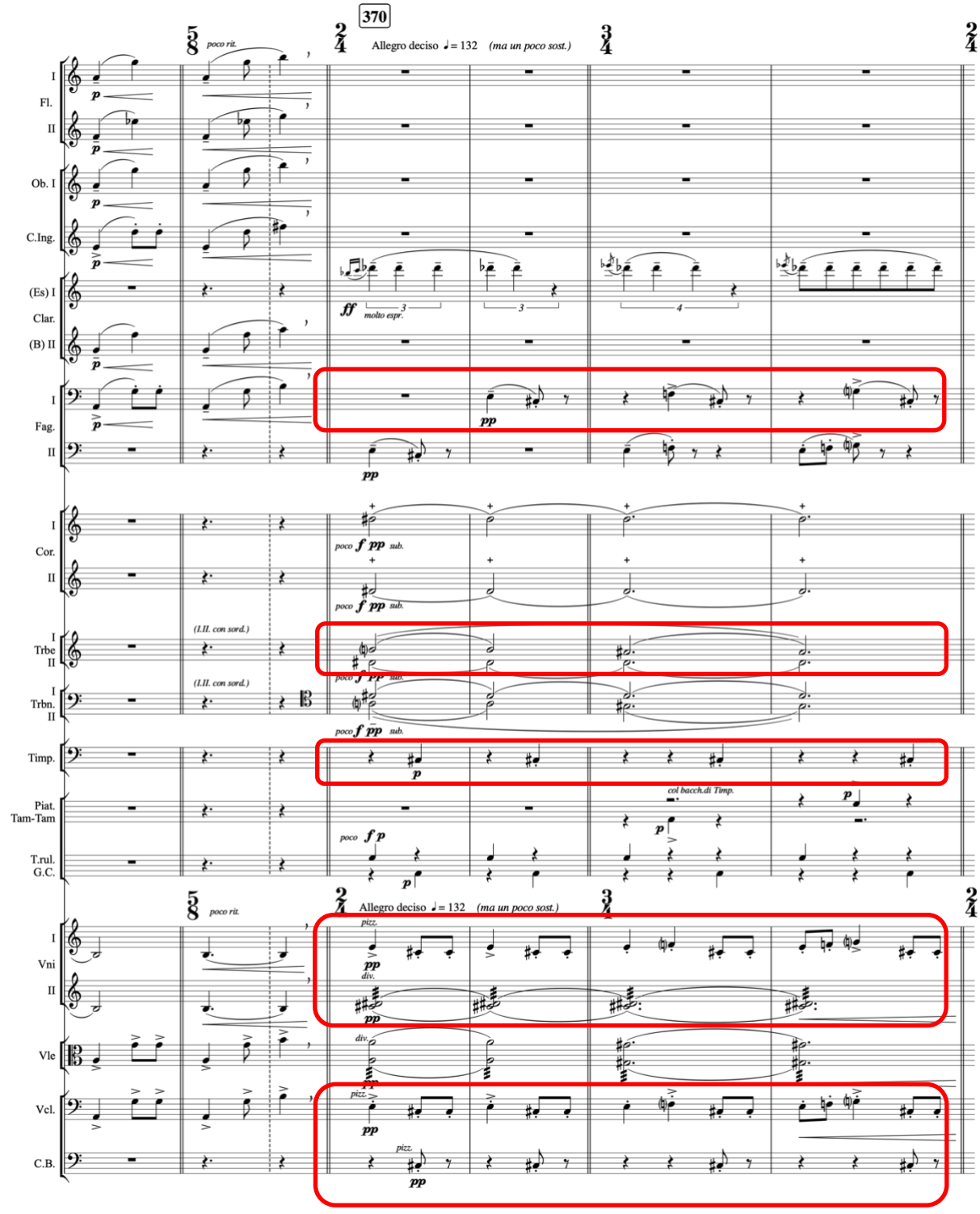
APPENDIX A: Akses, *Ballade*, mm.42-44 (Akses, 1971: 15)



APPENDIX B: Akses, *Ballade*, mm.224-228 (Akses, 1971: 57)



APPENDIX C: Akses, *Ballade*, mm. 368-373 (Akses, 1971: 89)



for the 'Example No. 7'

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Broken-Continuity in Saariaho's *Terra Memoria*

ABSTRACT
Terra Memoria is a musical piece that explores timbre, dynamic and texture, creating an unconventional formal design. Although discontinuity and interruption are experimented with to create a sense of unexpected development in the music's progress, there are various means by which Saariaho unifies the composition. Throughout the piece, she explores different musical styles, new musical expressions, and compositional techniques in her own unique way. The music shows threads of stylistic connection to conventional music of the past centuries, minimalist-like repetition, and electronic music. Vocal and operatic writing styles are also experimented with. The composition demonstrates Saariaho's challenge to traditional notions of form, giving her her own music vocabulary.

KEYWORDS
Kaija Saariaho
Terra Memoria
21st century music

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Kaija Saariaho (b. 1952) is a Finnish composer, whose compositions contain a very distinctive musical language and personal voice. Throughout the wide range of her output, she has had ways of organizing, building, and expressing her musical thoughts, carefully designing her music to achieve communication with her listeners. Saariaho's music is approachable, yet rooted in a modernistic tradition. Her interesting ideas and fundamental desire for musical design and unique voice can be heard in *Terra Memoria* (2009) for string orchestra. This study examines the musical approach in *Terra Memoria*, which demonstrates a diverse range of musical styles and ideas that not only display interesting musical sound effects, but also offer several challenging ways of compositional writing.

The paper will explore how Saariaho approaches and incorporates musical elements that shape the structure of the music, making her own contemporary musical language. The study also aims to reveal Saariaho's musical language as manifested in the creation of unique sound effects and colors through experimentation with a combination of traditional and contemporary musical techniques. Moreover, it is also worthwhile to explore what makes the piece unique, namely, her turning of vocal emotional expressions into an instrumental musical form, giving abstract imagery 'visual' effects, and making the music intriguing.

Much of the existing research focuses on the influence of computers and her development of electronic effects in writing her music. This can be read in the discussion by Katayoon Hodjati on Saariaho's *Laconisme de l'aile* (1982) and *NoaNoa* (1992) (Hodjati, 2013), and Dean Anderson on Saariaho's *Verblendungen* (1984) (Anderson, 2015), among many others. Howell, Hargreaves, and Rofe (2011: 178) also write that Saariaho's music "is highly continuous, acoustically-driven processes arising from her experience with spectral and computer-aided composition, often based around materials that are themselves notably fluid and continuous." There are also a number of studies addressing analytical discussions on the closer relationship between harmony and timbre in Saariaho's compositions. However, this study provides a different perspective on her instrumental music, exploring other musical possibilities in techniques and styles, through which Saariaho creates her own musical idioms and identity. Moreover, there has been little research of her works composed in the past two decades; rather, much of the research has focused on the works from the 1980s and 1990s. Thus, it is worth an

effort to explore and raise awareness of other possible aspects of her experimental composing styles in her later works, and thereby yield a deeper appreciation and understanding of her music.

My central approach involves a close inspection of obtainable scores and audio sources, taking every stylistic trait of the pieces into consideration for the study of Saariaho, and going through the available literature, such as scholarly books, theses, articles, reports and newspapers regarding the reception of her music. There are also several personal interviews and comments that are helpful in knowing the compositional approach and music perspective of Saariaho, as well as her approach to technology that leads her to incorporate electronic music. Websites and scholarly interviews, which discuss her music perspectives, and other scholarly works regarding Saariaho's instrumentals, are also consulted. This paper draws upon these textual and audio sources to explore what Saariaho has experimented with in her lesser-discussed works, and in particular, in *Terra Memoria*.

Background

Saariaho received a solid Western art music education at a young age. As a young composer, she listened to Bach on the radio, attended concerts in Helsinki, and purchased LPs as they became available (Howell, Hargreaves and Rofe, 2011: 5). "I don't think much of my relationship with musical traditions. It is obvious that I come from the tradition of Western art music. I have no reason to fight against the tradition," she said (Moisala, 2009: 73). Among the composers who have been important to Saariaho are Bach, Sibelius, Stravinsky, Debussy, Ravel, Ligeti, and Messiaen; nevertheless, Bach is the only composer who has consistently remained a favorite (Moisala, 2009: 76-77). Despite these influences, her interpretation of music demonstrates a different approach from her predecessors, which makes her music unique.

Although several of the above composers commonly experimented with timbre — Messian associating timbre with time, Schaeffer in his long career employing *musique concrète* (Murray, 2008), while Debussy's uses modes and non-traditional scales, etc — Saariaho's compositional technique demonstrates a different approach of using all kinds of timbre, sounds, and expressive elements of music as potential material for her work, on which I elaborate in the following analysis.

Throughout her output, the association with past material can be heard in many of her compositions; for instance, her *Frises* (2011), of which she claims: "my piece has four parts. I focused in each of them on the idea of one historical ostinato variation form, using as a starting point carillon, passacaglia, ground bass and chaconne." (Saariaho, 2012) She has also written genre music with titles that were commonly used in past centuries, such as *Nocturne* (1994), *Prelude* (2007) and *Serenatas* (2008). At times, one is reminded of Lisztian music in her *Prelude*. Nevertheless, Saariaho renews musical conventions with her own musical language, and the music is presented in a contemporary way, expanding our comprehension of those musical traditions. Such an aspect is seen in her *Terra Memoria*.

