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Correction Notice

Correction to Turan and Oğul (2023)

In the article titled "The *Yeni Müzik* Scene in Türkiye: How did the 'New Music' Discourse Change Local Contemporary Music Practice?" by Dilara Turan and Belma Oğul, published in the Musicologist - International Journal of Music Studies in 2023, Vol 7, No. 1, pp 49–77, the first author, Dilara Turan, is incorrectly affiliated with Istanbul Bilgi University, Türkiye. The correct affiliation should be Istanbul Technical University, Türkiye.

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Epistemic Transmission and Originality in Greek-Karamanlidika Publications Related to *Makam* Music in 19th-Century Istanbul[1]

ABSTRACT
Ottoman Istanbul retained its position as the cultural center of the Greek community for centuries. During this period, Greeks interacted with multicultural societies in the city. Their musical culture and interests were also influenced by social interactions. As a result, they recorded some Ottoman musical pieces in various manuscripts from the 16th to the 20th centuries. In the 19th century Greek musicians, mainly cantors, started to publish a series of works on Ottoman repertoire and theory. First, *Euterpi* (1830) was published in Istanbul. Then a number of publications emerged prior to 1909, at which point *O Rithmographos*, the last theoretical work of the time, was published. At that time, both the reform of the Orthodox Church (1814) under the influence of modernism and the spread of the printing press facilitated the distribution of such books. In order to write *makam* music with an efficient technique, they drew upon some theoretical principles from European, Ottoman and church music alike. Since these theoretical adaptations were the result of both technical needs and cultural tendencies, the Greeks cultivated an epistemic originality in terms of *makam* theory and its history. Moreover, this was the reason that a symbiotic knowledge emerged, drawing upon the aforementioned sources. This study aims to demonstrate both the symbiosis and the originality by examining the musical knowledge embedded in Greek-Karamanlidika publications. The sources will be evaluated in terms of notation, terminology, theory (*makam* and *usûl*), repertoire and historical understanding of the *makam* tradition. The aim of the study is to carry out musicological research on those publications in light of the multicultural character of 19th-century Istanbul.

KEYWORDS
Greek-Karamanlidika Publications
Makam Music
Epistemic Transmission
Originality

[1] This paper re-evaluates some of the data obtained for the PhD thesis of the first author. A brief summary of the study was presented at the IMS2022 Congress in Athens by the first author. See https://pcoconvin.eventsair.com/ims22/program.

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Introduction

In an attempt to understand musical relations in the Ottoman Empire, studies have always drawn attention to historical centers where musicians have come together from different cultural backgrounds (Poulos, 2019). However, in order to engage in historical research, no less fruitful approach is to examine notated sources and theoretical works, even though these are limited in the literature of Ottoman-Turkish music. In this context, it is undeniable that Greek-Karamanlidika sources are historically the oldest and the most diverse to date. That was also the main reason that we started to conduct research on 19th-century Greek-Karamanlidika publications. After the initial analysis, we observed that there is an epistemic symbiosis and originality in the content of these publications. Nevertheless, it is clear that the outcomes did not just result from a multicultural society, but that there are also ideological and historical issues to be addressed. First of all, Greeks were influenced since the late 18th century by the ideas of the Enlightenment, and were inclined to study Western sources. Erol and Olley draw attention to this topic from different perspectives and they reveal how Ottoman Greeks conceived music theory and drew upon Ancient Greek terminology in their publications (Erol, 2009; Olley, 2017: 116-134). Likewise, Romanou mentions that Chrysanthos wrote *Mega Theoretikon* (the 'Great Book of Theory' of Greek Orthodox music) under the influence of Ancient Greek and European sources (2010: 18-25). As a consequence, "Chrysanthos aimed to introduce Western music science to Greek musicians" because of ideological and technical needs (Romanou, 2010: 19). For this reason, he even wrote the chapter titles of the Great Book in line with European sources. This was also a result of the influence on historiography of debates on national identity in the 19th century. Albeit controversially, the Greeks believed that the genesis of Eastern and Western music alike was the music of Ancient Greece. Thus, this idea might have brought cultural legitimacy to their publications related to *makam* music. As a result, Greek musicians made references to Byzantine[2], Ancient Greek, European and Ottoman sources and those

[2] Greek ecclesiastical music flourished basically in Istanbul which has been the most important city of Orthodox culture since the Byzantine period. For this reason, the term 'Byzantine music' is sometimes preferred instead of 'Greek ecclesiastical music' in current studies. See Kalaitzidis & Apostolopoulos, 2015.

references were considered a legitimate tool to write about Ottoman-Turkish music. Moreover, in preparing a series of works, they also developed their own terminology and theoretical perspective. In this respect, before evaluating Greek-Karamanlidika texts, we should make a close scrutiny of the sources.

The Definition of Greek-Karamanlidika Musical Sources in Ottoman Historiography

As present-day cultural studies remind us, it is obvious that to claim homogeneity is to participate in an ideological or political discourse (Bhabha, 1994). Likewise, the episteme constituting written sources cannot be seen as homogeneous in a historical context. Indeed, there is a considerable variety of written sources regardless of their historical chronology and genre in Ottoman music. Many musicians contributed to the production of *makam* musical sources written in Armenian, Greek, Turkish, Arabic and Persian, and they achieved epistemic originality by using multicultural elements in theoretical writings. In the same way, Greek-Karamanlidika sources are generally titled as either Ottoman, or Rum and Greek musical sources in the literature of *makam* music. From the perspective of researchers, those definitions attract attention not only to the language of the books but also to the cultural codes of the publications' content in general. But these definitions are still not adequate as a description of the content, as the sources include a variety of cultural codes and each has its own characteristics[3]. The influence of European culture brought by Greek intellectuals, the local culture of the Rum community and the Islamic tradition also shaped this writing culture technically and musically. Therefore, it is possible to speak about an original multiculturality referring to a Greek writing-publishing culture in general (see. Şahin and Güray, 2021).

Greek-Karamanlidika Musical Publications in 19th-Century Istanbul

Istanbul has been the center of Greek Orthodox culture since the Byzantine period. Istanbulite Greeks, one of the oldest communities in the city, are considered mediators of the Orthodox tradition in classical historiography, but current

[3] The 19th-century publications are complex cultural formations consisting of Turkish (in Greek alphabet known as Karamanlidika) and Greek texts. This is why the authors prefer to define publications as 'Greek-Karamanlidika' instead of only Greek or Karamanlidika.

academic studies demonstrate that they also ensured the written transmission of Ottoman music (Kalaitzidis and Apostolopoulos, 2015; Kalaitzidis, 2012). Firstly, it should be known that Greeks had quite a traditional and archaic musical system in terms of notation. While the use of notation had not become widespread in Turkish sources yet, Ottoman Greeks were using Byzantine notation to write Ottoman-Turkish music known as *Arabopersiki* or *Exoteriki* in these sources[4]. They also made significant studies in music theory. The first systematic texts of *makam* music started with Panagiotis Chalatzoglou's theoretical work in the 18th century (see Table 1). Nonetheless, Greek musicians started to write Ottoman pieces in the 16th century. More importantly, the oldest examples of those pieces can be dated back to the same era[5]. Below, we can see two examples of secular pieces available in Istanbul-based manuscripts from the period known as Post-Byzantine (see Figures 1 and 2). Many of them were transcribed by church musicians, including Petros Peloponnesios and Grigorios Protopsaltis. These manuscripts have also been unearthed in recent studies (Kalaitzidis, 2012).

[4] Before the 19th century, Ottoman music had been called either Arab-Persian (*Arabopersiki*) or external (*Exoteriki*) (Kalaitzidis, 2012: 181). While external (*Exoteriki*) also describes Greek secular music, *Arabopersiki* must have directly described *makam* music in historical perspective. However, Ottoman (*Othomaniki*), Asian (*Asiathiki*) and Turkish (*Tourkiki*) were also other terms to define *makam* music in the 19th century. Since the last quarter of the 19th century, Greek musicians must have been aware of the necessity to stress the differences of Ottoman music from the Persian and Arab traditions. Especially Kyriazidis refers to the distinctive characteristics of Arab and Turkish music in terms of form and style (1909: 36).

[5] One of the oldest secular pieces described as *Persian tasnif* is thought to belong to Abdulkadir Maraghi. Yet there is no certain information in the earliest sources. It is only known that the transcription dates back to the 16th century (Kalaitzidis, 2012: 38, 343).

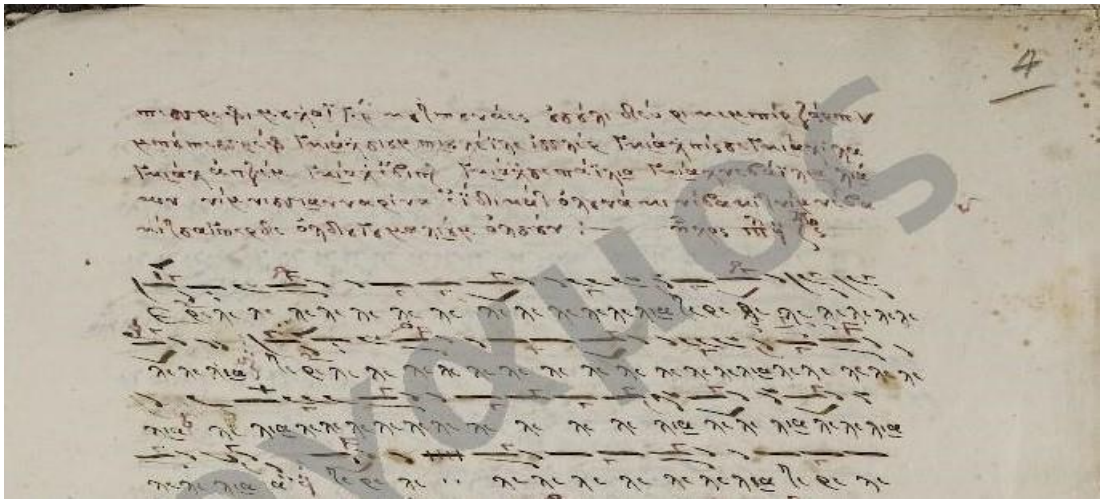

Figure 1. *Peşref Muhaiyi* [*Muhayyer*] echos pl. a' Terilelele (19th c.)[6]

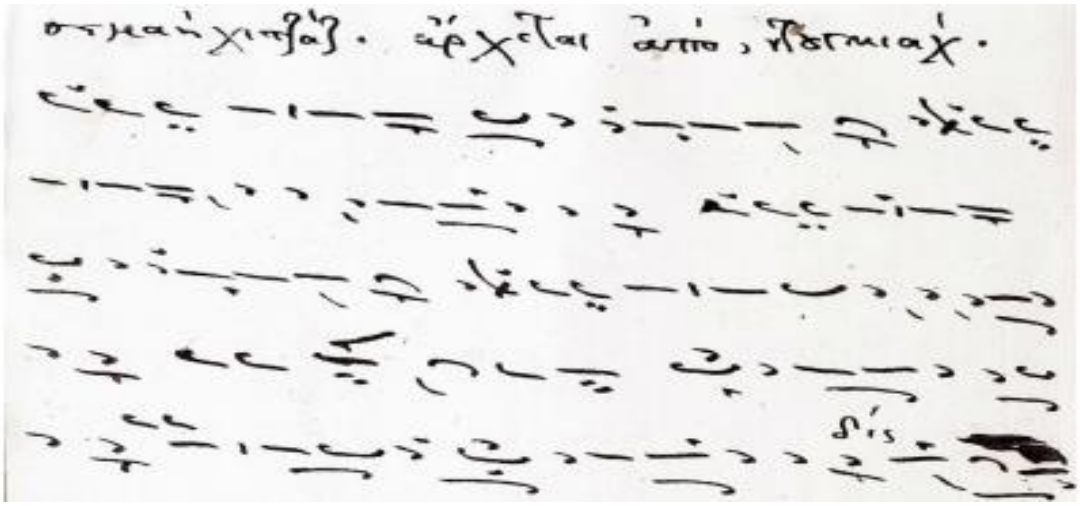

Figure 2. *Hicaz Saz Semâî*-18th c. (Apostolopoulos and Kalaitzidis, 2019: 134)[7]

Besides these manuscripts, other publishing activities related to *makam* music began in 19th-century Istanbul[8] (Table 1). Various books such as *Euterpi (1830),* the first publication containing Turkish songs, *Methodiki Didaskalia (1881),* the theoretical work explaining *makam*s and *usûl*s, pioneered the systematization of transcribing Ottoman-Turkish music in Greek sources. Indeed, it is noticeable that

[6] Transcriber: Gregorios Protopsaltes, Original Title: *Pesrefia* [*Πεσρέφ μουχαϊγί ήχος πλ. α' Τεριλελελε*], 19th c., Document Number: 2/59A, Folio Number: 3b-4a, p. 5. https://pergamos.lib.uoa.gr/uoa/dl/frontend/el/browse/109426#fields

[7] Original Source: "Plate 4. LKP (dossier) 60, 21r (18th c.): *Hicâz* [*Saz*] *Semâî*, echos plagal II. Scribe: Petros Peloponnesios" (Apostolopoulos and Kalaitzidis, 2019: 134).

[8] Despite a few of the 19th-century Greek-Karamanlidika sources published in Athens, we can say that this writing-publishing culture flourished in Istanbul. Almost all the musicians and theoreticians who were interested in *makam* music and published some works were generally educated in this city. Therefore, we use the term "Istanbul based-publications" in this study.

the expansion of the printing press and the musical reforms of the Orthodox church (1814) are the basic reasons contributing to publishing activities. With the *Tanzimat*, which legislated for equal social and cultural rights in Ottoman society, the cultural activities of the Greeks also increased in public areas (Romanou & Barbaki, 2011). Thus, the Greeks had dominated publishing activities before the Turks started using the printing press extensively (Pektaş, 2015). Consequently, Turkish songs and *makam* theory became a part of Greek publishing culture earlier than Turkish publishing culture during the 19th century. Furthermore, even though the books were published only for education-training purposes or as collections of popular repertoire, it is reasonable to ask whether there might have been other historical reasons related to ideological, hierarchical, or economic issues in the musical circles of the Greek Orthodox community (See Behar, 2008: 250-251). In particular, Kalaitzidis describes such publications as an outcome of the aesthetic tastes of upper-class Greeks and cantors (2012:166-167).

Table 1. Greek-Karamanlidika Music Publications in the 19th Century

Repertoire Collections	***Ευτέρπη/Euterpi*,** 1830, Theodoros Papa-paraschou Phokaeus/Stavrakis Vyzantios, Istanbul
	***Πανδώρα/Pandora*,** 1843/1846, Theodoros Papa-paraschou Phokaeus, Istanbul
	***Αρμονία/Armonia*,** 1848, Sotirios Vlachopoulos, Istanbul
	***(Μουσικὸν) Απάνθισμα ή Μεδζμουαΐ Μακαμάτ/(Music) Anthology or Mecmua-i Makamat*,** 1856/1872, Ioannis Zographos (Geyveli), Istanbul
	***Καλλίφωνος Σειρήν/Kalliphonos Seirin*,** 1859/1888, Panagiotis Georgiadis Kiltzanidis, Istanbul
	***Λεσβία Σαπφώ/Lesvia Sappho*,** 1870, Nikolaos Vlachakis/Stavrakis A. Anagnostis, Athens
	***Ηδύφθογγος Αηδών/Idiphthongos Aidon*,** 1870, D. Kanoni Voulgaris, Istanbul
	***Συλλογή Έθνικών Ασμάτων/The Collection of National Songs*,** 1880, Antonios Sigalas, Athens
	***Μουσικὸν Ημερολόγιον του Βισέκτου έτους 1896/ The Music Calendar of the Intercalary Year 1896* (Unfinished Handwritten Work),** 1896, Constantinos A. Psachos, Istanbul (First edition, 2016, Athens)
	***Ασίας Λύρα/Asian Lyre*,** 1908, Constantinos A. Psachos, Athens
	***Ο Ρυθμογράφος/The Rhythmographer*,** 1909, Agathangelos Kyriazidis, Istanbul
Theoretical Publications	***Ερμηνεία της Εξωτερικής Μουσικής/Explanation of External (Secular) Music*,** 1843, Stephanos Domestikos/Constantinos Protopsaltis, Istanbul
	***Μεθοδική Διδασκαλία/Methodical Teaching*,** 1881, Panagiotis Georgiadis Kiltzanidis, Istanbul
	***Σύγκρισις της Αραβοπερσικής μουσικής πρός την ημετέραν εκκλησιαστικήν/Comparison of Arab-Persian Music with Our Ecclesiastical Music*,** 1728, Panagiotis Chalatzoglou (Ekklisiastiki Alitheia, 1900, Istanbul)[9]
	***Εισαγωγή Μουσικής/Introduction to Music* (Manuscript),** 1749, Kyrillos Marmarinos[10]
	***Μουσική Τεχνολογία/Technology of Music* (Manuscript),** 1790-1840, Apostolos Constas[11]
	***Θεωρητικόν Μέγα της Μουσικής/Great Theory of Music*,** 1832, Chrysanthos of Madytos, Trieste
	***Κρηπίς/Kripis*,** 1875, Stephanos Lambadarios, Istanbul[12]

[9] It was later published in *Ekklisiastiki Alitheia* by Iakovos Nafpliotis. See Panagiotis Chalatzoglou, "Σύγκρισις της Αραβοπερσικής μουσικής προς την ημέτεραν εκκλησιαστικήν ύπο Παναγιώτου Χαλάτζογλου", *Parartima Ekklisiasthikis Alitheias 2*, (June 1900), Istanbul: Patriarchal Printing Press, pp. 68-75.

[10] The theoretical texts form the third part of the manuscript under the title "The most elementary teaching about external music" [Στοιχειωδεστέρα διδασκαλία περί της έξω μουσικής] (Popescu Judetz and Sirli, 2000: 18).

[11] Apostolos Constas taught Byzantine music in comparison with *makam* theory, unlike other theoreticians who teach Ottoman music in comparison with the theory of Byzantine music. That is the reason his work is on the list. See Pappas, 2007.

[12] This theoretical book includes an additional part depicting comparative explanations of *makam*s with their analogous Byzantine echoi (Stephanos Lambadarios, 1875: 50-82).

Musicians and the Greek Community

Greek-Karamanlidika publications were mainly pioneered by cantors, many of whom were educated in the Greek Orthodox churches of Istanbul and knew *makam* music. In fact, the number of cantors transcribing the repertoire of Ottoman-Turkish music might have extended beyond the Greek musicians educated in the Ottoman palace. Many cantors like Panagiotis Chalatzoglou, Kyrillos Marmarinos, Petros Peloponnnesios, Chrysanthos, Grigorios, Theodoros Papa-paraschou (Phokaeus), Ioannis Zographos (Geyveli), Apostolos Constas, Panagiotis Kiltzanidis, Efstratios Papadopoulos, Giorgos Violakis and Constantinos Psachos learnt *makam* music in the *meşk* system of Ottoman musicians or Greek music circles. Many other cantors such as Thrasyvoulos Stanitsas and Leonidas Asteris also went on practicing the predominantly vocal repertoire of Turkish makam music in the 20th century.

Even though the musical reforms of the Orthodox church simplified notation, Greek musicians were more conservative when they wrote liturgical pieces of church music. To put it differently, they developed a more independent and creative style for Ottoman-Turkish pieces. To illustrate, Petros Peloponnesios is known as a remarkable figure who wrote many Turkish pieces, and even brought stylistic elements of Ottoman music to Orthodox church music (Papadopoulos, 1890: 318-324). Petros was also a prominent transcriber of the secular repertoire known as *Phanariotika* in the 18th century. According to Plemmenos, these 'Phanariot songs' were an aesthetic encounter of Ottoman music with Greek poetry (2010: 131-141; also see Kalaitzidis, 2012: 173, 247, 253). Moreover, this repertoire was demanded not only in Istanbul but also in Romania where the Phanariot Greeks had leading roles in Ottoman diplomacy (Kalaitzidis, 2012: 158). On the other hand, 19th-century publications must have been demanded by Greek musicians who were interested in *makam* music. In order to explain this phenomenon, Kalaitzidis introduces a more significant discourse, drawing attention to the fact that *makam* music and its sources became a special tool for education since *Euterpi (1830)*, which is the first collection of the century (2012: 167-170). As Kalaitzidis mentions, Greek musical associations (known as *syllogoi* in Greek) were active in the second half of the 19th century and they promoted the

learning of secular music and the use of notation. Besides, the musicians of the Orthodox church became significant contributors to the teaching of *makam* music in education. To illustrate, Phokaeus, who published *Euterpi* (1830) and P*andora* (1843/1846), stated that he used to give both ecclesiastical and external music lessons (Kalaitzidis, 2012: 167). In this context, musicians must have admitted that *makam* music, called 'fraternal art', was an educational tool in Byzantine music (Chatzopoulos, 2000: 20). Since they believed that Ottoman-Turkish and Greek music come from the same origin, church musicians might have been inclined to learn *makam* music in some detail.

Original Sources of Musical Knowledge in the Publications

Even though some theorists did not indicate their sources, it is observed that some prototypical works form the content of the books in general. Prior to elaborating on this, we should note that Greek-Karamanlidika publications can contain three types of information related to Ottoman music: theoretical writings, repertoire and informative or interpretive texts. Nevertheless, it should be remembered that some publications were not prepared directly for Ottoman music but for Byzantine music. Ottoman music constitutes only one part of the content in such publications (see Table 1). In particular, Chrysanthos, one of the 'three teachers' introducing the New Method of analytical notation in church music, wrote the chapter "List of Ottoman Rhythms", in which he describes basic *usûl*s (rhythms) in Ottoman music (1832: 79-80)[13].

As to theoretical writings, it is clear that the knowledge of *makam* music was initially adapted from the books known as *Edvar*. Afterwards, some writers continued to transmit the aforementioned knowledge identically from antecedent Greek sources. For example, *Ermineia tis Exoterikis Mousikis* is a reproduced adaptation of Marmarinos' manuscript (Popescu Judetz and Sirli, 2000: 19). Ioannis Zographos (Geyveli) also wrote a theoretical chapter about rhythms in Ottoman music. He quoted from Haşim Bey's theoretical work and re-wrote *usûl*s in his own manner. To summarize, the theoretical works of Cantemir (Tura, 2001),

[13] In another chapter of the work, after showing the different scales of Byzantine music using flats and sharps, he also gives their names in Ottoman-Turkish music (Chrysanthos, 1832: 119-121).

Hızır Ağa (Uslu, 2009), Hafid Efendi (Uslu, 2001), Panagiotis Chalatzoglu, Kyrillos Marmarinos (Popescu Judetz and Sirli, 2000), and Chrysanthos (1832) were the earliest prototypes of theoretical chapters in Greek-Karamanlidika publications (see. Güray, 2012: 108; Şahin, Güray and Aydın, 2018: 119-123). In the second half of the century, it is also possible to see the influences of Haşim Bey's theoretical work (Yalçın, 2016). From the last decade of the 19th century, Psachos must have also examined, at least to some extent, some theoretical works, *mecmua*s or repertoire collections including Notacı Hacı Emin Efendi's notated work series *Chants Turcs* and theoretical book *Nota Muallimi* (1885). He might even have quoted some passages from those publications, because this period is the first important era when notated pieces of Ottoman music started to be published (see Chaldaeaki, 2022).

Epistemic Transmission and Symbiosis in Publications

Besides historical evaluations signifying the prevalence and importance of the books, the main question is whether a distinctive and alternative musicological reading can be made based on Greek-Karamanlidika publications of 19th-century Istanbul. In other words, how might we interpret the current data and transmission of musical knowledge in the sources from a historical perspective? Taking into account this basic question, the content of the Greek-Karamanlidika publications will be evaluated in terms of the use of notation, terminology, theory (*makam* and *usûl*), and the historical interpretation of *makam* traditions and repertoire in what follows.

Notation

The use of notation in Ottoman-Turkish music was limited until the last quarter of the 19th century. During the 19th century, Hampartsum and staff notation began to be used increasingly (Ayangil, 2008). Nevertheless, Greek cantors had already been notating *makam* repertoire by using Byzantine notation, and this was a more detailed and analytical way of writing Ottoman pieces. Especially, the use of this notation seems quite sophisticated, because it contains many symbols and signs that originated in Byzantine music. As seen below (Figure 3), there is a song known as *Zülfündedir Benim Baht-ı Siyahım*, composed by Dede Efendi in the

Pandora collection (Phokaeus, 1846: 104). Here, the transcriber Phokaeus uses qualitative signs called *hypostaseis* in order to indicate vocal nuances, ornaments, and special melodic patterns (see Karazeris, 2018). To put it another way, they indicate essentially the way of singing in the church tradition, and these types of signs were available in other notational systems used for Ottoman *makam* music.

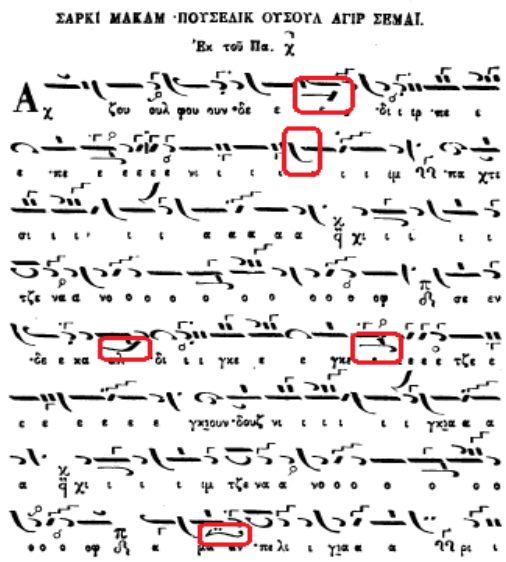

Figure 3. Hypostaseis in *Pandora* (Phokaeus, 1846: 104)

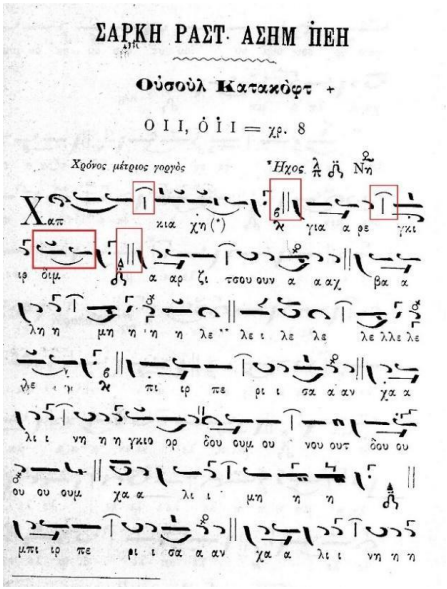

Figure 4. The use of notational symbols of European music (Psachos, 1908: 1)

The Music Reform of Greek Orthodox church was pioneered by the 'three teachers' in the 19th century: Chrysanthos of Madytos, Grigorios Protopsaltis, and Chourmouzios Chartophylax (Romanou, 1990). Due to the influence of the European musical sources, some terms and symbols of European music were brought into the books, and many innovations appeared after Chrysanthos' reform as writing techniques. We know that by the end of the century the use of notation had become systematized at the highest level. At this point, Constantinos Alexandrou Psachos, the contributor of the last Greek-Karamanlidika collection known as *Asias Lyra*, was the only theorist using many symbols including bar lines, repeat sings, ties (legato), puandorg (fermata), and trills. In the example (Figure 4), there is a song known as *Hab-gâh-ı Yâre Girdim Arz İçün Ahvalimi* composed by Asım Bey (Psachos, 1908: 1). It can be seen that Psachos uses two different types of bar lines separating each measure from the others. While single bar lines

indicate that every measure is divided into an appropriate beat structure complying with the *usûl düyek* as 3+5, double bar lines indicate the end of the complete cycle of *usûl*s. It can be noted that Psachos also uses tie (legato) symbols in the same piece.

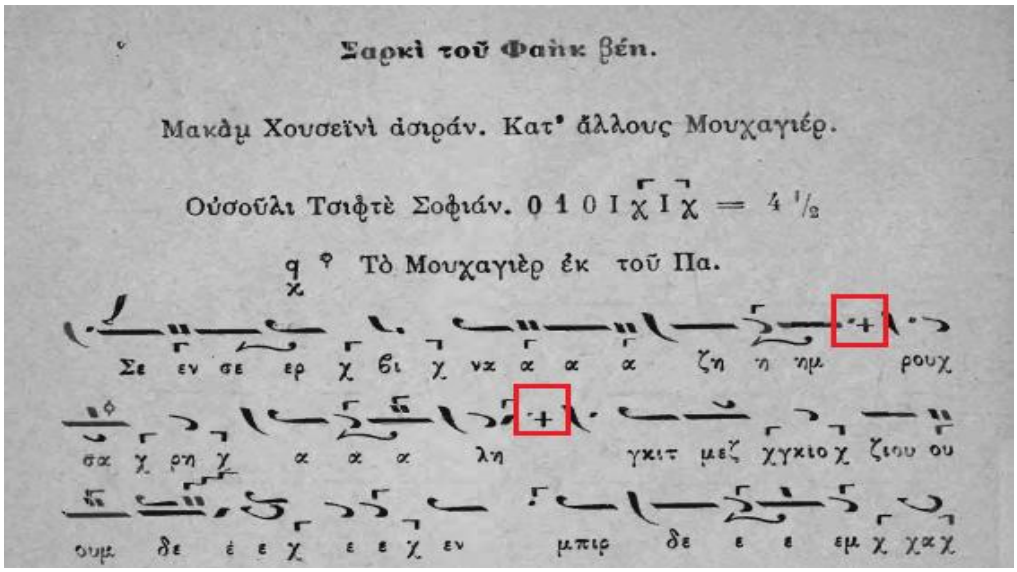

Figure 5. *Sen Serv-i Nâzın Ruhsâr-ı Âli,* Faik Bey, *Çifte Sofyan*[14]*, Hüseyni Aşiran (Başkalarına Göre Muhayyer) Şarkı* (Kyriazidis, 1909: 56)

Some musicians used more innovative symbols in order to notate the rhythmic patterns of Turkish songs. *Usûl*s might have seemed like complex and problematic issues to transcribers. For this reason, they might have tried new methods in order to write them accurately. An instance of this is *stavros*, which can be defined as a cross with a dot or two dots (*aplas*). This sign was first used by Phokaeus, and later by other transcribers such as Ioannis Zographos (Geyveli) and Agathangelos Kyriazidis in order to indicate the nine-beat rhythmic structures such as *Çifte Sofyan* and *Aksak*[15] (Phokaeus, 1842: 34; Zographos, 1872: 22-23; Kyriazidis, 1909: 34) (Figure 5). It should be stated that there are technically different uses of the symbol depicting the rhythmic structure of the songs depending on the perspective of particular theorists. Nevertheless, some theorists, such as Psachos, would later accept any technical effort as redundant and inaccurate in order to depict the nine eight rhythmic patterns in those publications (Psachos, 1906).

[14] It is *Aksak* in Turkish sources.
[15] Even if the symbol was theoretically a tool for *Çifte Sofyan*, it is seen that some of the pieces, for which the sign is used, are recorded *Aksak* in Turkish sources.

Philoxenis also mentioned that the use of this sign is controversial and unknown to many musicians (1859: 91-92). Even today, there are many imponderables when pieces are transcribed into staff notation. For this reason, detailed evaluations need to be made on transcriptions (see. Aydınlı, 2020), and within the scope of this study the symbol can be assumed only as a technical effort to identify 9/8 rhythms in the musical system of the Orthodox church[16].

Another innovation is *tuplet*. In fact, the *tuplet*s are notational indications which are used to transcribe different rhythmical groupings in the notation of European music. It is clear that Greek transcribers intended to write elaborate melodies of Ottoman-Turkish pieces by using various rhythmical groupings in anthologies. For this reason, different types of tuplets were used, with triplets and quadruplets the most favoured note groupings. In particular, Psachos used them excessively in his compositions known as *Uşşak Taksim* and *Hicazkar-kürdi Gazel* (Psachos, 2016; Psachos, 1908: 20). On the first page of *Uşşak Taksim*, Psachos is observed to have used note groupings, rhythmically dotted and undotted notes, and various 'limping' and asymmetrical rhythmic patterns from triplets to octuplets in the melodic movement (Figure 6).

[16] Being the most preferred rhythm in the Turkish repertoire, *Aksak* or *Çifte Sofyan* (9/8) is mainly used in songs (*şarkı)*. However, it is never used in Orthodox liturgical music.

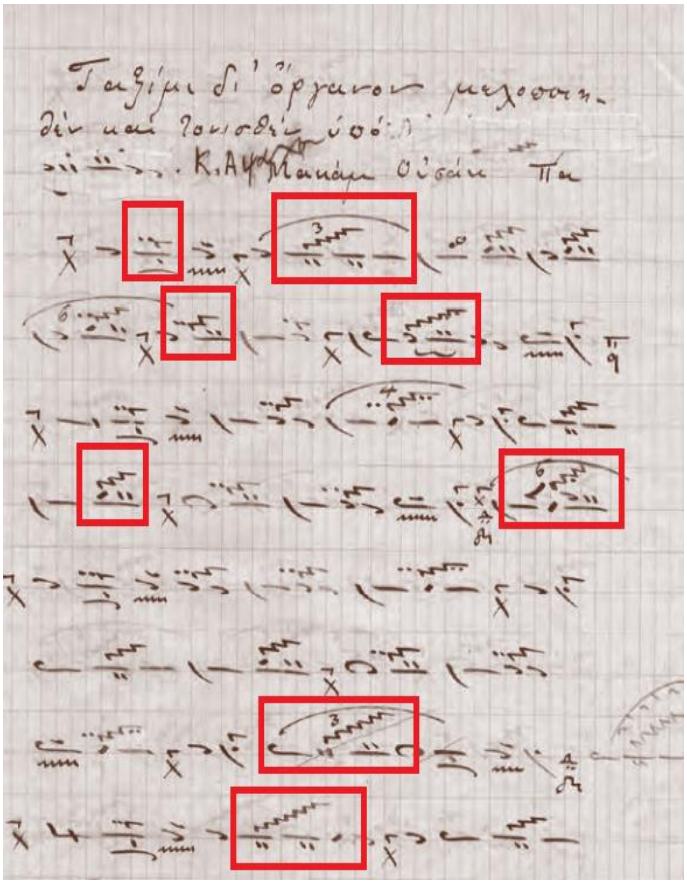

Figure 6. *Uşşak Taksim* (Psachos, 2016)

Terminology

Terminology is the most specific indicator of the epistemic symbiosis in the publications. Theorists used a variety of Ottoman musical terms like *bestedes (beste), sazia (saz),* and *aschirania (aşiran), eteron dügâh (başka dügâh)* in order to explain *makam* theory in detail. As a consequence of orthographic principles in Greek, they created a "hellenized" language in their musical terminology[17] (Popescu Judetz and Sirli, 2000: 19-20). In fact, theorists were inclined to combine Ottoman musical terminology with the Greek church's own terminology. For instance, they categorized *makam*s into subgroups like *makamia (makams), sochpedes (şubes),* and *nimia (nims)*, stating their equivalent names in Byzantine music. As Chalatzoglou and Marmarinos had mentioned before, Stephanos Domestikos and Constantinos Protopsaltis also called *makam*s "*kyrioi echoi*" and *nimia* (*nim*s) "*fthorai*" (1843: 3-4). Moreover, theorists linked many terms from

[17] The aforementioned "hellenized" forms of the words can also be found in the lyrics of the pieces in Greek anthologies.