Like many other composers, Saariaho explores different musical styles, new musical expressions, and compositional techniques in her own way, without rigidly staying within one style. *Terra Memoria* shows the challenges in the composer's musical styles; there are threads of stylistic connection to conventional music of past centuries, minimalist-like repetition, and electronic music. Not only does Saariaho tend to explore ways, in which instruments can create effects similar to electronic music, but traditional musical idioms are also presented in a non-traditional way, demonstrating a contemporary compositional style and musical language of the composer. The composition also demonstrates other musical influences; Saariaho experiments with aspects that derive from vocal and operatic writing. One often encounters an abrupt shift in moods and emotions in different moments that shape the formal structure of the music.

The repeating sound patterns and various musical ideas in *Terra Memoria* are employed to assist in creating an unconventional formal design. Although the piece is minimalist in texture, the music is presented without repeated, mechanical sound, yet accumulates an inner dynamic, developing musical energy and direction. While melodic ideas are introduced, developed, and reoccurring, she challenges musical convention by having themes take a far less active role in assembling the entire structure of the music, than in the compositions of the past centuries.

Throughout the composition many musical activities occur. In her perspective, form is inseparable from her use of material. "The form is not a cake mold into which you pour your dough but, rather it directly relates to the material" (Moisala, 2009: 62). Indeed,

Saariaho has her own approach in musical styles and language that challenge both herself and her listeners. “If you want to make personal music, you have to deal with the form anew,” she said (Moisala, 2009: 88).

Moreover, one can perceive a range of richly expressive idioms and fascinating ideas in her music. Each of her compositions has its uniqueness, with a hidden Saariaho musical style in it. “Every piece of music must live its own life because each one is utterly its own. Of course, from one work to another, I might come up with similar solutions in form, given that it’s my style” (Mao-Takacs, 2014).

Saariaho emphasizes sound color over pitch and has always been interested in experimenting with the interaction of timbre, dynamic and texture. They are essential in *Terra Memoria*, in terms of shaping the structure and creating moment-to-moment sound effects in the music. To Saariaho, music is in close relation to organized sound. “For me one possible – even if purely technical – definition can be ‘organized sound’. I like this definition because from my viewpoint all sounds can be part of music” (Saariaho, 2011). Other than the experimentation with the timbral technique, such as glissandi and many others, the exploration of different overtone sonorities on string instruments is also included. Various ideas and strategies are also employed to distract the continuous sonorous flow of the music. One encounters an abrupt change of texture as well. Clear separation of different musical events is established. The music exhibits a tendency of shaping musical structure as a vehicle for expression.

In all of Saariaho’s works musical material finds its own form. In *Terra Memoria* every musical moment is separated by a significant music event and is distinct in material, expression, and gesture. Discontinuity and interruption are experimented with, creating not only an absence of expectation of development as the music progresses, but also giving a sense that nothing really lasts, and everything is temporary. This has, in turn, created various self-contained moments of sound, with each moment often projected as a particular ‘characteristic’ in the music, which is reminiscent of the concept of ‘moment form’, developed by Karlheinz Stockhausen. Nevertheless, although it is designed with similar musical gestures and elements that occur within a self-contained moment, there are some familiar gestures that can be traced and are placed throughout the composition.

Indeed, despite contradicting musical elements and contrasting ideas heard throughout the music, various ways are sought to unify the composition, forming the relationship between the moment and the whole, as a musical quality for the entire piece. This has led to the composition having to be perceived as a cohesive whole, a unified work, rather than as moments of disruptions. This demonstrates how Saariaho constructs an interesting musical structure in her *Terra Memoria*, as well as her challenge to traditional notions of form, giving her own music vocabulary.

But this development has not always been easy. As a composer, Saariaho says, "throughout my entire life I've had to prove that I am, above all, a composer, and one who is as serious and as smart as any of my male colleagues" (Mao-Takacs, 2014). Gender bias was apparent during her study at the Sibelius Academy in Helsinki in the early 1970s. "There were some teachers who actually would not teach me, because they thought it was a waste of time. 'You're a pretty girl, what are you doing here?' That sort of thing… My femininity was so apparent…" (Service, 2012).

Despite her treading a difficult path of becoming a composer in her early years, today Saariaho has received world-wide recognition, and her music has been performed internationally. Throughout her composing career, her compositions have been commissioned by the New York Philharmonic, BBC Symphony Orchestra, Los Angeles Symphony, Salzburg Festival, and many others.

The Beginning of *Terra Memoria*

After composing her string quartet *Nymphéa* (1987), there was a pause of almost 20 years before Saariaho returned to the genre, writing her *Terra Memoria* (2006). Saariaho herself has remarked that "in writing for a string quartet she feels closest to the intimate core of musical expression" (Korhonen, 2016). She also claims that one of her interests in string instruments is "the enormous possibility in sound" (Saariaho, 2004).

Most of Saariaho's music is given titles that help define the necessary musical material used in her compositions. Her pieces often reflect some extra-musical sources of inspiration. When it comes to *Terra Memoria*, she says that "the title of the work has a twofold reference: earth (terra) and memory (memoria). The 'earth' aspect has to do with

the material of the work, and the 'memory' aspect has to do with how this material is processed.

The theme of love and death is important to Saariaho and has been explored in several of her compositions, such as her *Oltra mar* (1999) for chorus and orchestra, operas *L'Amour de loin* (2000), *Adriana Mater* (2005), and many others. The work *Terra Memoria* is dedicated 'to those departed', and she further speaks of the work as thinking about "people who have departed, whose lives have ended. Their lives are complete and perfect: nothing more will be added to them. On the other hand, they live on in our memories, which can change even years after the deaths of the people remembered" (Korhonen, 2016).

Saariaho often rescores and rearranges her early compositions, turning them into new and different versions of ensemble and orchestra works. For instance, her violin concerto *Graal théâtre* (1994) was rescored for a chamber ensemble in 1997. Her *Quatre Instants* (2002) was originally written for soprano and piano, but she also wrote a second version for soprano and orchestra. Other rescored compositions include *From the Grammar of Dreams* (1988), *Miranda's Lament* (1997), *La Passion de Simone* (2006), as well as others. She rescored her string quartet *Terra Memoria* (2006) for string orchestra in 2009 for Betty Freeman (1921-2009), an influential music patron who liked contemporary music and had commissioned pieces written by composers, such as Pierre Boulez, John Cage, Harrison Birtwistle, Steve Reich, and many others (Tommasini, 2009). Betty Freeman not only commissioned Saariaho's opera, *L'amour de Loin*, but also paid for the entire production of its premiere. In the program notes for *Song for Betty* (2001), Saariaho wrote that she had arranged a vocal work taken from the last movement of her opera *L'amour de Loin* (2000), to celebrate Freeman's 80th birthday (Saariaho, 2001).

Terra Memoria

Unlike her other compositions where there are separate movements and wherein each movement contains a musical trait that is different from the other movements, *Terra Memoria* consists of one movement, with a series of disconnected events throughout the composition. The piece can be divided into two large sections, with the first beginning from measures 1 to 141, and the second — from measures 142 to 336.

The musical characteristics of the first section are designed as both complementary to in contrast with the second section, which is an interesting feature of the piece. Each section contains several subsections. Similarly, the two sections can also be treated as two big moments, and within the bigger moment, there are smaller self-contained moments. Different distinctive ideas and presentations are offered in both sections, giving them unique sound colors. The first section ends with the music gradually rising to a noticeable, extremely high, repeated harmonic pitch in *pianississimo* at measure 141. To assure that she catches the attention of her listeners, Saariaho purposely calls for a significant moment; the first occurrence of the extreme high pitch in the music ends the section and dissociates the material from the following section. No apparent climax occurs throughout the composition. No musical elements presented within a moment are more important than other moments; each moment catches attention in its own way. Nevertheless, structural balance is achieved through contrasting ideas, creating a complete whole to the music.

Contrasts occur throughout *Terra Memoria*. Saariaho exhibits a non-traditional way of opening: the music does not provide an apparent formal opening; instead, a sustaining melodic theme is employed as if it were already in progress for some time. Saariaho provides an instruction in the score, indicating: "as if the music had been continuing already for a while." To project the effect, she begins the music with dynamic *pianississimo* (pppp). Such a music opening perhaps recalls and captures her experience of listening to the radio at a young age: "We had an old-fashioned radio at home, so I listened to music on that" (Service, 2012). On the other hand, towards the end, the music gradually ascends to a high harmonic pitch, and concludes on a down beat in violin 1. The dynamic also gently fades away to *pianississimo* in all instrumental parts, leaving a measure of silence to end the entire composition. This not only provides a complete ending to the music, but also creates a contrast between the opening and ending.

Saariaho's fade-out ending (with the "*diminuendo al niente*" symbol) also creates a similar effect that recalls the musical trend that is often heard in radio stations, where the endings of pop songs are electronically controlled, creating a gradual fade-out effect. She seeks a new way of experimenting with electronic writing in *Terra Memoria*. The use of "*diminuendo al niente*" is also skillfully explored in the electronic parts of her instrumental compositions, such as *Petals* (1988) for cello and electronics, *Folia* (1995)

for double bass and electronics, and *Frises* for violin and electronics, among others. Through the use of electronic tools Saariaho is able to control and give the précised sound effect she wants.

For years Saariaho has experimented with technology and electronics pieces. Her work with computers broadened and deepened her methods and music. She began working at IRCAM in the 1980s, thus the influences of electronic music writing and sound colors are evident in her acoustic music. Indeed, not only does she mix live instruments and electronics in works, such as *Trois Rivieres* (1994) for percussion quartet and electronics, *Vent Nocturne* (2006) for viola and electronics, she has also written electro-acoustic music, such as *Stilleben* (1988) and *Jardin Secret I* (1985). Moreover, since the early stages of her career, Saariaho not only composed tape music, but also combined tape parts with acoustic ensembles or works for solo instruments. In her *Verblendungen* (1982-84) she combines computer-produced and instrumental sounds. The tape material of *Verblendungen* consists of two violin sounds, *sforzato* bowing and *pizzicato*, prepared in the digital studio of the Groupe de Recherches Musicales (GRM) (Nieminen, 1997). In *Jardin Secret II* (1986) the harpsichord is accompanied by a tape background. Indeed, through her experience of working with tape and electronic equipment to produce electronic sound colors in many of her compositions, it is not surprising that Saariaho experiments with the idea of creating sound quality that is similar to electronic sound in her orchestra and instrumental compositions.

On the other hand, it is also possible that Saariaho may have been influenced by the idea of 'moment form' design to begin her piece. This is a compositional exploration and idea that demonstrates unique approaches in musical structure, which is found in modernist music. Jonathan D. Kramer provides an explanation of such a distinct compositional fashion in relation to the beginning and ending of a composition:

> "… a true moment-form composition will not 'begin' and 'end' in a traditional sense, but rather simply 'start' and 'stop': it will 'give the impression of starting in the midst of previously unheard music, and… break off without reaching any structural cadence, as if the music goes on, inaudibly, in some other space or time after the close of the performance'" (Kramer, 1978: 180; as cited in Hutchinson, 2016: 107).

Contrast and contradicting ideas are introduced between the two main sections and self-contained moments. Saariaho prepares the occurrence of the musical events that are unpredictable, and the textural activity can also sometimes come to a sudden halt, after which something new begins. A variety of means and ideas play a crucial role in the musical texture. For instance, continuous flow is emphasized in the first section, whereas disruption occurs more often in the second section. The music is linear in design, which is especially obvious in the first section. Nevertheless, there are moments of chordal passages, including double-stops playing, in the second section, which creates a contrast in music texture and timbre between the first and second sections. It must, however, be added that the two sections do not compete with one another; instead, when taken all together, they become a meeting point, where both sections come to complement each other. The handling of contrasting ideas demonstrates Saariaho's musical thinking in terms of structure in *Terra Memoria*.

Similarly, within the first section, there are also moments where contrasts occur between more rhythmic activity and less motion. A clear example where the juxtaposition between thick texture with more rhythmic activity throughout can be heard at rehearsal 7 and in the following event, beginning at rehearsal 8, which contains less motion and thin texture. Saariaho carefully designs each moment and often emphasizes its rhythmic patterns, musical characteristics, and instrumental parts, separating it from other moments.

> "My music does not necessarily lead to developmental progression in the same sense that it would in romantic music, although my music does have a sense of direction which is created by using unconventional methods. The musical dynamics arise from the directions, which can be heard so that the audience perceives the direction in which the music is moving" (Moisala, 2009: 74).

Indeed, Saariaho does not rely on traditional functional harmony to provide forward moving motion; instead, different non-traditional ways of handling music are used to create goal-direction in her work.

In *Terra Memoria*, typical of Saariaho's musical style, layers of different perpetual repeating pitch and a group of two or more repeating pitch patterns can be heard, which is reminiscent of the character of minimalist music. Nevertheless, it is fully integrated into her own compositional language. She uses minimalist techniques to create slow

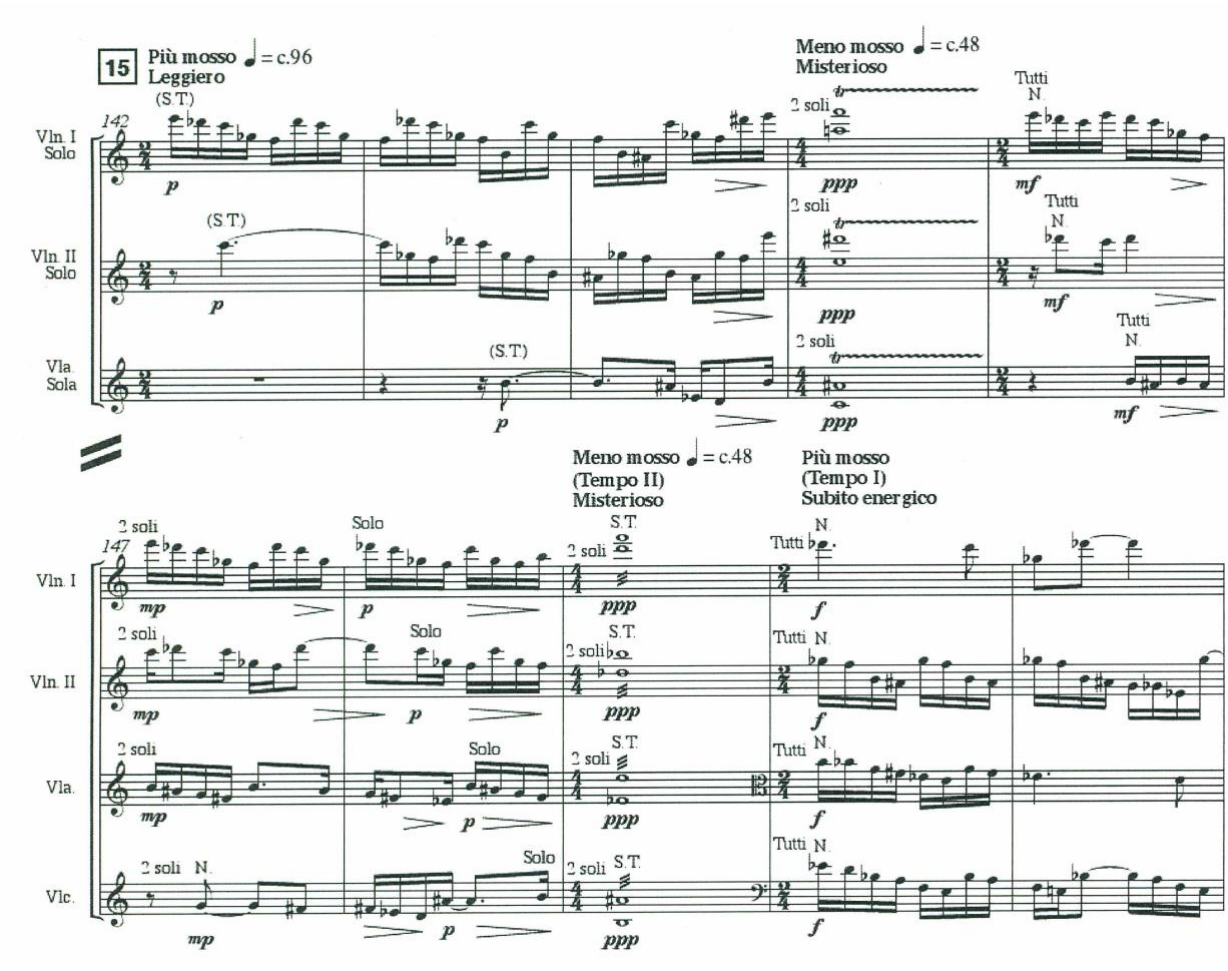
transitions within a moment. No clear structural downbeat is audible within the different textural layers, though what is presented here does not contribute to a sense of unbroken continuity, felt throughout the composition like in a conventional, early type of minimalist music. Each minimalist texture in a moment has its own independent representative melodic gestures and characteristics, which become the primary focus of attention. This has also allowed Saariaho to create a clear boundary between different stylistic moments in her music. Moreover, different minimalist textures incorporate emotional shifts in separate moments, creating distinctive sound colors and generating a sense of forward motion. Unlike the stereotype of minimalist music, the different continuously repeating pitch patterns by Saariaho offer teleological aims and a forward-moving momentum from moment to moment in the composition.

The incorporation of various contrasting timbres achieves a palette of sound colors. Traditionally, trills are often treated as a type of ornament in music and are prevalent in Baroque music. Composers also explored vocal trills in their music; for example, Beethoven experimented with vocal trills in the vocal parts of *Fidelio*, the *Missa solemnis*, and the Ninth Symphony (Newman, 1976: 440). In *Terra Memoria* trills saturate the first section in a soft dynamic with different functional roles and sound colors. A trill-*sul ponticello* alternating with trill-*sul tasto* playing, and trills in harmonic sound, are often presented in the violin and viola staves. They can occur separately and simultaneously, adding a special timbral quality to Saariaho's music passages.