Ancient Greek sources to this symbiotic conception. This approach sounds reasonable because their "argumentation is based upon the hypothesis that the foundation of modes lies in the Greek eight modes wherefrom the Persian-Turkish *makam*s have originated and gradually developed" (2000: 129). As seen in Table 2, *makam*s are considered as equivalents to Ancient Greek and Byzantine modes. Having made references to the Ancients (the masters) conveying Pythagoras' philosophy of harmony, *makam*s and *echoi* (Ottoman and Byzantine modes) were matched to Ancient Greek modes like *Dorian, Lydian* and *Mixolydian,* and they were also associated with the seven planets (See Table 2). However, *makam*-echos-mode classifications, terminology, modal structures have changed over time (Alygizakis, 1990; Skoulios, 2012; Plemmenos, 2021)[18]. Therefore, as Plemmenos notes, this was "the spiritual aspect" of theoretical writing and it was also in tune with the national ideology of the time. As far as we understand it, this approach was tolerated by the conservative circles of church tradition, and theorists continued to employ this theoretical knowledge until the 20th century (2014: 86).

Table 2. *Makam*-Echos-Mode Classification

Echos	Mode	Makam	Genus	Perde	Planet
Protos	Dorian/Phrygian	Saba, Dügah, Hüseyni, Uşşak	Diatonic	Dügah	Mercury
Deuteros	Lydian	Hüzzam	Chromatic	Segah	Venus
Tritos	Phrygian/ Hypomixolydian	Çargah	Enharmonic	Çargah	Sun
Tetartos	Mixolydian	Neva	Diatonic	Neva	Mars
Plagios Protos	Hypodorian	Hüseyni, Uşşak, Saba	Diatonic	Yegah	Jupiter
Plagios Deuteros	Hypolydian	Hicaz	Chromatic	Aşiran	
Plagios Tritos (Varys)	Hypophrygian	Bestenigar	Enharmonic	Irak	Saturn
Plagios Tetartos	Hypomixolydian / Dorian	Rast	Diatonic	Rast	Moon

[18] Therefore, the Table 2 presents only a general indication of how theorists classify *makam*s making references to ancient sources since Chalatzoglou's writing (Stephanos Lambadarios, 1875: 12; Popescu Judetz and Sirli, 2000: 55, Zographos, 1872: 10; Stephanos Domestikos & Constantinos Protopsaltis, 1843: 4; Kiltzanidis, 1881: 11; Philoxenis, 1859: 111-154; Pappas, 2007, 142-146; Vlachakis & Anagnostis, 1870: 338; Chrysanthos, 1832: 145-156).

Some specific terms also appear in the dictionary of Philoxenis, which was published in the second half of the 19th century. Overall, the dictionary can give reliable information about how the terms had already started to be systematized in Greek writing-publishing culture. To illustrate, Philoxenis explains the function of *ah!* (as an expression) in the repertoire of church music. But it is also a well-known element in the vocal repertoire of Arab-Turkish (*Arabotourkiki*) music and of non-liturgical Greek music (1868: 30). Futhermore, he gives extra information about repertoire collections including Ottoman pieces like *Euterpi* (Philoxenis, 1868: 97-98), and more details can be found about similarities and interaction between the two music cultures in the dictionary. Despite the nationalistic perspective of the writer, the definitions of the publication are significant instances of how Ottoman musical terms were acknowledged to a certain extent, even in secular practices.

Theory

Since the first theoretical texts of *makam* music, which were written by Chalatzoglou and Marmarinos in the 18th century, some principles were identically transmitted to 19th-century publications. Simply put, Greek theorists systematized *makam*s and *usûl*s with the understanding of the 18th century in general. On the other hand, their comparative method provides a unique *modus* which is not found in any other theoretical works of Ottoman music. In this sense, the first crucial point is that Greek theorists categorize *makam*s in eight *echoi* (*oktoechos*). Even though *echoi* are theorized by way of cycles (*devirs*) in the old theoretical sources of Byzantine music (see Psachos, 1978: 40), Greek theorists did not generally illustrate this analogous cyclic system, which was also used in the school of Ottoman music, for many centuries[19]. Instead of the cyclic method, *makam*s are depicted by way of a melodic movement (*seyir*) which designates the first degree (*başlangıç perdesi*) and finalis (*karar perdesi*). Melodic movements are explained verbally degree by degree (*perde perde*)[20]. (Table 3).

[19] Apostolos Constas is the only theorist illustrating *makams* and *echoi* with cycles (See Pappas, 2007).

[20] Marmarinos and Kiltzanidis also wrote specific melodies (*seyirler*) illustrating general characteristics of *makam*s (see Popescu Judetz and Sirli, 2000; Kiltzanidis, 1881).

Table 3. Explanation of *Makam Saba* in the 19th Century Publications

Panagiotis Kiltzanidis	*Saba* arises from *dügah* and sometimes starts from *nim saba* or *dügah*, sometimes even from *rast*; ascending to *muhayyer* with *nim seba* and *nim acem*, turns back with *nim acem* again, descends with *nim saba*. Again, it ends on *dügah* (Kiltzanidis, 1881: 59).
Stephanos Domestikos and Constantinos Protopsaltis	*Saba* begins from *dügah*, and ascending *perde perde* to *saba*, turns back and ends on *dügah* (1843: 21).
Dimitri Cantemir	Saba makam begins from dügah. Moving up to segah and çargah, it rests on çargah for a while; it touches and grabbles saba. When it comes down from there, it shows itself with three perdes and when it ends on dügah, it will have been fully performed (Tura, 2001: 73).
Kyrillos Marmarinos	*Saba* begins from *dügah*, and moving step by step (*perde perde*) to *saba*, turns back and ends on *dügah* (Popescu Judetz and Sirli, 2000: 101).
Constantinos Psachos	*Katachristikos sioupes* (irregular *şubes*)[21], arises from *dügah*. It is our plagal of the first echos from *Pa diphonos*, with the basic characteristic flat of Di (*Neva*) and Zo (*Eviç*) (1908: st/6).

Besides their characteristic melodies (*seyirler*), *makam*s are also theorized within the octave (*diapason*). In Figure 7, each perde of makam *Saba* from the first degree (*dügah*) to one octave higher is depicted on the chart. Furthermore, the chart includes *martyries* which are special signs representing degrees of *makam* (Skoulios, 2012: 16-17). In brief, this is a typical method explaning *echoi*, their systems, degrees and intervals in Byzantine music, and at this point the influence of Byzantine theory can be clearly seen in the explanations of *makams*.

[21] According to the definitions of Chalatzoglou and Kiltzanidis, it is one of two *şubes* in the classification and *katachristikos şubes* do not have their own *perde*s on the *tanbur* (Pappas, 1997: 19), "their tonal [structure] (*perde*) on the *tanbur* is intermingled" (Popescu& Sirli, 2000: 39).

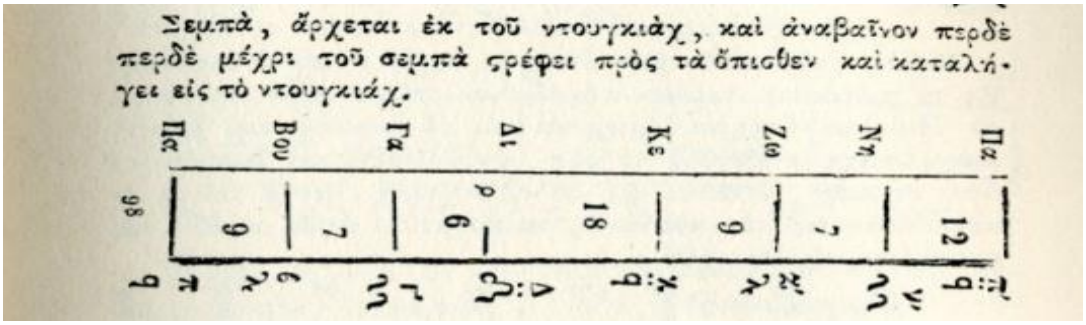

Figure 7. *Makam Saba* (Stephanos Domestikos & Constantinos Protopsaltis, 1843: 21)

As mentioned before, 19th-century Greek theorists re-worked texts that had originated in the writings of Chalatzoglou and Marmarinos. They explained *makam*s by stressing the degrees (*perde*s) on which the *seyir* begins and ends (see Table 3). Apart from this conventional transmission, Psachos, the pioneer of modern theory of Byzantine music, notably drew attention to specific features of each echos (Byzantine mode), including introductory melodies known as *apichima*, scale, tonic, finalis and dominant degrees (Psachos, 1980: 60). But prior to that, he had applied this perspective to his comparative study about *makam*s and *echoi* in his collection called *Asias Lyra* (1908), comprising Turkish songs. Psachos emphasized characteristic tetrachords, phtores (illustrating modulation)[22] and the important scale degrees of *makam*s. As seen in Table 3, he explains *makam Saba* in a manner that is distinctively different from other theorists. However, it is observed that Turkish theorists followed similar approaches to Greek theorists, with a tendency to use core elements or concepts from the theory of European music in the same period. They began to depict *makam*s by using concepts such as modal scale, tetrachord and pentachord (Yekta, 1986: 67-69; Öztürk, Beşiroğlu and Bayraktarkatal, 2014: 23-25).

In general, there seem to have been changes of theoretical perspective in relation to *makam*s and *echoi* since Chrysanthos' theoretical work was published (Plemmenos, 2021). Besides, there are many factors that can give rise to ambiguity in comparative analyses of *makams* and *echoi* due to theoretical-practical principles of Greek Orthodox music. Most probably, that is the reason that many *makam*s, such as *Segah, Hüzzam, Beyati, Hicazkar, Nihavend, Humayun*, were

[22] "Fthores are another important aspect of this system, which mainly serve to signify modulations by means of alterations of the scale, genus or systema of a composition" (Skoulios, 2012: 31).

categorized in different *echoi* according to the theorist's approach (Alygizakis, 1990; Skoulios, 2003: 440). A case in point is *makam Saba*. *Saba* is considered as the plagal of first echos (*echos plagios tou A' diphonos fthorikos or echos naos*) based on the diatonic scale moving chromatically from *Çargah* (Ga) (Mavroidis, 1999: 148-149, 248; Skoulios, 2003: 439). In the appendix of *Lesvia Sapfo*, giving reference to Chrysanthos, it is emphasized that there are different theoretical ideas on the comparative analysis of *makam*s and *echoi*. The writers mention that *Saba* is not the first echos, but can be the equivalent to the plagal of first echos according to other theorists (Vlachakis and Anagnostis, 1870: 338). On the other hand, Turkish theorists regard makam *Saba* as a chromatic genus in modern theory. Makam *Saba* is always defined with *Zirgüleli Hicaz* on *Çargah* and tetrachord *Saba* on *Dügah* (Arel, 1993: 219). Furthermore, it is thought to have an autonomous character and it is theorized with a specific tetrachord known as *Saba*, contrary to its parallel in Byzantine theory. In brief, considering dissimilarities of the understanding, it is possible to state that comparative analyses will also bring prospective discussions in music theory (see Skoulios, 2003, 2012).

As regards *usûl*s, this is known as the most problematic issue of repertoire collections in relation to transcription (Kalaitzidis, 2012). Yet it is remarkable that various theoretical elements were combined in order to give basic explanations of *usûl*s in the theoretical chapters of the publications. First, numbers and letters were used to indicate the beats of *usûl*s (see Figures 8 and 9). This is a method which can also be found in the manuscripts of Petros Peloponnesios (Kalaitzidis, 2012: 279-280). Secondly, the beats were also depicted by the syllabic patterns (*düm-tek*) used in Ottoman music (see Figures 8). As seen in Figure 8, the syllabic patterns under the number and letters are indications to comprehend strong and weak beats. They actually help us to comprehend how to beat rhythmic patterns with both hands. As can be noticed in Figures 8 and 9, the first example indicates the beats of *Sengin Semai* (6/4), while the second one indicates the beats of *Ağır Aksak* (9/4) by using the numbers, letters, and the syllabic patterns *düm-tek*.

The other interesting point is that *usûl*s are compared to rhythmic patterns originating from the poetic meters of Ancient Greek music[23]. Many theorists such as Chrysanthos, Ioannis Zographos (Geyveli), Constantinos Psachos, and Agathangelos Kyriazidis consider *usûl*s as identical with Greek poetic meters. For example, Chrysanthos argues that *usûl Sofyan* is identical with *Paeon (Παίωνα)* and *Semai* is identical with the combination of *Paeon (Παίωνα)* and *Spondeios (Σπονδείον*) (1832: 80). At this point, it is also remarkable that Rauf Yekta, who is regarded as the founder of Turkish musicology, highlights basic *usûl*s such as *Sofyan* (2/2), which have analogous rhythmic patterns in Ancient Greece (Yekta, 1986: 100). Nevertheless, it is known that some Greek theorists even tried to understand Ottoman-Turkish music from the perspective of European music at the beginning of the 20th century. For instance, Kyriazidis demonstrates *semai* (six-beat rhythm) as *mazurka* in the repertoire (1909: 52).

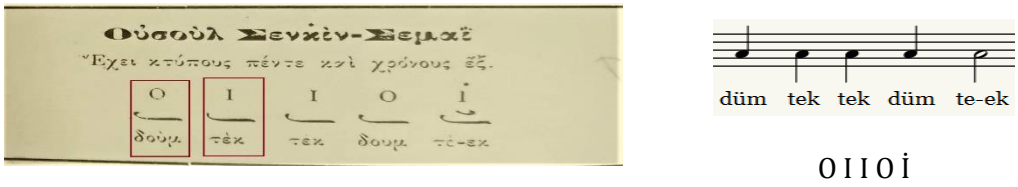

Figure 8. *Sengin Semai* (Psachos, 1908: Ib'/12)

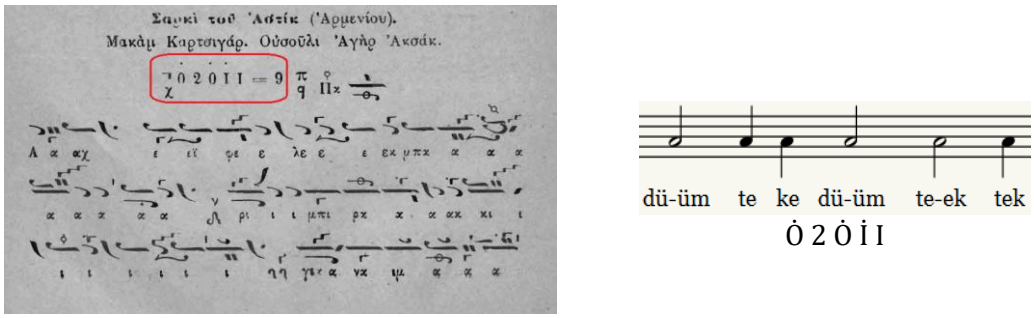

Figure 9. *Ağır Aksak* (Kyriazidis, 1909: 60)

Historiographical Tradition from Ancient Greek Texts to *Edvar*

The theory of *makam* music, which was historically based on Ancient Greek theory, was transmitted by means of the works of Islamic scholars including Al-Farabi and Safi al-Din al-Urmawi in the medieval period, and it was formed in

[23] See Charles Francis Abdy Williams (1911). *The Aristoxenian Theory of Musical Rhythm,* UK: Cambridge University Press.

Islamic culture over time. Initially, Ottoman theorists made references to these medieval texts. Since they remained distinct from the Persian-Arab tradition, they had their own theoretical perspective based on a knowledge of Anatolian music, notably since the 15th century. The systematic school pioneered by Safi al-Din al-Urmawi explained the musical system by means of numbers and ratios. The cyclic model was used to systematize modes and rhythms. However, this model had almost been abandoned in the 18th century. Theorists may have thought that it was no longer compatible with the musical practices of their times. In the same period, Turkish and Greek theorists used verbal descriptions in order to explain *makam*s and this method was used until the 20th century. But, as regards this understanding of Greek sources in their historical context, a 'question-answer' method comes to mind. It is a kind of dialogue used for critical thinking in Ancient Greek sources and it has been known as one of the most suitable methods for fundamental education since that time. The method encourages theorists to ask questions and then find answers in general. Moreover, this method must have influenced Greek theorists, because they used it as a tool in order to illuminate *makam* theory. As a consequence, Kyrillos Marmarinos, a student of Chalatzoglou, explained the basic concepts of *makam* theory by means of this method as follows:

> Wherein lies the basic theoretical foundation of secular music?
> Therein the so-named *tanbur* [instrument] by then [the Turks].
> How many [basic] tones (*perdede*s) has the *tanbur*?
> Together with the tone on the open string (ison), there are sixteen [tones].
> How many other fret positions (*perdede*s) are between them?
> Twenty-one fret positions (*perdede*s).
> What are bringing forth the so-called tones (*perdede*s)?
> [They produce] over ninety modes (echous). Tell me the names:
> *Yegâh*, *pes hisar*, *pes bayati*... (Popescu Judetz and Sirli, 2000: 87)

Even if theorists do not deliberately use it in their works, this method reflects a philosophical understanding which is widespread in Greek publications of the time. During the century, theorists continued to apply this approach in order to express the basic issues of *makam* theory (Stephanos Domestikos and Constantinos Protopsaltis, 1843: 1-8). Hence, it can be said that Greek theorists

developed an original historiography that did not exist in the *Edvar* tradition[24]. In other words, despite some fundamental similarities in Greek and Turkish sources, the ways by which their historical narratives were theorized remain distinct.

Repertoire

The writing culture of Greek musicians has shaped not only theoretical texts but also published repertoire. Musicians started to write Ottoman pieces by means of Byzantine notation earlier than Turkish musicians. Pieces were generally transcribed by cantors of the Orthodox Church and the lyrics of the songs were written in Turkish with the Greek alphabet (Karamanlidika). Since church music is basically a genre performed by the human voice, musicians carried their traditional practices to musical texts, though some new technical and aesthetic elements were also added to the collections. For example, meaningless syllables called *terennüm* were used in *peşrev, saz semaisi* and *aranağme*. The following song known as *Canım Dediğim Canıma Kastediyor Vallah*, composed by Şekerci Cemil Bey, is one of the pieces including *terennüm* in *aranağme* (Psahos, 1908: 13) (Figure 10). As known from historical sources, *terennüm* is an aesthetic element of vocal genres in Ottoman-Turkish music. But meaningless syllables, which are known as *teretismos (pl. teretismoi)* or *teretisma (pl. teretismata)*, are also a characteristic part of the musical form *kratēma (pl. kratēmata)* in traditional practices of Byzantine music, and they are used as a methodical element for solfege (*parallagi*) in Byzantine tradition (Touliatos, 1989: 239; Anastasiou, 2005: 70).

[24] The only examples are from the manuscripts of Safi al-Din al-Urmawi and Abd al-Qadir al-Maraghi, who were the two theorists of *makam* tradition in the 13th century and in the first half of the 15th century. They put quite limited phrases illustrating the 'question-answer' method in their theoretical texts. However, it is known that the two theorists wrote their works through examining Greek sources. Moreover, Muallim İsmail Hakkı Bey, one of the most important composers and teachers of Ottoman-Turkish music in the first quarter of the 20th century, used this method to a limited extent, probably being inspired by European sources and the idea of musical modernism (Muallim İsmail Hakkı, n. d: 8).

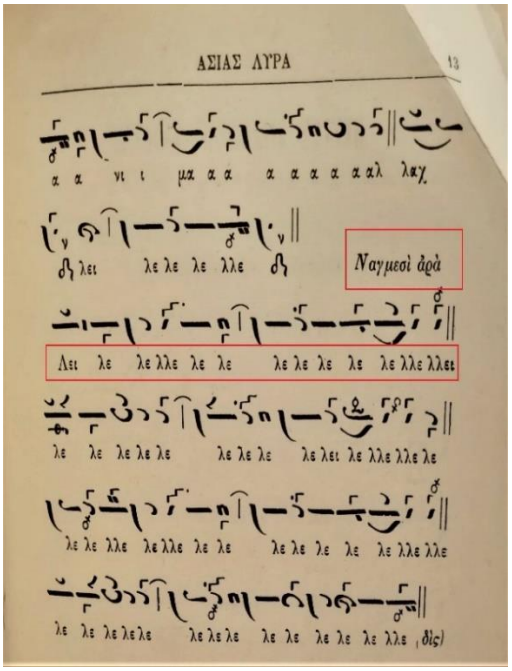

Figure 10. *Terennüm* in *Aranağme* (Psahos, 1908: 13)

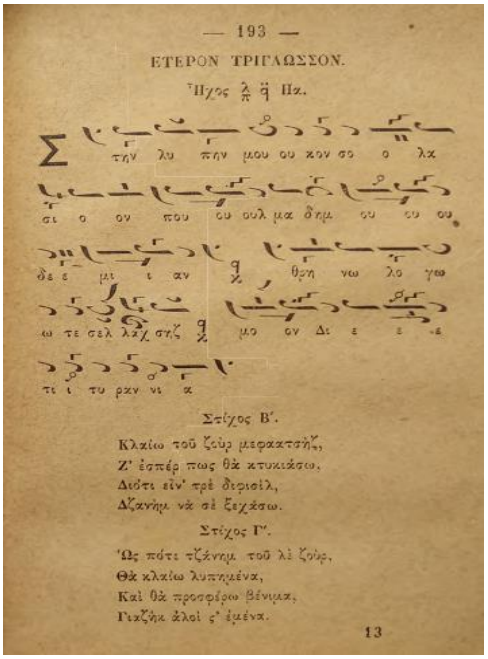

Figure 11. *Eteron Triglosson* (Kiltzanidis, 1888: 193)

Apart from the aesthetic originality of musical notation, it should be emphasized that the repertoire is also very rich and diverse. Some collections include many pieces in different forms and genres. For instance, *Syllogi Ethnikon Asmaton*, published by Sigalas, includes two noteworthy examples of Islamic prayers titled *Pray sung in Ramadan and Bairam* (1880: 24-30). Except for a small number of hymns or liturgical works, publications include secular pieces in general. There are also – though limited in number – songs in different languages, including Arabic, Italian, Persian and French. For example, Kyriazidis notated an Arabic song called *Mezep* in his work (1909: 70-72). Some bilingual songs and adaptations can also be found in the collections. At this point, one of the most striking pieces is the song titled *Eteron Triglosson* in *Kallifonos Seirin* (Kiltzanidis, 1888: 193). As seen in Figure 11, the song is a multilingual piece written in Turkish, Greek and French. To conclude here, the inclusion of such pieces in more than one genre, form and language should also be seen as a reflection of the cultural position and identity of the Greeks. That is, the Greeks must have taken an interest in different music cultures. As Kalaitzidis stated, they did not see religious and non-religious music as culturally separated from each other (2012: 16-22) and in this respect they brought quite an inclusive perspective to their writing-publishing culture.

Conclusion

Taking into account the outcomes of the research, it will be noticed that it is crucial to evaluate differences as well as similarities of musical episteme in written sources. Because notation, terminology and theory, the most essential mediators of music writing, are always influenced by the wider cultural thought of an era, these mediators should also be re-examined in relation to developmental tendencies in technical and systematic methods of notation more generally. At this point, there are highly distinctive instances which should be analyzed in Greek-Karamanlidika publications. Greek musicians were able to create an epistemic originality and synthesis by not only knowing Ottoman-Turkish music in terms of performance, but also interpreting former or current written sources of their times. As seen in the publications, the knowledge of Ancient Greek, European, Byzantine, and post-Byzantine sources were used as tools to teach makam theory or to notate the repertoire of Ottoman-Turkish music with an efficient and accurate technique. Therefore, we can note that the accumulation of the Greeks' musical knowledge gives rise to a case of epistemic originality and symbiosis in written culture. In our opinion, this epistemic originality arises not only from "a 'Greco-centric' stance but was rather a multi-faceted process identifying cultural and traditional loci and defining itself interactively" as Şahin and Güray also mentioned in order to clarify the perspective of music theory (2021: 177). Considering that church musicians especially had a great interest in *makam* music, the phenomenon of 'writing *makam* music' is also a multicultural issue for forthcoming studies.

REFERENCES

Alygizakis, Antonios. E. (1990). "Εκκλησιαστικοί ήχοι και αραβοπερσικά μακάμια" (Ecclesiastical Echoi and Arab-Persian Makams). *Grigorios o Palamas.* 73 (732): 194-225.

Anastasiou, Gregorios G. (2005). *Τα κρατήματα στην Ψαλτική Τέχνη.* (Kratemata in the Psaltic Art). Athens: Institute of Byzantine Musicology (Studies 12).

Apostolopoulos, Thomas and Kalaitzidis, Kyriakos. (2019). *Musical Treasures, Exegeses of Secular Oriental Music Part 1*. Bucureşti: Editura Universitatii Nationale de Muzica Bucuresti.

Arel, Hüseyin Sâdeddin. (1993). *Türk Mûsıkîsi Nazariyatı Dersleri* (Theoretical Lessons of Turkish Music). Ankara: Kültür Bakanlığı.

Ayangil, Ruhi. (2008). "Western Notation in Turkish Music". *Journal of the Royal Asiatic Society*. Series 3, 18 (4): 401-447. Retrieved from http://www.jstor.org/stable/27755982

Aydınlı, Rıdvan. (2020). "Osmanlı/Türk Müziği Geleneğinin Karamanlıca Kaynaklarında Usul Meselesi" (Rhythmical Issue (Usul) in Karamanlidika Sources of the Ottoman/Turkish Music Tradition), *Master Thesis*, Marmara University, Istanbul: Turkey.

Behar, Cem. (2008). "Geleneksel Osmanlı/Türk Musikisinin Tarihsel Kaynaklarından: Karamanlıca Yayınlar" (From Historical Sources of Traditional Ottoman/Turkish Music: Karamanlidika Publications), *Musikiden Müziğe Osmanlı/Türk Müziği: Gelenek ve Modernlik (Ottoman/Turkish Music from Musiki to Music: Tradition and Modernity),* 2nd ed. Istanbul: YKY Yayınları, pp. 244-268.

Bhabha, Homi K. (1994). *The Location of Culture.* London: Routledge.

Chalatzoglou, Panagiotis. (1900). "Σύγκρισις της Αραβοπερσικής μουσικής προς την ημέτεραν εκκλησιαστικήν ύπο Παναγιώτου Χαλάτζογλου" (Comparison of Arab-Persian Music with Our Ecclesiastical Music by Panagiotis Chalatzoglou), Iakovos Nafpliotis (Ed.). *Parartima Ekklisiasthikis Alitheias 2*, Istanbul: Patriarchal Printing Press, pp. 68-75.

Chaldaeaki, Evangelia. (2022). "Testimonies of Ottoman Turkish music in K. A. Psachos's archive". *Yegah Müzikoloji Dergisi*. 5 (2): 202-236. Retrieved from https://doi.org/10.51576/ymd.1198307

Chatzopoulos, Antonios. (2000). "Η εκκλησιαστική μουσική παιδεία στην εκκλησία της Κωνσταντινουπόλεως κατά το 19ο και 20ο αιώνα" (Ecclesiastical

music education in the church of Istanbul during 19th and 20th centuries). *PhD Thesis*, Aristotle University of Thessaloniki, Thessaloniki: Greece.

Chrysanthos of Madytos. (1832). *Θεωρητικόν Μέγα της Μουσικής* (Great Theory of Music). Trieste: Michele Weis.

Erol, Merih. (2009). "Cultural Identifications of the Greek Orthodox Elite of Constantinople: Discourse on Music in the Nineteenth and Early Twentieth Centuries". *PhD Thesis*, Boğaziçi Üniversitesi, Istanbul: Turkey.

Güray, Cenk. (2012). *Bin Yılın Mirası Makamı Var Eden Döngü: Edvar Geleneği.* (A Thousand Years of Heritage of Turkish Music: Edvar Tradition) İstanbul: Pan Yayıncılık.

Kalaitzidis, Kyriakos. (2012). *Post-Byzantine Music Manuscripts as a Source for Oriental Secular Music (15th to Early 19th Century).* (Koubaroulis, Kiriaki; Koubaroulis, Dimitri Trans.). Istanbul: Orient-Institut Istanbul.

Kalaitzidis, Kyriakos and Apostolopoulos, Thomas. (2015). "Byzantine And Post-Byzantine Musical Heritage". *From Antiquity to the 21st Century History of Istanbul*, 7. Istanbul: İbb Kültür AŞ, pp. 20-35.

Karazeris, Georgios. (2018). "The Research of the Early Nineteenth Century Ottoman Musical Style Through the Examination of the Efterpi Musical Collection". *Master Thesis*, Istanbul Teknik Üniversitesi, Istanbul: Turkey.

Kiltzanidis, Panagiotis. (1888). *Καλλίφωνος Σειρήν* (Kalliphonos Seirin) Second Edition. Istanbul: Neologos. [Original Work Published 1859]

Kiltzanidis, Panagiotis. (1881). *Μεθοδικὴ Διδασκαλία* (Methodical Teaching). Istanbul: A. Koromila.

Kyriazidis, Agathangelos. (1909). *Ὁ Ρυθμογράφος* (The Rythmographer). Istanbul: Patriarchal Printing House.

Mavroidis, Marios. (1999). *Οί Μουσικοί Τρόποι στην Ανατολική Μεσόγειο, Ο Βυζαντινός Ήχος το Αραβικό Μακάμ το Τουρκικό Μακάμ* (Musical Modes in Eastern Mediterranean Byzantine Echos Arabic Makam Turkish Makam). Athens: Fagotto.

Muallim İsmail Hakkı. (n. d.). *Türk Musikisi Nota, Usul, Makamat ve Solfej Metodu* (The Method of Turkish Music Notation, Usul, Makam and Solfege). Istanbul: İskender Kutmani Müzik Evi.

Olley, Jacob. (2017). "Writing Music in Nineteenth-Century Istanbul: Ottoman Armenians and the Invention of Hampartsum Notation". *Unpublished PhD Thesis*, King's College London, London: England.

Öztürk, Okan Murat; Beşiroğlu, Şehvar and Bayraktarkatal, Melik Ertuğrul. (2014). "Makamı Anlamak: Makam Nazariye Tarihinde Başlıca Modeller" (Understanding Makam: The Major Theoretical Models in the History of Makam Theory). *Porte Akademik Müzik ve Dans Araştırmaları Dergisi.* 10: 9-36.

Papadopoulos, Georgios. (1890). *Συμβολαὶ είς τὴν ἱστορίαν τῆς παρ' ἡμῖν ἐκκλησιαστικῆς μουσικῆς* (Contributions to the History of Our Ecclesiastical Music). Athens: Printing House of Kousoulinos and Athanasiados.

Pappas, Miltiadis. (1997). "Kiltzanidis'in Kitabı" (The Book of Kiltzanidis). *Master Thesis*, Istanbul Technical University, Istanbul: Turkey.

Pappas, Miltiadis. (2007). "Apostolos Konstas'ın Nazariyat Kitabı" (The Theoretical Book of Constas). *PhD Thesis*, Istanbul Technical University, Istanbul: Turkey.

Pektaş, Nil. (2015). "The Beginnings of Printing in the Ottoman Capital: Book Production and Circulation in Early Modern Constantinople". *Osmanlı Bilimi Araştırmaları.* 16: 3-32. Retrieved from https://dergipark.org.tr/en/download/article-file/673531

Philoxenis, Kyriakos. (1859). *Θεωρητικόν στοιχειώδες της μουσικής* (Basic Theory of Music). Istanbul: S. Ignatidis.

Philoxenis, Kyriakos. (1868). *Λεξικόν της Ελληνικής Εκκλησιαστικής Μουσικής* (The Dictionary of Greek Ecclesiastical Music). Istanbul: Evangelinos Misailidis

Phokaeus, Theodoros P. & Vyzantios, Stavrakis. (1830). *Εύτέρπη* (Euterpi). Istanbul: Galata Printing Press of Castro.

Phokaeus, Theodoros P. (1843). *Ἡ Πανδώρα* (Pandora) First Volume. Istanbul: Patriarchal Printing House.

Phokaeus, Theodoros P. (1846). *Ἡ Πανδώρα* (Pandora) Second Volume. Istanbul: Printing Press of Castro.

Phokaeus, Teodoros P. (1842*). Κρηπίς του Θεωρητικού και πρακτικού της Εκκλησιαστιής Μουσικής* (Foundation of Theory and Practice of the Ecclesiastical Music). Istanbul: Patriarchal Printing House.

Plemmenos, John. (2010). *Ottoman Minority Musics: The Case of 18th Century Greek Phanariots*. Germany: Lambert Academic Publishing.

Plemmenos, John. (2014). "The Rosary and the Rose: Clergymen as Creators of Secular Poetry and Music in Early-modern Balkans". *Muzikoloski Zbornik*. 50(2): 77-91. Retrieved from https://journals.uni-lj.si/MuzikoloskiZbornik/article/view/2994

Plemmenos, John. (2021). The Deconstruction of Byzantine Mode-organization and the New Chrysanthine 'Order'. *Epistēmēs Metron Logos*, (5). Retrieved from https://ejournals.epublishing.ekt.gr/index.php/episteme/article/view/27644

Popescu Judetz, Eugenia; Sirli, Adriana. A. (2000). Sources *of 18th Century Music. Panayiotes Chalatzoglu and Kyrillos Marmarinos Comparative Treatises on Secular Music.* Istanbul: Pan Yayıncılık.

Protopsaltes, Gregorios. (19th c.). "Pesref Muhaiyi echos pl. a Terilelele". Retrieved from https://pergamos.lib.uoa.gr/uoa/dl/frontend/el/browse/109426#fields

Poulos, Panagiotis C. (2019). "Spaces of Intercommunal Musical Relations in Ottoman Istanbul". *Yıllık: Annual of Istanbul Studies.* 1: 181-191. Retrieved from

https://dergipark.org.tr/tr/download/article-file/904989

Psachos, Constantinos. (1906, June 30). "Περί του εννεάσημου ρυθμού εν τη ασιατική μουσική" (About Nine Beat Rhythms in Asian Music). *Forminx,* 6, pp. 1-2.