In addition, there are short distinctive moments that contain one to three measures, where all instruments simultaneously play trills with or without harmonic sounds, leading to a break. Not only do trills indicate the end of a music event, but also create a musical moment of sound color that differs from its previous musical passage within the section. The music is continuously eventful within each moment. There are also moments where trills continually occur one after another in different instrumental parts, giving a unique characteristic and sound color to the musical passage. Saariaho applies all possible means to enliven and enrich the tradition.

On the other hand, a whole tone in the soft dynamic tremolo also plays a role in shaping the structure of the composition, which not only gives a texture different from that of the first section, but also characterizes a musical feature within the moment. This musical

passage marks the opening of the second section. Saariaho often introduces a new musical form and ideas in different moments with an abrupt change of texture. Here, the sudden change of linear melodic line to a chord-like stack with all instrumental parts playing tremolo also creates contrast within a moment in the second section (Example 1).



Example 1. *Terra Memoria, measures 142-151*

Another significant musical feature in Saariaho's piece includes obvious dynamic contrast, which not only differentiates between the two sections, but also between moments. Saariaho organizes the first section emphasizing softness, and the second section, loudness. Unpredictable and sudden dynamic change, from forte to pianissimo, appears, indicating the change in musical events. Saariaho challenges musical hearing in a different way. All kinds of timbre, sounds, and expressive elements of music are potential material for her work.

Saariaho's music is rich in challenging playing techniques, not in the sense of traditional virtuoso techniques, but in characteristic sonorites, to produce the richness of sound colors. In *Terra Memoria*, short *glissandi* with *sforzando* saturate the entire piece. There are other means of employing *glissandi* for a different quality of sound. It occurs while shifting and alternating between different sonic effects, such as *sul ponticello* (very close to the bridge) and normal, or *sul tasto* (over the fingerboard, far from the bridge) and normal, creating technical complexity. Her approach to *glissandi* techniques is not only used in instrumental works, but also vocal pieces, such as the soprano part of *Mirage* (2007), *Emilie* (rev. 2013), and others, in which she explores expanded vocal singing techniques and sound colors.

One also encounters musical events, in which Saariaho alternates between ordinary tones and harmonics, as well as natural and artificial harmonics, employed to enrich the texture, create different sonic effects, and to indicate a break in the music. There are also self-contained moments, when symbols are given to indicate the increase of bow pressure to produce a scratchy tone, changing the sound into a loud 'rough noise', as if to create an electronic-like sound color, which is particularly obvious in the second section. With such handling, Saariaho has used an alternative way to manipulate instrumental timbre, instead of employing conventions, such as change in dynamics or pitch, to create a contrast between 'sound' and 'noise'. In her music Saariaho actively seeks out ways to reorganize sound and expand the sonoric range of traditional instruments, creating a contemporary hearing experience.

Being a creative composer, Saariaho has her own ways of experimenting with sound, creating various moments in the music. Rests and pauses are used to create breaks in the second section, giving not only discontinuity and interruption in the music, but also introducing new musical ideas and musical character after the break. They are placed, at times, irregularly in the music within the moment, giving an abrupt pause in the flow of the music. On the other hand, the use of breaks and pauses provide a characteristic of a musical event that is distinctive from its previous and later passages within the section, particularly in the second section. Other than using the rests, a measure break also occurs after a short descent *glissando* that slides to a close grace note, creating a distinctive interruption to the flow of the music within the moment. This is especially obvious in the second section.

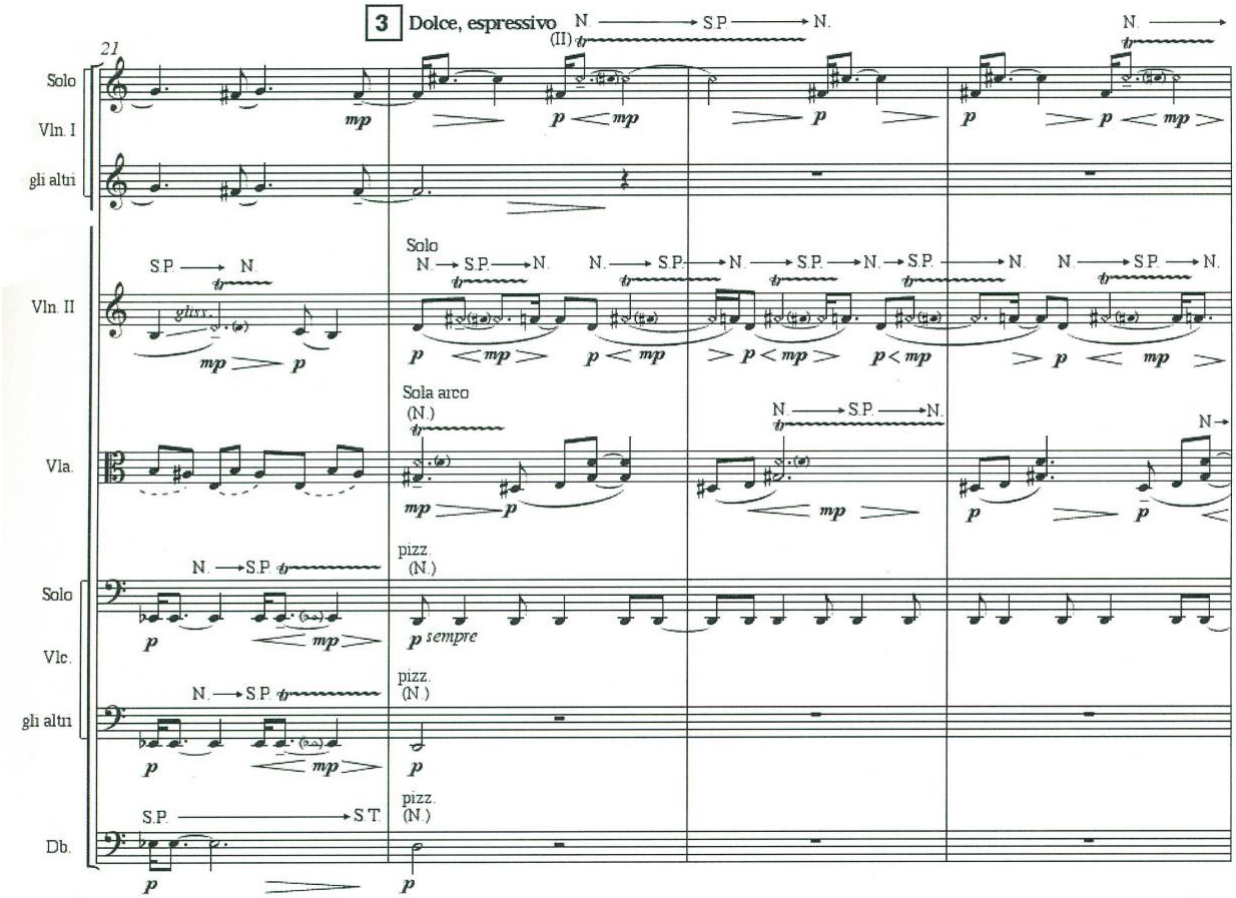
Each self-contained moment often, though not always, emphasizes a melodic theme. For instance, the opening theme begins with a long sustaining, static pitch in violin 1 playing D#4 (based on middle C as C4), slowly developing over a period of six measures. Beneath it, there is rapid rhythmic activity. Nevertheless, there is also a significant moment, when roles among different instrumental soloists present a melody in fragmentation. For instance, in an individual moment of an event, the flow of a melodic line is highlighted through the manner of 'hanging-over' from one solo part to another, in different instruments, creating the flow and forward momentum of the music. Nothing in the music presentation is easily predictable. Other musical features include different musical gestures, rhythmic patterns, and note-values that simultaneously occur in different instrumental parts to produce independent, distinct, polyrhythmic sound and gestural layers. At times, melodic line material is explored for its further development, creating familiarity within a moment of musical passage.

It is essential that the work be designed to deal with an incoherent and a coherent musical experience. Despite the employment of contrasting ideas, unity occurs in the composition, when the music brings back the meditative opening, sustaining the pitch of D#4 towards the end of the piece, and giving the composition a complete ending. Moreover, Saariaho holds together the entire piece by recalling a brief return of the first section's opening musical gesture, material, and the '*misterioso*' mood at rehearsal 32 in the second section. Similarly, the return of the opening material shows Saariaho carefully balancing the two large sections. Dynamically speaking, the music begins and ends with *pppp, which* also provides the music with a dynamic balance.

In *Terra Memoria* there are recurrences of stylistic writing and gestures, placed between the two sections, instead of the material merely heard in some moments in one section. For instance, each instrumental part enters half a beat later in a similar musical characteristic in either an ascending or descending motion and pitch register. They are often presented with loud dynamics, catching the attention of listeners. Although not always meant as an imitation, such musical fashion reminds one of the Baroque musical style, which is a way, in which Saariaho freely introduces a traditional musical style. Such musical writing can be heard in her compositions such as *Nymphea Reflection* (2001), *Mirage* (2007), *Maan Varjot* (2013) for organ and orchestra, and others. Similarly, there are also imitative textures that are reminiscent of György Ligeti's compositional style

found in his *Atmosphères* (1961), *Requiem* (1963-65), and *Drei Phantasien* (1982), in which a melodic line gradually reduces the notes presented in different instrumental parts.

On the other hand, in *Terra Memoria* there are also times when familiar gestures are not noticeably presented in various moments. For instance, a leap of a seventh, which is preceded by a rising/descending semitone, is presented in different sound colors and dynamics that range from *pianissimo* to *mezzo forte*. An example can be heard beginning at measure 22 in the viola (Example 2).



Example 2. *Terra Memoria, measures 21-24*

At times, a short, loud, dynamic, free imitative-like gesture that occurs in all parts ends with repeated pitches, gradually decrescendoing in dynamic and creating a delayed echo effect, similar to that produced by electronic digital processing. A clear example can be heard at measure 40 where a free imitation-like texture begins in the double bass and the

cello, followed by other instrumental parts, and ends with repeated pitches in decrescendo in violin 1. In her composition styles, musical progression often builds on changes in the sound color and ideas, which create new surprises and freshness in hearing her music.

Saariaho's orchestration and instrumentation are often creatively planned to enhance and portray human psychological tensions and emotions, adding a dramatic effect to her compositions, particularly in her operatic works. It can be said that "blending acoustic and electronic sounds, she [Saariaho] achieves an elevation of text that enhances its meaning musically and emotionally, rather than literally" (Wahl, 2017: 21). Such a musical technique is also employed in her instrumental pieces.

Indeed, although without a given text, in *Terra Memoria*, Saariaho is able to provide accuracy and senses of interpretation when her music is performed and heard. She allows performers and audiences to get closer to and deeper into the music. "In contemporary music," she explains, "interpretation is often very unemotional, and I've always wanted to do the opposite, to reawaken the interpreters by inviting their feelings and sensations; that's why I use words like misterioso, dolce, con violenza, and so on" (Mao-Takacs, 2014). With more flexibility in playing her music, Saariaho also allows some freedom in interpreting the tempo and expression. "It is important for me that the musicians can express themselves through my music, in that sense I feel I'm a 'romantic' composer," wrote Saariaho (Saariaho, 2010).

In *Terra Memoria,* different, contrasting expressions, such as *misterioso*, *dolce*, *calmo*, *energico*, *intenso,* and other expressive qualities are constantly changing, serving to project separate moods throughout the composition and to create distinctive moments. For instance, an individualistic and distinct moment occurs when the instruction '*Furioso*' is expressed in an instrumentally idiomatic way, bringing the instruments together with sound colors such as *glissandi*, *sforzato* (sffz), *sul ponticello,* and accented pitches with *fortississimo*, giving a forceful energetic quality. There is also a moment, wherein the music is constantly presented with drastic change between instructions '*expressivo*' (presented with melodies) and 'delicate' (presented only with trills), creating not only conflict and rhythmic disruption in the melodic lines, but also differentiating the current moment of musical character from its early and following moments. Saariaho's search for

new timbres and expressions has provided her with the tools to create a new structure for her music.

On the other hand, what is designed here may also be seen as a collection of emotions, which are presented by different individual moments, and taken together, create a unified whole. Moreover, in such writing, it is as if Saariaho is depicting different stages of emotions found in opera and song, and every expressive musical moment reflects an act that captures the emotion of an imaginary 'role' or 'character'. She is creating the 'visual' through the senses and an abstract expressivity. Stresses and accents are placed in some moments, emphasizing and expressing the moods indicated in the score. They often occur in moods such as '*molto energico'*, '*feroce',* and many others.

Saariaho's expression of a wide range of moods and emotions perhaps draws from her vocal and operatic writing; the vocal lines in her vocal works are full of human emotion. Throughout her compositional career she has written operas and theatres. It is particularly evident during the first decade of the twenty-first century, when she composed her *Terra Memoria*, as well as *L'Amour de loin* (2002), *Adriana Mater* (2005), and *Emilie* (2008). Moreover, during her early career, she showed affection for voice and had written many vocal pieces.

In addition, in *Terra Memoria,* instructions such as vibrato alternating with senza vibrato, which are commonly found in her vocal works, are provided in a violin melodic line, beginning at measure 10, providing a lyrical melody, as if she was writing for the voice. It is evident that Saariaho favors the use of vibratos in her vocal genre. She experiments with different symbols and desired types of vibratos, such as vibrato ordinary, molto vibrato, slow vibrato, 'from rapid vibrato to slow vibrato,' and many others, to reach the sound effects she wants, and as specific instructions for singers to explore a wide range of vocal timbre and to reflect the text in several ways.

Summary

This study has examined Saariaho's musical approach in *Terra Memoria,* which highlights Saariaho's unique musical language and ideas in composing. Such an analysis reveals how Saariaho incorporates various elements, which shape the structure of the music. Moreover, she draws upon possibilities in techniques and styles that differ from her

predecessors and contemporaries. She uses all kinds of timbres, sounds, and expressive elements of music as potential material for her work, creating her own musical idioms, most evident in her later compositions.

Terra Memoria demonstrates her ability to create different approaches in sonic effects, expanding her sound world in a small string orchestra and giving freshness to the music. The entire work also emphasizes contrast, development, and dynamism, as a means of developing her music. Saariaho constantly seeks out new expressions to be included in her musical language. Not only is the sound effect carefully planned, but each sectional control is also crucial in designing the piece. It is clear from her compositional writings that she approaches a broader style of music. Other than the sonic effects, some musical techniques at times display an influence from her electronic research. Not only does she show that disparate musical ideas can be presented and joined together in many ways, she has also turned the vocal emotional expressions into an instrumental musical form. Different expressive musical emotions are created, giving rise to abstract, 'visual' effects imagery.

The music has a sense of direction, which is created by using unconventional methods. Unlike stereotypical minimalist perceptual repetition, Saariaho's repeating pitch and rhythmic patterns create dramatic energy and forward-moving momentum. Nevertheless, the repeating patterns never remain constant throughout the entire piece; they often occur within a moment and differentiate one moment with particular musical characteristics from another, attempting to create structural divisions within a section. This has also led to hearing the development of the music with a sense of not knowing what the next musical event will be. Similarly, there are other ways of creating separate and distinctive moments in the composition. Other than employing different sound timbres, such as trills and tremoli to play an essential role forming different individual moments, breaks between moments are also heard through the use of rests and pauses. Contrast in dynamic and texture also serve to differentiate between moments.

Saariaho's freedom in associating with past compositional techniques provides her with an individual way of approaching traditional styles. She introduces melodies in her music, yet the melodic lines are no longer to be seen as the most important aspect of the composition, as it might be in conventionally theme-driven compositions. Traditional

musical idioms are not presented according to the expectations of convention. Various musical styles are brought together into the piece, giving uniqueness to her music. Indeed, the experimentation with different kinds of music allows for the possibility of multiple moments to occur in her composition.

The material varies greatly between the two sections, creating distinctive characters of the piece. The music is designed to allow more variety in character and style in each moment. Although each moment retains its own distinct characteristic, a very subtle balance is achieved, and a sense of cohesion is palpable. Some familiar musical gestures are recalled in different moments. Similarly, unifying techniques are employed, allowing each individual moment to be understood as part of a wider whole. The composition offers a rather different perspective on the 'moment' design. The returning of the opening material at the end of the composition projects the typical style of a traditional closing. Indeed, disruption and coherence are displayed, giving a new way of creating musical unity. Saariaho's musical language shows a combination of the conventional and the innovative, that is, familiarity and novelty. Her creative search for a new palette of sounds directs her musical path and keeps her faithful to her own musical idiom. *Terra Memoria* demonstrates distinct compositional approaches by Saariaho and also provides a different type of listening experience.

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Igbo Popular Music: A Historical and Sociological Discourse with the Intent of Redefining Its Musical Typologies Since 1960

ABSTRACT
In Nigeria, music making has been the most dynamic and evolving process, involving all forms of musical genres - traditional, religious and popular. Music does have a significant cultural and sociological role, especially among its many ethnic groups, whereby it is employed in every facet of their socio-cultural existence, from childhood to adulthood respectively. This study examines the Igbo popular musical genre in Nigeria through its creative forms (highlife and other hybridized forms), exhibited within the period from 1960 up to the present. The main objective of this study is to capture all musical typologies within the period stipulated and tag them, using socio-cultural parameters, such as language, age, group philosophy, musical form, etc. It adopted descriptive and socio-musicological approaches in evaluating the musical trends through periodized format and also using the socio tagging system as its conceptual framework. The following musical typologies (*Égwú Nñùtá, Égwú Ìkwọkìlìkwọ, Ēgwū Ọgbàrà-ọ̄fūù,* and *Égwú A gwàrà ọgwa*) were, however, discovered and tagged appropriately in the course of the study for easy reference, recognition, and for ethnic identity.

KEYWORDS
Igbo popular music
Typologies
Tagging
Periodized
Hybridized

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Introduction

Popular music is an extension of several musical typologies, which could be indigenous or acculturated, incorporating both local and foreign elements. As cities or urban centres began to develop in Nigeria (especially in the pre-colonial and post-colonial eras), different musical styles were advanced by ethnic groups through their various representatives in the urban centres. Some of these musicians had been exposed to other cultures (Western, Islamic, and others) and this greatly influenced their music. Commenting on the acculturation of Nigerian popular music, Obidike remarks that:

> "… contact with foreign musical cultures during the nineteenth and first half of the twentieth century resulted in influences and counter influences, which created a big shift in the musical practices of most African peoples in terms of typologies, structures and performance practices" (2012:187).