Psachos, Constantinos. (1908). *Ασιάς Λύρα* (Asian Lyre). Athens: Spyridon Kousoulinos.

Psachos, Constantinos. (*2016*). *Μουσικὸν Ἡμερολόγιον τοῦ Βισέκτου Ἔτους 1896.* (The Music Calendar of the Intercalary Year 1896). (*First Edition*) Achilleas G. Chaldaeakes [Ed.). Athens: National and Kapodistrian University of Athens Music Department.

Psachos, Constantinos. (1978). *Η παρασημαντική της Βυζαντινής Μουσικής* (The Notation of Byzantine Music) Georgios Chatzitheodorou (Ed.). Athens: Dionysos Publishing [Original work published in 1917].

Psachos, Constantinos. (1980). *Το οκτάηχον σύστημα της βυζαντινής μουσικής, εκκλησιαστικής και δημώδους και το της αρμονικής συνηχήσεως* (The Octoechos System of Byzantine, Church and Folk Music and of the Harmonious Consonance) Georgios Chatzitheodorou (Ed.). Neapolis-Kritis: M. I. Polychronakis. [Original work published in 1941].

Romanou. Katy. (1990). "A New Approach to the Work of Chrysanthos of Madytos: The New Method of Musical Notation in the Greek Church and the Mega Theoretikon tis Mousikis". *Studies in Eastern Chant.* 5: 89-100.

Romanou, Katy (Ed.) (2010). "Introduction", *Great Theory of Music by Chrysantos Madytos* (Romanou Katy, Trans.). New York: The Axion Estin Foundation, pp. 10-25.

Romanou, Katy; Barbaki, Maria. (2011). "Music Education in Nineteenth-Century Greece: Its Institutions and their Contribution to Urban Musical Life, Nineteenth-Century". *Music Review*. 8: 57-84.

Sigalas, Antonios N. (1880). *Συλλογὴ Ἐθνικῶν Ἀσμάτων* (The Collection of National Songs). Athens: X. N. Philadelpheos.

Skoulios, Markos. (2003). “A Comparison of the Modal and Notational Systems of Ottoman-Turkish Classical and Byzantine Chanting Music Traditions”. *Music in the Mediterranea, Modal classical traditions, Vol. 2 Theory and Practice,* Ed. Feldman, Walter; Guettat, Mahmoud; Kerbage, Toufic. Thessaloniki: En Chordais, pp. 435-442. Retrieved from https://uoi.academia.edu/MarkosSkoulios

Skoulios, Markos. (2012). “Modern Theory and Notation of Byzantine Chanting Tradition: A Near-Eastern Musicological Perspective”. *NEMO Online*, 1: 15-34.

Stephanos Domestikos and Constantinos Protopsaltis. (1843). *Ερμηνεία της εξωτερικής μουσικής* (Explanation of External Music). Istanbul: Patriarchal Printing Press.

Stephanos Lambadarios (1875). Κρηπίς (Kripis) Ioannis Protopsaltis (Ed.). Istanbul: Patriarchal Printing Press.

Şahin, Nevin; Güray, Cenk; Aydın, Ali Fuat. (2018). “Cross-Cultural Influences in Makam Theory: The Case of Greek Orthodox Theorists in the Ottoman Empire”. *Musicologist,* 2 (2): 115-126. Retrieved from DergiPark.

Şahin, Nevin; Güray, Cenk. (2021). “The Final Period in the Cycle: Evaluating the Works of Greek-Orthodox Music Theorists of the 19th Century Ottoman Music Scene as a Cultural Media for Constructing or Preserving National Identity”. *The Relationship Between Art and Politics in the 19th Century Ottoman Empire: Institutionalization, Change and Continuity.* Ed. Komsuoğlu, Ayşegül; Toker, Hikmet; Nardella, Federica. İstanbul: İstanbul University Press, pp. 169-178.

Touliatos, Diane. (1989). “Nonsense Syllables in the Music of the Ancient Greek and Byzantine Traditions”. *The Journal of Musicology*, 7(2): 231-243. Retrieved from JSTOR.

Tura, Yalçın. (2001). *Kantemiroğlu, Kitabu İlmi’l–Musiki ala vechi’l-Hurufat*, I-II. Cilt. Istanbul: Yapı Kredi Yayınları.

Uslu, Recep. (2001). *Mehmed Hafid Efendi ve Musiki* (Mehmed Hafid Efendi and Music). Istanbul: Pan Yayıncılık.

Uslu, Recep. (2009). *Saraydaki Kemancı, Hızır Ağa ve Müzik Teorisi* (The Violinist in the Palace, Hızır Ağa and Music Theory). Revised third edition. Istanbul: İTÜ Yayınları.

Vlachakis, Nikolaos; Anagnostis, Stavrakis A. (1870). *Ἡ Λεσβία Σαπφώ* (Lesvia Sappho). Athens: Themis.

Vlachopoulos, Sotirios. (1848). *Ἁρμονία* (Armonia). Istanbul: E. Kagiol.

Voulgaris, D. Kanoni. (1870). *Ἡ Ἡδύφθογγος Ἀηδών* (Idiphthongos Aidon). Istanbul: P. Kiltzanidis.

Williams, Charles Francis Abdy. (1911). *The Aristoxenian Theory of Musical Rhythm.* UK: Cambridge University Press.

Yalçın, Gökhan. (2016). 19. Yüzyıl *Türk Musikisinde Haşim Bey Mecmuası Birinci Bölüm Edvâr* (Haşim Bey's Mecmua in the 19th Century Turkish Music First Part: Edvâr). Ankara: Atatürk Kültür Merkezi Başkanlığı.

Yekta, Rauf. (1986). *Türk Musikisi* (Turkish Music). Istanbul: Pan Yayıncılık.

Zographos, Ioannis G. (1872). *Μουσικὸν Ἀπάνθισμα ἡ Μεδζμουάϊ Μακαμάτ*. (Music Anthology or Mecmua-i Makamat), 2nd Edition. Istanbul: Anatoli Publishing House, Evangelinos Misailidis [Original Work Published 1856].

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From Intonation Adjustments to Synchronization of Heart Rate Variability: Singer Interaction in Traditional Georgian Vocal Music

ABSTRACT
This paper is concerned with how singers of Georgian traditional vocal music interact when singing together. Applying a variety of computational methods from audio signal processing and music information retrieval (MIR), we examine three existing corpora of (field) recordings for manifestations of a high degree of mutual coordination of the singers' voices. We find numerous examples of harmonically controlled mutual intonation adjustments on both short and long time scales. Furthermore, we believe that the observed differences in melodic and harmonic scales can also be interpreted as (side) effects of the singers' interaction with the possible goal of achieving harmonic togetherness (or consonance) on the time scale of individual (important) notes. In addition, together with the ensemble Khelkhvavi from Ozurgeti, we conducted an experiment demonstrating the synchronization of singers' heartbeat rates during the performance of the Gurian song *Chven Mshvidoba*. The results of our analysis show that a variety of measurable signs of interaction between singers can be observed and documented in existing corpora of Georgian traditional vocal music. Our experience also shows that relevant information about the synchronization of the bodily functions of singers during performances can nowadays be obtained with reasonable technical and logistical effort even in a 'real world' framework, thereby allowing us to address questions related to the 'ecological validity' of this kind of measurement.

KEYWORDS
Singer Interaction
Intonation Adjustments
Togetherness in Ensemble Performance
Traditional Georgian Vocal Music
Heart Rate Variability

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Introduction

Traditional Georgian polyphonic singing, which was recognized by UNESCO as a Masterpiece of the Oral and Intangible Heritage of Humanity in 2001 and inscribed on its Representative List in 2008, has fascinated many people for a long time and for different reasons. With the research project *Computational Analysis of Traditional Georgian Vocal Music (GVM)*, funded by the German Research Foundation since 2018, we seek to advance the understanding of traditional Georgian singing by employing computational methods from audio signal processing and music information retrieval (MIR). This paper is concerned with observable signs of singer interaction in traditional Georgian vocal music. More specifically, we explore three existing corpora of (field) recordings for manifestations of high degrees of mutual coordination of singers' voices and/or bodily functions. We make the assumption that the purpose of singer interaction is to achieve some form of 'acting as one entity'[1] or in other words some form of 'togetherness'[2]. The use of the term "entrainment" (Clayton, 2012), which at first glance seems to lend itself to the description of the phenomenon of singer interaction as well, seems on closer inspection to be too narrow in the present context, since we are not only interested in temporal coordination, for which the term 'entrainment' is commonly used, but also in harmonic coordination and its consequences. This notwithstanding, our study has benefited greatly from the concepts developed by Martin Clayton (Clayton, 2012).

The first of the corpora examined, the Erkomaishvili dataset from 1966 (Rosenzweig et al., 2020), is to our knowledge the oldest set of digitized recordings of Georgian chants for which all three time-synchronous voices could be analyzed computationally. Its analysis is covered in a series of papers (Müller et al., 2017; Scherbaum et al., 2017, 2020; Rosenzweig et al., 2019, 2020). It is special in its recording strategy in that master chanter Artem Erkomaishvili (1887 – 1967) was recorded against the playback of his own voice(s). This was done by sequentially recording the three voices using an overdubbing technique, leading to three subsequently recorded temporal segments. The top voice,

[1] A metaphorical image for this 'acting as one entity' is the flocking of birds, when the movement of individual birds becomes affected by the geometrical constraints of the movement of the flock (direction, speed, distance between individual birds). An analogy in polyphonic singing would be the superposition of melodic intentions (which represent the individual birds) and harmonic constraints (which represents the flock).

[2] The topic of achieving 'togetherness' in ensemble performances (in a general context) is currently the topic of a research project hosted at mdw – University of Music and Performing Arts Vienna (https://mdw.ac.at/togetherness/).

which in Georgian chant is also the leading voice, was recorded first (as a solo voice), then played back to him while he was singing the middle voice. Finally, he sang the bass voice against the playback of the superposition of the top and middle voice. This overdubbing technique, which was originally employed only because of the lack of fellow singers, simplifies the task of determining the fundamental frequencies F0 (which for simplicity we will also refer to as pitches) for all voice segments. Details of the processing techniques can be found in Müller, 2015. The synchronized pitch tracks for the individual voices, on the other hand, offer the opportunity to investigate 'asymmetric voice interaction'[3] of one of the last professional master chanters of the last century, opening a unique window onto earlier musical thinking.

The second corpus, which we refer to as the GVM dataset, was collected during extensive ethnomusicological field expeditions to rural Georgia, which the first author undertook together with the Georgian ethnomusicologist Nana Mzhavanadze, to record village singers, to live and to study with them. The recording strategy employed during three field expeditions in 2015, 2016, and 2019, respectively, was especially designed for modern state-of-the-art computational analyses (Scherbaum et al., 2015, 2016, 2018a, 2018b, 2019; Scherbaum and Mzhavanadze 2018, 2020, 2021; Rosenzweig et al. 2022). Whenever possible[4], one singer from each voice group was simultaneously recorded with a high-quality headset microphone and a larynx microphone. In addition, the whole ensemble was recorded with a high-resolution (4K) video camera on which a directional microphone was mounted, plus a conventional stereo microphone. The systematic use of larynx microphones allowed the documentation of the acoustical contribution of each singer while all of them were singing together in their natural context without cross-talk artifacts (Scherbaum et al., 2015). This allowed us to study the mutual interactions between singers, which in this case were 'symmetric' (in the sense of Clayton, 2012), quantitatively for this dataset.

The third and most recent dataset, the Ozurgeti dataset, was specifically generated for the investigation of singer interaction at the level of physiological processes. It has been observed that the heartbeat rates of singers in a choir can synchronize, probably in

[3] We use the terms asymmetric and symmetric voice interaction in a manner similar to Clayton's (2012) use of these terms in the context of studying entrainment.
[4] During funerals, we refrained from using headset microphones for reasons of social propriety.

connection with their breathing. Müller and Lindenberger (2011) describe phase synchronization of respiration and heart rate variability (HRV) associated with choral singing in unison and in canon. In a study by Vickhoff et al. (2013) it was demonstrated that the HRV of choral singers is significantly affected by the structure of the music being sung. For example, unison singing of regular song structures makes the singers' hearts accelerate and decelerate simultaneously (Vickhoff et al., 2013). Motivated by these studies, during our field expedition in 2019 we conducted an experiment to monitor the singers' heartbeat rates during a two-hour-long recording session. For that purpose, we augmented our previously used recording equipment with (optical) pulse sensors taped to the index fingers of the singers. Heartbeat, audio, and video channels were time-synchronized via Bluetooth-generated time codes. As we will demonstrate, the resulting dataset now allows (to our knowledge for the first time) the investigation of the synchronization of heart rate variability of Georgian singers during the performance of complex songs.

The fact that traditional Georgian singers strongly interact with each other during their performances has been noted in scholarly literature at least as far back as Nadel (1933), but studying the related phenomena in a quantitative way has not really been possible until recently because of the lack of appropriate data. With the present paper, we want to demonstrate that the three datasets collected and analyzed within in the context of the GVM project remedy this situation.

As we will demonstrate, they now make it possible to analyze in detail (down to the level of individual notes) the harmonic intonation adjustments mentioned by Nadel (1933) to achieve harmonic consonance, and on the other hand to quantify the resulting systematic differences in melodic and harmonic tonal organization. Furthermore, we will demonstrate that harmonic coordination (which requires a high degree of singer interaction) is the dominating factor in the context of joint continuous pitch drifts that occur on the time scales of whole songs and which have been observed in particular for funeral dirges from Svaneti in northwest Georgia (Scherbaum and Mzhavanadze, 2020; Scherbaum et al., 2022).

For singers, harmonic intonation adjustments and intended joint pitch drifts can be both demanding and rewarding. On the demanding side, they require a high degree of mutual

harmonic coordination. On the beneficial side, harmonic coordination, when successful, will be rewarded with the cognitive state of (sensory) consonance[5] (Cazden, 1962; Parncutt, 1989; Sethares, 2004). As a consequence, the investigation of singer interactions is seen as one way to advance the understanding of togetherness[6] in ensemble performances of traditional Georgian singing.

Observational Evidence for Harmonic Coordination in Traditional Georgian Singing

Asking Georgian singers and musicologists about their perception of the specifics of traditional polyphonic Georgian music, the first author has sometimes heard that it requires "vertical thinking" (cf. Scherbaum et al. 2020), in other words, the capability to 'think' in terms of harmonies instead of melodies. During our ethnomusicological field expedition in 2016, Ruben Charkhviani, a singer from Ushguli/Svaneti, was asked what non-Georgian singers do differently when trying to sing traditional Georgian music. His response – "They always want to come to the end" – was his way of expressing that traditional Georgian singing is not concerned about having to achieve something along a time axis (horizontally) but more with respect to the other voices (vertically). This phenomenon was reported in the scientific literature as early as the 1930s. Based on the analysis of phonograph recordings of Georgian singers recorded in prisoner-of-war camps in World War I (1914-1918), Siegfried Nadel (1933) wrote about the tonal organization of their polyphonic singing, as follows:

[5] It seems noteworthy in this context that the ambitus of (old) traditional Georgian songs is often rather small. Therefore, the fusion of overtones plays a considerable role in the perception of consonance and dissonance, such that the concept of sensory consonance becomes relevant.
[6] See also https://mdw.ac.at/togetherness/about/

> Finally, polyphony itself entails a change of tonal values of a different kind[7]. For it demands, especially at the main and resting points of the melodic line, pure consonances, or it generally favors the major third[8]; i.e., it demands simultaneous intervals which often do not coincide with the neutral or equal-distance ones of the melody. These simultaneous intervals must therefore be made possible by certain adjustments in intonation in the individual voices, which in turn can crisscross the intended melodic-tonal system…[9] (1933: 29)

Technically speaking, Nadel noticed that the intention of Georgian singers to maintain consistency of a melody with a fixed melodic scale was at times abandoned in favor of harmonic coordination, a process that requires a high degree of mutual interaction among the individual singers. Following Scherbaum et al. (2020), we refer to this process as 'dynamic intonation adjustment', which happens more or less instantaneously for the individual notes which are part of an harmonic interval or chord. In the following Section 2.1, we will discuss to what degree intonation adjustments can be identified in the Erkomaishvili and the GVM dataset, respectively.

Determination of Dynamic Intonation Adjustments from Recordings

One possible approach to measuring dynamic intonation adjustment is based on the analysis of pitch fluctuations of short pitch trajectories. Our hypothesis is that dynamic intonation adjustment introduces statistical dependencies between the pitch trajectories of two voices, which can be mathematically quantified through the analysis of the variances of the individual pitch trajectories and their differences. The theoretical basis is given by the fact that the difference of two uncorrelated Gaussian random variables (RV) is again a Gaussian RV with the mean being the difference of the means and the variance being the sum of the variances (Stirzaker, 1999). In the case of a correlation between the two RVs (as is expected in the case of pitch tracks where both singers try to maintain a particular interval despite fluctuations of the individual voices), the variance of the interval trajectory will be less than the sum of the individual variances. Figure 1

[7] Previously, Nadel had discussed differences of the perceived melodic tuning system with respect to Western-European "church modes".

[8] The conjectured strong role of major thirds as a general feature in traditional Georgian singing could not be confirmed in recent investigations, except in city songs (e.g., Scherbaum et al. 2022).

[9] Die Mehrstimmigkeit selbst bringt schließlich eine Änderung der Tonwerte von anderer Art mit sich. Denn sie fordert, vor allem an den Haupt- und Ruhepunkten der melodischen Linie, reine Zusammenklänge, oder sie bevorzugt ganz allgemein die große Terz; d. h. sie verlangt Simultanintervalle, die oft mit den neutralen oder distanzgleichen der Melodie nicht übereinstimmen. Diese Simultanintervalle müssen daher durch gewisse Intonationsänderungen in den einzelnen Stimmen ermöglicht werden, die ihrerseits das intendierte melodisch-tonartliche System durchkreuzen können… (Nadel, 1933: 29).

shows two selected examples to illustrate this situation, one from the Erkomaishvili dataset (top panel), and one from the GVM dataset (bottom panel). In both cases, the variance reduction for the interval trajectory is more than 50%.

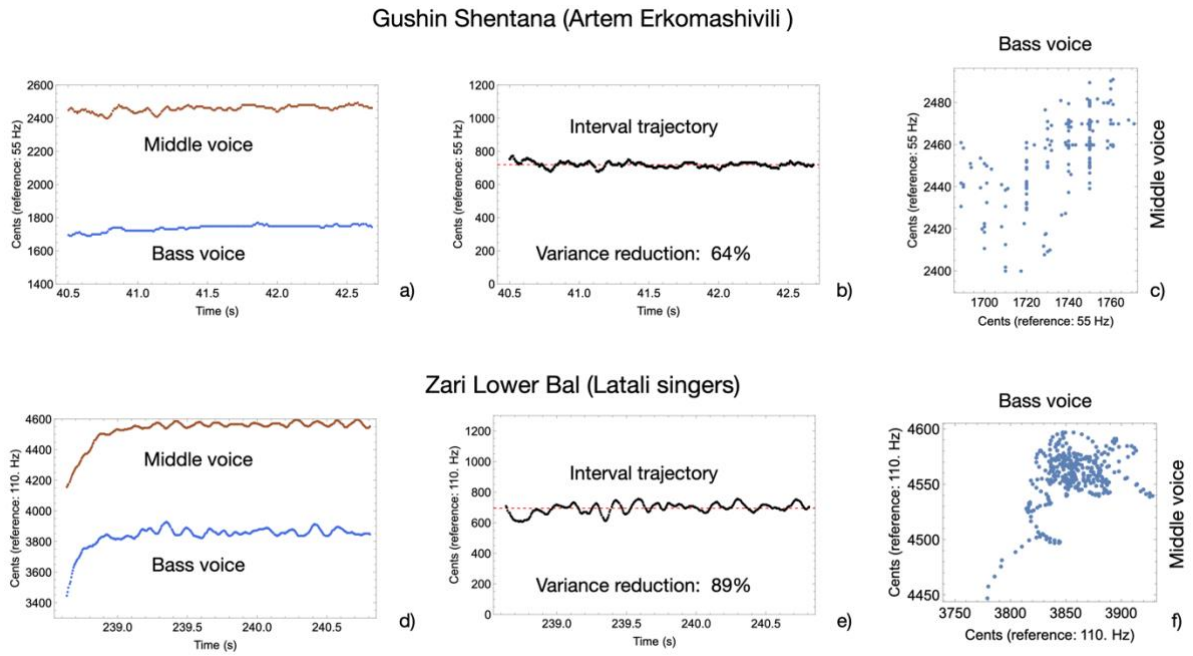

Figure 1. Examples for dynamic intonation adjustment. Fig. 1a, b, c, show the two pitch trajectories, their differences (interval trajectory), and the correlation plot, respectively, for a time window of approximately 2 sec from the chant *Gushin Shentana* (GCH-ID 10) from the Erkomaishvili dataset, maintaining a harmonic interval of a fifth. Fig. 1d, e, f, display an equivalent example for a funeral chant (*Zari*) from the GVM dataset (GVM-ID 203). The middle and bass voices in this case were sung by the two experienced singers Murad and Givi Pirthskhelani, respectively, from Latali.

Dynamic intonation adjustment requires considerable skills, both on the perceptual and the voice production side, since the mutual voice interaction happens essentially instantaneously and therefore subconsciously. Consequently, this phenomenon is not observed to the same extent in all ensembles in the analyzed data sets. Figure 2 shows the number of occurrences for all those dynamically adjusted harmonic intervals in the complete Erkomaishvili dataset (Fig. 2a) and a single funeral chant from the GVM dataset (Fig. 2b), which consist of notes longer than 0.5 seconds and for which the variance reduction of the interval variance was at least 50 percent.

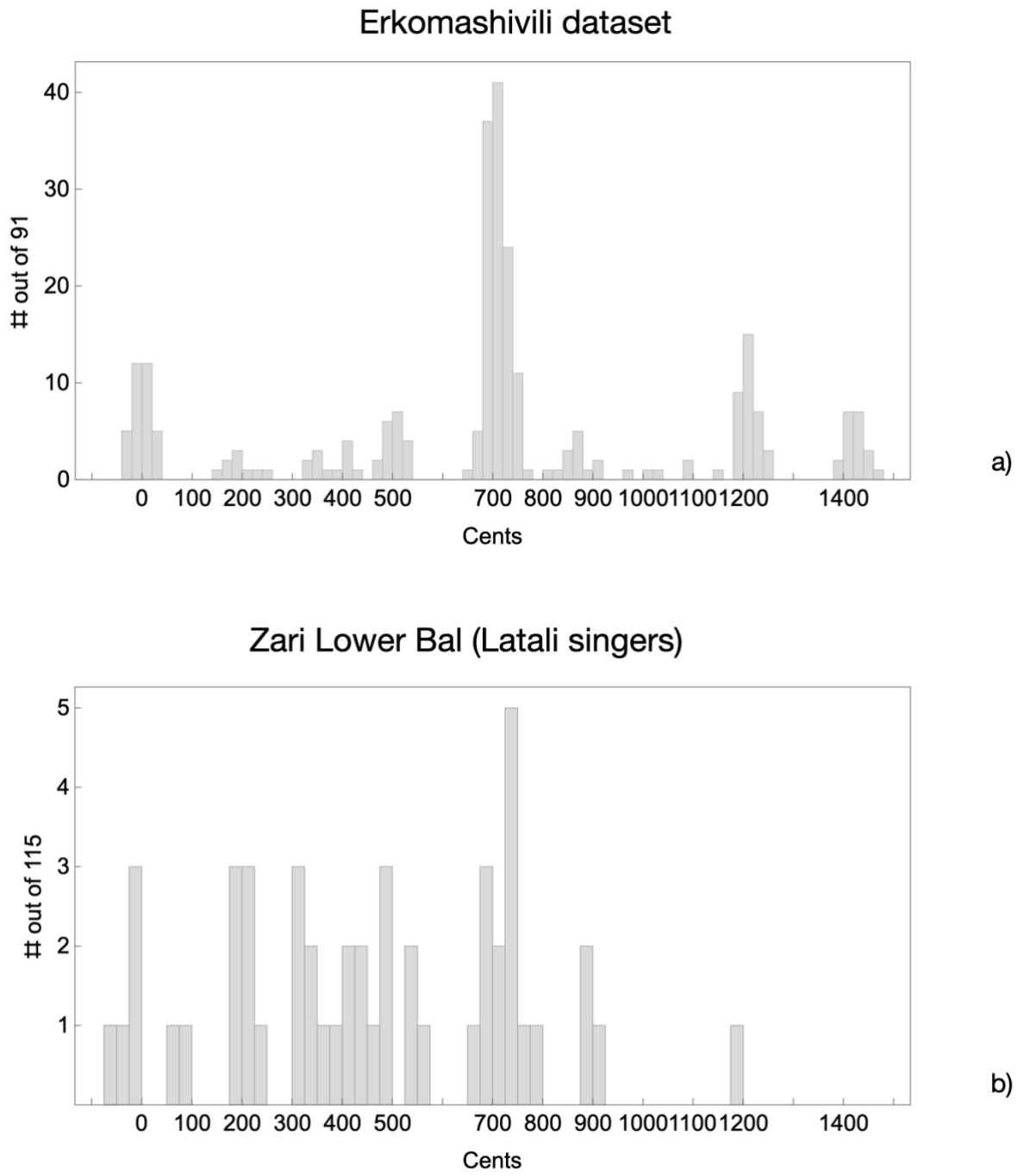

Figure 2. Histogram of the number of occurrences for all those dynamically adjusted harmonic intervals in the complete Erkomaishvili dataset (a) and a single funeral chant from the GVM dataset (b), which consists of notes longer than 0.5 seconds and for which the variance reduction of the interval variance was at least 50 percent.

As can be seen in Figure 2, dynamic intonation adjustment is particularly pronounced in the Erkomaishvili dataset (Fig. 2a), although examples of it are also visible in the example from the GVM dataset (Fig. 2b). In both sets of records, the fifth is the interval that is most often the subject of dynamic intonation adjustments. Furthermore, Artem Erkomaishvili,

who was an exceptionally skilled singer, also seems to have been very careful to tune octaves, unisons, ninths, and fourths exactly to his liking.

Harmonically Controlled Pitch Drifts

The attempt to relate the fluctuations of the pitches of one voice to another on the time scale of the individual notes can be seen as a skillful illustration of the harmonic (vertical) musical thinking of experienced singers. To produce dynamic intonation adjustments is perceptually and technically demanding and examples of them are present, but not overly abundant, in the GVM dataset. Even more pronounced is another phenomenon that requires strong harmonic coordination, on a much longer time scale, namely over the course of an entire song. This is the phenomenon of joint continuous pitch drifts, which have been observed in particular for funeral songs from Svaneti (*Zär* aka *Zari*; Scherbaum and Mzhavanadze, 2020, Scherbaum et al., 2022). Fig. 3 shows a pronounced example of a *Zari* from Mestia, sung by singers from the nearby community of Zargash.

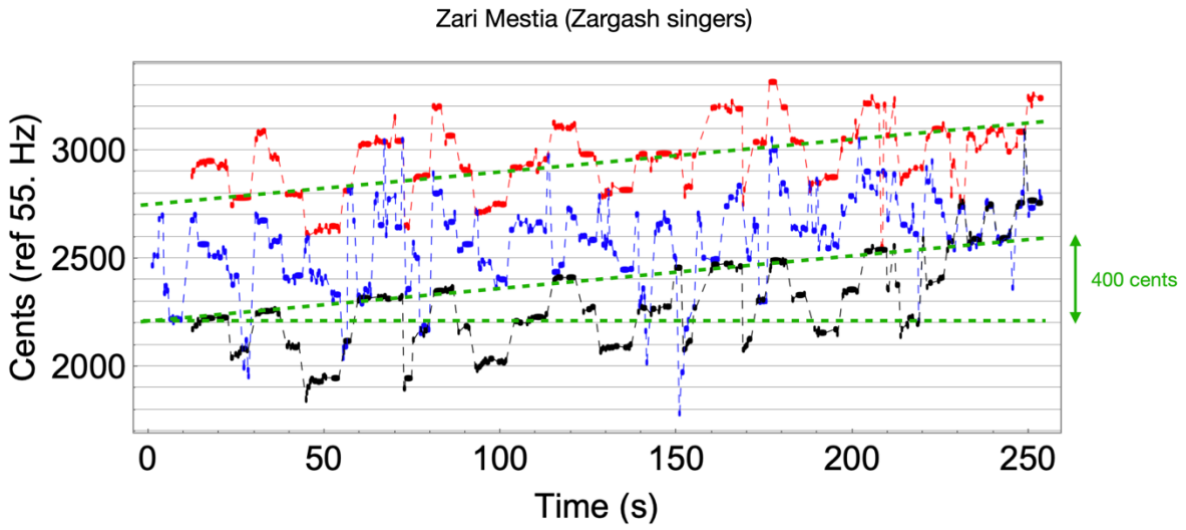

Figure 3. Trajectories of stable pitch segments of the *Zari* from Mestia, sung by singers from the nearby community of Zargash. The pitch difference between the begin and the end of the song is approximately 400 cents.

Note that the pitch drift is continuous and parallel for the individual voices, similar to a flock of birds that changes direction but maintains its geometrical integrity. By analogy, the singers maintain their relative melodic tuning systems (Scherbaum et al., 2022). This kind of harmonic coordination is often employed by singers from Svaneti. It is used inconsistently. i.e., by different ensembles not always for the same songs (cf. Scherbaum

et al., 2022). In contrast to Western amateur choirs, where pitch drift is mostly downwards, the observed joint pitch drifts in Svan ensembles is nearly always upwards with average drift rates between 30-100 cents/minute. Since it is most prominent in funeral dirges, it seems to serve a group purpose, possibly to express collective pain and at the same time maintain a strong feeling of togetherness.

Consequences of Harmonic Intonation Adjustments

Since during (fast) harmonic intonation adjustments, 'melodic precision' is subordinated to 'harmonic precision' (e.g., by pitch bending to achieve harmonic intervals in a particularly pure way) this will have noticeable consequences for the tonal organization[10]. In the case of the Erkomaishvili and the GVM datasets, they lead to systematic differences between the melodic and harmonic scales (Table 1).

Table 1. Comparison of the scale models for the Erkomaishvili dataset (labelled AE) with the average tuning systems obtained for all Svan ensembles (labelled 2016 GVM) from Scherbaum et al. (2022).

Scale degrees	AE melodic	2016 GVM melodic	AE harmonic	2016 GVM harmonic
8	1231	NA	1217	1182
7	1052	NA	1043	1018
6	886	868	874	868
5	705	693	707	703
4	509	509	515	495
3	342	332	355	349
2	176	163	191	205
1	0	0	0	6

[10] Slow harmonically controlled pitch drifts affect the apparent tonal organization in such a way that prior to a tuning analysis they need to be adjusted (cf. Scherbaum et al., 2022; Rosenzweig et al., 2022).

The main difference between the melodic and harmonic scales is easy to understand if one considers that harmonic coordination aims at singing the harmonic fourth (close to 500 cents) and fifth (close to 700 cents) as purely as possible. To accommodate this, the approximately equidistant melodic scale (the step sizes in columns 2 and 3 in Table 1 are not very different from 171 cents) is then temporarily 'bent'. This then results in a smaller interval for the melodic second (close to 171 cents) than for the harmonic second, which often occurs as a byproduct of the 1-4-5 chord and is therefore about 200 cents. In this sense, differences in melodic and harmonic scales can be interpreted as possible side effects of harmonic coordination of polyphonic singing on the time scale of individual (important) notes.

Synchronization of Heart Rate Variability

Growing experimental evidence attests that music might actually modulate physiological functions and elicit biochemical effects (Cervellin & Lippi, 2011). The human heart plays a central role in this context. Together with the respiratory system, with which it is coupled by an effect called respiratory sinus arrythmia (RSA) (Ludwig, 1847), the heart functions as the engine of our lives by keeping our body's energy supply running. In addition, it acts as a sensory organ in a physiological sense (Shepherd, 1985), but also on a metaphorical level. For example, we speak of 'something going to our heart' when it touches us emotionally.

Chew and coworkers (2020) have shown that "Every heart dances to a different tune", in other words that the reaction of the heart to music is very subjective. One the other hand, it has also been found that the heart rates of singers in a choir can synchronize, probably in connection with their breathing. As noted earlier, Müller and Lindenberger (2011) describe phase synchronization of respiration and heart rate variability (HRV) associated with choral singing in unison and in canon. In a study by Vickhoff et al. (2013) it was demonstrated that the HRV of choral singers was significantly affected by the structure of the music being sung. Unison singing for example of regular song structures makes the hearts of the singers accelerate and decelerate simultaneously (Vickhoff et al., 2013).

We wanted to test if these effects could also be observed for more complex song structures. In July 2019, together with Lasha Chkhart'ishvili (bass voice), Guram Guntadze (middle voice), and Mamuka Siradze (top voice) from the trio Khelkhvavi in

Ozurgeti, we conducted an experiment to monitor the singers' different heart rates during singing. During a recording session, which lasted about two hours, we augmented our recording equipment with (optical) pulse sensors taped to the index fingers of the singers (Fig. 4). Heartbeat, audio and video channels were time-synchronized via Bluetooth-generated time codes (Tentacle Sync).

Figure 4. Trio Khelkhvavi from Ozurgeti. From left to right: Lasha Chkhart'ishvili (bass voice), Guram Guntadze (middle voice), and Mamuka Siradze (top voice).

For the analysis of the recordings, we wanted to make sure that the singers were already well tuned to each other but also that the song was sufficiently complex. These two requirements let us choose the Gurian folk song Chven Mshvidoba, which was sung close to the end of the session.

The individual pulse sensor recordings are subject to high frequency noise (Fig. 5a). After lowpass filtering, (Fig. 5b) the signal-to-noise ratio visibly increases, in particular for the recording of the top voice singer. Nevertheless, the heartbeat recording quality still differed strongly for the individual singers, possibly due to differences in the individual sensor couplings.