Contemporary music of the Igbo people in Nigeria is subdivided into four (4) distinct categories: traditional music (*égwú ọdi-n'àlà*), church music (*égwú ndi-úkà*), art music (*égwú ēdèrèdé*), and popular music (*égwú ná-ewù-ewù*). Within the context of this paper, Igbo popular music is discussed from the linguistic perspective (that is, 'Igbo' as a language) and secondly, the word 'Igbo' signifying an ethnic identity, race or people (Nwoye 2011: 305). Igbo popular music and its musicians represent the ethnic stock of people who are indigenes of the South-east and parts of the South-south geopolitical zones of Nigeria consisting of Abia, Anambra, Ebonyi, Enugu, Imo and some parts of Delta, Edo and Rivers States**.** However, this study focuses on Igbo popular music as expressed within the highlife genre (just like other ethnic-based highlife forms in Nigeria, such as Yoruba, Edo, Efik, Isoko, etc), through a historical and sociological analysis of the evolution of the music genre from past to present (1960 to date). According to Emielu (2011), Igbo highlife is a product of an intersection of local and global socio-cultural and socio-musical perspectives.

It has been established through historical analysis that the popular music scene in Nigeria evolved through three (3) distinctive musical eras or periods, which propagated musical styles derived from different cultures (African, Caribbean, European, and American). The first of the musical eras was the period during which highlife music evolved (Omibiyi-Obidike, 2012; Vidal, 2012; Oikelome 2012), which was around 1940, the second was in

the mid-sixties when highlife music was declining and popular musicians (especially around the western region) searched and discovered other musical forms or styles that appealed to their audience - musical styles such as soul, jazz, and pop music (Obidike, 2012). Lastly, during the millennium era when Nigerian artistes (especially the younger generation) developed what is presently known as 'Naija Music' (Adeola 2001; Olusoji, 2011), a synthesis of diverse musical forms or styles (hip-hop, rap, dance hall, raga, soukous, etc) creatively fused and blended with local elements such as language (code switching) and instrumentation. They came up with hybrids such as Hip-life (fusion of highlife and hip-hop), Igbo rap, and various remixes of old tunes (Olusoji, 2011). From these three (3) musical periods, the one that evolved an Igbo musical typology was the highlife music (1940) which gave birth to *'Ìkwọ́kìlìkwọ́'* music, a version of Igbo highlife tagged 'Igbo native blues'. Other musical periods, such as the *soul-pop* era (1970) and *naija music* era (2000), appeared to lack the identifiable musical typologies that are widely known and attributable to contemporary Igbo popular music. The foregoing is best illustrated in the diagram below:

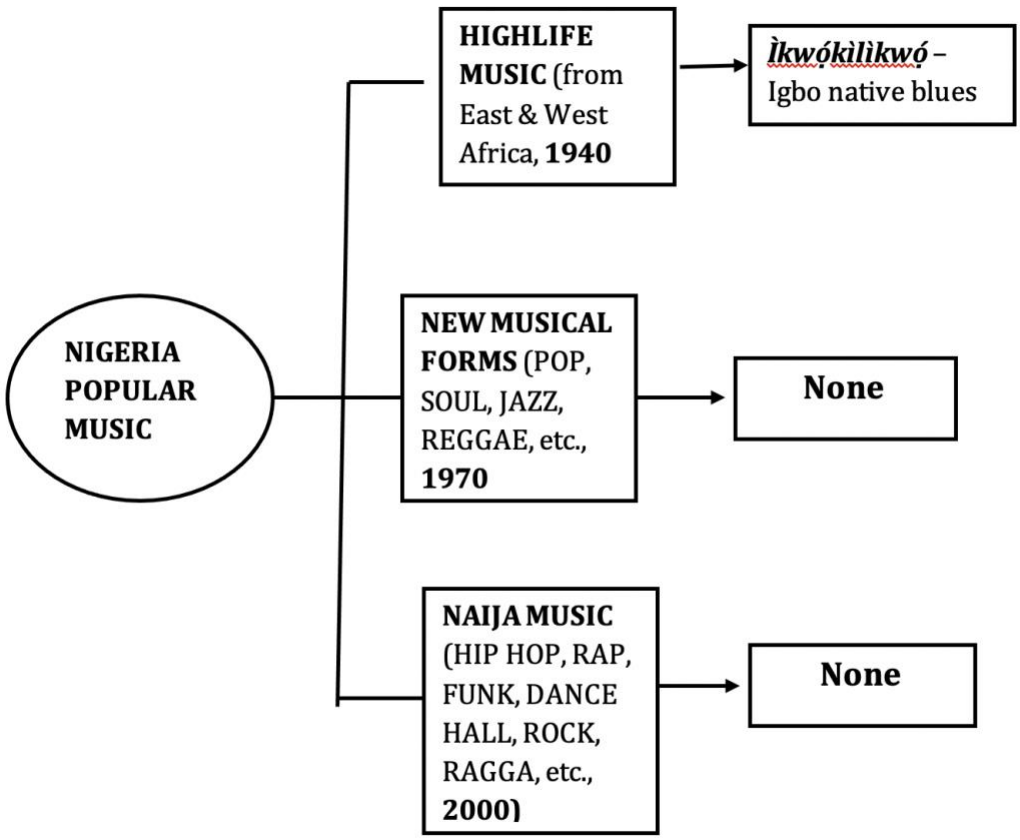

Figure 1. Illustration showing different musical periods in Nigeria Popular Music scene

From the illustration above, periods that came after the highlife music era apparently did not witness any creation of Igbo musical typologies, and this lacuna or gap is what the present study wishes to address.

The primary data for this study was generated through the unstructured oral interviews, non-participant observation, audio-visual recordings and personal phone interviews with stake holders in the music industry. The secondary data, however, was sourced through existing literatures - journals, online publications and doctoral dissertations. This study is approached from a qualitative perspective and adopts a descriptive method of analysis, whereby all relevant elements regarding 'Igbo popular music' are presented in a more historical and sociological manner for easy assimilation and understanding.

Concept of Social Tagging

The conceptual framework, on which the contextual structure of this study is hinged, the term 'musical tagging', is an adaptation of the concept of 'social tagging' **-** a term used primarily in the world of Digital Information (DI). In his treatise, *Studying Social Tagging and Folksonomy: a Review and Framework',* Trant (2009) described Social Tagging as the practice of publicly labeling or categorizing resources in a shared on-line environment. The main positive thrust of this concept is that searching tags enable the discovery of relevant resources, and the social relationships that develop among taggers become a means of information discovery among themselves (Marlow et al., 2006a as cited in Trant (2009). The framework of the aforementioned concept (though related to the digital world), fits in properly into the analytical framework of this study, especially regarding the search for suitable labels or tags for musical typologies churned out by different generations of Igbo popular musicians (from 1960-till date) and within the contemporary music scene in Nigeria. These musical tags bear the ethnic garb of the Igbo identity (in terms of language) and are succinctly categorized, based on cultural indices such as age, musical maturation, periodic styles, and other necessary parameters.

IGBO Contemporary Musical Styles since Pre-Independence

Popular music is an offshoot of several musical typologies, which could be indigenous or acculturated, incorporating both local and foreign elements. Most popular musical styles or genres in the Nigerian music scene evolved through various contributions by musicians who hailed from different ethnic backgrounds in Nigeria and who, in turn, have

advanced and developed these musical styles or genres over time. Historical accounts of popular music in Nigeria by different scholars, Oikelome, 2001; Piero, 2003; Ekwueme, 2004; Obi, 2005; Olusoji, 2011; Fiofori, 2011; Vidal, 2012; and Obidike, 2012; validate the fact that the music genre did evolve from various traditional music practices of ethnic groups through the means of acculturation and influences from external cultures (Western and Arab).

Euba, as cited in Oikelome (2011), categorized Nigerian popular music genres into three (3): 1. musical styles that evolved from pure Western pop (country music, ballroom dance, jazz music, etc); 2. musical styles created through the means of acculturation — that is, use of both African and Western musical elements (highlife and afro beat); and 3. musical styles popularized by certain ethnic groups in Nigeria such as, Igbo, Yoruba, and Edo (*jùjú, wákà, àpàlà*, and *ikwọ́kìlìkwọ́*). The third category, however, depicts the highlife style of Igbo popular music with its resultant typology - *Ịkwọ́kìlìkwọ́* at the earliest stage of the evolution of the music genre in the mid-sixties. The main objective of this study is to identify key musical styles/ typologies exhibited by prominent Igbo popular musicians right from the post-independence era to the twenty-first century and to tag them appropriately with nomenclatures that are derived from the mother tongue – Igbo. The tagging of these musical styles, apart from enabling ease of referencing, equally facilitates a sense of socio-cultural identity within the already polarized contemporary music scene in Nigeria. This present feat was seen to have been achieved among other ethnic groups, especially the Yoruba popular musicians, who developed several musical typologies/ styles that held sway within the pre-independence era to the present era (Omojola, 2006; Olatunji, 2007; Olusoji, 2011; Omibiyi-Obidike, 2012; Oikelome, 2012; Vidal, 2012). The civil war that was experienced between 1967 and early 70's by the Igbo race accounted for the periodic gap of musical outputs by Igbo musicians' between 1960-1975 (Omibiyi-Obidike, 2012).