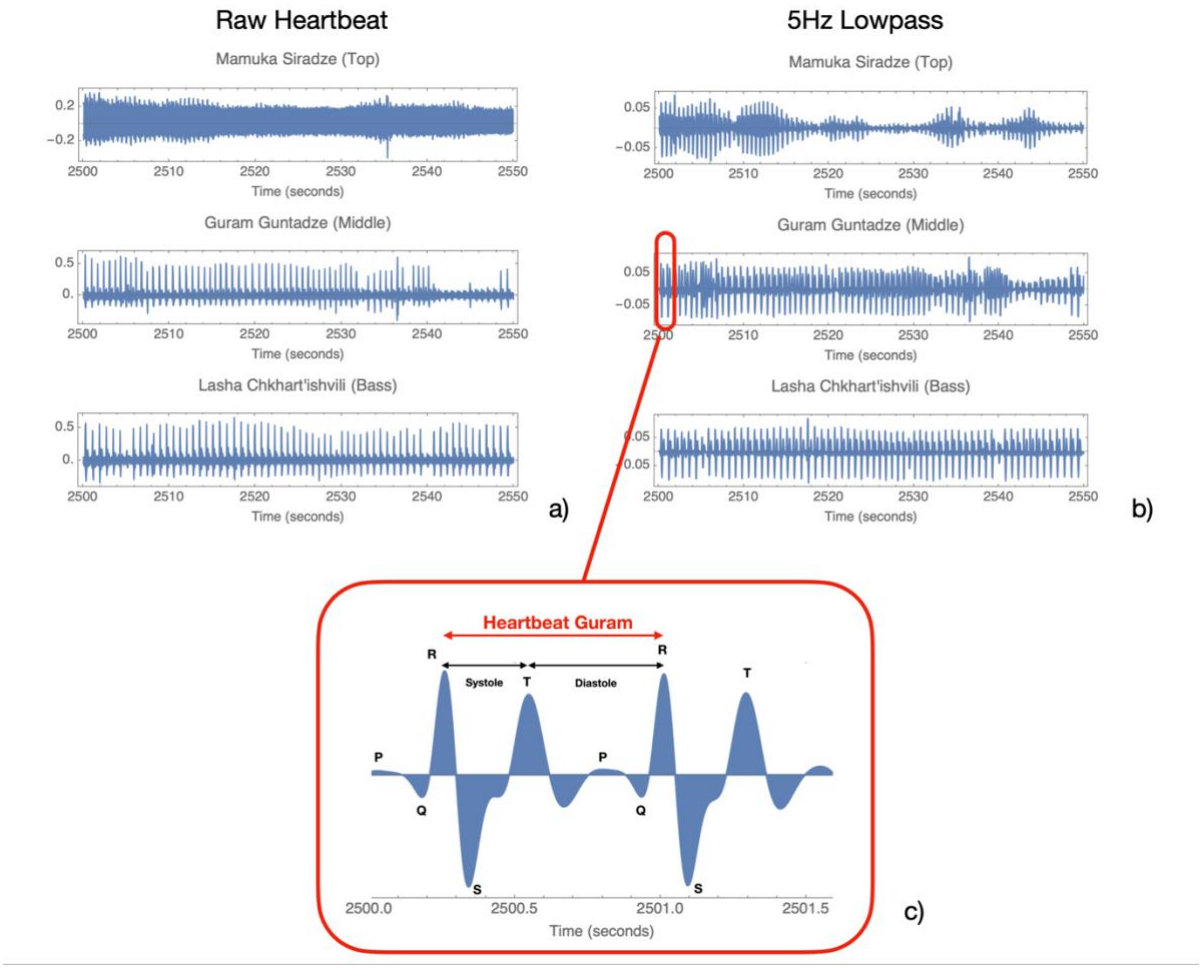

Figure 5. Panel a) Raw heartbeat recording of the three singers for a selected time window of 50 seconds duration. Panel b) Heartbeat recordings lowpass filtered at 5 Hz. c) Two seconds of Guram's heartbeat, lowpass filtered at 5 Hz.

For all of the singers, one can clearly recognize all the typical deflections seen on an electrocardiogram (ECG or EKG). The so-called QRS complex[11], in Fig. 5c) amplified for the middle voice singer Guram, is the most visually obvious part of the trajectory and corresponds to the activation of the ventricles of the human heart and the contraction of the large ventricular muscles. The systole is the tightening and thus blood outflow phase of the heart in contrast to the diastole, which defines the relaxation and thus blood inflow phase of the cardiac cycle.

Since the quality of individual pulse sensor recordings differs as a function of time but also depending on the achieved sensor coupling, the robust and reliable extraction of a

[11] https://bvns.net/wp-content/uploads/2018/10/Cardiology-the-ABC's-of-the-PQRST.pdf

continuous sequence of heartbeats constitutes a challenging task.

In the present case, the problem was approached using the concept of Predominant Local Pulse (PLP) functions (Grosche and Müller, 2011; Müller, 2015; 2021) for which the main constituents are shown in Fig. 6. The novelty function (Müller, 2015; 2021) shown in Fig. 6a encodes the most prominent heartbeat signals' amplitude changes over time. It provides the basis for the calculation of a time-tempo representation (Fig. 6b), the so-called tempogram (Müller, 2015; 2021).

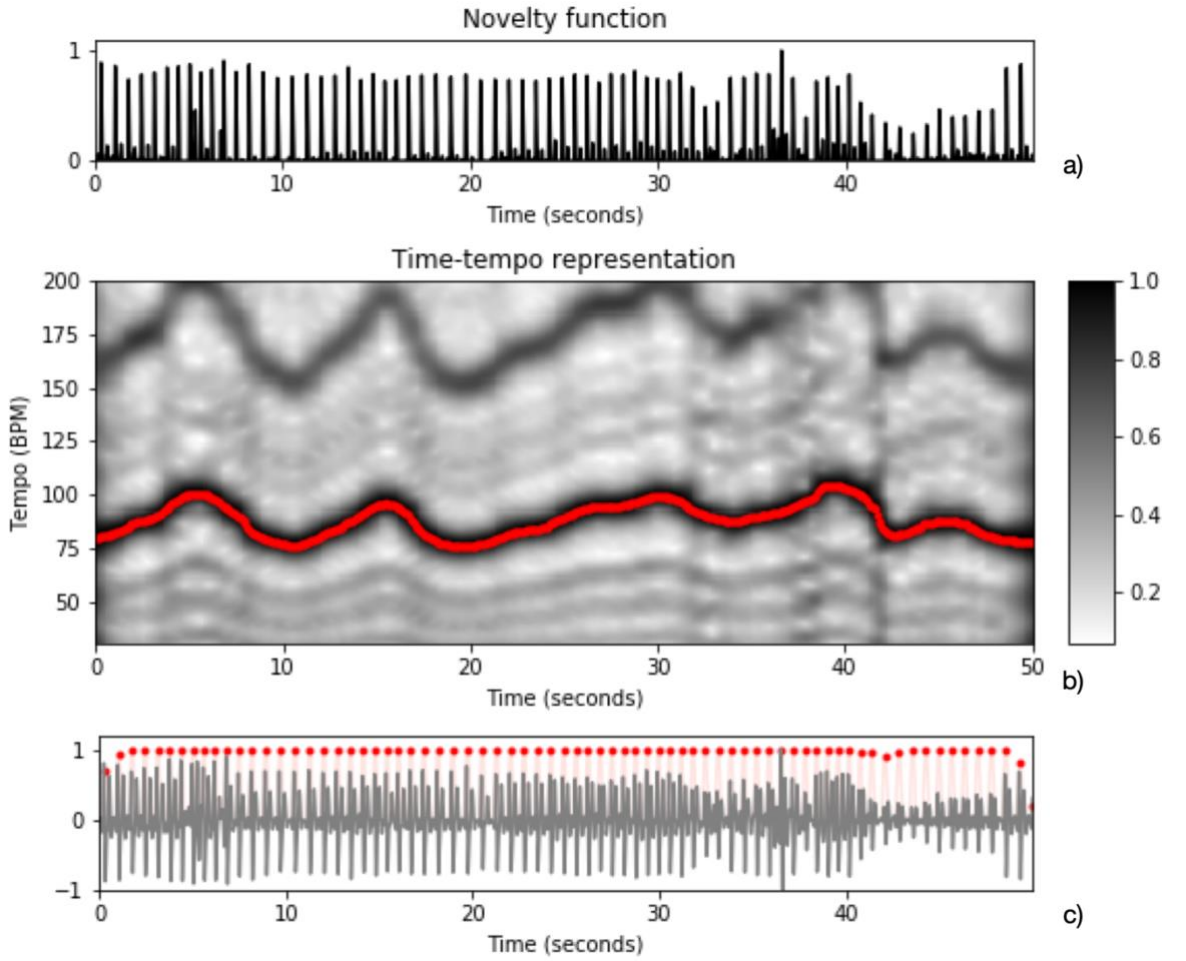

Figure 6. a) Novelty function for the heartbeat of the middle voice singer. b) Corresponding tempogram (time -tempo representation). c) Predominant Local Pulse (PLP) function (in red) and selected peaks (red dots), superimposed on the lowpass filtered heartbeat recordings.

The key idea behind the tempogram concept is to locally compare the novelty function with windowed sinusoids. Based on this idea, for each time position, a windowed sinusoid is calculated that best captures the local peak structure of the novelty function. Instead of looking at the windowed sinusoids individually, the crucial idea is to employ

an overlap-add technique by accumulating all sinusoids over time. As result, one obtains a single function that can be regarded as a local periodicity enhancement of the original novelty function. Revealing predominant local pulse (PLP) information, this representation is referred to as a PLP function (Fig. 6c). The PLP function can be regarded as a pulse tracker (in our case the heartbeat) that can adjust to continuous and sudden changes in tempo as long as the underlying novelty function possesses locally periodic patterns (Müller, 2015; 2021).

In order to quantify the heart rate variability (HRV) of the singers, we followed the work of Vickhoff et al. (2013) and Wang and Huang (2012) and chose RMSSD, which is defined as the root mean square of successive normal RR intervals (Wang and Huang, 2012). Specifically, we calculate RMSSD as the root mean square of the distances of successive PLP peaks (Fig. 7). To get a rough view of the entire recording session, a window length of 30 seconds was chosen for the RMS calculation. This results in sufficiently smooth curves which enable the comparison of the individual singers but still preserve some details.

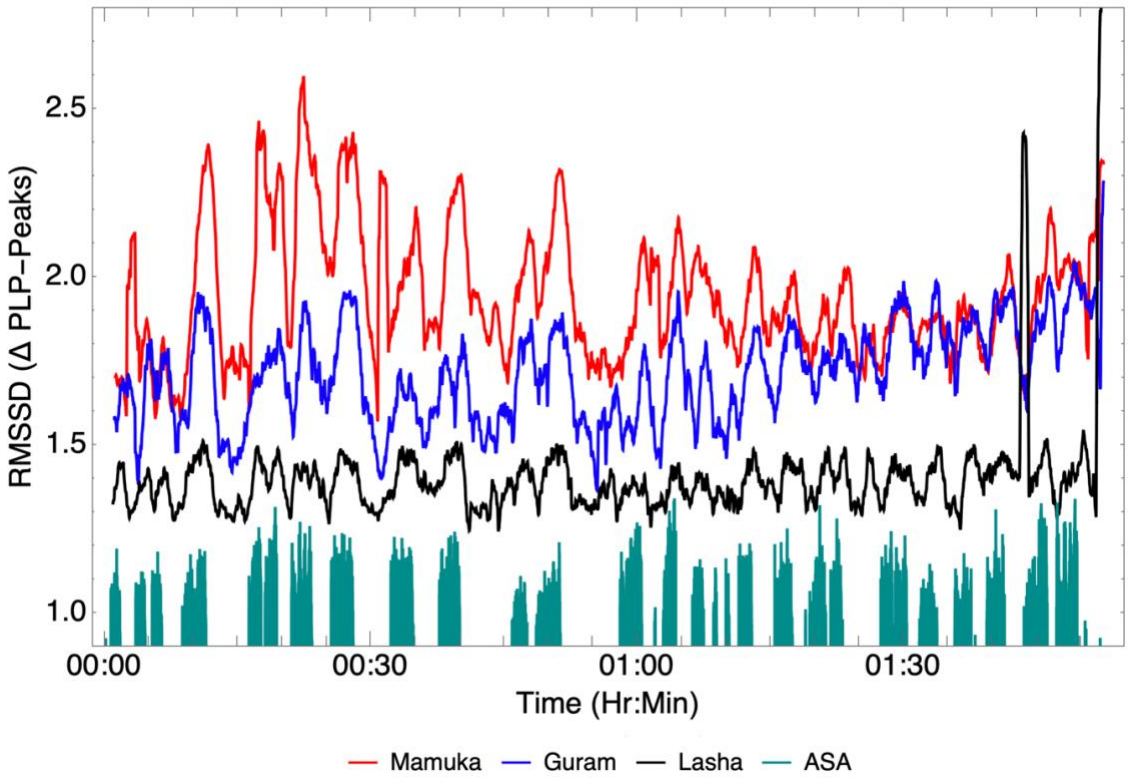

Figure 7. The red, blue, and black lines show the RMSSD values, which describe the change in heart rate in a root-mean-square sense, for the three singers. The green curve shows the average singer activity (ASA), averaged over 30 seconds.

As can be seen in Fig. 7, there is a strong correlation between the RMSSD trajectories of the individual singers during the whole recording session. This means that the hearts of the singers accelerate and decelerate simultaneously on the time scale given by the averaging window of 30 seconds. A likely explanation is the coupling of HRV to respiration (cf. Vickhoff et al., 2013). This is because with this long time scale there should be a correlation between singing or not singing and respiration, and via respiration also with heart rate activity. In other words, there should be a correlation between the RMSSD trajectories and phases where the singers were singing and when they were not. This can indeed be seen from the comparison of the RMSSD trajectories with the average singers activity (ASA), which is calculated by thresholding the sum of the individual RMS amplitudes of the larynx microphones.

For a more detailed analysis, we selected the Gurian folk song Chven Mshvidoba, which was sung close to the end of the recording session. For its analysis we chose a shorter time window (10 sec) for the RMS calculation in order to be able to perceive more detailed variations in heart rate variability (Fig. 8). In particular, the two upper voices (Guram and Mamuka) show a clear correlation between their RMSSD trajectories for the duration of the whole song (Fig. 8a). This means that the hearts of Guram and Mamuka accelerated and decelerated more or less simultaneously on the given time scale. In contrast, the RMSSD trajectory of the bass voice singer (Lasha) showed less amplitude variations and no clear correlation to either the middle or the top voice.

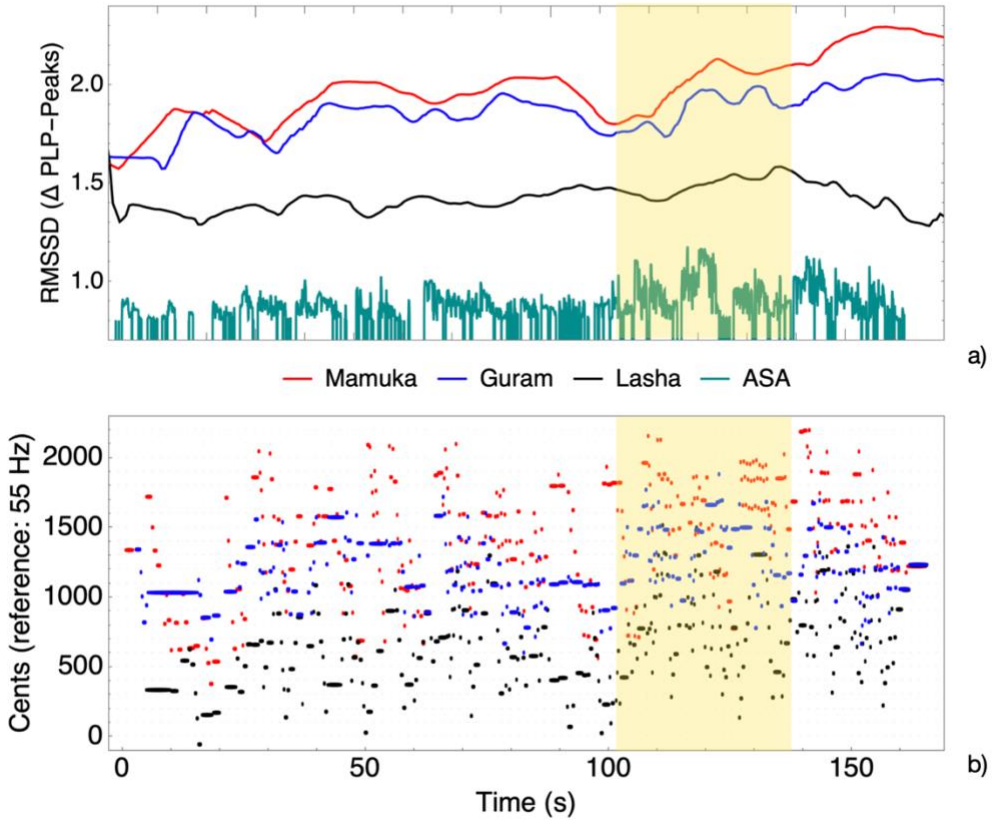

Figure 8. a) RMSSD values describing the change in heart rate in a root-mean-square sense, for the three singers. The green curve shows the average singer activity (ASA) for the top and the middle voice. b) Note trajectories for the individual voices, calculated with the help of the Tony software (Mauch et al., 2015).

These observations are consistent with the dynamics of the song, since the interaction between the two upper voices is the most dynamic, especially during the time window marked in yellow, while the bass voice has a less dynamic, more supporting role. During the highlighted time window, the ASA curve for the two top voice singers shows rising and falling phases which are presumably also reflected (with a slight time delay) in the breathing activity and then, via the RSA mechanism (Vickhoff et al., 2013), in the synchronized heart rate accelerations and decelerations of Guram and Mamuka. In the video of the recording[12], one can observe how the dynamics of particularly the two top voice singers jointly increased towards the end of the song. This goes hand in hand with an overall pitch rise of all three voices towards the end of the song which can be seen in

[12] See the link,
https://www.uni-potsdam.de/fileadmin/projects/soundscapelab/Videos/ChvenMshvidobaOzurgeti.mp4

Fig. 8b. These results are quite encouraging and suggest that there is a lot of new and relevant information to be gained from the joint use of different sensor types during ethnomusicological recording sessions.

Conclusions

Although the primary purpose of the present paper was to report measurable signs of singer interaction and togetherness in performances of traditional Georgian singing, we feel that its implications go beyond that technically oriented goal. In addition to harmonically controlled intonation adjustments on short (dynamic intonation adjustments) and long timescales (continuous pitch drifts), we feel that differences in melodic and harmonic scales can also be interpreted as (side) effects of singer interaction with the possible goal to achieve harmonic togetherness (or consonance) on the time scale of individual (important) notes.

The present results also demonstrate some of the potential benefits for the analysis of non-western oral music traditions when integrating new sensor types into ethnomusicological field recording sessions, resulting in new types of multimedia, and multi-channel recordings including video, audio, muscle vibrations, heartbeat, and respiration signals. Our experiment shows that such measurements can provide relevant information about the synchronization of body functions of singers during performances. We have shown that these types of experimental setups are no longer limited to a laboratory setting, but can be conducted in a 'real-world' environment (even in very remote regions) with reasonable technical and logistical effort, thus also allowing to address questions about the 'ecological validity' (Holleman et al., 2020) of these types of measurements.

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REFERENCES

Cazden, Norman. (1962). "Sensory Theories of Musical Consonance". *The Journal of Aesthetics and Art Criticism*. 20(3): 301-319.

Cervellin, Gianfranco; Lippi, Giuseppe. (2011). "From Music-beat to Heart-beat: A Journey in the Complex Interactions Between Music, Brain and Heart". *European Journal of Internal Medicine*. 22(4): 371-374.
Retrieved from https://doi.org/10.1016/j.ejim.2011.02.019

Chew, Elaine. (2020). Every Heart Dances to a Different Tune. *ScienceDaily*. www.sciencedaily.com/releases/2020/05/200520084125.htm

Clayton, Martin. (2012). "What is Entrainment? Definition and Applications in Musical Research". *Empirical Musicology Review.* 7(1-2): 49-56.

Grosche, Peter; Müller, Meinard. (2011). "Extracting Predominant Local Pulse Information from Music Recordings". *IEEE Transactions on Audio, Speech and Language Processing*. 19(6): 1688-1701. https://doi.org/10.1109/TASL.2010.2096216

Holleman, Gijs A.; Hooge, Ignace T.C.; Kemner, Chantal and Hessels, Roy S. (2020). The 'Real-World Approach' and Its Problems: A Critique of the Term Ecological Validity. *Frontiers in Psychology*. 11. Retrieved from https://doi.org/10.3389/fpsyg.2020.00721

Ludwig, Carl. (1847). "Beiträge zur Kenntnis des Einflusses der Respirationsbewegungen auf den Blutumlauf im Aortensystem" (Contributions to the Knowledge of the Influence of Respiratory Movements on Blood Circulation in the Aortic System). *Arch. Anat. Physiol.*, 13: 242–302.

Mauch, Matthias; Cannam, Chris; Bittner, Rachel; Fazekas, George; Salamon, Justin; Dai, Jiajie; Bello, Juan and Dixon, Simon. (2015). "Computer-aided Melody Note Transcription Using the Tony Software: Accuracy and Efficiency". [Paper presented at the First International Conference on Technologies for Music Notation and Representation]

Battier, Marc; Bresson, Jean; Couprie, Pierre; Davy-Rigaux, Cécile; Fober, Dominique and Geslin, Yann; Genevois Hugues; Picard, François and Tacaille, Alice (Eds.), (pp. 23-30). Retrieved from https://code.soundsoftware.ac.uk/projects/tony/

Müller, Meinard. (2015). *Fundamentals of Music Processing: Audio, Analysis, Algorithms, Applications*. London: Springer.

Müller, Meinard. (2021). "An Educational Guide Through the FMP Notebooks for Teaching and Learning Fundamentals of Music Processing". *Signals*. 2(2): 245-285. Retrieved from https://www.mdpi.com/2624-6120/2/2/18

Müller, Meinard; Rosenzweig, Sebastian; Driedger, Jonathan and Scherbaum, Frank. (2017). "Interactive Fundamental Frequency Estimation with Applications to Ethnomusicological Research" [Paper presented at Conference on Semantic Audio, June 22-24, 2017, Erlangen, Germany]. Dittmar, Christian Abeßer, Jakob and Müller, Meinard (Eds.), (pp: 2-7). Retrieved from http://www.aes.org/e-lib/browse.cfm?elib=18777

Müller, Viktor and Lindenberger, Ulman. (2011). "Cardiac and Respiratory Patterns Synchronize Between Persons during Choir Singing". *PloS One*, 6(9): e24893. Retrieved from https://doi.org/10.1371/journal.pone.0024893

Nadel, Siegfrid F. (1933). "Georgische Gesänge" (Georgian Songs). *Lautabt.*. Leipzig: Harrassowitz in Komm.

Parncutt, Richard. (1989). *Harmony: A psychoacoustical approach*. Springer-Verlag Berlin Heidelberg New York.

Rosenzweig, Sebastian; Scherbaum, Frank and Müller, Meinard. (2022). "Computer-Assisted Analysis of Field Recordings: A Case Study of Georgian Funeral Songs". *ACM Journal on Computing and Cultural Heritage*, in press, 16.

Rosenzweig, Sebastian; Scherbaum, Frank and Müller, Meinard (2019). "Detecting Stable Regions in Frequency Trajectories for Tonal Analysis of Traditional Georgian Vocal Music" [Paper presented at 20th International Society for Music Information Retrieval Conference, November, 4-8, 2019, Delft, The Netherlands]. Flexer, Arthur; Peeters, Geoffroy; Urbano, Julián and Volk, Anja (Eds.), (pp: 352-359]. Retrieved from

https://archives.ismir.net/ismir2019/2019_Proceedings_ISMIR.pdf

Rosenzweig, Sebastian; Scherbaum, Frank; Shugliashvili, David; Arifi-Müller, Vlora and Müller, Meinard. (2020). "Erkomaishvili Dataset: A Curated Corpus of Traditional Georgian Vocal Music for Computational Musicology". *Transactions of the International Society for Music Information Retrieval*, 3(1): 31-41. Retrieved from https://doi.org/10.5334/tismir.44

Scherbaum, Frank; Loos, Wolfgang; Kane, Frank and Vollmer, Daniel (2015). "Body Vibrations as Source of Information for the Analysis of Polyphonic Vocal Music" [Paper presented at the 5th International Workshop on Folk Music Analysis on June 10-12, 2015, Paris, France]. Adam, Olivier (Ed.), (pp. 89-93). Retrieved from https://www.uni-potsdam.de/fileadmin/projects/soundscapelab/PapersMusic/2015/Scherbaum_et_al._2015_Body_vibrations_as_source_of_information_for_the_analysis_of_polyphonic_vocal_music.pdf

Scherbaum, Frank (2016). "On the Benefit of Larynx-microphone Field Recordings for the Documentation and Analysis of Polyphonic Vocal Music" [Paper presented at the 6th International Workshop Folk Music Analysis on June 15-17 2015 Dublin, Ireland]. Beaugitte, Pierre; Duggan, Bryan; Kelleher, John D. (Eds.), (pp. 80-87). Retrieved from https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1010&context=fema

Scherbaum, Frank; Müller, Meinard and Rosenzweig, Sebastian (2017). "Analysis of the Tbilisi State Conservatory Recordings of Artem Erkomaishvili in 1966" [Paper presented at the 7th International Workshop on Folk Music Analysis, June 14-16, 2017, Malaga, Spain]. Barbancho, Isabel (Eds.), (pp. 29-36). Retrieved from https://www.audiolabs-erlangen.de/media/pages/resources/MIR/2017-GeorgianMusic-Erkomaishvili/d5732f86d2-1493801997/2017_ScherbaumMR_ErkomaishviliAnalysis_FMA.pdf

Scherbaum, Frank; Mzhavanadze, Nana (2018a). *A New Archive of Multichannel-Multimedia Field Recordings of Traditional Georgian Singing, Praying, and Lamenting with Special Emphasis on Svaneti.* LaZAR-Database. Retrieved from https://Lazardb.Gbv.De/.

Scherbaum, Frank; Mzhavanadze, Nana and Dadunashvili, Elguja. (2018b). "A Web-

Based, Long-Term Archive of Audio, Video, and Larynx-Microphone Field Recordings of Traditional Georgian Singing, Praying and Lamenting with Special Emphasis on Svaneti" [Paper presented at The 9th International Symposium on Traditional Polyphony, 30 October-3 November, 2018]. Tsurtsumia, Rusudan (Ed.), (pp. 174-180). Retrieved from https://drive.google.com/file/d/1cA72DT4gmoDykUBfYoEWObSwfuOfcmE8/view

Scherbaum, Frank; Rosenzweig, Sebastian and Müller, Meinard; Vollmer, Daniel and Mzhavanadze, Nana. (2018). "Throat Microphones for Vocal Music Analysis" [Presented in Demos and Late Breaking News at the 19th International Society for Music Information Retrieval Conference, 23-27 September 2018, Paris, France]. Gómez,Emilia; Hu, Xiao; Humphrey, Eric; Benetos, Emmanouil (Eds.).
Retrieved from *https://www.audiolabs-erlangen.de/content/resources/MIR/00_2018-ISMIR-LBD-ThroatMics/2018_ScherbaumRMVM_GVM_ISMIR-LBD.pdf*

Scherbaum, Frank; Mzhavanadze, Nana; Rosenzweig, Sebastian and Müller, Meinard. (2019). "Multi-media Recordings of Traditional Georgian Vocal Music for Computational Analysis [Paper presented at the 9th International Workshop on Folk Music Analysis, July 2-4, 2019, Birmingham, Great Britain]. MacLachlan, Islah (Ed.), (pp. 6). Retrieved from https://www.uni-potsdam.de/fileadmin/projects/soundscapelab/PapersMusic/2019/Scherbaum_etal_FMA2019_final.pdf

Scherbaum, Frank; Mzhavanadze, Nana. (2020). "Svan Funeral Dirges (Zär): Musical Acoustical Analysis of a New Collection of Field Recordings". *Musicologist*, 4(2): 138-167. Retrieved from https://dergipark.org.tr/en/pub/musicologist/issue/58711/782094

Scherbaum, Frank; Mzhavanadze; Nana, Arom; Simha; Rosenzweig, Sebastian and Müller, Meinard. (2020). "Tonal Organization of the Erkomaishvili Dataset: Pitches, Scales, Melodies and Harmonies". Scherbaum, Frank (Ed.), *Computational Analysis of Traditional Georgian Vocal Music.* (Issue 1). Potsdam: Universitätsverlag Potsdam.

Scherbaum, Frank; Mzhavanadze, Nana. (2021). "Svan Funeral Dirges (Zär): Language-Music Relation and Phonetic Properties". *Musicologist*. 5(1): 66-82. Retrieved from https://dergipark.org.tr/en/pub/musicologist/issue/63269/875348

Scherbaum, Frank; Mzhavanadze, Nana; Rosenzweig, Sebastian and Müller, Meinard. (2022). "Tuning Systems of Traditional Georgian Singing Determined from a New Corpus of Field Recordings". *Musicologist*. 6(2): 142-168. Retrieved from https://dergipark.org.tr/en/pub/musicologist/issue/74133/1068947

Sethares, William A. (2004). *Tuning, Timbre, Spectrum, Scale* (2nd ed.). London: Springer.

Shepherd, John T. (1985). "The Heart as Sensory Organ". *J. Am. Coll. Cardiol.*, 6(1): 83B-87B.

Stirzaker, David. (1999). *Probability and Random Variables, a Beginners Guide*. Cambridge: Cambridge University Press.

Vickhoff, Björn; Malmgren, Helge; Aström, Rickard; Nyberg, Gunnar; Ekström, Seth-Reino; Engwall, Mathias; Snygg, Johan; Nilsson, Michael and Jörnsten, Rebecka. (2013). "Music Structure Determines Heart Rate Variability of Singers". *Frontiers in Psychology*, 4, 334. Retrieved from https://doi.org/10.3389/fpsyg.2013.00334

Wang, Hui-Min and Huang, Sheng-Chieh. (2012). "SDNN/RMSSD as a Surrogate for LF/HF: A Revised Investigation". *Modelling and Simulation in Engineering*. Retrieved from https://doi.org/10.1155/2012/931943

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Forming a Collaborative Relationship between an Applied Researcher and the Researched Subject in Contemporary Taiwan: A Case Study from Beiguan Opera (北管戲)

ABSTRACT

In contrast to the practice of the one-way collection and analysis of data from the field as found in existing *beiguan* literature, this article presents a role-changing process used in the recording of *beiguan opera* with the *Qinghexuan* ensemble (慶和軒) in Taiwan, formed in order to generate bilateral benefits through a collaborative applied project. I discuss both the practical recording skills needed in the field and the mixing down skills employed in the studio to demonstrate how the designed interactive process reflects the needs in the community and how the collaboration aspect creates an interface with each step of the recording process, from making to checking. Firstly, I examine the recording process in the field, including microphone placement and recording strategy. Secondly, I discuss how the utilisation of plug-ins (equaliser, compressor, panning, balance) in the mixing of tracks is similar to, and based on, that seen in popular music and also on the research collaborators' opinions, as shared during the fieldwork. Also presented are details behind the dynamic range of the *suona* (嗩吶) and the percussion instruments in this genre, for example the natural frequency arrangement on the spectrum.

Thus, this discussion shows how an ethnomusicologist can be responsive to needs shared by the community if they apply their professional training in relation to the recording process; it also reshapes the relationship between researcher and informant in an ethnographic context, in comparison to previous *beiguan* research, by engaging the musicians as collaborative listeners in the curation of their own art form.

KEYWORDS

Beiguan opera

Recording industry

Qinghexuan

Applied ethnomusicology

Recording at home

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Introduction

Beiguan music was imported from mainland China to Taiwan around the 17th century and since then has further evolved within Taiwan society. *Beiguan*[1] is a traditional musical genre in Taiwan, with *beiguan opera* one of its four subgenres, with opera performances, usually in front of temples, often praying, praising, or depicting the lives of celestial deities (Lu, 2011). *Beiguan opera* involves a combination of three musical groups: percussion instruments, melodic instruments and vocalists. The performers are typically amateur musicians—traditionally male, but some mixed and female groups have also arisen over the last two generations—who affiliate to local temple- or community-based groups for whom performance may be an expression of brotherhood, faith or a combination of the two. The earliest surviving group is the *Lichunyuan* (梨春園, founded in 1811), based in Changhua (in the middle of Taiwan; Lu, 2011). Other *beiguan* groups are distributed around Taiwan. *Qinghexuan*[2], located in the Budai area, Chiayi County (in the south of Taiwan), is one of them. In Budai, *beiguan* music was particularly popular during the Japanese colonial period (1895-1945). At its peak, there were three *beiguan* groups in Budai (Tsai, 2010: 23-24); however, as *gezixi* (歌仔戲)[3] became popular in 1960s, all of them were disbanded. In 1999, *Qinghexuan* regrouped with descendants of the first generation of members and, with access to surviving scores, they also invited senior experts from other *beiguan* groups, including *Lichunyuan*, to reconstruct some of the repertoire (Tsai, 2010: 59-60). Presently, *Qinghexuan* is the largest active *beiguan* group playing *beiguan opera* in Chiayi County. Here, I focus on the problems and solutions in a recording project carried out with the *Qinghexuan* group. This is a topic not previously examined in research into this genre, and the study reveals viewpoints and specific skills used in recording and mixing sound that might be of value to applied researchers working more generally in musical collaborations.

In 2017, the leader of *Qinghexuan*, Huang Jing-Cai (黃錦財), invited me to watch the process of recording the *beiguan operas tianguan cifu* (*Heavenly Gods bless people*, 天官賜福) and *dazui baxian* (*Drunken eight Gods*, 大醉八仙), which will be released as a CD

[1] For further on this genre, see Lu (2005, 2007, and 2011), and Shih (2016)
[2] *Beiguan opera* uses official language (*guanhua*/官話) to distinguish it from other dialect operas or plays, for example, Taiwanese opera (Shih, 2016: 15)
[3] *Gezixi* is a musical genre in opera with Taiwanese dialect, and became popular in the 1960s in Taiwan.

album in their annual *beiguan opera* preservation project. Huang (2017) disclosed four main purposes of the recording:

1. To preserve the musical genre for the future.

2. To enable teaching: an album could help *Qinghexuan* members and students to recollect the music, and to practise it at any time.

3. To provide an achievable goal for the members, based on their years of practice, thus reinforcing their confidence in playing in the community.

4. To facilitate marketing. With a CD they could promote *Qinghexuan* and acquire further opportunities to perform and earn money.

As they have practised for several years, recording an album can reinforce their confidence around playing in the community and help them reach an achievable goal. As Ottosson (2007: 55) reveals, "making music is a means to craft oneself as a representative for one's home community", as releasing a CD album means the group is visibly qualified in the community. As Stock (2004: 36) puts it, technology plays a crucial role, as learners worldwide can now hear the music of another time and place; and hear it repeatedly until they can perform it in detail perfectly. An album can help members and students of *Qinghexuan* to recollect and practise at any time.

Many other *beiguan* groups and researchers have made recordings together, but it has been rare for researchers to ruminate on how to record this genre with up-to-date recording equipment and skills. As Topp Fargion (2009: 76) comments, recordings are a vital component of the raw material from which we may theorise, so that this collaboration gave me an opportunity (as a recordist and researcher) to theorise the mixing process alongside Huang and the other *beiguan* musicians. My professional work in recording and mixing ensured that the process is responsive to the needs and vulnerabilities of research collaborators (Bendrups, 2015: 72). This article will explore these aspects.

Literature Review

In Taiwan, an abundance of researchers has focused on variegated aspects of *beiguan*. For example, at the time of writing, the *National Digital Library of Theses and Dissertations in*

Taiwan contains at least 73 theses about *beiguan*[4]. They include *beiguan* music analysis (singing styles, instruments, and comparisons, e.g., Li, 1988; Pan, 1998; Su, 2003; Wu, 2015); ethnographic surveys of activities in *beiguan* groups (e.g., Chen, 2000; Weng, 2010; Fu, 2014; Jian 2019); analysis of extant scores (e.g., Lu, 2014; Lin, 2017); analysis of representative *beiguan* musicians (e.g., Wu, 1999; Liao, 2000; Chou, 2009; Liao, 2017); and exploration of traditional and modern transmission processes (e.g., Huang, 2005; Chen, 2008; Huang, 2010; Tu, 2020). Other items have been published as articles, books and recordings, (e.g., Huang, 2012). Within this corpus, there has been analysis of the music of *beiguan opera* and of the history of the *Qinghexuan* ensemble (e.g., Lin C., 1999, Lin S., 1999, 2000; Tsai, 2005; 2010).

These research outcomes disclose much in-depth knowledge and reveal a dominant methodology in *beiguan* research over the last two decades of one-way data collection and analysis from the perspective of a neutral participant-observer. Recording in the field is treated primarily as an opportunity for preservation, "to record tradition to preserve it for future generation[s]" (Topp Fargion, 2009: 77), and to allow further analysis and investigation. The relationship between researcher and informants or consultants is rarely discussed as a methodology. By contrast, the methodology in this article aims at "solving concrete problems rather than hypothetical ones" (Tan, 2015: 109), "involving and empowering music-makers and music-cultures in collaborative projects and results in practical action in the world" (Titon, 1992: 315), and "moving the researcher into a reciprocal stance in relation to the people whose music one studies" (Summit, 2015: 202).

Several researchers have provided foundational perspectives on recording, exploring its relationship with the development of ethnomusicology as a discipline (e.g., Topp Fargion, 2009, Stock, 2010) or developing analytical notions such as that of the sound box (space design in the stereo setting, see further Dockwray and Moore, 2010). Neuenfeldt (2007a; 2007b) offers reflections on his role in collaborative recording projects, while Meintjes (2003) and Ottosson (2007) provide close ethnographic observations on recording studio interactions around traditional music. In the recording industry, recording engineers and experts have discussed their experiences with recording drum sets and mixing tracks in the studio. For example, Savage (2011) argues that at least 13

[4] https://ndltd.ncl.edu.tw/cgi-bin/gs32/gsweb.cgi/ccd=aa5F3M/webmge?mode=basic (accessed on 22/03/2020)

microphones are used to record a set of drums (kick drum, tom-toms, snare drum, hi-hat). Techniques used in these setting can be adapted and applied to the recording of *beiguan opera*. Huang, Kang-Ning (2017) reveals the necessity and important of multi-track recording while recording *beiguan* instruments without offering more details on the process. Also, Ostashewski (2014) comments that the dialogic processes of collaborative and community-based research characterise much of this work, facilitating respectful and productive dialogue between academics, the communities with whom they work and partners across various sectors. This article mainly reveals the details of the dialogic process in recording *beiguan opera* in Taiwan.

In 2017 and in preparation for the work with *Qinghexuan*, I examined some previous recordings along with Huang and their principal player, Qiu Ding-Jin (邱丁進). For instance, Huang noted that in some the voices were too prominent, which seemed to separate them out from the rest of the ensemble, while in others it sounded as though a reduced number of instruments had been used, which aided sonic clarity but also distanced the sound from that of a standard traditional performance (Jing-Cai Huang and Ding-Jin Qiu, personal communication, 16 January, 2017).

Consequently, in this article, I illustrate all the details of the recording process in the field (including setting up microphones and strategy) and of mixing in the studio (including analysing, using an equaliser, panning, balance and compressor), to establish a practical model for recording *beiguan opera* in Taiwan. Also revealed are the gradual shifts I undertook in my own position and roles, moving from acting as a neutral observer to engaging with the ensemble as an applied ethnomusicologist and changing from being present as an external amateur to an involved professional expert as a consultant for sound recording. The "needs and vulnerabilities" (Bendrups, 2015: 72) of the field played an important role in reshaping the relationship into an interactive, collaborative and balanced partnership (Hood, 1971: 222; Myers, 1993: 12-13; Titon, 1995: 288; 2009: 134). This case thus reveals the "presumption of respect, equality and reciprocity among the research participants" (Hofman, 2010: 23) since our collaborative partnership was not established at the beginning and was only achieved gradually, exemplifying the ensemble members' resilience in collaborating with a researcher.

First Recording

Two weeks later, we're arranging a recording session for *beiguan opera*. Can you come and make some suggestions[5]? (Jing-Cai Huang, personal communication, 09 January, 2017)

At first, I was acting as a neutral observer and new learner, while Huang was an expert informant on *beiguan*. As a musician and researcher in traditional music at a university for several years, it was felt that my profession might offer some useful suggestions to improve the sound quality in recording (their need and expectation). In fact, before I was invited to assist with the recording, I had been learning how to play a common piece for beginners (*fengrusong*, 風入松) out of personal interest. At that time, although I am an academic researcher, I did not have a project on *beiguan* and my role was merely that of a neutral observer. When I was invited to collaborate, my informants were not familiar with my professional training in recording. The main reason they invited me was due to the trust they placed in a colleague's reference, introducing me as an experienced player and researcher in traditional Chinese music, and also to my existing personal relationship with them as an amateur learner in *Qinghexuan*. When I joined the two-day recording session as an observer, I did not attempt any professional intervention. Before we started, there was no discussion about the details, with regard to the strategy or the arrangement.

Based on Huang's (the leader) introduction about their instruments in the recording process, all the sound they intended to record could be divided into three categories:

1. Melodic instruments: *suona* (double-reed instrument), *kezaixian* (two-stringed fiddle, 殼仔絃), *hexian* (two-stringed fiddle, 和絃), *sanxian* (three-stringed lute, 三絃) and *qinqin* (three-stringed lute, 秦琴). All players perform *suona* and other stringed instruments at different points in the music.

2. Percussion instruments: *daluo* (large *gong*, 大鑼), *xiaoluo* (medium *gong*, 小鑼), *xiangzhan* (small *gong*, 響盞), *dachao* (large cymbal, 大鈔), *xiaochao* (small cymbal, 小鈔), *bangu* (leading drum, 板鼓), *tonggu* (assistant drum, 通鼓) and *bangzi* (woodblock, 梆子).

[5] 兩周後我們要錄北管戲。你可以來給點建議嗎? (Original conversation in Mandarin)

3. Vocalists: female singers and male singers (most instrumentalists are also vocalists).

At the recording session, Mr Huang (the leader) had set up microphone placement as typical for a normal performance with the following configuration (illustrated in Figure 1).

1. All bronze percussion instruments (small and large cymbals and small, medium and large *gongs*) were to the right of the drummer (leader): one microphone for all bronze percussion instruments (with a star in Fig. 1) with three microphones shared between them (placed in front of musicians doubling as vocalists)

2. All melodic instruments were to the left of the drummer (leader): one microphone for each instrument, except for the *suona*. In their view, there need be no specific microphone for *suona* players, because it can be recorded by all the microphones they had placed.

3. The drummer was the leader, responsible for maintaining the fluency and momentum of the whole piece (especially important in flexible rhythmic patterns) so that each microphone was set up for each drummer (leading drummer and assistant drummer) and one extra microphone (with two stars in Fig. 1) was in front of them.

4. Most instrumentalists are also vocalists: one microphone for each vocalist.

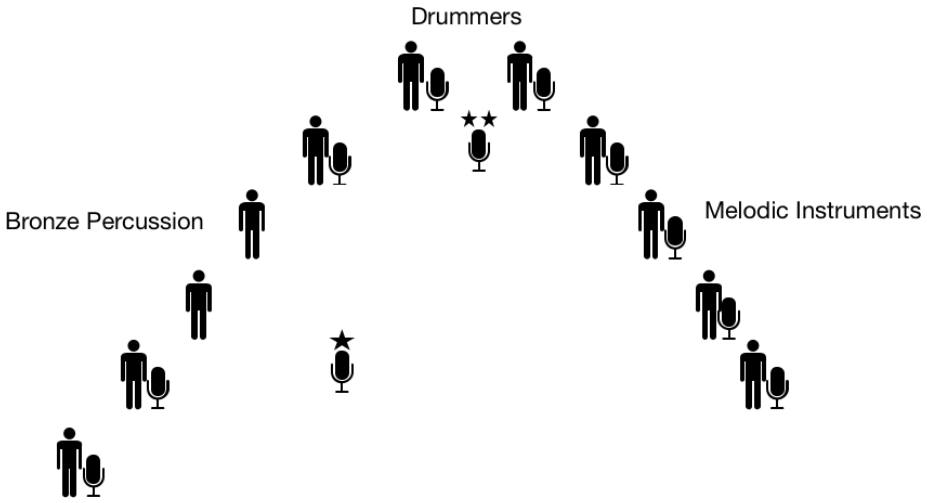

Figure 1. Layout of microphones

After all microphones were set up, the cables were linked to the analog mixing console in the control room next door (Figure 2) so that the recording engineer could communicate with the players. Each player tested their microphone individually, and the recording engineer modified the volume. From the studio monitors, the recording engineer[6] could evaluate the balance, revealing his personal preference in recording *beiguan opera*. Once the settings were finalised, the musicians were asked to play from the beginning to the end of the opera so that it could be recorded, a process that took a minimum of 40 minutes[7]. When an error occurred, the whole opera was recorded again. During the two-day recording session, I noticed that everyone quickly became exhausted, and the group was only able to concentrate properly for the first two rounds of recording each day. After the second round, a high quality of playing could not be maintained, a situation that led to an "increasing frustration with the slow process" of the recording from the sound engineer (Ottosson 2007: 53) and the players alike. Throughout the process I did not make suggestions or interrupt, because they were evidently all confident with their habitual recording process. As an observer, I realised they had considered all aspects of recording; for example, purchasing enough equipment (e.g., microphones and cables) and inviting a reliable recording engineer. At the time, it was obvious that all participants believed the quality of the product would be better than any previous recordings they had done.

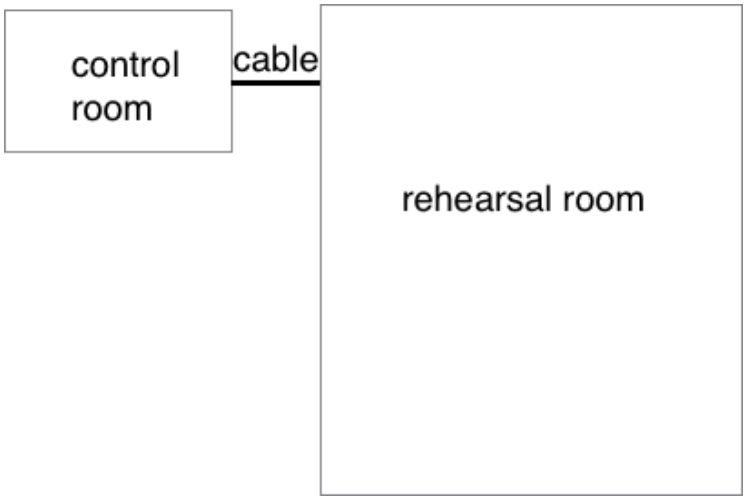

Figure 2. Layout of rehearsal room and control room

[6] This recording engineer was an audio director in TV company in Taipei.
[7] The whole repertoire would last at least 40 mins while playing without stopping.

Studio Listening

I know you are not familiar with *beiguan* like us, but you know other things which we do not. Thus, let's discuss and find a solution to our recording project through collaboration[8]. (Jing-Cai Huang, personal communication, 16 January, 2017)

Our collaborative partnership began three weeks after the recording session, when Huang and I met to listen to the results in the studio. Huang made it clear as follows:

I was not satisfied with the recording. I thought that a state-of-the-art studio would be the best recording option, an opinion shared by others in *beiguan* groups generally. However, due to geographic factors, difficulty transporting instruments and the anxiety of players, arranging this would have been a big challenge for the group. Thus, I had bought enough professional microphones and headphones to record in *Qinghexuan*'s rehearsal room, hoping that recording in a familiar place would help group members relax (feeling at home) as compared to visiting a professional studio somewhere else[9]. (Jing-Cai Huang, personal communication, 16 March, 2017)

He could not identify anything specific about his dissatisfaction with the production, only indicating that he could not hear each voice clearly and that the sound quality was not satisfactory overall. He asked me how I thought it might be improved and what strategies could be applied. From that point, my role changed from acting as a neutral observer to that of a professional expert in sound recording to "articulate the goal and concerns of the musicians in the field (Titon, 2015: 29) and to "solve concrete problems" (Tan, 2015: 109), specifically the recording quality.

Based on his demands, I examined the production of the recording and the recording process I had observed, and was able to identify some issues for discussion with Huang. There were two problems to be resolved. The first was that, using an analog mixer and recording method, the recording engineer had linked all voices in the mixer and then just recorded one track in the digital audio workstation (DAW). This method meant that no

[8] 我知道你不像我們那樣了解北管，但是你知道其它我們不知道的事。因此，我們可以試試一起合作，討論看看我們的錄音計畫有沒有解決方式 (Original conversation in Mandarin)

[9] 我對這個錄音不太滿意，雖然我覺得去專業錄音室是最好的選擇，其它北管團也都這樣說。但是，因為距離的關係，搬運這些樂器的難度，還有團員會緊張，做這樣安排對我們是很大的挑戰。因此，我就買了足夠的專業麥克風和耳機，想直接在慶和軒的練習室錄，希望在熟悉的環境錄音，會比在專業錄音室錄音來得放鬆，就像在家一樣 (Original conversation in Mandarin)

one could modify the track later. The engineer had modified the volume of each voice until each could be heard clearly; then, when they played together, the engineer had made smaller ongoing modifications to maintain balance, based on his own evaluation. This was not done on the monitor as it was not digital. This method resulted in the recording engineer deciding the balance of the voices and the overall sound quality, before the players or group leader had examined the sound (see further, Crowdy, 2007: 111). In fact, as there were enough microphones and headphones, each voice could have been recorded on the DAW separately, which would have allowed a later process of rebalancing, should the musicians have asked for it. At this moment, Huang did not understand the difference between a single-track recording and a multi-track recording, and so part of my role was to explain the technology and its various possibilities in terms that made sense to him.

A second issue arose from the microphone placement. As Figure 1 shows, a vocalist is also an instrumentalist, which means that the loud and sudden sounds of bronze percussion instruments were recorded by the same microphones as the softer vocalisations—many passages in *beiguan opera* combine vocal performance with percussion accompaniment. So, although a microphone's volume could be modified for voice-led passages, turning it up meant that it picked up more of the percussion (unless the latter overloaded the microphone, in a phenomenon known as clipping). The resulting disruptions in the balance of a single-track recording could not be corrected later by the recording engineer.

Through our discussion, Huang and I identified strategies that could be applied to improve the quality of recorded sound in such an endeavour. Firstly, we needed to ensure that microphones were set up based on the recording demands (leading to a clear sound for each voice and part on each track). Secondly, we needed to produce a recording that could be effectively remixed in the studio. At this stage, although Huang and the musicians did not fully understand the recording techniques that were now in discussion (from single-track recording to multi-track recording), they were willing to arrange another recording session to try out this new strategy. My role evolved slowly from that of an invited external listener to that of an expert given the opportunity to supervise the next recording session. With this change in role, I would be more able to offer interventions, even if the musicians did not yet completely understand the difference such interventions might make. In the meantime, their roles also shifted from hosts whom I could observe

and consult to research collaborators who shared an interest in solving a concrete problem.

Second Recording

It is my first time recording with headphones. Can I hear the sound of the *suona*? I can see the gestures from the drummer to keep the beat. When I sing, can I hear my voice? If so, I feel safe and I can control my pitch. In the previous recording, I could not hear myself[10]. (Jin-Dui Weng [group member], personal communication, 13 April, 2017)

About one month after our first collaborative conversation in the studio, I met with the ensemble in a second recording session. In a study of Aboriginal music production in Queensland, Ottosson noted that the recording engineer can take an "intervening role as a producer and professional coach" (2007: 54); and in the same way, I intervened in the recording process by offering practical suggestions over the placement of microphones and in the making of the recording itself. Setting up the microphones properly is a big challenge in the field (practice room), with previous research in *beiguan* and the recording industry not including thorough information on the best ways to do this. The symphony orchestra seems to offer a partial parallel, as another large and variegated ensemble with potentially wide dynamic differences between individual instruments. But, as Savage (2011) notes, orchestral recordings are made primarily using microphones placed at a distance from the orchestra, with the room ambience contributing a major portion of the sound that is then captured. However, *beiguan* ensembles typically practise in narrow concrete rooms where the echo and volume from the bronze percussion instruments and *suona* is out of control, without the absorptive material that would be present in a professional recording studio, and their live performances are often staged outdoors in open spaces with a great deal of background sound. My only option was to record the direct sound of the ensemble only, reducing the room ambience as far as possible. We used dynamic microphones (SM 57 and SM 58), which are able to "withstand loud sound" (Savage, 2011: 23), set at a distance of 12-15 centimeters from each instrument. To overcome the issue of balance of the vocal parts, we utilised directional dynamic microphones to record each voice, thus reducing the

[10] 這是我第一次戴耳機錄音。我可以聽到嗩吶的聲音嗎? 我可以看鼓手的手勢來對拍子。當我唱的時候，我可以聽到我自己的聲音嗎? 如果可以，我會覺得比較安心，而且我可以控制我的音準。在之前錄的時候，我都沒辦法聽到我自己唱的 (Original conversation in Mandarin)

reflection and sounds of other instruments on the vocal tracks. Meanwhile, the bronze instrument musicians argued that they could not hear the vocalist or the sound of the *suona* during the recording, so every player was equipped with headphones so that the recording engineer could communicate with them and send them the sounds of the vocalists and *suona* during recording.

Recording a drum set can be one of the most challenging jobs for a recordist (Savage, 2011). At this session, I started by applying the settings used by Savage and modified them for recording the *beiguan* percussion instruments through a significant testing process. To avoid the problems mentioned above, we tested each microphone one by one, setting the volume on the digital mixing console, using an audio interface, at the point where the volume was loud enough (not overloading) for further editing. The following table lists the equipment used in the recording and mixing of *beiguan opera.* I refer to some of the settings and processes used to reveal more details.

Table 1. Equipment list

Equipment	**Brand/Version**
Digital audio interface	Behringer X32
Microphones	Dynamic microphone Shure SM 57, SM 58
Digital Audio Workstation (DAW)	Logic Pro X 10.2 (Mac)
Headphones	ATH-M50x
Studio monitor	KRK Rokit 5 G3
Computer	Mac Book Pro (2015)

As an ethnomusicologist, I had observed their typical performance during their first recording session. Through my observation and personal communication with the leader and group members in the field and my studio, I had noticed that group members primarily rely on the drummer in the middle (visual) and the sound of *suona* (aural) to keep the beat. These two elements are crucial to the group members during their performances, as they contribute to their feeling of safety, confidence, and comfort. Also, when they sing, they must rely on hearing their own voices to control the pitch. When considering recording strategies, it is important to preserve a natural performance style without altering how they play. Therefore, I divided the recording process into two stages: in the first, the full ensemble performed but the aim was primarily to record the

instrumental parts clearly, and vocal microphones were not used; in the second, the vocalists could listen to the first round through headphones, singing their parts through the directional microphones, so that the vocal parts could be recorded cleanly. The layout of the microphones was modified from stage one to stage two, illustrated in Figures 3 and 4 below, with further detailed as follows:

1. Three overhead microphones were used (marked with a star in Fig. 3), one in front of two drummers, one in front of the bronze percussion and one in front of the melodic instruments.

2. One directional dynamic microphone was used for each instrument to minimise the picking up of indirect and reflective sounds from the other instruments.

3. No microphones were set up for vocalists.

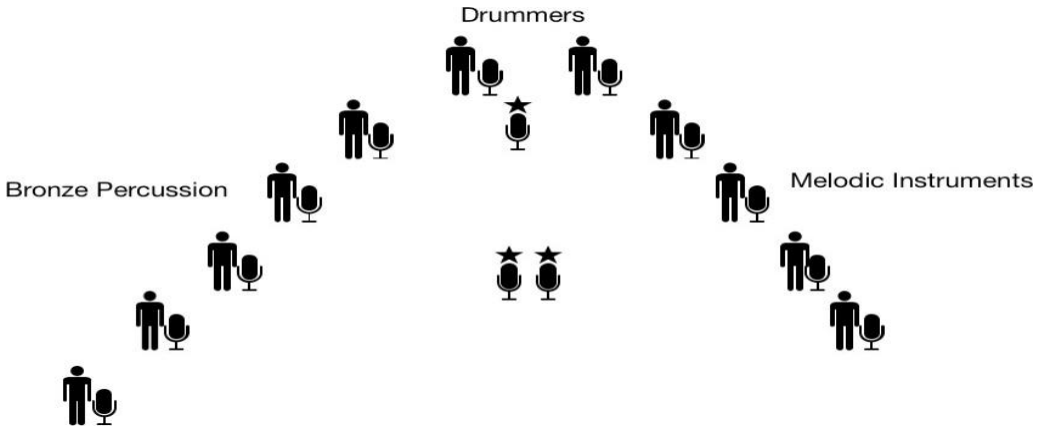

Figure 3: Microphone layout for first stage (instruments)

During the recording process, the musicians played as usual (including the vocalists) to ensure they could play with confidence and fluency. All the players could hear both the sound of *suona* and that of the vocalists, coupled with the gestures of the leading drummer, while playing with headphones. After the first round was complete, I selected two parts to play back to everyone through their headphones to see whether the clarity was acceptable to the ensemble musicians themselves. At this moment, Huang realised the difference between single-track recording and multi-track recording, and he commented that he could already see that the vocal parts recorded in this way, which we were about to undertake in round two, would be more easily heard. This method revealed another advantage – the repetition by the whole ensemble of whole pieces to correct

mistakes in one part was unnecessary, thus avoiding exhaustion. Removing fatigue and frustration from the players and sound engineers (Ottosson, 2007: 53) resulted in an environment in which trust and respect between the research collaborators intensified as the process continued.

In the second stage, the vocalists were the focus. In the microphone placement for a singer, as Savage (2011) argues, the microphone is placed so close to the singer's mouth that room reflections are virtually non-existent relative to the direct sound of the voice. All vocalists sing with the headphones on. Through the headphones I could play back from the beginning, and the vocalists could sing in the correct place. If an error occured, we only needed to re-record the specific phrase and not the whole piece. The layout of the microphones for round two is illustrated in Figure 4 below:

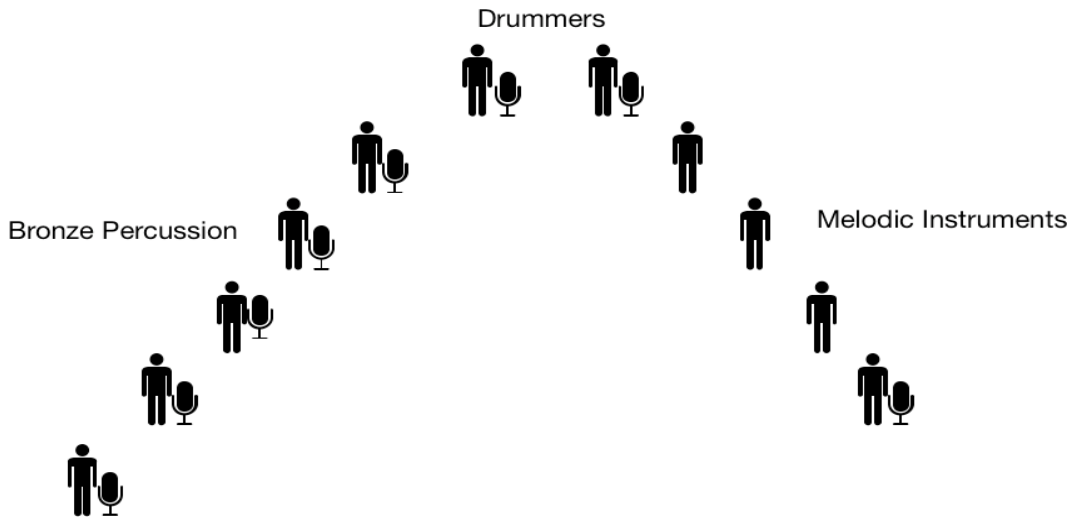

Figure 4. Microphone layout for second stage (vocalists only)

The vocalists began feeling slightly anxious, as it was their first time recording the pieces in this way. When they found that they did not have to sing and play the whole piece repeatedly, they became more confident and less worried about pressure from their peers. For example, if one vocalist was not satisfied with their singing, they could record it again alone while the other members had a rest. They were able to relax a bit more while recording, as they were not so worried about the consequences of making minor mistakes. Notably, and although they were unfamiliar with the strategy, these ensemble members remained open to suggestions, demonstrating resilience, in part due to the collective ethos characteristic of *beiguan* ensembles but also because they were

motivated to improve the sound of the production. Having everyone aware of the benefits of this process encouraged an interactive, collaborative and balanced partnership (Hood, 1971: 222; Myers, 1993: 12-13; Titon, 1995: 288; Titon, 2009: 134) and fostered respect, equality and reciprocity among the research participants (Hofman, 2010: 23).

Using this method, we spent three hours recording the same repertory as the group had recorded at their previous recording session of two days' duration (excluding my own personal preparation time). This overall efficiency actually raised some doubts among the team, who wondered if something that had been so arduous could really be done satisfactorily in such a short period. To address these concerns, we held a post-recording gathering where I was able to balance the tracks and play the result back to all through loudspeakers. This was a good opportunity for me (as an ethnomusicologist) to understand their standards and expectations regarding balance (aesthetic preference). In this unfinished version, they felt it sounded better than before – with no muddy sound, overloading or unexpected volume changes (resulting from microphones being suddenly boosted to pick up the voices). I explained again that since we had recorded each instrument separately, we could mix them more effectively later, and demonstrated some of the ways I could now elevate a part in the mix. The benefit of multi-track recording became clear to the team, just as their feedback on what they were able to hear in the mix was crucial to me as recording engineer.

Figure 5. The recording process[11] (Photo by Ming-Hui Ma)

[11] As Huang was aware of echo from percussion instruments in the recording from the production, he improvised some sound-proofing, including a carpet on the floor, and blankets hanging on the walls and behind the large *gong*.

At this stage, the live recording process was finalised but the subsequent step of mixing in the studio remained. This was at least as challenging, in part because there is no literature on how to mix *beiguan*, and the musicians themselves found it hard to articulate precisely the listening parameters that they had acquired over many years of performance. As such, I needed to work through original experimentation based on my own experience and on my understanding of the input from *Qinghexuan* members.

Mixing in the Studio

If the recording strategy is the first consideration needed when looking to improve the sound of a recording, a mixing strategy is the second. For many instruments and ensembles, recording engineers can refer to parameters for these instruments, with their respective frequencies, as well as to reflections from expert recordists on how best to mix these instruments on the DAW. Such information is not available for the recording of *beiguan opera*, as noted above, and I spent a six-month period exploring digital plug-ins that are routinely used to help mixing: equaliser, compressor, panning, balance. In each case, I aimed to find final settings that worked both in terms of my pre-existing experience as a recordist (first, mixing without their feedback) and according to the standards of my collaborators (second, mixing with their feedback), the results of which are presented here for the first time in *beiguan* literature.

Equaliser

The equaliser (EQ) is a plug-in designed to help cut or boost a specific frequency to avoid overlapping frequencies which result in a muddy sound while mixing (Savage, 2014: 79 and Izhaki, 2018: 210). During this stage, I analysed all the human voices and instruments based on their frequency and ranges, considering how best to arrange these components smoothly on the spectrum, with the aim of ensuring that all parts could be heard clearly without distorting the overall atmosphere characteristic of a *beiguan opera* performance. This meant that I had to analyse the frequency of each part first and then design how to arrange them based on their respective key frequencies. I used the plug-in (noise gate) after my frequency analysis to cut unnecessary frequencies in the recording that came from environmental sounds or from other instruments; this is because we recorded in the field, rather than in an isolated studio.

Percussion instruments

Figure 5 shows the frequency of the *daluo* (large *gong*, 大鑼) on the spectrum. The lowest frequency is around 141 Hz, and the frequency of the first overtone is around 282 Hz. These two form an important timbre and the foundation (bass) for all the percussion instruments.

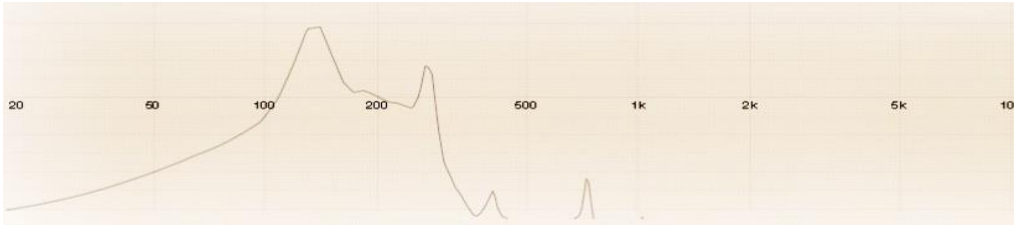

Figure 5. Frequency array of the *daluo* (x-axis: frequency, y-axis: dB)

Figure 6 shows the frequency of the *xiaoluo* (small *gong*, 小鑼) on the spectrum. The frequency of its fundamental tone is around 252 Hz, and the frequency of the first overtone is around 480 Hz.

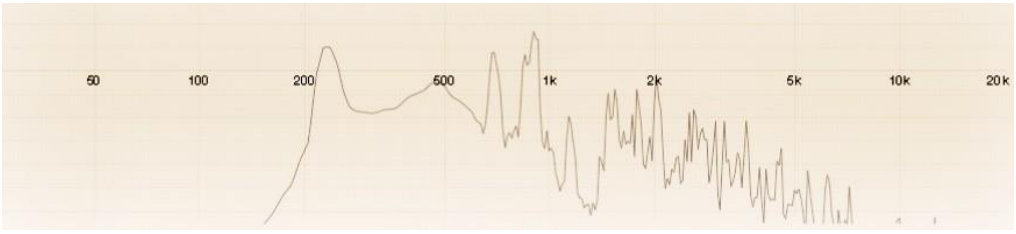

Figure 6. Frequency array of the *xiaoluo* (x-axis: frequency, y-axis: dB)

Dachao (large cymbal, 大鈔) and *xiaochao* (small cymbal, 小鈔) are a pair of bronze percussion instruments. The *dachao* is usually played on the downbeat and *xiaochao* on the upbeat. Figure 7 shows the frequency of *dachao*, the fundamental tone of which has a frequency of around 605 Hz.

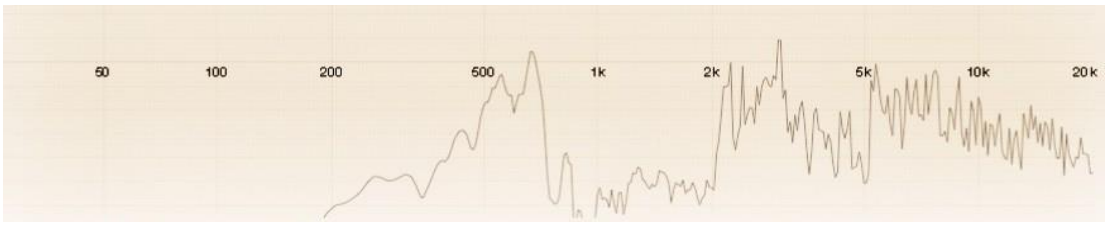

Figure 7. Frequency array of the *dachao* (x-axis: frequency, y-axis: dB)

Figure 8 shows the frequency of the *xiaochao* on the spectrum. The frequency of its fundamental tone is around 654 Hz. The importance of these two instruments lies in the brightness of their higher frequencies. For *dachao*, this means above 3.5k Hz and *xiaochao* is above 4k Hz.

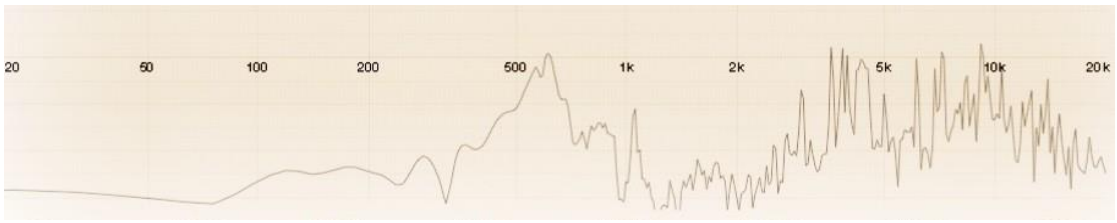

Figure 8. Frequency array of the *xiaochao* (x-axis: frequency, y-axis: dB)

Figure 9 shows the frequency of the *xiangzhan* (medium *gong*, 響盞) on the spectrum. The frequency of its fundamental tone is around 793 Hz.

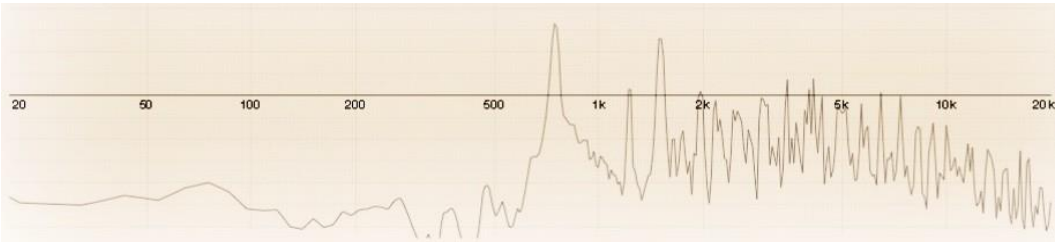

Figure 9. Frequency array of the *xiangzhan* (x-axis: frequency, y-axis: dB)

Figure 10 shows the frequency of the *bangu* (板鼓) on the spectrum. The frequency of its fundamental tone is around 1883 Hz.