The contemporary music of the Igbo people in Nigeria evolved through the following musical genres: traditional music (*égwú ọdi-n'àlà*), church music (*égwú ndi-úkà*), art music (*égwú ēdèrèdé*), and popular music (*égwú ná-ewù-ewù*) respectively. This evolution process was replicated in other ethnic groups, but at different periods, especially during the advent of the colonial rule in Nigeria. The evolution experiences from one ethnic group to another differed based on cultural idiosyncrasies and dogmatic

tendencies, displayed by indigenes during the process of acculturation, that is, imposition of western culture on our traditional norms and values.

The Igbo traditional music (*égwú ọdi-n'àlà*), like that of its counterparts, existed before the advent of colonial administration in Nigeria. It is deeply rooted in the cultural practices of the people and usually accompanies social and religious (ritual) ceremonies with various forms of dances. The instrumentation within the musical genre is highly percussive in nature and thus helps to initiate the desired rhythm, which facilitates the singing or dancing activities. The melodic instruments are mostly used for specialized kinds of music, either for ritual ceremonies, or for court music. According to Osigwe (2016), Igbo traditional musical instruments are categorized into the following families:

1. **Membranophones** – involves all sizes and shapes of cylindrical drums *(igba*)
2. **Idiophones (melodic rhythms)** –*Ekwe na Ikwemgbọ* (slit drums), *Ngedelegwu* (xylophone)
3. **Idiophones (non-melodic rhythms) –** *Alo na Ogene* (conical shaped iron gong), *Ẹgẹdẹ* (tiny bells worn around the waist), *Ụyọ, Ishaka na Ekpili* (rattles & shakers), *Ọkpokọlo* (wood clappers), *Agbe* (beaded gourd)
4. **Chordophones –** *Une na Ụbo-akwara* (plucked bow), *Ụbọ-aka* (thumb piano)
5. **Aerophones –** *Ọdu Enyi* (elephant tusk), *Opi* (horns), *Ọja* (wooden flute)

Church music (*égwú ndi-úkà)* came as a result of the contact between the Igbo and the Church missionaries. Those who were converted to Christianity were educated on how to read, write, and speak the language of the missionaries. Christian schools were established alongside churches, and many Igbo converts were indoctrinated into believing that all indigenous songs and dances were evil and, therefore, should be done away with. Traditional musical instruments, being termed as unholy and evil, were not allowed in Christian worships. Only portable organ or the harmonium, were admitted for use in Christian worship. Western hymns were translated into Igbo using the same metre of the original Western verses and sung to the same tunes. These tunes became popular household melodies in Christian homes. However, the term '*egwu ndi choochi or ndi-uka'* came to existence, as a result of using Western metric tunes to sing the Igbo translated hymns (Okafor, 1997). According to Ekwueme, "unexpected tonal inflections often occur

in these hymns, giving rise to unintended meanings, especially as several different stanzas are sung to the same tune" (2004: 210-212). Many notable Igbo Church musicians or Choirmasters/Organists, who received their trainings from the colonial masters, advanced the fusion of Igbo Christian texts with the Western style of notation and documentation. These activities helped immensely in developing the musical genre of Art Music from the historic past up to the present day. Examples of these Church musicians were: Nelson E. Okoli, Harcout Whyte, W.W.C Echezona, Felix Nwuba, and Lazarus Ekwueme.

Lastly, the popular music genre (*égwú ná-ewù-ewù*) evolved as a result of contact with urban life. Some of the itinerant Igbo merchants, who travelled from one city to the other, were exposed to musical styles prevailing in such cities, especially Lagos and some major cities in West Africa. During this period (40s, 50s and 60s), the popular music styles prevalent in the urban cities were European dance forms like country music, ballroom dance, jazz music, soul, swing, waltz, and rock music. Radios and cinemas helped disseminate these foreign music forms or styles, and record plates and gramophones equally gave people the opportunity to have these songs in their possessions. The earliest popular musical style that was developed by the Igbo according to Omojola (2006) was palm-wine music, which was the combination of acoustic guitar, conga, and the thumb piano (*ubo-aka*). The music was performed in local palm-wine bars, which used to serve as recreational facilities for urban workers, and the lyrical content was basically Christian texts. Musicians who pioneered this musical genre within the period were Okonkwo Adigwe, G.T. Onwuka and Israel Nwoba.

Highlife, going by its description, implies a world or circumstance beyond the common or the ordinary. Therefore, highlife music within the socio-cultural context depicts the music for the higher class in the society, the elites, and basically not for the commoners' (Omojola, 2006: 53). Different literatures alluded to the fact that highlife music came from Ghana, where it originated to Nigeria in the early 30s through one of its prominent proponents – Emmanuel Teytey Mensah, who was regarded as the father of Highlife music (Ekwueme, 2004: Omojola, 2006: Emielu, 2011: Olusoji, 2011: Vidal, 2012: Obidike, 2012). The influence of 'Congo music' (from the Eastern part of Africa) on the Nigerian highlife music is also noticeable. This popular music genre is characterized by the use of string instruments, that is, Hawaiian guitars (Ekwueme, 2004: 37). Several Igbo

highlife proponents and their counterparts from other ethnic groups were greatly influenced by 'Congo music' which was evident in their various stage performances. In his account, Bright Chimezie (personal communication, August 8, 2013) reveals that Igbo highlife in Nigeria evolved from two (2) distinct sources; musical styles of local instrumental ensembles (*égwú èkpìlì*, *égwú òdùmódù*, *égwú ògénè*, and *nkwà*), and musical styles of fused western and local elements, *Ịkwọ́kìlìkwọ́*, also known as 'Native Blues' or 'counterpart to Juju music' (Ekwueme, 2004: 41). This has evidently been the most expressed musical style of Igbo highlife in Nigeria and has been popularised by different categories of Igbo musicians (old and young) over time. The most popular exponents of *Ịkwọ́kìlìkwọ́* music include Osita Osadebe, Oliver de Coque, Sir Warrior, Kabaka, and Bright Chimezie. These musicians and a few others have been known for their musical ingenuity, creativity, vocal dexterity and lyrical prowess (Asobele, 2002: Ekweme, 2004: Obi, 2011). The younger musicians, on the other hand, have been noted in the modern era for their massive hybridisation of Igbo popular music through the highlife style (Okechukwu Ukeje, personal communication, August 9, 2013: Steve Onu, personal communication, August 1, 2013). In-depth description or discourse on Igbo highlife (or *Ịkwọ́kìlìkwọ́*) in terms of its structure and inherent forms (vocal and instrumental), is seriously lacking in the literature reviewed.

Tagging and Classification of Igbo Popular Music

Igbo popular music, like any other ethnic-based musical genre in Nigeria's music scene evolved through the process of acculturation and adaptation of musical styles from other world cultures through direct or indirect contact with them. These foreign musical styles, as advanced by Igbo popular music practitioners in Nigeria and the sources of their origin, are identified below:

1. **Highlife** – Gold Coast, West Africa (E. T. Mensah)
2. **Congo (Soukous) Music** - Democratic Republic of Congo, East Africa
3. **Rock 'n roll, Jazz, Rhythm & Blues, Rock** – Europe and United States of America

Based on the above-mentioned information, it is pertinent to refer to Igbo Popular Music as a borrowed musical genre, and by extension christen it '*Ē-GWŪ Ń-NÙ-TÀ*' [MMHLH], in

Igbo language, meaning borrowed music; this comprises all manner of vocal and instrumental music, including dance forms.

Secondly, the advent of highlife music in Nigeria (as stated above) in the mid 1940s saw different ethnic groups advancing the musical style using ethnic or local elements, such as instrumentation, language, and costume. These kinds of activities created musical varieties among ethnic groups through their representatives thereby advancing and evolving different musical typologies or hybrids under highlife music. The Igbo version of this kind of highlife music is '*Ìkwọ́kìlìkwọ́'* or '*Ìkwọ́kìrìkwọ́,'* also known as 'Igbo native blues,' which was massively advanced by a potpourri of older generation of Igbo popular musicians of note. The name '*Ìkwọ́kìlìkwọ́'* came as a descriptive term for the dexterity displayed in playing the electric lead guitar by the erstwhile popular musicians at recreational venues/centres. This study however, adopts this musical typology because it has been in existence and has played a very important role in the development of Igbo popular music in Nigeria from the past to the present. The following are basic features and characteristics of '*Ē-GWŪ Ì-KWỌ́-KÌ-LÌ-KWỌ́* [MMLHLLH]:

1. It incorporates the Congo music style of guitar playing into the West African highlife music. The guitar instruments are skilfully prominent during musical intros, interludes, and postludes by performing musicians.
2. The lyrical content of the music is usually philosophical emanating from social themes, such as love, patriotism, admonition, satire, praise singing, protest, etc. The use of mother tongue (Igbo) is crucial and paramount, especially when it is used to showcase ethnic identity and affiliations.
3. Several local instruments, such as *ogene, ekwe, ocha, udu, ekpili,* and *okpokolo* are occasionally fused with the Western instruments.
4. It is basically music for Igbo masses, enjoyed mostly by the old and the middle-aged audience who understands the deep philosophical and poetic use of Igbo language by these musicians. This musical typology spans between the period of 1950-1990 and has enjoyed vast patronage and publicity over this period.