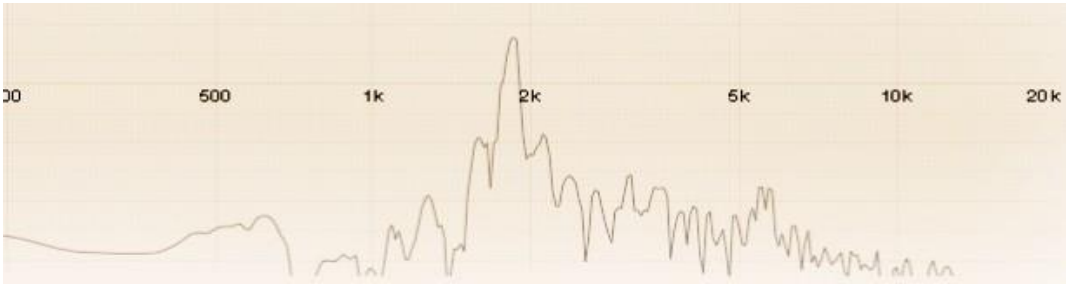

Figure 10. Frequency array of the *bangu* (x-axis: frequency, y-axis: dB)

Figure 11 shows the frequency of the *tonggu* (通鼓) on the spectrum. The frequency of the fundamental tone of this instrument is around 444 Hz.

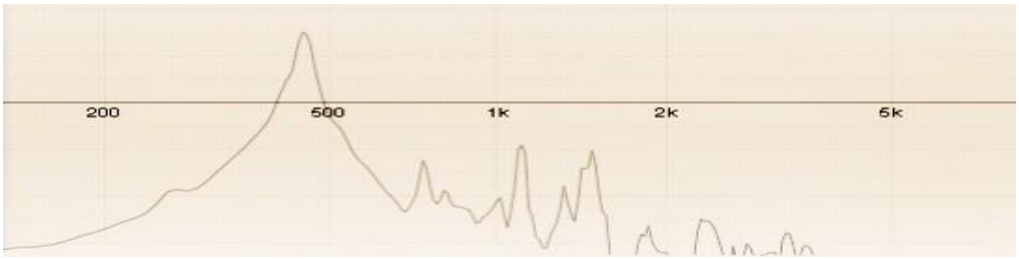

Figure 11. Frequency array of the *tonggu* (x-axis: frequency, y-axis: dB)

Figure 12 shows the frequency of the *bangzi* (梆子) on the spectrum. The frequency of its fundamental tone is around 1456 Hz.

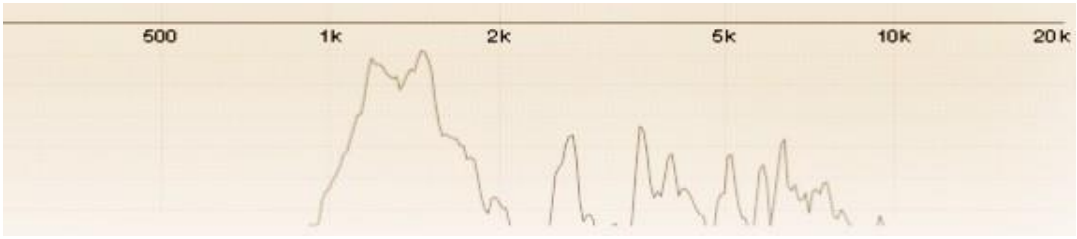

Figure 12. Frequency array of the *bangzi* (x-axis: frequency, y-axis: dB)

Melodic instruments

Figure 13 shows the frequency of the *kezaixian* (殼仔絃) on the spectrum. The frequency of its lowest pitch is around 396 Hz.

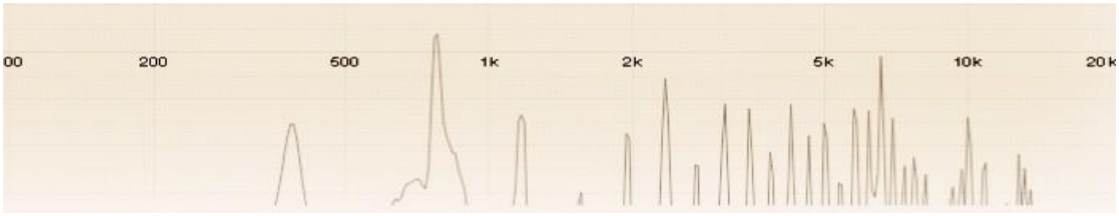

Figure 13. Frequency array of the *kezaixian* (x-axis: frequency, y-axis: dB)

Figure 14 shows the frequency of the *qinqin* (秦琴) on the spectrum. The frequency of its lowest pitch is around 193 Hz. *Sanxian* (三絃) shares the same tuning with *qinqin*.

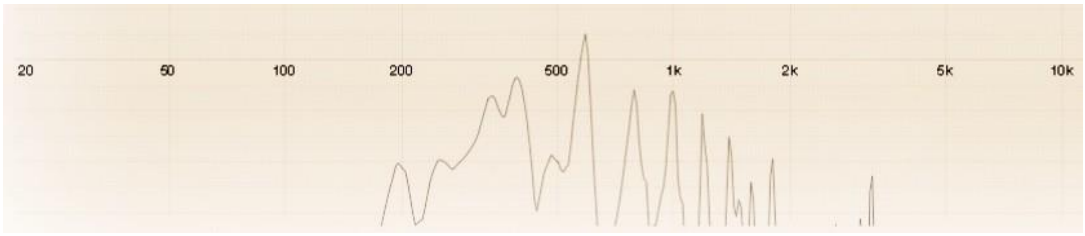

Figure 14. Frequency array of the *qinqin* (x-axis: frequency, y-axis: dB)

Figure 15 shows the frequency of the *hexian* (和絃) on the spectrum. The frequency of this instrument's lowest pitch is around 262 Hz.

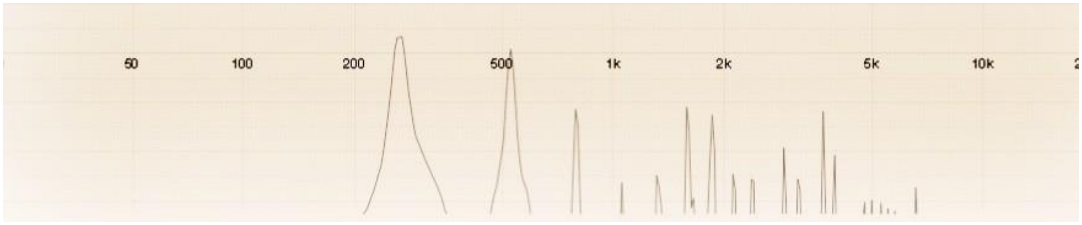

Figure 15. Frequency array of the *hexian* (x-axis: frequency, y-axis: dB)

Figure 16 shows the frequency of the *suona* (嗩吶) on the spectrum. The frequency of the *suona*'s lowest pitch is 500 Hz.

Figure 16. Frequency array of the *suona* (x-axis: frequency, y-axis: dB)

Vocalists

Figure 17 shows the frequency of a male vocalist on the spectrum. The frequency of the lowest pitch is around 220 Hz.

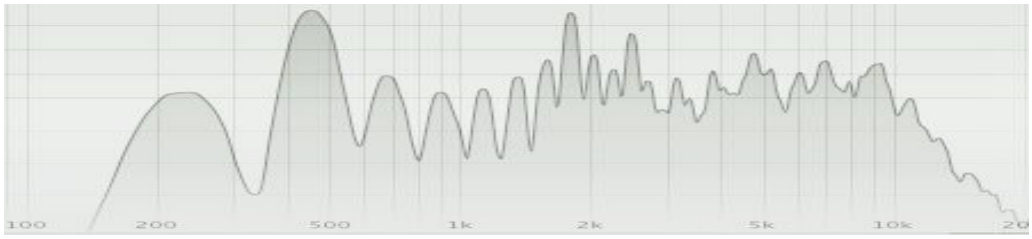

Figure 17. Frequency array of the male voice (x-axis: frequency, y-axis: dB)

Figure 18 shows the frequency of the female vocalist on the spectrum. The frequency of the lowest pitch is around 420 Hz.

Figure 18. Frequency array of the female voice (x-axis: frequency, y-axis: dB)

After analysing the frequency of each instrument and voice, I arranged the percussion instruments into the best possible frequency arrangement (from low to high) on the spectrum, as listed in Table 2:

Table 2. Frequency arrangement of percussion instruments from low to high

Instrument	*daluo*	*xiaoluo*	*tonggu*	*dachao*	*xiaochao*	*xiangzhan*	*bangzi*	*bangu*
Frequency	141 Hz	252 Hz	444 Hz	605 Hz	654 Hz	793 Hz	1456 Hz	1883 Hz

The frequencies of all these percussion instruments are fixed and form a continuous backdrop on the spectrum (Figure 19). I and J in Figure 19 are the high frequencies in about 3.5k Hz and 4k Hz for *dachao* and *xiaochao* respectively, which can be enhanced to increase the brightness of these two instruments. To acquire a clean sound, I cut unnecessary frequencies in each instrument's lower tone by using a high pass on the DAW. For example, I cut frequencies under 141 Hz for the *daluo* and those under 252 Hz for the *xiaoluo*. By doing this, all the percussion instruments could be heard clearly while mixing.

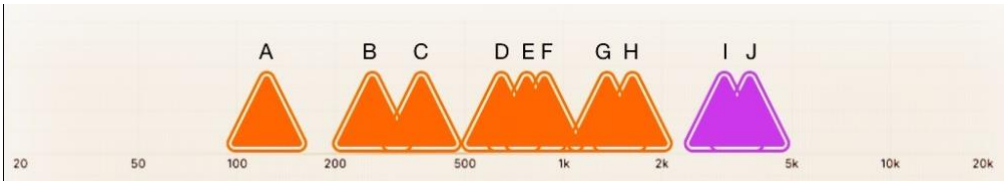

Figure 19. A (*daluo*), B (*xiaoluo*), C (*tonggu*), D (*dachao*), E (*xiaochao*), F (*xiangzhan*), G (*bangzi*), H (*bangu*), I (*dachao*-high frequency), J (*xiaochao*-high frequency)

In *beiguan opera*, there are two further sets of parts – vocalists and melodic instruments. In general, the vocalists and the various melodic instruments work together; the lowest frequencies of both melodic instruments and vocalists are listed in Table 3.

Table 3: Frequency arrangement of vocalists and melodic instruments from low to high

Instrument	*hexian*	*male voice*	*qinqin/sanxian*	*kezaixian*	*female voice*	*suona*
Frequency	140 Hz	220 Hz	262 Hz	396 Hz	420 Hz	605 Hz

To acquire a clean sound, I cut in the same way as for the percussion. For example, I cut frequencies under 140 Hz for the *hexian* and those under 220 Hz for the male voice. By doing this, all the melodic instruments and vocalists could be heard clearly while mixing (Figure 20).

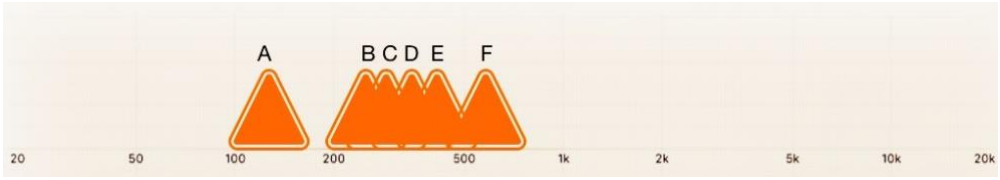

Figure 20. A (*hexian*), B (male voice), C (*qinqin/ sanxian*), D (*kezaixian*), E (female voice), F (*suona*)

In some parts, the *suona*, vocalists and percussion instruments were present at the same time. In terms of using an equaliser, after the previous cutting I mentioned, modifying frequencies was unnecessary because there were no overlapping frequencies (Figure 21). This reveals a smooth sonic conception underlying this traditional Taiwanese music genre, quite independent of any western influence. This is exemplified through the combination of *suona* and percussion instruments. In the lower frequency (under 400 Hz), any two instruments (A, B and C) were not overlapped, resulting in an overall sound with some spaced out and a more tightly clustered centre in the middle and higher ranges (between 400 Hz and 1000 Hz). Specifically, in the highest range on the spectrum (above

1000 Hz), the frequencies of a pair (*xiaochao* and *dachao*) it was possible to increase the brightness. This balance between tracks (especially the combination of *suona* and percussion instruments) reveals an acoustic preference through the transmission process from generation to generation. Previous researchers have not displayed this arrangement on the spectrum like this. It looks similar to the arrangement of the Harmonic Series.

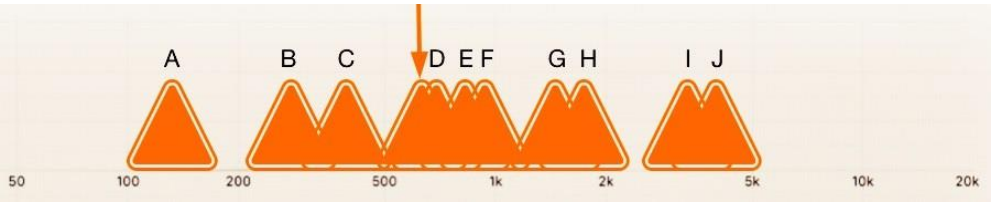

Figure 21. A (*daluo*), B (*xiaoluo*), C (*tonggu*), D (*dachao*), E (*xiaochao*), F (*xiangzhan*), G (*bangzi*), H (*bangu*), I (*dachao*-high frequency), J (*xiaochao*-high frequency), Arrow (*suona*)

Compressor

After arranging frequencies on the spectrum, sound engineers use compressors to tighten up dynamics, particularly when recording percussion instruments (Savage, 2014: 90 and Izhaki, 2018: 274). To acquire clearer impacts without any distortion in timbre, I used a compressor based on four parameters for the vocalists and the percussion instruments. No compressor was necessary for the melodic instruments because they could already be heard naturally and clearly. The four parameters manipulated were ratio, attack, release and threshold, and the values I used differed for each group (Table 4). In each case, I worked by experimentation, modifying each parameter until the sound closely resembled that of a live performance.

Table 4. Parameters on compressor

	Ratio	Attack	Release	Threshold
Percussion	8.22:1	2.19 ms	223.4 ms	-12.98 dB
Vocalists	2.18:1	0.85 ms	243.4 ms	-16.92 dB

For the percussion instruments, use of a higher ratio (8.22:1) allowed these sounds to acquire more impact through the loudspeakers. I used a lower ratio (2.18:1) to energise the sound of the vocalists. Meanwhile, the shorter attack time for the vocalists meant they could be heard faster (or more closely) as compared to the percussion instruments, as it

is a human tendency to latch onto the voices (and words) of others in musical performance. I deliberately reduced the reverberation of the percussion instruments and held the vocalists' ambient sound longer, as shown in the shorter release time for the percussion (223.4 ms) as compared to the vocalists (243.4 ms). By doing this, excessive reverberation did not block other instruments and a dry sound from the vocalists was avoided. All of the modifications in these areas would differ for other groups or for the same group recording on another occasion; still, the parameters of the compressor noted here and the accompanying comments offer a starting point for other recordists, as well as for those thinking about what they hear when listening to recorded music much more widely.

Panning

Space design is another important method for avoiding overlapping frequencies and a muddy sound; it is also a way to ensure that listeners can feel the layout (L-R) of the virtual space in a stereo setting (Savage, 2014: 73 and Izhaki, 2018: 190). Here, I applied my experience at mixing other genres and designing virtual space (mostly from the viewpoint of a listener in front of a loudspeaker), working in dialogue with my collaborators whose listening responses enabled me to further modify my approach. Based on the frequency of the *daluo* (the lowest tone in instruments), it seemed best to put the *daluo* in the middle of the virtual space, ensuring a left-right balance when listening. The two drummers were the leader and assistant leader, so I put these two voices on each side of the *daluo* to ensure balance stability when listening; for example, *tonggu* (-3) and *bangu* (+3). *Dachao* and *xiaochao* are a pair, so I arranged one on the left (*xiaochao*, -20) and the other on the right (*dachao*, +20). While playing, listeners could hear the conversation between these two instruments from the relative extremes of either side. For the rest of the bronze percussion instruments, I placed the *xiangzhan* on the left (-17) and the *xiaoluo* on the right (+5).

There are three *suona* tracks in the recording. Because the volume of the instrument is high, I arranged one track in the middle, another on the left (-38) and the last on the right (+38) (Figure 22); this maintained the balance for the listener. There were ten vocalists, which I arranged on both sides without overlapping. For all other melodic instruments, I randomly arranged them, simply ensuring they did not share the same place as any other.

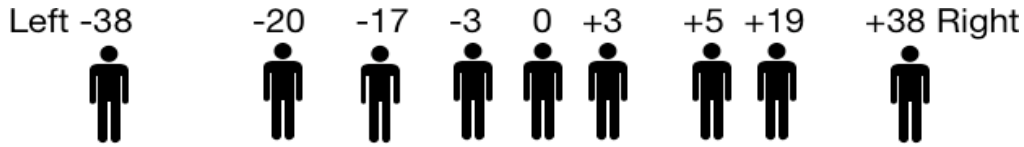

Figure 22. Arrangement of vocal and instrumental tracks from left to right.

Balance

Balance can help listeners hear the locations and the voices of players in an ensemble. Before the team examined the balance, I modified the volume roughly to ensure that balance was reasonable based on my own experience. Here, the basic principle was to put instruments with lower frequencies at the back and other instruments at the front, in order to avoid the latter being blocked by the former. This method acquired more clarity in sound to fulfil the demands of the leader of *Qinghexuan* based on his criticism of sound quality in the earlier recording.

First, I applied the *daluo* as the standard around which I would modify the other parts. Second, I arranged the percussion parts one-by-one based on a comparison between each instrument and the *daluo*; additionally, I arranged the *xiaoluo*, *xiangzhan*, *dachao* and *xiaochao* from lower frequency to higher frequency. Third, after I had arranged percussion instruments, I arranged the melodic instruments and vocalists using the same rule. By doing this, it seems that the *daluo* (the instrument with the lowest frequency) supported all the instruments without disturbing the clarity of sound. Figure 23 shows the ratio of the voices of percussion instruments and *suona* in volume.

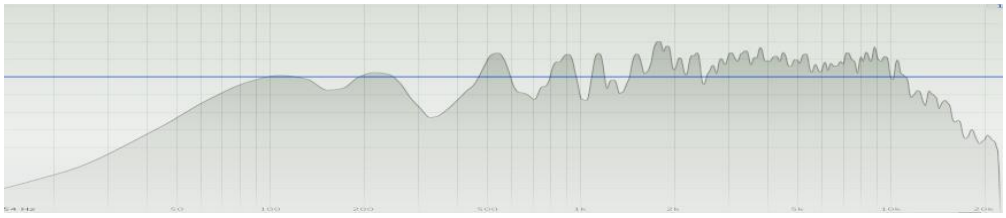

Figure 23. frequency arrangement on the spectrum from low (left) to high (right) (x-axis: frequency, y-axis: dB)

Listening in the Studio

The production sounds better in the studio than previous one, but I feel the human voices

are too loud. The voice of the *suona* should be heard more loudly from my viewpoint[12]. (Jing-Cai Huang, personal communication, 19 October, 2017)

Six months later, after I finished the preliminary mixing, I invited Huang and their principal player (my two primary research collaborators) to listen to the studio-mixed recording. We reminded ourselves that this production was not merely for 'authentic preservation', but that another aim was to produce an acceptable recording for prospective new audiences from both younger and older generations. Thus, we would need to consider viewpoints from both inside and outside the *beiguan* tradition.

First, I played the previous recording and the current one through the same studio monitors so that they could hear the difference between a single- and a multi-track recording. They noted that the sound quality of the new recording was acceptable and that it sounded as though a live performance was happening in front of them. They noted that it was not noisy as before (removal of the muddy sounds and restraining of the piercing sound of the bronze percussion instruments), and they commented that the details of the instruments plus vocalists could be heard easily. So far, so good. However, they both demanded that I modify the balance of the *suona* and the human voices. In my experience at mixing, the human voice is always the most important part because it conveys lyrics. My *Qinghexuan* collaborators, though, insisted that the *suona* was more important than the human voice. I not only modified the volume of these two parts, but I also thought again about how to present them both, as the range of each slightly overlapped. To solve this problem, I slightly reduced the overlapping range of the *suona* and increased its frequency in the higher range. In doing so, the human voice and *suona* no longer overlapped (Figure 24), and the *suona* could be heard more clearly than the human voice without reducing the clarity of the vocal voice.

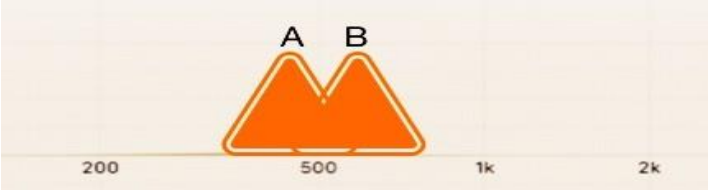

Figure 24. A (vocalist), B (*suona*)

[12] 這個版本的錄音在工作室裡聽起來比上次的好，但我覺得人聲有點太大聲，我覺得嗩吶應該要聽起來更大聲 (Original conversation in Mandarin)

After listening to this next mix of the music, Huang and his disciple reflected that in practices or in performance they could not hear as many details (or parts) due to the loudness of the *suona* and the bronze percussion instruments. When they sing, they cannot hear their own singing voices properly. When they listened to this recording, the excessive reverberations and piercing sound of the bronze percussion and *suona* did not block other voices, so they could hear more details, especially the vocalists and string instruments. The spatial design allowed the position and direction of all the voices to be heard clearly, even though they also noted that the layout I had used was slightly different from that used in a live performance. They could accept this modification in layout, because the sound quality is more important when listening through loudspeakers; also, during a live performance the layout is designed in part for the audience who are watching as well as listening.

Notably, both my collaborators and I took it for granted that we should arrange the two drummers and the *daluo* close to the middle of the sound. This demonstrates that players are aware that the sound of *daluo* acts as a stabiliser (lowest frequency in the middle). In live performance, all the *suona* players are placed on the left and the other percussion instruments on the right (Figure 25). This is because one group can see the other group and the leading drummer's gestures to keep the beat; however, in the mixing process in the studio, this requirement is not necessary. In the studio, I played two versions, one in each layout for my expert listeners. Their insider perspective was that the rearranged layout, where I had placed the *suona* and percussion to each side of the centre, sounded better than the version that clustered these tracks more closely together in their respective real-life spaces. They did not feel that the rearrangement destroyed the music; they insisted that they preferred it. This reveals that some components of the production (namely the drummers and *daluo*) are fixed, and some are flexible in the mixing process.

Figure 25. Layout in performance of the *Qinghexuan* ensemble[13] (photo by *Qinghexuan*)

Their arguments led me to ruminate further on some issues. Firstly, in previous research, *beiguan* music is considered loud and the relationships between the instruments when heard in combination are not much discussed; see, for example, Lu (2005, 2011) which mostly assesses the characteristics of each instrument and how to use it. This might be due to the paucity among researchers of recording tools and related skills in recording and mixing. Certainly, the first impression one acquires of *beiguan* recorded in the field is of its fervent atmosphere, and of the loudness of the *suona* and the bronze percussion instruments. However, when we examine further, behind the loud volume, some further details are uncovered. For instance, the distribution of the percussion group across the pitch spectrum and its resulting sound quality forms a natural and complementary arrangement. Secondly, in the recording and mixing process, as high-tech recording equipment improves and has become more affordable, more of us are able to gain experience of mixing and recording, and can access places where associated skills are discussed, particularly with regard to popular music. However, if a researcher is not familiar with this area, they must still cooperate with an expert from the recording industry in order to produce a good result. Furthermore, and even with sufficient equipment and an amenable expert sound engineer, they will still not necessarily be able to complete the recording process without guidance and collaborative input from listeners who are deeply habituated in the tradition. As discussed above, some of my intuitions as a recordist who was already somewhat familiar with *beiguan* proved accurate, but in certain other cases—such as the relative importance of the voice—Huang's critical input was essential to the production of a final mix that represented important aspects of his music close to the ways he heard it himself.

[13] In this photo, each *suona* player is also a stringed instrumentalist and each percussionist is also a singer while they play in another part of music.

Listening in the Field

I want to sing this part again because my voice does not sound nice. Can I just sing these phrases and record it[14]? (Xiu-Yue Li [group member], personal communication, 18 January, 2018)

After I had finalised my recording (three months later), Huang arranged an event to showcase the product to the whole team. At this event, I was able to interact with the musicians and they were able to share their experiences in a relaxing atmosphere. I did not divulge too much information about the mixing process before I played the recording. Afterwards, it was clear that the team felt something was missing. I played the recording for them a second time. They were able to concentrate more closely, and they noted further differences.

I feel the sound is not piercing and irritating even when I listen to it twice, and I can hear all the voices clearly with a reasonable balance [i.e., neigher too loud nor too weak][15] (Jin-Dui Weng [group member], personal communication, 18 January, 2018).

At that moment, Huang said that we should enjoy our feast and listen to the recording a third time. As they ate, more members commented that this production could be enjoyed many times without fatigue and they noted an overall improvement in the sound quality, compared to their experiences with previous recordings. Their collective approval confirmed the benefits of the collaborative strategy taken in the project.

Conclusion

In this article, I discussed the recording and mixing process used when I was invited to assist the production of a *beiguan opera* in Taiwan. Demands from the community saw my role evolve from that of an observer to that of an applied ethnomusicologist and from an amateur onlooker to an expert participant. Negotiation and collaboration with musicians led me to new insights into their aesthetic preferences and into the balance and distribution of timbral and pitch components in this traditional genre, allowing me to listen beyond the superficial impact of the high volume. I was also able to reciprocate

[14] 我的聲音聽起來不太好聽，我想要把這段再唱一次，我可以再錄這幾句唱的嗎? (Original conversation in Mandarin)
[15] 我覺得聲音聽第二次的時候，聽起來沒有那些刺耳，而且我可以清楚聽到所有的聲音，大小聲不會差太多 (Original conversation in Mandarin)

to the ensemble for the earlier training I had received and sustain and grow a relationship between this group and the academy. The musicians gained access to a fresh model of recording and working together on a recording project, one that was less onerous than that they had previously used, and which resulted in a recording that they claimed better represented their artistry to listeners. The ensemble's leader gained a recording produced in a state-of-the-art studio at a university and, most crucially, the opportunity to intervene in the recording and mixing process to ensure that the final product accurately represented the most important characteristics of their tradition.

This exact experience may not be replicated elsewhere. Indeed, specific details relevant to other projects will vary according to the tradition in question, the recording venue, conditions in the field, the present-day repertoire, available recording equipment and the aesthetic preferences relevant to the production in question. For instance, the collaborative production might be intended to allow multi-functional use (e.g., for marketing, creation of a collective memory, further analysis and research or teaching material) or reflect other demands distinct from those my consultants brought forward. Nevertheless, the example still reveals the benefits that can emerge when a researcher is able to work together with musicians in the field through a well-formed collaborative relationship. Until the end of 2023, I have collaborated with them to make six recordings using the same model. Furthermore, Huang shared the recordings with other *beiguan* groups, and two of these groups are now planning similar recording sessions in the same setting for future projects. As we have worked together multiple times, some group members have learned how to set up everything for recording. However, acquiring specific professional skills in manipulating DAW for mixing still needs more time for these group members. In the initial recording project, they had planned to release their CD albums. However, due to the pandemic in 2019, they had to adapt and instead set up channels on YouTube, Facebook, and Instagram to stream their recordings online. Now, all the group members can use their mobile phones to access our collaborative productions and promote themselves at any time. As an ethnomusicologist, I also learn about their aesthetic preferences and musical characteristics in this traditional music genre through this collaborative process.

Beyond these direct benefits for me and my collaborators, the project illustrates how an ethnomusicologist with experience of recording processes can contribute to a field-based

recording project. In the first part of this article, I shared details of the recording strategy I used in the field, including my rationale for the selection and deployment of microphones and other equipment. In the second part, I focused on the how I utilised mixing skills, including setting the parameters for the equaliser, compressor, panning and balance, and how I worked together with two key consultants to finalise the recording. I hope this case study encourages other researchers to engage with this approach, as one possible way of contributing expertise to the needs of the musicians whom we study and thus sustain a socially responsible form of ethnomusicology.

REFERENCES

Bendrups, Dan. (2015). "Transcending Researcher Vulnerability Through Applied Ethnomusicology". *The Oxford Handbook of Applied Ethnomusicology,* Ed. Svanibor Pettan and Jeff Todd Titon. Oxford: Oxford University Press, pp. 71-92.

Chen, Xiao-Tzu. (2000). "A Study on Beiguan Conservatory-Li Chung Yuan" (梨春園). *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Chen, Yue-Ling. (2008). "The Study of Beiguan Impartation: A Case of Changhua County Museum of Traditional Music and Theatre of Nanguan (南管) and Beiguan". *Master Dissertation*. National Tainan University of the Arts, Tainan: Taiwan.

Chou, Yi-Chien. (2009). "A Study on the Life of Beiguan Musician Chuang Chin-Tsai (莊進財)". *Master Dissertation*. National Taipei University of the Arts, Taipei: Taiwan.

Crowdy, Denis. (2007). "Studios at Home in the Solomon Islands: A Case Study of Homesound Studios, Honiara". *The World of Music.* 49(1): 143-154.

Dockwray, Ruth and Moore, Allan F. (2010). "Configuring the Sound-Box 1965-1972". *Popular Music.* 29(2): 191-197.

Fu, Ming-Wei. (2014). "Cultural Content of Pei-Kuan (北管) in Taiwan's Folk Religion-Taipei Ling-An Association (靈安社) as an Example". *Master Dissertation*. National Cheng Chi University, Taipei: Taiwan.

Hofman, Ana. (2010). “Maintaining the Distance, Othering the Subaltern: Rethinking Ethnomusicologists’ Engagement in Advocacy and Social Justice”. *Applied Ethnomusicology: Historical and Contemporary Approaches*. Ed. Klisala Harrison; Elisabeth Mackinlay and Svanibor Pettan. Cambridge: Cambridge Scholars, pp. 22-35.

Hood, Mantle. (1971). *The Ethnomusicologist*. New York: McGraw-Hill.

Huang, Jui-Cheng. (2010). “A Study on the Performance and Educational Activities of Hsinchu Beiguan Art Troupe”. *Master Dissertation*. National Taipei University, New Taipei City: Taiwan.

Huang, Kang-Ning. (2017). *Listen to the Culture*. Taipei: Sound Museum.

Huang, Yi-Chun. (2005). “Research of Pak-Koán Baing (北管八音) Blending into the Native Music Instruction-Nan-Ho Elementary School Pak-Koán Baing Band as an Example”. *Master Dissertation*. National Hsinchu University of Education, Hsinchu: Taiwan.

Izhaki, Zoey. (2018). *Mixing Audio- Concepts, Practices, and Tools*. New York: Routledge.

Jian, Miao-Ling. (2019). “A Study of Li-Fang Yuan (梨芳園) Pei-Kuan (北管) Conservatory”. *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Li, Wen-Zheng. (1988). “A Study on Taiwan Beiguan and Fu Lu (福路) Singing Style”. *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Liao, Chen-Hung. (2017). “A Research of Beiguan Musician of Li Liang-Cheng (李兩成)”. *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Liao, Sho-Yu. (2000). “A Study of Beiguan Musician of Su Deng-Wang (蘇登旺) in Beiguan Theatre”. *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Lin, Chien-Hui. (1999). “A Study of Theatre and Music in Beiguan Ban Xian (扮仙) Theatre-Taking Da Ba Xian (大八仙) and San Xian Bai (三仙白) as Examples”. *Master Dissertation*. Taipei: National Institute of the Art.

Lin, Su-Zhu. (1999). “A Study of Beiguan Ban Xian (扮仙) Theatre”. *Master Dissertation*.

Chinese Culture University, Taipei: Taiwan.

Lin, Yi-Hsuan. (2017). “Analysis of Characters about the Chong-Kang (總綱) in Transcript of Beiguan in the Wu-Feng Xuan (舞鳳軒) of Chiayi Shingang”. *Master Dissertation*. National Pingtung University, Pingtung: Taiwan.

Lu, Chui-Kuan. (2005). *Taiwanese Traditional Music: Vocal Music*. Taipei: Wu-Nan Book Inc.

Lu, Chui-Kuan. (2007). *Taiwanese Traditional Music: Instrumental Music*. Taipei: Wu-Nan Book Inc.

Lu, Chui-Kuan. (2011). *Beiguan Music*. Taipei: Morning Star Publishing Inc.

Lu, Dai-Pei. (2014). “Changhua County Cultural Affairs Bureau -A Study of Beiguan Music and Theatre of Chip Lok Ian (集樂軒)”. *Master Dissertation*. Providence University, Taichung City: Taiwan.

Meintjes, Louise. (2003). *Sound of Africa! Making Music Zulu in a South African Studio*. Durham and London: Duke University Press.

Myers, Helen. (1993). *Ethnomusicology: Historical and Regional Studies*. U.S.: W W Norton & Co Inc.

Neuenfeldt, Karl. (2007a). “"Bring the Past to Present": Recording and Reviving Rotuman Music via a Collaborative Rotuman/Fijian/Australian CD Project”. *The World of Music.* 49(1): 83-103.

Neuenfeldt, Karl. (2007b). “Notes on the Engagement of Indigenous Peoples with Recording Technology and Techniques, the Recording Industry and Researchers”. *The World of Music.* 49(1): 7-21.

Ostashewski, Marcia. (2014). “Engaging Communities and Cultures in Ethnomusicology: An Introduction”. *MUSICultures*. 41(2). Retrieved from https://journals.lib.unb.ca/index.php/MC/article/view/22908

Ottosson, Åse. (2007). “"We're Just Bush Mob": Producing Aboriginal Music and Maleness

in a Central Australian Recording Studio". *The World of Music.* 49(1): 49-63.

Pan, Ju-Tuan. (1998). "A Study on Suona Music and Skills in Beiguan". *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

Savage, Steve. (2011). *The Art of Digital Recording: A Practical Guide for Home and Studio*. New York: Oxford University Press.

Savage, Steve. (2014). *Mixing and Mastering in the Box- The Guide to Making Great Mixes and Final Masters on Yours Computer*. New York: Oxford University Press.

Shih, Ying-Pin. (2016). "Tradition in Motion-The Status and Identity of Amateur Beiguan Opera and Music Communities [Zidi] in Modern Taiwanese Society". *Ph.D Dissertation*. University of Sheffield: UK.

Stock, Jonathan. (2004). "Interface at the Peripheries: Western Impact on Other Musics". *Cambridge History of Twentieth-Century Music,* Ed. Anthony Pople and Nicholas Cook. Cambridge: Cambridge University Press, pp. 18-39.

Stock, Jonathan. (2010). "Recordings as Research Tools in Ethnomusicology" *Recorded Music: Performance, Culture and Technology,* Ed. Amanda Bayley. Cambridge: Cambridge University Press, pp. 187-205.