The music is usually recorded on LPs, audio cassettes, and VCR, most of the time, live musical performances of musicians are equally recorded on these devices and sold. The recording of tracks or making of albums is done through the Digital/ Analogue process.

Thirdly, during the period of civil war in Nigeria (1967), most prominent cities, especially Lagos, witnessed the dwindling of performance of highlife music by musicians of Igbo extractions. Account given stated that most of the prominent Igbo highlife/ *Ikwokilikwo* musicians were forced to return to their home-towns in the then eastern region due to perceived hostilities by the indigenes, while some others were conscripted to the Biafrian Army to carry arms against perceived enemies of their state. During this period, new forms of popular music emerged, especially around the Western region, where musicians were seen to be performing more of Soul music and other musical styles such as Jazz, Pop, Disco, Reggae, Soukous (Congo music) and others. This notwithstanding, highlife (*Ikwokilikwo*) music still continued in the Eastern states unabated. These new forms or styles of popular music, which existed side by side with *Ikwokilikwo* music, were eventually embraced by a remarkable number of Igbo popular musicians, especially after the civil war in the 70s. These musical forms were, however, captured and tagged as '*Ē-GWŪ Ọ-GBÀ-RÀ-Ọ-FŪÙ*' [MMLLLMML], which means music of the 'new era' or 'new age'. The following are the perceived features of this musical typology:

1. The use of melodic instruments, such as electronic keyboard, lead and bass guitars, saxophone, and trumpet to enhance the rhythmic structure of the music. Both melodic and percussive instruments have equal participation within the song.
2. The lyrical contents are either adapted using foreign languages (English, French, Afrikaans, etc.) or performed using local dialects or its variants (code switching). The social themes are usually drawn from love stories, adventures, folk tales, political, religious, womanhood, marriage, and so on.
3. Musicians of this musical typology belong, for the most part, to the youth and middle-aged groups; they are well-educated, trained, exposed and well travelled. Some of them practice music on a part-time basis, while pursuing careers in accounting, banking, broadcasting, acting, engineering, etc.

4. The audiences are made up of mixed ethnic backgrounds as musicians explore other local Nigerian dialects (*Yoruba*, *Efik*, *Hausa*, and *Ibibio*) in their songs for the purpose of propagating national unity among citizens.
5. The music is usually recorded on LPs, audio cassettes, and VCR. The recording of tracks or albums is done through the Digital/Analogue process.

Lastly, it can be observed that nowadays, Nigerian popular music has been eroded by diverse musical styles borne out of a syncretised process, that is, fusion of different musical styles (usually existing ones) in order to fit into the modern-day musical trends. The term '*Naija hip-hop*' is used to represent the modern-day popular music by teeming talented young artists from different ethnic backgrounds. The predominant and common feature in the popular music scene of this present era is the act of re-arranging or re-mixing of old tunes by the younger generation of musicians through creative and innovative processes. Popular music styles, such as Rap, Rhythm and Blues, Hip-hop, Rock, Reggae, etc. (which are all adopted from Europe and America) were intertwined or fused with local derivatives, such as Highlife, Afro, Nkwa and Ekpili music, coming out with hybridised musical forms or typologies. This study intends to identify this hybridised musical typology within the Igbo popular music (Ēgwu Ńñùtá) and christen it '*Ē-GWŪ Á-GWĀ-RĀ-Ọ-GWĀ* [MMHMMHM], meaning a hybridised or syncretised musical typology. Listed below are the characteristics of this musical typology:

1. This kind of music is driven by the younger generation of musicians and equally enjoyed by the same age group. Most of the young artistes crave stage popularity and fast monetary gains more than achieving good quality in music and production.
2. The accompanying musical tones or sound in the music are digitally generated (both percussive and melodic). The music emphasises the use of strong, loud, and pulsating beat pattern usually supplied by side-kick drum, which is also synthesized. Vocal deliveries by these artistes are mostly enhanced using different applications programmed for such purposes.
3. The musical typology is characterised by code switching techniques, that is, using two or more languages (foreign & local) within a particular song. For the purpose

of this study, the primary language (Igbo), is fused with English, and Nigerian Pidgin English (NPE) respectively.

Thus, tagging or categorizing of musical typologies under Igbo popular (since 1960 to the present) is summarily represented in the diagram below:

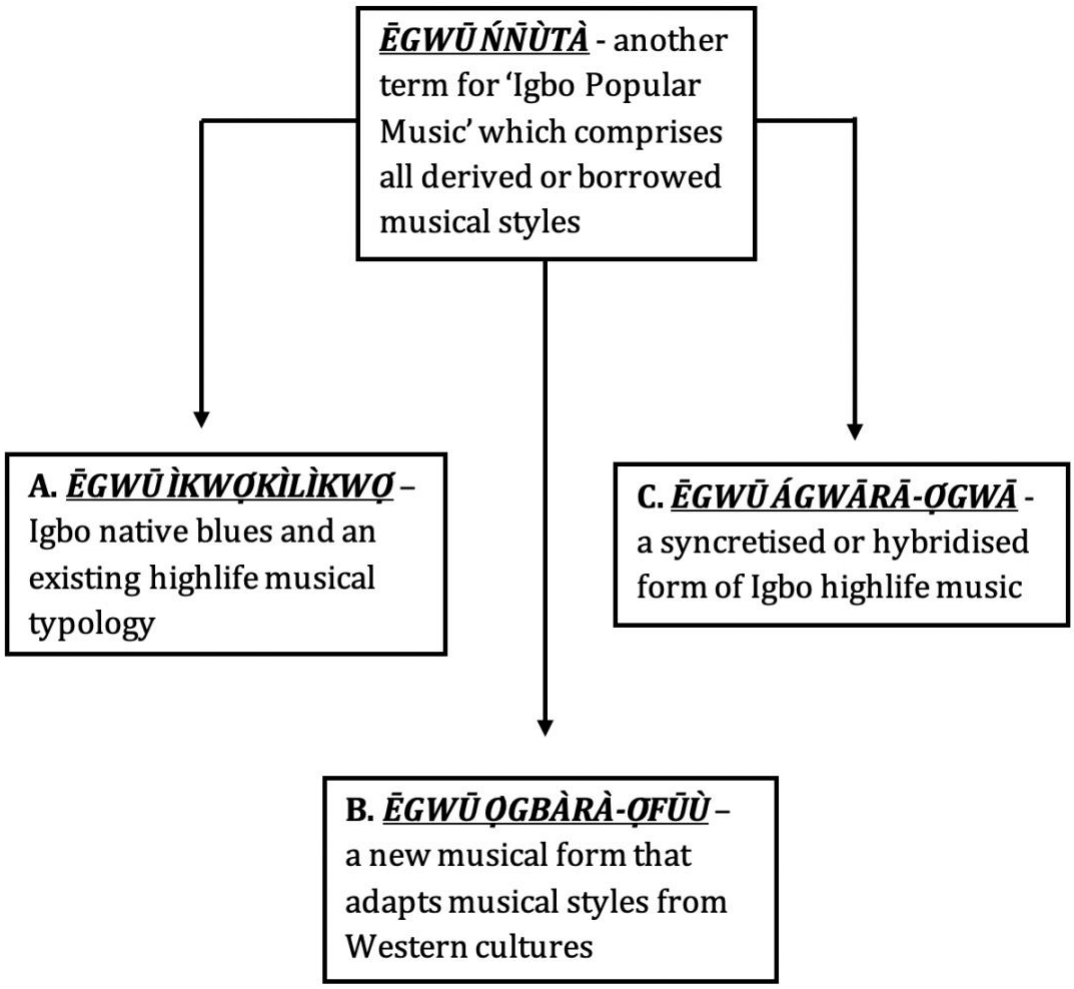

Figure 2. Diagram showing Igbo Popular Music Typologies

Conclusion

This study has, through its systematic analyses of Igbo popular music scenes in Nigeria, brought out salient features and characteristics of those music typologies and hybrids that were advanced by musicians of Igbo extractions. These aforementioned musical typologies traced from pre-independence era to the present, foreshadow the spirited efforts of Igbo popular musicians in advancing their cultural uniqueness through the

instrumentality of popular music culture. The apparent scholarly dearth and disregard suffered by Igbo popular music, and by extension its highlife musical style, has been forthwith annulled by this singular effort. The overall development and advancement of the musical genre within the contemporary music scene in Nigeria has been given a positive boost by the in-depth analyses carried out, as well as the tagging of musical typologies (*Égwú Nñùtá, Égwú Ìkwọkìlìkwọ, Ēgwū Ọgbàrà-ọ̄fūù,* and *Égwú A gwàrà ọgwa*) of Igbo identity. The highest point of this achievement is, however, in the satisfaction that Igbo musical styles or typologies now have their identities embedded in the language, thereby distinguishing them from other ethnic based popular music genres.

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