Su, Yu-Ching. (2003). "A Study of Man Zhong Jin (慢中緊), a Melodic Pattern Used in the Old Style of Beiguan Theater Music". *Master Dissertation*. National Taipei University of the Arts, Taipei: Taiwan.

Summit, Jeffrey A. (2015). "Advocacy and Ethnomusicologist: Assessing Capacity, Developing Initiatives, Setting Limits, and Making Sustainable Contributions". *The Oxford Handbook of Applied Ethnomusicology.* Ed. Svanibor Pettan and & Jeff Todd Titon. New York: Oxford University Press, pp. 199-228.

Tan, Sooi Beng. (2015). "Cultural Engagement and Ownership Through Participatory Approaches in Applied Ethnomusicology". *The Oxford Handbook of Applied Ethnomusicology.* Ed. Svanibor Pettan and Jeff Todd Titon. New York: Oxford University Press, pp. 109-133.

Titon, Jeff Todd. (1992). “Music, the Public Interest, and the Practice of Ethnomusicology” *Ethnomusicology.* 36(2): 315-322.

Titon, Jeff Todd. (1995). “Bi-Musicality as Metaphor”. *The Journal of American Folklore.* 108(429): 287-297.

Titon, Jeff Todd. (2009). “Music and Sustainability: An Introduction”. *The World of Music.* 51(1): 119-138.

Titon, Jeff Todd. (2015). “Applied Ethnomusicology: A Descriptive and Historical Account”. *The Oxford Handbook of Applied Ethnomusicology.* Ed. Svanibor Pettan and Jeff Todd Titon. New York: Oxford University Press, pp. 4-28.

Topp Fargion, Janet. (2009). ““For My Own Research Purposes?”: Examining Ethnomusicology Field Methods for a Sustainable Music”. *World of Music.* 51(1): 75-93.

Tsai, Chi-Fang. (2010). “A Study on Beiguan Group–Take Ching Her Shiuen (慶和軒) in Chiayi County”. *Master Dissertation*. National Taipei University of the Arts, Taipei: Taiwan.

Tsai, Ya-Ling. (2005). “A Study in Structure of Beiguan Music - In the Case of Bann-Sehn-Xi (扮仙戲) ‘Tien-Guan-Sih-Fu’ (天官賜福)”. *Master Dissertation*. National Taipei University of the Arts, Taipei: Taiwan.

Tu, I-Yun. (2020). “Innovative Teaching by the Integration of Beiguan and Orff-Schulwerk – Taking Music Club of Ping Elementary School in New Taipei City as an Example”. *Master Dissertation*. National Taipei University of the Arts, Taipei: Taiwan.

Weng, Wei-Hong. (2010). “A Study of Beiguan Ensemble in Tamsui”. *Master Dissertation*. National Taipei University, New Taipei City: Taiwan.

Wu, Huei-Chen. (1999). “The Collection and Study of Fu-Lu Gong (福路派) and Drum Music of Taiwan Pei-Kuan (北管)”. *Master Dissertation*. National Institute of the Art, Taipei: Taiwan.

Wu, Pei-Hsuan. (2015). “The Research on Pei-Kuan (北管) Opera Aria of Yu-Chiao Pan (潘玉嬌)”. *Master Dissertation*. National Taiwan Normal University, Taipei: Taiwan.

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An Evaluation of Traditional and Innovatory Approaches in Arnold Schoenberg's *Verklärte Nacht* and 'Nacht' from *Pierrot Lunaire*[1]

ABSTRACT
This study analyzes Arnold Schoenberg's particular perspective on tradition and innovation. *Verklärte Nacht* (1899), which he composed in his tonal period and which thus has a more traditional character, and *Pierrot Lunaire* (1912), from his 'free' atonal period, are discussed to illustrate the composer's different approaches. This article aims to show that these approaches do not represent two separate periods but rather create a single style and can be understood as mutually related within the composer's output. Schoenberg's *Verklärte Nacht, Op. 4* and *Pierrot Lunaire, Op. 21, No. 8* will be interpreted in the context of tradition-innovation relations by means of descriptive analysis and literature review, and in the context of wider tradition and innovation relations in his other works. It is observed that the composer still adhered to 19th-century traditions at some points; however, as he himself argued, it is unrealistic to force Schoenberg into a specific mould. When examining the different compositional periods of the composer, it is possible to discern diverse features. It should be noted that the traditionalist and innovative tendencies in the composer's works are not distinguished as easily as may be thought, and that the composer should not be evaluated in terms of degrees of complexity. Results show that Schoenberg was not a composer who adhered to any one theory or technique, but rather a versatile composer. Describing him as a traditionalist on one hand or a radical innovator on the other does him a disservice.

KEYWORDS
Arnold Schoenberg
Op. 4 Verklärte Nacht
Op. 21 Pierrot Lunaire Nacht
Twentieth Century Music
Tradition and Innovation

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Introduction

Arnold Schoenberg (1874-1951) was a 20th-century Viennese composer who paved the way for atonality or as he preferred to call it "pantonality". He extended the limits of tonal understanding and influenced 20th-century music by developing a very particular system of composition (Erdem Çöloğlu, personal communication, 12 February, 2019). The radical innovations that Schoenberg brought in the context of sound material and harmony obscured the composer's innovations in other musical parameters such as design, structure, rhythm, and form. Hence, this led to the criticism that the composer behaved rather conservatively in other areas. He could not break fully with tradition, despite the twelve-tone revolution, when "Schoenberg applied the new language and development in old forms, expressed old feelings and repeated old behaviors" (Mimaroğlu, 1990: 147). Although the composer maintains the 'old' discourses in some of his works, it would be inadequate to define the composer simply as a traditionalist (Erdem Çöloğlu, personal communication, 12 February, 2019). In terms of his musical inheritance, he thought of many great Austrian and German composers as his primary models. He was most influenced by major composers such as Bach, Mozart, Beethoven, Brahms, Schubert, and Wagner. "Even Mahler and Schoenberg showed signs of ambivalence about their modernism. They were identified strongly with the distinguished tradition of German music in all its aspects, the Wagnerian one emphatically included. They consider themselves as its heirs and rightful continuers" (Taruskin, 2009: 3). In many of his writings, Schoenberg clearly stated that he internalized these composers as his role models. It is possible to get an idea about Schoenberg's view of tradition from the following lines in his text entitled *National Music*, which he wrote in 1931:

> Surprisingly, no one noticed how I resisted the Roman and Slavic hegemony with my music, which emerged from German lands without any external influence, and how I benefited only from German musical traditions. My teachers were, above all, Bach and Mozart. They are followed by Beethoven, Brahms, and Wagner. (Aktüze, 2003: 2041)

He regarded himself as a composer who had decided to carry forward the mission, approach, and aesthetic world of this tradition, as well as developing his own musical personality. However, he had never been fanatical about this heritage and about tradition more generally. Therefore, the past was a beneficial source from which the future might

be recreated, rather than a model to be repeated.

In the context of this study, I have tried to observe the relationship between tradition and innovation in Schoenberg's works. The composer, who sometimes used atonality and sometimes 12-tone technique in his works, mostly continued to use traditional forms. In other ways too, it is possible to see references to tradition or to the great composers before him and their techniques. The synthesis of these two approaches is one of the important features of Schoenberg's art.

This study aims to reveal that although Schoenberg was committed to continuing a tradition, he was also an important innovator in the history of music. As part of the research process, a comprehensive literature review is conducted with descriptive analysis as the chosen methodology. The descriptive analysis method is used to examine the form, theme, and sentence structures of the works, while the literature review is used to analyze existing approaches to the composer's selected works.

Approaches of Tradition and Innovation on Schoenberg's Selected Works

"Schoenberg, divided into three periods of his works towards his end of life: 1899-1908 tonal period, 1908-1920 the free atonal period and after 1920 the twelve-tone period" (Pamir, 1998: 325). Periods of compositions are not exclusive; he composed tonal works even in his last period when he was working with the twelve-tone technique. The composer's process of composing and the periods are transformed into different styles, are examined, and richness of the composer's output is affirmed. In his tonal period, the effects of late romanticism are observed due to its historical placement. Schoenberg's relationship with tradition is a desire to perpetuate rather than an attempt to reject or transcend. "Horwitz, one of Schoenberg's famous students, quotes the composer's following on the subject: Instead of looking at what I have done, learn from Beethoven and Brahms" (Pamir, 1998: 325). Schoenberg never concealed that he was influenced by these composers, and by the tradition they represented. In his atonal works, he kept traditional forms as a basis for his work. Using tradition as the basis for a new syntax without tonality also ensured the integrity and coherence of the work. Schoenberg lived in Vienna in the first quarter of the 20th century, and at that time Vienna was ruled by a monarchy. The empire was oppressive, resulting therefore in ruptures in many areas of art. Marginal personalities emerged, as is often seen in societies that are under political pressure

(Erdem Çöloğlu, personal communication, 12 February, 2019). An intelligentsia, such as Stefan Zweig and Karl Kraus in literature, Gustav Klimt, Oskar Kokoschka, Wassily Kandinsky, Egon Schiele in painting, Sigmund Freud and Carl Gustav Jung in psychoanalysis, Arnold Schoenberg, Anton Webern and Alban Berg in music, all wanted to create a new discourse on the basis of an existing *mentalité*. They are often associated with expressionism, which is a cultural movement that emerged in Germany and Austria in the early twentieth century (Bassie, 2008: 7). Owing to their work, the subjects of art began to evolve into unusual, darker and 'ugly' regions, invoking fear, nightmare, mystery, night, forest, darkness, sexuality, and the subconscious. Alienation, anxiety, and rebellion against tradition and power are important elements of expressionism. As with other expressionists, Schoenberg used the symbols and methods of psychoanalysis, establishing links between cultural forms and Freud's theories of psychoanalysis. Concerns about gender relationships and about women's psychology and sexuality were examined, and these were then included in artworks (Özkişi, 2017: 154). The wider public, on the other hand, were very conservative because they were under oppression and closed to innovation. Therefore, artists and thinkers of this radical bent often received a negative initial response. In Larry Weinstein's documentary *My War Years* (1992), which is about Schoenberg, Alban Berg is quoted as follows: "Why is Schoenberg's music so difficult to understand? I think today's listeners are so used to the harmonies of the past that they don't have the ability to understand any other kind of music. One different technique is enough to provoke them." "Arnold Schoenberg, who was excluded from society due to his intellectuality, destructiveness, abstraction, and esotericism, encounters resistance with each new work" (Adorno, 2018: 55).

The inner conflict of the composer arises on one hand from being tied to tradition and on the other hand from thinking that a new musical language should be formed. Schoenberg's development is paradoxical because while he wanted to break with tradition, he did not avoid using the same tradition (Gustafson, 1989: 3). In this case, the following question may come to mind: What could have motivated Schoenberg's desire to stick to tradition? Was it a desire to gain ground in the conservative Viennese music scene, or did he refer to tradition as a homage to the master composers? The composer stated that he composed instinctively in one of his writings, so traditional aspects and references to tradition in his works can be seen as a natural result of this attitude.

> A composer cannot produce good music unless he writes from the heart and soul. Never in my life have I been stuck in a theory. I write whatever comes into my mind, don't think that when I write tonal, polytonal, or polyplanal music, I do it consciously. I put my feelings on paper, that's all… Besides, a successful piece of art is one that doesn't imply what kind of composition it was composed, especially since it doesn't give the impression that it is the result of mental work. He did not write tonal music to please the listeners who were not accustomed to the twelve-note order, nor did he make the twelve-note order to satisfy the disappointment of those who took his side. (Mimaroğlu, 1990: 147)

Therefore, Schoenberg and his companions who redesigned the compositional systems of Western music did not care about the audience forming the mainstream (Goodall, 2018: 246). Schoenberg explained his "returning" to tonality from time to time with the following words in his article titled "On Revient Toujours" in *Style and Idea* (1950):

> When I finished the *Op. 9 Kammersymphonie*, I told my friends: Now I have determined my style. Now I know how to compose. However, my later work deviated greatly from this style, it was the first step towards my current style. My destiny forced me to go in this direction. I was not destined to continue in the line of *Verklärte Nacht*, *Gurrelieder*, or even *Pelleas und Melisande*. The commander[2] ordered me to proceed on a more difficult road. But the longing to return to the old ways has always been a resistance for me, and at times I had to give in to the urge. Therefore, I sometimes write tonal music. To me, such stylistic differences are of no particular importance. I don't know which song is better. I love them all because I loved them when I wrote them. (Newlin, 1950: 230)

Schoenberg was a citizen of Jewish origin who lived in a period when two world wars ravaged Europe and European culture and was influenced by anti-semitism before World War II. The ideological and political pressure was also great, so he and his wife moved from Vienna to Berlin three times. They had to return to Vienna every time because they had financial difficulties on their way to Berlin. He converted to Christianity, probably to protect himself from the anti-semitism that was affecting Europe at that time. However, this was not a permanent or practical solution to enabling him to compose and to increase his standard of living. With the rise of Nazi Germany in Berlin (1933), Schoenberg also moved to France with his family and converted to Judaism on July 24, 1933, in a synagogue in Paris, both as a protest against the Nazis and for religious reasons (Rubsamen, 1951: 486). He emigrated to America in 1934 and became an American

[2] In the context of the sentence, the word 'Commander' refers to God.

citizen in 1941 (Marcus, 2016: 188). Schoenberg had to make a constant change in his life because of the political pressures he experienced. He moved to different countries many times and eventually emigrated to America and felt the need to change his religion while living in Vienna. At this point, the following questions may come to mind: Did this situation make him feel isolated, belonging nowhere? Did he refer to tradition in order to feel that he belonged to society and to prove his commitment to society? Did he want to show and prove that he remained true to the German tradition because of the difficulties he faced due to his Jewish origin while living in Vienna and Berlin? It was mentioned above that the composer created works instinctively, so references to tradition may have been made with this instinctive impulse. However, could the identity-origin confusion experienced by the composer have strengthened his approach to tradition? On account of their complex processes, the conditions of the era, and the geography of his motherland, his subtle works proved difficult to comprehend and listen to for some audiences, and can be evaluated as traces of the traumatic period in which the composer lived. Moreover, his music was sometimes not grasped and welcomed by other great composers. Composed by Schoenberg in 1909, the *Five Pieces for Orchestra, Op. 16* were greeted with scepticism by the leading composers of the time.

> Richard Strauss has said, "Although his pieces were boldly experimented with, both for their content and their sonority, I would not dare present them to the conservative Berlin public for the time being". A similar reservation is felt in Max Reger. In 1910, Reger wrote a letter to pianist August Stradal: I was introduced to Schoenberg's *3 Piano Pieces*. I have no idea if this kind of thing is still called music. My brain is too old for such things. (Dahlhaus, 1989: 336)

Inevitably, not only *Pierrot Lunaire* but also all other atonal works of the composer should be mentioned in this context. In atonal music, pitches do not have a specific hierarchical function. The fact that pitches are not defined through their function within a system has the effect of elevating timbre and timbre-related features such as articulation, dynamics, and instrumentation to a new structural importance. The distinction between primary parameters (pitch and rhythm) and secondary parameters (dynamics, articulation, timbre) becomes more blurred, and the latter parameters evolve to become a fundamental designer of the composition. Factors such as tonally-based phrasing are crucial for the evolution of form. And since these parameters are absent in atonal music, there are no tonal cadences or modulations to guide us in terms of sentences and

sections: *Pierrot Lunaire* is a case in point. However, in the move to atonality, it is a chamber music aesthetic that allows the basic procedures of tonality, harmonic schemes, and scale patterns of a standard structure such as sonata form to disappear, since in chamber works, thematic and motivic working are more prominent than the harmonic environment and structure. Furthermore, chamber works are the best environment to liberate sound material while using motifs. In other words, while moving towards atonality, Schoenberg engaged directly with the aesthetics of chamber music (Dahlhaus, 1989: 338). While evaluating the relationship of the music of the period with tonality and meter, Dahlhaus makes the following determination: The main factor in the death of tonality and the disintegration of the solid four-measure phrasing into musical prose was to give a concrete meaning to the 'developing variation' associated with motivic working (Dahlhaus, 1989: 338). *Verklärte Nacht* and *Pierrot Lunaire*, which are the basis of this research, are works of chamber music and have a structure that relies on motivic working. Apart from *Pierrot Lunaire*, references to tradition are also seen in the second- and third-period works of the composer. Examples are the following works: In the second period: *Book of Hanging Gardens*, *Op.15* (1908-1909) (*Das Buch der Hängenden Garten*) and *Five Orchestral Pieces*, *Op. 16* (1909), (*Fünf Orchesterstücke*), and in the third period: *Piano Suite, Op. 25* (1921-1923), *Variations for Orchestra*, *Op. 31* (1926-1928), *Strig Quartet No 4, Op. 37* (1936). For instance, the *Piano Suite*, a twelve-tone work, includes some dances of the *Baroque Suite* such as prelude, gavotte, musette, intermezzo, menuet, and gigue (Pamir, 1998: 354). Schoenberg integrated these old forms into a new sound world. The last 4 pitches of the Gigue are B flat-A-C-B (Figure 1). These notes, which correspond to the letters BACH with their German literal translation, symbolize Schoenberg's reference to the great composer in this suite (or, more romantically, a respectful salute) (Pamir, 1998: 354). However, this is treated as an abstraction because the letters are not sequential. By not using the letters B-A-C-H here, Schoenberg abstracted the Bach figure. Thus, Bach is both present and absent. Bach is one of the composers that Schoenberg took as a role model. So, in this respect Bach could be his teacher, for when Bach speaks of the baroque dances in the suite, we refer to them as 'stylized dances'. What Bach does here is also a type of abstraction. What Schoenberg does is the abstraction of Bach's coding, similar to the way dances are stylized rather than their original use.

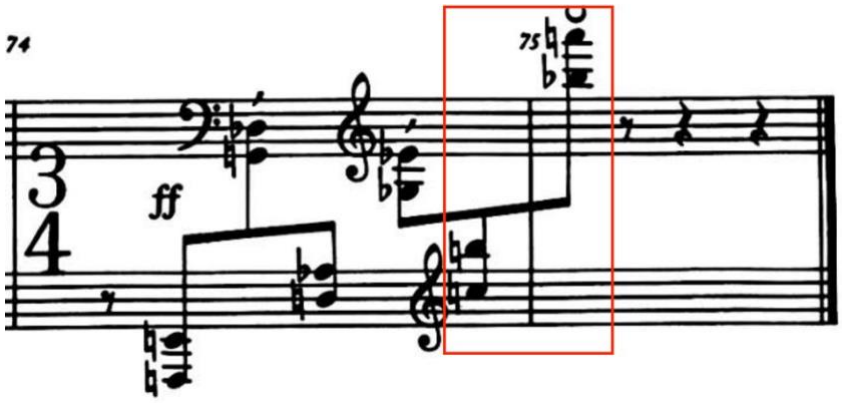

Figure 1. Schoenberg, *Op. 25 Piano Suite*, the last two bars of gigue. (Schoenberg, 1925)

This reference is also seen in his *Variations for Orchestra* (1926-28), and especially the final part of the work, which is a kind of *Hommage à Bach* (homage to Bach). The B-A-C-H pitches and letters are used clearly and respectively at the beginning of the movement (figure 2).

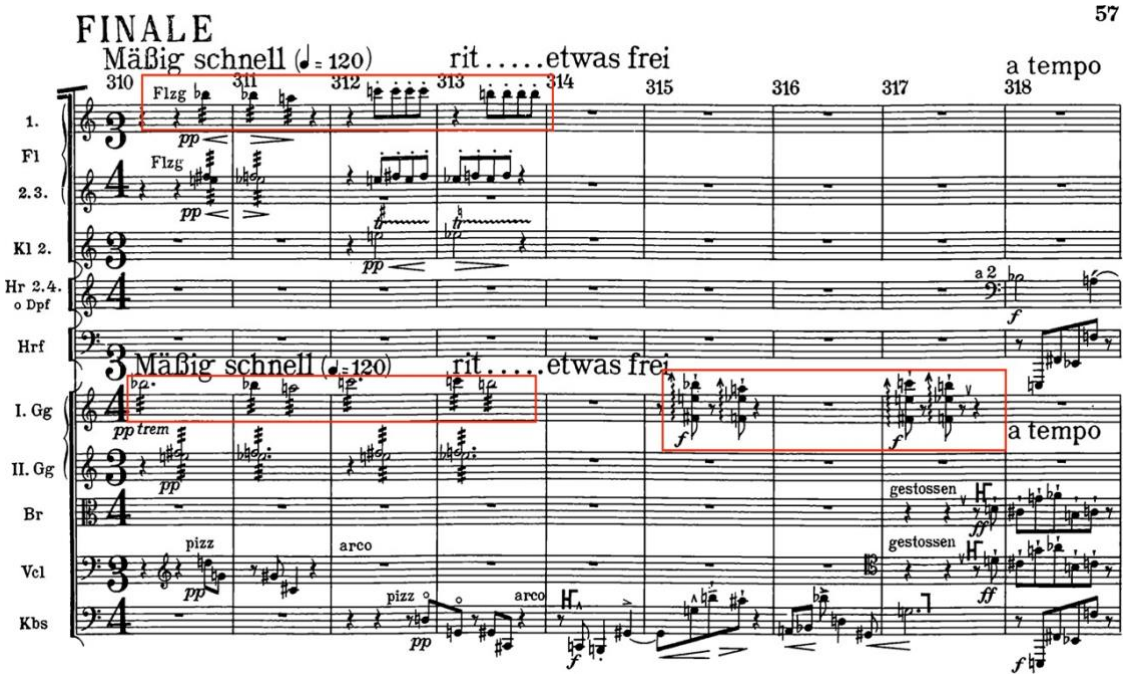

Figure 2. Schoenberg, *Op. 31 Variations for Orchestra*, Finale, Bars: 310-318. (Schoenberg, 1929)

The Fourth String Quartet (1936) was also composed in the twelve-tone system, but there are references to the past in terms of form. A melody-accompaniment texture dominates the piece. The first movement, *Allegro Molto Energico*, is in sonata form. The second movement is an intermezzo in the form of a ternary A-B-A. The third movement, largo, is in a two-part (ABAB) form. The last part, allegro, is in the form of rondo. As can be seen, the composer used familiar and traditional forms in all movements. Thematic repetitions

are also frequently used in the work, which is essentially a traditional gesture. It is necessary here to open a parenthesis about the *String Quartet No 2, Op.10* (1908). Like the *Fourth Quartet, Op. 10* makes clear reference to tradition. However, it is also necessary to explain this string quartet in a context of innovation. The fourth and final movement of this work, *Entrückung* (Ecstasy, Rapture) is the composer's first atonal music. In this quartet, unlike traditional chamber music, a soprano was added to the third and last movements. Consider also the second piece of *Five Pieces for Orchestra* (*Fünf Orchesterstücke* 1909), another 'free' atonal piece composed in Schoenberg's second period, and one that carries traces of the past as if confirming its name. Even though these traces do not appear directly in the notation (for example, using a key signature), they do appear in a musical dimension. An impressionist timbre and soundscape are felt in this piece, but it is much more striking and innovative in terms of musical language than Debussy's *Images for Orchestra* (*Images pour Orchestra*, 1905-1912), which was composed at the same time. "It should not be forgotten that impressionism helps to enable expressionism in terms of tonal inconsistency as pointed out in Schoenberg's *Style and Idea*, and facilitates the freeing of dissonance, which is a characteristic feature of expressionism" (Özkişi and Dündar, 2015: 4).

The Book of Hanging Gardens, *Op. 15* is a work composed for solo piano and soprano based on Stefan George's *15 poems* of the same name. The work consists of *15 songs* based on the poem. The subject is a man and a woman who have a passionate love affair in a garden. Later on, the woman leaves this garden, which is then destroyed dramatically. According to Carl Emil Schorske, the garden here becomes a metaphor, its destruction mirroring the destruction of traditional tonal music (Eren, 2014: 187). This can be extended to embrace the dilemma faced by the composer himself, referencing his interpretation of tradition, and the emotional longing he felt on abandoning it. On the grounds that the garden is a metaphor and represents tonality in the work, we might argue that the destruction of the garden is also related to the composer's own sense (although he never completely broke away from the tradition) that a new breath should come to the sound world of music because tonality has reached its limits. Therefore, there is a tonal ambience in this work as well. For example, in No. 11 "*As We Behind the Flowered Gates* (*Als Wir Hinter dem Beblümten*), the pitch class set (0347) is strongly evocative of tonality. The notes (0347) shown in Figure 3 form the pitch class set, to use a term from the analysis of atonal music

and post-tonal theory.

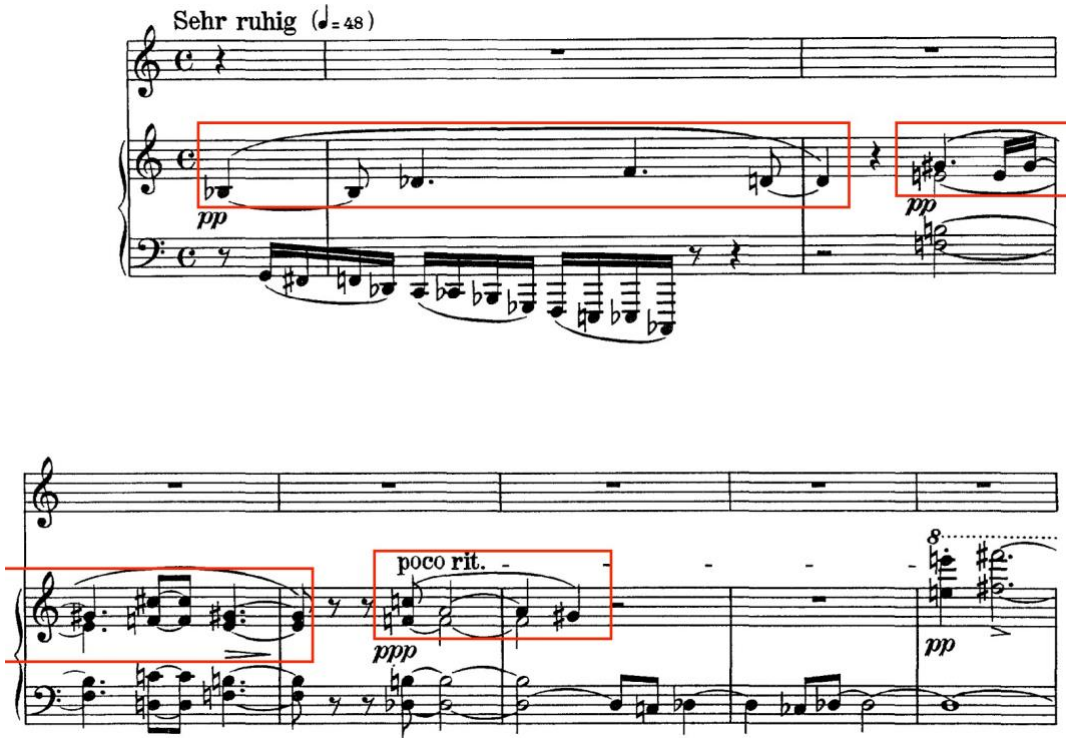

Figure 3. Schoenberg, *Op. 15 No.11 Als Wir Hinter dem Beblümten*, Bars: 1-7. (Schoenberg, 1914)

Schoenberg composed his works based primarily on expression, without any intention of establishing a technique or popularizing a new technique. Compare this with Alois Haba, who composed sixteen string quartets to establish the quarter-tone system. Every composer wants his works to be liked and accepted. Schoenberg's urge to be admired may have been instinctively reflected in his works. For instance, upon examining Schoenberg's opera *Moses and Aaron*, one can observe the manifestation of this impulse. Although not entirely based on this idea, the conflict between Moses and Aaron in the composition reflects an internal conflict that the composer experienced throughout his life.

> In the opera Moses and Aaron, Schoenberg reflected on his dilemma, his internal struggles, sacrifices, and the sum of his life full of long struggles for his art. Expressing his artistic dilemma during these struggles, Schoenberg aims for abstract, 'non-fake expressions' that integrate with 12-tone music, while he is also aware of the lack of communication of this music. Naturally, he is also an artist, he wants to be understood and communicate. There are both Moses and Aaron in his inner world. However, he doesn't limit his music to mere emotional or sensory appeal, nor does he allow it to be easily understood, cheapened, or commodified. Just like Moses's idea of God, which

> cannot be faked, Schoenberg aims for abstract greatness with the 'unimaginable', non-transparent quality of his music. (Pamir, 1998: 358)

Findings

This section evaluates the new and controversial approaches in *Verklärte Nacht* compared to its period and the traditional elements in 'Nacht' from *Pierrot Lunaire*.

***Verklärte Nacht* (*Transfigured Night*)**

Verklärte Nacht, Op. 4 (*Transfigured Night*) is a string sextet composed in 1899. It consists of two violins, two violas, and two cellos. While composing this work, Schoenberg was inspired by the German poet Richard Dehmel's poem of the same name. The original of the poem and its English translation are below:

Verklärte Nacht

Zwei Menschen gehn durch kahlen, kalten Hain;
der Mond läuft mit, sie schaun hinein.
Der Mond läuft über hohe Eichen,
kein Wölkchen trübt das Himmelslicht, in
das die schwarzen Zacken reichen.
Die Stimme eines Weibes spricht:

Ich trag ein Kind, und nit von Dir,
ich geh in Sünde neben Dir.
Ich hab mich schwer an mir vergangen.
Ich glaubte nicht mehr an ein Glück
und hatte doch ein schwer Verlangen nach
Lebensinhalt, nach Mutterglück
und Pflicht; da hab ich mich erfrecht,
da liess ich schaudernd mein Geschlecht
von einem fremden Mann umfangen,
und hab mich noch dafür gesegnet.
Nun hat das leben [sic] sich gerächt:
nun bin ich Dir, o Dir begegnet.
Sie geht mit ungelenkem Schritt.
Sie schaut empor; der Mond läuft mit.
Ihr dunkler Blick ertrinkt in Licht.
Die Stimme eines Mannes spricht:

Das Kind, das Du empfangen
hast, sei Deiner Seele keine Last,
o sieh, wie klar das Weltall schimmert!
Es ist ein Glanz um Alles her,
Du treibst mit mir auf kaltem Meer,
doch eine eigne Wärme flimmert
von Dir in mich, von mir in Dich.

Die wird das fremde Kind verklären,
Du wirst es mir, von mir gebären;
Du hast den Glanz in mich gebracht,
Du hast mich selbst zum Kind gemacht.

Er fasst sie um die starken Hüften.
Ihr Atem küsst sich in den Lüften.
Zwei Menschen gehn durch hohe, helle Nacht.

Transfigured Night[3]

Two people are walking through a bare, cold wood;
the moon keeps pace with them and draws their gaze.
The moon moves along above tall oak trees,
there is no wisp of cloud to obscure the radiance
to which the black, jagged tips reach up.
A woman's voice speaks:

"I am carrying a child, and not by you.
I am walking here with you in a state of sin.
I have offended grievously against myself.
I despaired of happiness,
and yet I still felt a grievous longing
for life's fullness, for a mother's joys
and duties; and so I sinned,
and so I yielded, shuddering, my sex
to the embrace of a stranger,
and even thought myself blessed.
Now life has taken its revenge,
and I have met you, met you."

She walks on, stumbling.
She looks up; the moon keeps pace.
Her dark gaze drowns in light.
A man's voice speaks:

"Do not let the child you have conceived
be a burden on your soul.
Look, how brightly the universe shines!
Splendour falls on everything around,
you are voyaging with me on a cold sea,
but there is the glow of an inner warmth
from you in me, from me in you.
That warmth will transfigure the stranger's child,
and you bear it me, begot by me.
You have transfused me with splendor,
you have made a child of me."

[3] Dover Publications, 1994, New York; published with Stanley Appelbaum's English translation.

He puts an arm about her strong hips.
Their breath embraces in the air.
Two people walk on through the high, bright night.

It was first performed by the *Rosé Quartet* on 18 March 1902 at the Wiener Musikverein. Mahler's remarks were very germane in this premiere of the *Rosé Quartet*. "A tone poem scored, unusually, not for orchestra but for string sextet, as if Schoenberg were deliberately casting himself as heir to both the 'New German' tradition of programmatic composition in the spirit of Liszt, Wagner, and Strauss, and the 'Classical' chamber-music tradition of Brahms" (Taruskin, 2009: 377).

The form of *Verklärte Nacht* is a rondo, but the sectional distinctions are not as clear as in traditional rondos.

> In more schematic terms, what Wellesz proposes as the larger musical form of *Verklärte Nacht* is something corresponding to the five poetic stanzas as ABA'CA". A, A', and A" represent the more 'epic' or narrative segments, B and C, the direct speeches of the protagonists. Wellesz's plan is persuasive, although the actual unfolding of the sextet is, of course, considerably more complex than the rondo-like scheme implied by the letter designations. As Carl Dahlhaus has suggested, "the rondo ground-plan, which gives the work formal support, is as it were covered with a web of thematic and motivic relationships, a web which becomes tighter and thicker as the work proceeds" (Dahlhaus, 1987: 97). In other words, the different segments of *Verklärte Nacht* are closely related by motivic variation, and toward the end of the work, earlier themes are recalled. The Wellesz-Dahlhaus analytical stance toward *Verklärte Nacht* is, I believe, the most reasonable one to assume since it grants to the sextet a form that is musically coherent and yet at the same time reflective of the broader structure of the poem. Several commentators, however, including Wilhelm Pfannkuch and Richard Swift, have gone further in according to *Verklärte Nacht* a more purely musical shape, that of sonata form. In this respect, the sextet is seen implicitly as the successor of the forms of the *D-Major Quartet* and explicitly as the direct precursor of the large one-movement instrumental works Schoenberg composed in 1902-6, including *Pelleas und Melisande, op. 5*; the *First Quartet, op. 7*; and the *First Chamber Symphony, op. 9.* (Frisch, 1993: 113)

As seen in the expressions quoted from Frisch's article, although the rondo form is mentioned schematically, the division distinctions are not as clear as in the traditional rondo form. The work is more complex than the rondo form we are used to from classical

models. Frisch also made the following determinations on the thematic style and structure of the work:

> It can be said that *Verklärte Nacht* is shaped by thematic processes and large-scale harmonic procedures that are largely outside the sonata tradition. The thematic material in *Verklärte Nacht* emerges in continuous transformations that are softer and more subtle than anything we have seen in Schoenberg's previous works. (Frisch, 1993: 117)

The poem consists of five stanzas. Based on this, it is thought that the piece consists of five sections. In 1917 Schoenberg adapted this work for string orchestra and revised this version in 1943. "Wagner's atmosphere is dominant in the work because of the programmed concept, leitmotivs, and intense chromatism" (Morgan, 1991: 63). For this reason, the work is related to the style of post-Wagnerian romanticism. In addition, although the work is tonal, it stretches the tonal feeling immensely. In the episode of *Dancing on a Volcano*, the first DVD of the documentary series *Leaving Home: Orchestral Music in the 20th Century*, which was released in 2005 with Simon Rattle as narrator (it includes 7 DVDs), it was mentioned that the work gradually stretched traditonal tonal boundaries.

When Schoenberg sent the piece to the Vienna Musicians Club (*Wiener Tonkünstlerverein*) for performance, it was well received, but because the chord in the 42nd bar was considered a compositional error, it was rejected. This chord (Figure 4), which might arguably be analyzed as a dominant-ninth chord in 'fourth inversion' (with the ninth in the bass), is—like the 'color chord' in the song *Erwartung*—better justified as a product of voice-leading by semitones in all voices in contrary motion (Taruskin, 2009: 377).

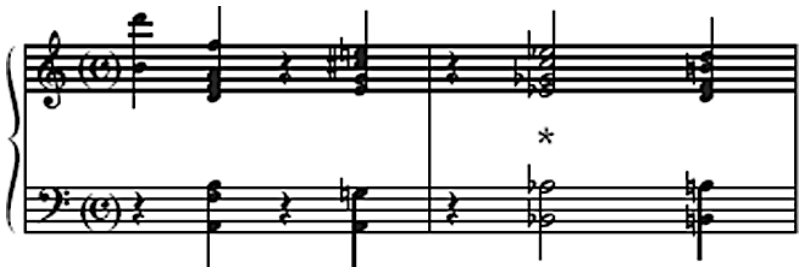

Figure 4. *Verklärte Nacht* chords in bar: 41-42. (Taruskin, 2009: 377)

The chord is not resolved in the rest of the work resulting in a feeling of floating freely in

the air. In Figure 5, the chords between the 41st and 45th bars of the piece are given respectively.

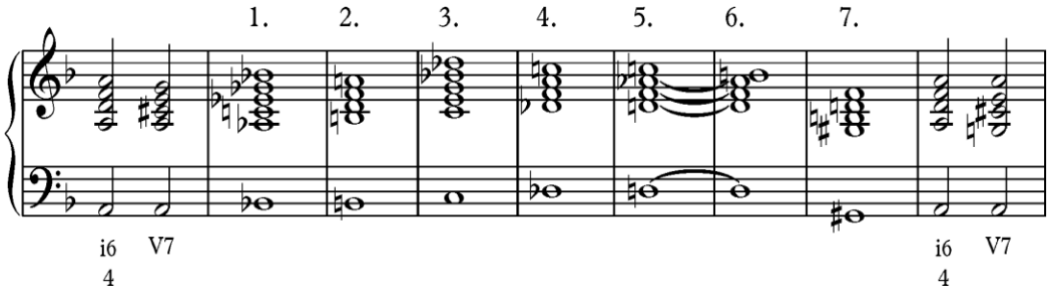

Figure 5. *Verklärte Nacht*, chords between 41 and 45th bars.

The 1st chord in Figure 5 (42nd bar of the piece) may be considered an A-flat Major 9th chord built on B-flat. While we might expect this chord to be resolved on a downbeat, the cadence starting from the 41st bar is not resolved, and the tonic chord does not sound at the expected place but rather on a weak beat. The 2nd chord that follows is employed as a passing chord. This chord is a semi-diminished seventh chord built on B natural. The 3rd chord in the first three times of the 43rd bar is a flat 9th chord based on C. While it is expected to resolve onto F, it is directed to the 3rd chord, a D-flat 7th. In the first part of the 44th bar, a D minor 7th chord with a flat 5th is used. The 7th of the chord is slurred to the previous chord, and the 6th in the next bar can be thought of as a flattened 7th. The A-flat, which was created by translating the 6th chord into the 7th chord, is enharmonically converted to G-sharp and taken to the bass part, with the entire elaborate chord progression delaying the cadence, which began in the 41st bar, to the 44th bar. It is an innovative progression for the period that the harmony is constantly in motion and does not give any real sense of resolution. And because of the discomfort experienced by ears that are accustomed to resolution, people were inclined to resist this music at first.

Pierrot Lunaire Op. 21 No. 8 'Nacht' (Night)

Pierrot Lunaire is an ensemble melodrama composed in 1912. It is based on the 21-part poem of the Belgian poet Albert Giraud. The German translation of the poem belongs to the German poet Otto Erich Hartleben. The place of this work in the history of modern music is crucial. Together with works such as Bela Bartók's *Allegro Barbaro*, and Igor Stravinsky's *The Rite of Spring*, it represents the high point of modernism in the music of the early 20th century (Axionov, 2010: 66).

Pierrot Lunaire is divided into three parts, each consisting of seven poems. 'Nacht' is the

eighth movement, thus opening the second part (Teil II). This movement consists of piano, bass clarinet, cello, and voice. The poems in the second part of *Pierrot Lunaire* are about darker subjects such as violence, crime, and night, with the text of 'Nacht' describing giant black butterflies extinguishing the brightness of the sun. "It is one of the poems that does not explicitly mention the moon or moonlight, and the central image of the poem is the fearful flapping of wings of dark, black moths" (Cherlin, 2012: 192). As in Cherlin's article, and in many other articles, it is common to refer to 'moths', but a more accurate translation is butterflies. In Giraud's original, the title of the chapter is *Papillon Noirs*, and Hartleben translated this text into German as 'Nacht', and the words *Papillons Noirs* in the text as *Reisenfalter*.

> Using the word moth instead of butterfly can lead to a loss of meaning. The word *Falter* can mean both butterfly (*Tagfalter*) and moth (*Nachtfalter*) in German. But its translation as black butterflies is more connected with Giraud's original text. In some cultures, the black butterfly is a symbol of bad luck or death. For example, in some parts of Mexico, people believe that a black butterfly landing on the door symbolizes the death of someone from that house. (Boss, 2009: 249)

The original language of the poem in French and its German and English translations are given below:

Nacht	***Papillons noirs***	***Night***
Finstre, schwarze Riesenfalter Töteten der Sonne Glanz. Ein geschlossnes Zauberbuch, Ruht der Horizont—verschwiegen.	De sinistres papillons noirs Du soleil ont éteint la gloire, Et l'horizon semble un grimoire Barbouillé d'encre tous les soirs.	Sinister black moths Blot out the shining sun, And the horizon is a magic book Smeared with ink every night.
Aus dem Qualm verlorner Tiefen Steigt ein Duft, Erinnrung mordend! Finstre, schwarze Reisenfalter Töteten der Sonne Glanz.	Il sort d'occultes encensoirs Un parfum troublant la mémoire; De sinistres papillons noirs Du soleil ont éteint la gloire.	From mystical censers A scent rises, blurring memory; Sinister black moths Blot out the sun's glory,
Und vom Himmel erdenwärts Senken sich mit schweren Schwingen Unsichtbar die Ungetume Auf die Menschenherzen nieder... Finstre, schwarze Riesenfalter.	Des monstres aux gluants suçoirs Recherchent du sang pour le boire, Et du ciel, en poussière noire, Descendent sur nos désespoirs. De sinistres papillons noirs.	Monsters with slimy suckers Seek blood to drink, And from the sky, in a cloud of inky dust, Descend upon our despair. Sinister moths.

Table 1. Schoenberg, *Pierrot Lunaire, No. 8,* 'Nacht' sentences and motives.

BAR	STANZA	MOTIF	TIME SIGNATURE	TEMPO
1-3	Intro.	a, b	3/2	*Gehende*
4-10	A	b, c, d		-
11-16	B	b, c, d		*Etwas rascher*
17-23	A	b, c, d		*I. Tempo*
24-26	Coda	a		-

The subtitle of the 'Nacht' movement is passacaglia. "Passacaglia is a variation common in the Baroque period. In this genre, the bass theme is heard alone first. Then, along with the theme, the variations and counterpuntal tunes in the upper party are announced" (Feridunoğlu, 2004: 122). "Counterpoint and concurrency areconsidered as features of expressionism. Contrapuntal compositions offer the possibility of expressing many levels of consciousness within the same composition. Contrapuntal stratification in the works of Schoenberg and Berg often represents psychological stratification" (Özkişi, 2017: 155). The passacaglia form was widely used by Handel and Bach, and also by Netherlands composers of the late 15th century. The principal motif of 'Nacht' is the bass ground seen in the form of a passacaglia and is a structure composed of nine intertwined notes. They consist of minor and major third intervals (figure 6).

> Schoenberg's later idea of developing a work based on a twelve-tone series is already foreshadowed in this passacaglia, except that its starting point does not consist of 12 tones, but only of 3. The manner of elaboration of the musical discourse based on this single cell demonstrates that Schoenberg's later compositional technique is not a theoretical or speculative invention, but rather an outgrowth of his earlier works, being ultimately the result of an organic evolutionary process. (Türk, 2015: 100)

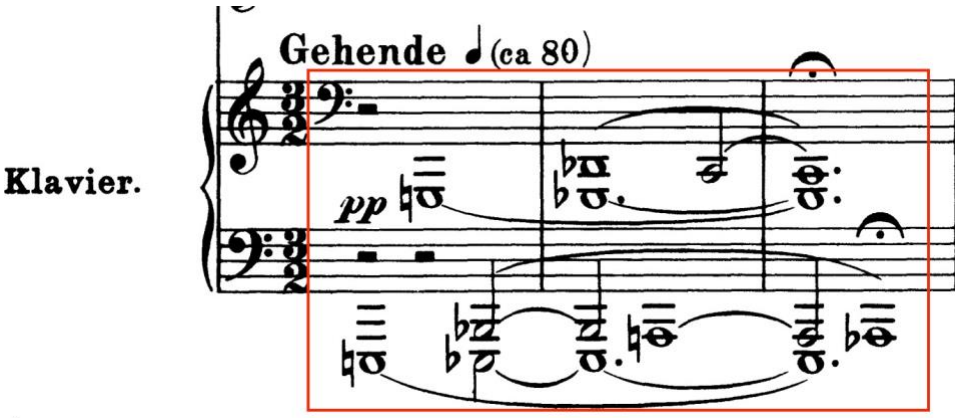

Figure 6. *Pierrot Lunaire* 'Nacht', motif a, bars: 1-3. (Schoenberg, 1914)

It is possible to see that the b motif undergoes various changes in the bass linethroughout the section (Figure 7). The b motif, within the A sentence, followed a canonic structure starting from the bass clarinet part in the 4th bar until the 11th bar and ended with a *gesungen* (sung) notes in the vocal part in the 10th bar (Figure 8). The significant innovation in the voice part is the *Sprechstimme* technique. *Sprechstimme* is like a subfield of speech close to singing. *Sprechstimme* technique was first seen as a special vocal technique in the German composer Engelbelt Humperdinck's *Royal Children* (*Königskinder*), 1897 (Dallin, 1974: 226). With this technique, the voice is half-sung, and half-spoken, and the notes are indicated by placing a small x on the note's stem (figure 9). Schoenberg specifies *gesungen* in the 10th bar, as he wants a traditional singing technique at this point. It is possible to argue that Schoenberg acted traditionally here by using the b motif both with a canonic structure and as the basis of many variants within the movement. However, this traditionalist attitude is at the level of motifs, and the composer continued his innovative approach as he created a completely new environment in the world of sound. Here tradition and innovation combine rather than conflict with each other. The use of the passacaglia and continuous variants provided unity, while a 'free' atonal technique based on pitches created synthesis.

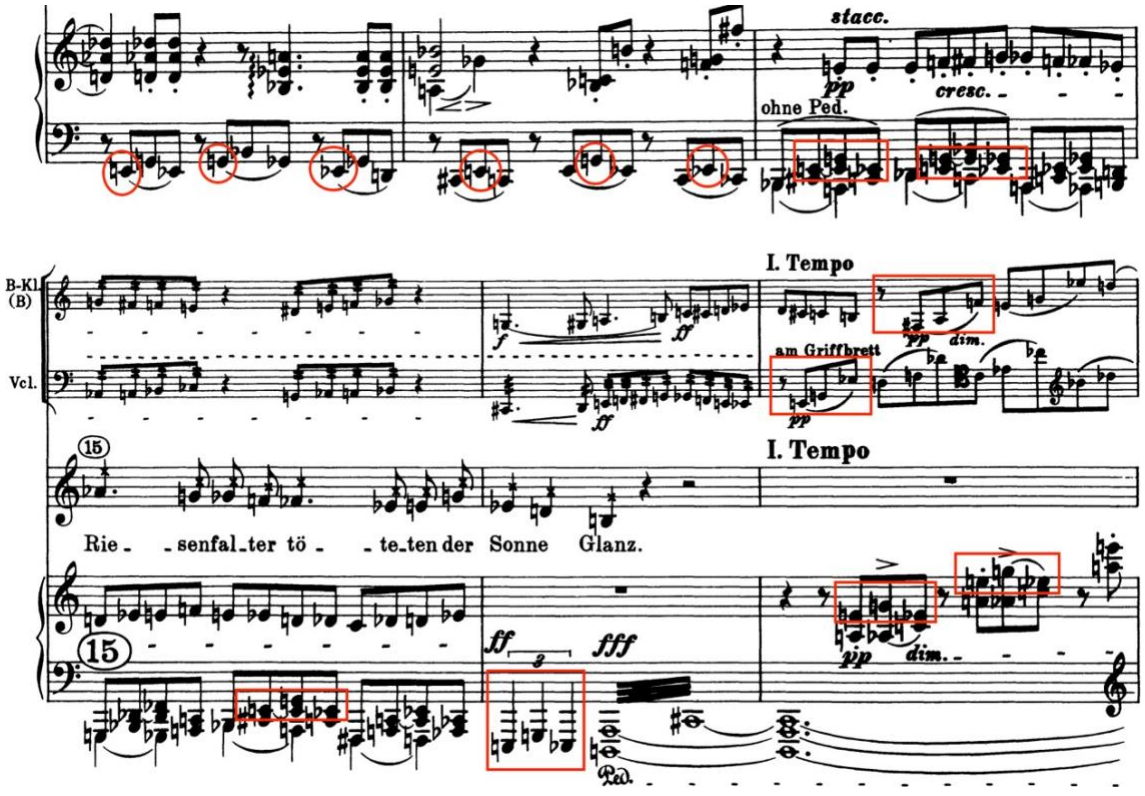

Figure 7. *Pierrot Lunaire* 'Nacht', motif b, bars: 12-17. (Schoenberg, 1914)

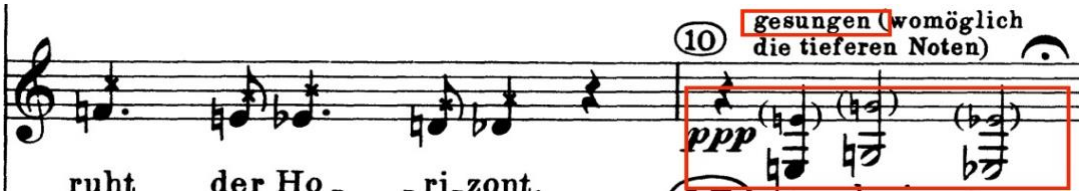

Figure 8. *Pierrot Lunaire* 'Nacht', motif b, vocal line, bars: 9-10. (Schoenberg, 1914)

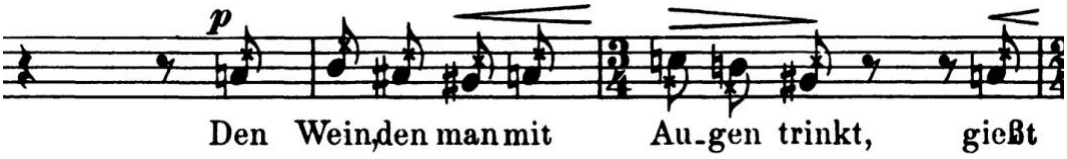

Figure 9. *Pierrot Lunaire*, *Mondestrunken*, vocal line, bars: 2-4. (Schoenberg, 1914)

'Nacht' itself gives the impression of a great gliding movement (Nemutlu, 2008: 102), since the instruments follow a progression towards the bass by constantly getting lower. Although the vocal part becomes shrill from time to time, it mainly involves the 'upside-down' gliding of the instruments. In both parts, the passacaglia, which is a common device of the Baroque period, is used continuously. This passacaglia is the darkest moment in *Pierrot Lunaire* (Stuckenschmidt, 2011: 198). Instead of brighter-toned instruments like flute and violin, bass instruments such as cello and bass clarinet are used to express the darkness of the night. While the piano usually plays in the low octaves, the vocal line constantly follows the bass in the range (*tessitura*) it can sing. In the instruments, techniques such as *flatterzunge, sul ponticello*, and *pedal tremolo* are used to create an effect (Dunsby, 1992: 47). These techniques may have been used to depict the giant black butterflies in the text beating their wings and gliding through the air, closing out the sun. 'Nacht' ends with a coda or codetta after reaching its climax with a rhythmic acceleration with the changes of these melodies.

Conclusion and Discussions

> People found 'comfort' and preferred comfort. Modern man aims to live an effortless life. In other words, a less active, less wearisome life. That's why people aresuperficial. It does not research, does not examine, it is content with what exists. 'Comfort' is synonymous with mental laziness. This also applies to music… Traditional music is static. It doesn't go out of the tonal system; it just keeps wandering. Although romantic composers pushed the limits of order (tone) with jumbled voices and chords, this is not enough. After all, they act within the order (tone). There is no complete break. Just as we are fighting against the corrupt and conservative moral values in society, we must also

> fight against the established rules of music and break these rules... Boundaries dissolved in music are symbols of human nature, spirit, and world, moral and social rules. (Schoenberg, 1911: 1-2)

The conclusion that can be drawn from the above quotation in Schoenberg's *Book of Harmony* (*Harmonielehre*-1911) may be that the composer was a very radical innovator and made a complete break from tradition. However, this is not the case. Although Schoenberg brought groundbreaking innovations in the sound world of music, as mentioned in the introduction section, he is a composer who based these innovations on tradition and synthesized two approaches. In general, the atonal works keep their formal design traditional as they lack a tonal center, which means a radical change in harmonic language. Schoenberg was also fed by German traditions, which he respected greatly. This traditional approach appeared in his works alongside his new techniques. He used the traditional approach not as a direct goal, but as a tool on the way to innovation to ensure that the work remains consistent and has a fulcrum. Therefore, it would not be wrong to say that Schoenberg is a composer who uses tradition as a tool in pursuit of innovation. According to him, a composer does not have to belong within a single camp or follow a single discourse. He refers to instinct as something he deems perhaps even more valuable than education. A composer should compose based on his instincts, whether the music is tonal or atonal. The composing technique (twelve-tone) that Schoenberg discovered is not just a theoretical invention, but an organic development from his previous works. Therefore, to understand the innovations brought by the composer, it is necessary to look at and understand his previous works. The letter he wrote to Werner Reinhart[4], in which he also touched upon this issue, is as follows:

> I may say that for the present it matters more to me if people understand my older works, such as this chorus *Peace on Earth*. They are the natural forerunners of my later works, and only those who understand and comprehend them will be able to hear the latter with any understanding beyond the fashionable minimum. And only such people will realize that the melodic character of these later works is the natural consequence of my earlier experiments. So, I am truly delighted by your friendly words. I do not attach so much importance to being a musical bogyman as to being a natural continuer of properly understood good old tradition! (Schoenberg, 1965: 100)

[4] Werner Reinhart was a Swiss merchant, philanthropist, and amateur clarinetist. He was a supporter of composers and writers (such as Igor Stravinsky and Rainer Maria Rilke). He was a well-known artmagnate of his time.

As can be implied from this quotation, Schoenberg believed that he reached this point already with his earliest works, and that his journey to atonality developed naturally from tradition. The transition to atonal writing emerged from tradition and developed as a natural process because Schoenberg fully understood the tradition and aimed to carry it further. He also wanted to expand and 'stretch' tonality in his works during the tonal period. For this reason, although it drew criticism even in the tonal period, the music encountered greater resistance, especially in the free atonal and twelve-tone periods (after 1908). Compared to his contemporaries, he made greater leaps and more radical changes in the transition from tonal music to atonality. Webern quoted a memory with Schoenberg as follows: "I remember a quote by Schoenberg, a colleague who was more prominent than him, was it a coincidence that you were a composer as you are now? When she asked him, yes, he didn't want to be anyone, so I had to ask him, said Schoenberg" (Webern, 1998: 20). Another reason for the adverse criticism and the absence of other contemporary composers in this field is the sheer magnetic presence and dominance of Schoenberg, making it difficult for others to present new works and perspectives. Since his death, it has been widely recognized just how important Schoenberg was as an innovator. As a result, many of his works are now heard at least occasionally. However, in general, although his music is no longer alien, it is more difficult to accept than the works of his distinguished students and contemporaries (Neighbour et al., 1980: 67). Although his works are performed more today than in the past, most listeners cannot comprehend their essential qualities because they are unfamiliar with them. They are confused and even uncomfortable with these works, and have little inclination to hear them again. After all, a masterpiece is in no hurry; it transcends time, and even if it is misunderstood or overlooked, the time will come when its beauty will be revealed without any outside help.

> We know what Schoenberg's work means, the noble task it fulfills. We compared the musical situation created by this genius with the situation created by Bach's genius. Like Bach, Schoenberg achieved great renewal; because, just as the death of the modalsystem brought to life the tonal system created in Bach's work, the classical tone system, which has been dead since Wagner, has also turned into the system we are trying to describe in Schoenberg's work (…) His whole life is love and respect for his true musical values. These people, who are utter sacrifice and rejection of mediocrity, are a shining example of those who care more about absolute truth than merely the

satisfaction of their personal and popular demands. (Leibowitz, 1949: 339-341)

Schoenberg's works were less well received than those of his contemporaries. Yet, despite this, he never considered composing to be accepted or appreciated by only a certain group of people. According to Schoenberg, tonal music now had nowhere to go. Thus, he did not give up thinking, researching, and leaving his 'comfort zone' to develop a new discourse, no matter how much criticism he received. Although his atonal music is considered alien by some, these are works that need to be studied and performed more. To understand his atonal works, it is crucial to understand the works of his tonal period because it can be seen that he pushes the tonality to its limits in these earlier works. He took this challenge one step further and started composing with atonality. The audience can encounter the pioneer steps of the twelve-tone technique in his 'free' atonal works, so it is no surprise that later, he returned to tonality in some of the works of his atonal period. Each composing period may be divided into three and has developed by carrying traces of the previous one and taking it a step further. As time went by, the composer's search and desire for innovation in his works was as natural as all desires for change and innovation from the early history of humanity to the present. Therefore, instead of resisting this change, trying to understand and get out of our 'comfort zone' and being open to innovations should be the main objectives. Progress can only be achieved through this path. In conclusion, Schoenberg was a versatile composer who did not adhere to any single theory or technique. His music incorporates diverse techniques, including tonal, free atonal, and twelve-tone, as well as traditional and innovative approaches.

REFERENCES

Adorno, Theodor. (2018). *Müzik Yazıları-Bir Seçki* (Essays on Music). (Şeyda Öztürk, Trans). İstanbul: Yapı Kredi Publications. [Original Work Published 2002]

Aktüze, İrkin. (2007). *Müziği Okumak* (Reading Music) *Vol: 4* (2nd Ed). İstanbul: Pan Publications.

Axionov, Vladimir. (2010). "Among Tradition and Innovation in Pierrot Lunaire–By

Arnold Schönberg". *Revart*. 11(1): 65-70.

Bassie, Ashley. (2008). *Expressionism (Art of Century)*. New York: Parkstone Press.

Boss, Jack. (2009). "The Musical Idea and the Basic Image in an Atonal Song and Recitation of Arnold Schoenberg". *Gamut: Online Journal of the Music Theory Society of the Mid-Atlantic*. 2(1): 223-266.

Cherlin, Michael. (2012). "Pierrot Lunaire as Lunar Nexus". *Music Analysis*. 31(2): 176-215.

Dahlhaus, Carl. (1989). *Die Musik des 19. Jahrhunderts (Neues Handbuch der Musikwissenschaft)* (J. Bradford Robinson, Trans.) Nineteenth-Century Music. US: University of California Press. [Original work published 1980]

Dallin, Leon. (1974). *Techniques of Twentieth Century Composition: A Guide to the Materials of Modern Music* (3rd edition). Iowa: C. Brown Company Publishers. [Original work published 1957]

Dunsby, Jonathan. (1992). *Schoenberg: Pierrot Lunaire*. Cambridge: Cambridge University Press.

Eren, Oytun. (2014). *Klasik Batı Müziği Tarihinde Kırılma Anları* (Breaking Moments in the History of Western Classical Music). Ankara: Sevda Cenap And Müzik Vakfı publications.

Feridunoğlu, Lale. (2004). *Müziğe Giden Yol: Genç Müzisyenin El Kitabı* (The Path to Music: The Young Musician's Handbook). İstanbul: İnkılap Publications.

Frisch, Walter. (1993). *The Early Works of Arnold Schoenberg, 1893-1908*. Berkeley: University of California Press.

Goodall, Howard. (2018). *Müziğin Öyküsü* (The Story of Music). (Sevi Sarıışık Tokalaç and Emrah Tokalaç, Trans.) İstanbul: Pegasus Publications. [Original work published 2012]

Gustafson, K. Edward. (1989). "Schoenberg's Verklärte Nacht: History, Editions and Analyses". *Doctoral Thesis*, Washington: University of Washington.

Leibowitz, René. (1949). *Schoenberg and His School*. (Dika Newlin, Trans.) New York: Philosophical Library. [Original work published 1947]

Marcus, H. Kenneth. (2016). *Schoenberg and Hollywood Modernism*. England: Cambridge University Press.

Mimaroğlu, İlhan. (1990). *Müzik Tarihi* (History of Music). İstanbul: Varlık Publications.

Morgan, Robert. (1991). *Twentieth-Century Music*. New York: W. W. Norton & Company.

Neighbour, Oliver; Griffiths, Paul and Perle George. (1980). *Second Viennese School*. London: The New Grove Dictionary of Music and Musicians.

Nemutlu, Mehmet. (2008). "*Pierrot ile Monolog"* (Monologue with Pierrot). *Doxa*. 3 (7): 94-111.

Newlin, Dika, (Ed.). (1950). *Style and Idea: Selected Writings of Arnold Schoenberg*. New York: Philosophical Library.

Özkişi, Z. Gülçin and Dündar, Emre. (2015). "Farklı Modernist Eğilimler: Empresyonist ve Ekspresyonist Yaklaşımlar Çerçevesinde Müzik ve Modernizm" (Different Modernist Trends: Music and Modernity in the Context of Impressionist and Expressionist Approaches). *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*. 16(2): 1-12.

Özkişi, Z. Gülçin. (2017). *"Ekspresyonizm ve Müzik: 20. Yüzyılın İlk Yarısında II. Viyana Okulu Çevresinde Gelişen "Yeni Müzik" Yaklaşımı ve Müzikal Modernizm"* (Expressionism and Music: A "New Music" Approach and Musical Modernism around the Second Viennese School in the First Half of the 20th century). *Turkish Journal of Sociology*. 37(1): 143-156.

Pamir, Leyla. (1998). *Müzikte Geniş Soluklar* (Large Breaths in Music). İstanbul: Boyut Publications.

Ramis Pablo. (02.01.2021). *Leaving Home: Orchestral Music in the 20th Century, Dancing on a Volcano.* [Video file]. Retrieved from https://www.youtube.com/watch?v=7yT9f-MWqzQ&ab_channel=PabloRamis

Rubsamen, Walter. (1951). "Schoenberg in America". *The Musical Quarterly*. 37 (4): 469-489.

Stein, Erwin (Ed.). (1965). *Arnold Schoenberg Letters*. New York: St. Martin's Press.

Schoenberg, Arnold. (1905). *Op. 4 Verklärte Nacht*. Berlin: Verlag Dreililien.[Original work published 1899]

Schoenberg, Arnold (Composer); Hartleben Otto Erich and Giraud Albert (Librettist.). (1914). *Mondestrunken and Nacht [Op. 21 Pierrot Lunaire].* Vienna: Universal Edition. [Original work published 1914]

Schoenberg, Arnold. (1914). *Als Wir Hinter dem Beblümten [Op. 15 Das Buch der Hängenden Gärten].* Vienna: Universal Edition. [Original work published 1914]

Schoenberg, Arnold. (1925). *Gigue [Op. 25 Piano Suite].* Vienna: Universal Edition. [Original work published 1925]

Schoenberg, Arnold. (1929). *Finale [Op. 31 Variations for Orchestra].* Vienna: Universal Edition. [Original work published 1929]

Stuckenschmidt, H. Heinz. (2011). *Schoenberg: His Life, World and Work.* (Humphrey Searle, Trans.). London: Oneworld Classics. [Original work published 1974]

Taruskin, Richard. (2009). *Music in the Early Twentieth Century*. England: Oxford University Press.

Türk, H. Peter. (2015). "Harmonic Phenomena of 20th Century Music as Reflected in the Passacaglia of Schönberg's 'Pierrot Lunaire'". *Lucrări de Muzicologie.* 30 (1): 99-112.

Webern, Anton. (1998). *Yeni Müziğe Doğru* (The Path to the New Music). (Ali Bucak Trans.). İstanbul: Pan Publications.

Weinstein, Larry. (1992). *My War Years: Arnold Schoenberg*. [Video file]. Retrieved from https://www.medici.tv/en/documentaries/my-war-years-arnold-schoenberg-larry-weinstein/

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Music in the Bektashi Order in RN Macedonia: Aspects of Performance

ABSTRACT
The spiritual tradition of the Turkish population in RN Macedonia is rich and still nurtures some segments of Sufism from the Ottoman period such as the Bektashi dervish order. In the period before the arrival of the Ottomans (around the 13th century), numerous Sufis were active in these territories, which in some way represented a transition point for the conquest and settlement of the Turks. Numerous Bektashi tekkes were built during the Ottoman period, several of which are still active today. Depending on the ethnic composition of the followers, the linguistic dominance of these Sufi structures also changes. The only Bektashi *tekke* whose members are Turks is the *tekke* 'Dikmen Baba' located in the village Kanatlarci near Prilep. This *tekke* is one of the few in the Bektashi orders that, despite several divisions in the spiritual leadership, has operated without interruption since its founding in the 16th century. Such divisions did not affect the essence of the spiritual beliefs nor the ritual forms of this dervish order which remain almost identical to those practised at the very beginning. The main focus of this paper will be the musical tradition of the ritual, and for the following reasons: 1. music, as the main activity of the Bektashi rituals, is the essential vehicle for spreading and reinforcing beliefs and wisdom for everyday community life, 2. its importance as a fundamental tool in the expression of mystical theosophy, and 3. variations in the repertoire as a result of drawing upon and integrating sacred music from local populations. For this purpose, field research, interviews, and the analysis of audio materials from the sacred rites of the Bektashi *tekke* Dikmen Baba in the village of Kanatlarci have been carried out.

KEYWORDS
Musical tradition
Bektashi *tekke*
V. Kanatlarci
Macedonia

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Introduction

The first appearance of the Bektashis in the Balkans was way back in the 13th century, before the arrival of the Ottomans in these territories, as a result of the activities of dervishes who traveled and settled in these regions (Noyan, 1999; Çibik and Umaroğulları, 2017: 250). One of them was the dervish Sari Saltuk who arrived in 1261 with 10,000 Turkmen families (Hamzaoğlu, 2000: 466). The name of Seyid Ali is also mentioned as his contemporary (Noyan, 1999: 17), and his followers were Akyazili Sultan, Otman Baba, Ali Koc Baba, Demir Baba, etc. (Yılmaz and Coşkun, 2005). The expansion of Bektashism at the time of the Ottomans in Macedonia is confirmed by the proliferation of dozens of active Bektashi *tekke*s in the region.

At present, there are only a few active dervish lodges left: Arabati Baba in Tetovo, Dikmen Baba in the village of Kanatlarci near Prilep, Hıdır Baba in M. Brod, Halife Zija Baba in Kicevo and Derviş Ali Bektaşi in Resen. One Bektashi *tekke* that has almost never stopped functioning during the many centuries of its existence is the Dikmen Baba *tekke* in the village of Kanatlarci. As to ethnic composition, the members of almost all the Bektashi *tekke*s in Macedonia are from the Albanian community, and the only active *tekke* whose members are Turks is Dikmen Baba.

The members of this dervish order hold their ritual gatherings in the same way as at the time of its foundation and they attribute great significance to music because of its importance as a fundamental means of expressing mystical theosophy. The musical repertoire includes universal Bektashi sacred musical forms, commonly used in Bektashism everywhere. Additionally, characteristic musical works composed by local dervishes have been integrated within the repertoire.

For this reason, the focus of this paper will be on musical repertoire that represents a significant segment of the ritual ceremony, with the analysis of *nefes*es as the basic form of expression of spirituality. During the field research, 11 musical works were collected, and these will be analyzed in this paper in terms of their melodic, rhythmic, and poetic structures. Data was collected by means of in-depth qualitative interviews with dervishes, i.e. using a technique of direct conversations, and indirect or free interviews as the main source of information. We supplemented the field findings on musical traditions with the analysis of video materials from the sacred repertoire, as performed

during rituals in the *tekke*. In addition, the research uses the technique of text analysis and content analysis of various documents, including the statutes of the Bektashi community, and various books that complement this material.

The Bektashi Order in Macedonia

The oldest Bektashi *tekke* in Macedonia, according to historical records, is Hidir Baba in Makedonski Brod, built in the 16th century (Trajanovski, 2018: 188). One of the most important and most influential *tekke*s was Arabati Baba *tekke* in Tetovo (Islam and Zelenkovska Leshkova, 2014: 80); Çelik and Süleymani, 2018: 46), built by Sersem Ali Baba in the second half of 16th century (Demir, 2016: 33). Among the other Bektashi *tekke*s active in the urban and rural areas in Macedonia were the following: the Mustafa Baba *tekke* and Suleiman Baba *tekke* in Skopje (Hafız, 1976: 60; Islam and Zelenkovska Leshkova, 2012a: 3), Hussein Baba (Bitola), Hamza Baba (Stip), Haje Baba (Veles), Muharem Baba (Kicevo), Ali Baba (Debar), Dikmen Baba (v. Kanatlarci), Hıdır Baba (M. Brod), two *tekke*s in Prespa, Kamber Baba (v. Karatmanovo), Dzafer Baba (Gostivar), Jusuf Dede (v. Dzumali), Ilmi Dede (v. Tatarli), (Izeti, 2003: 248-249), Karadza Ahmet (Kumanovo), Yaver Baba (v. Poroj), Koyun Baba (v. Sipkovica) (Vishko, 1997: 20), Ismail Baba (Strumica) (Gülçiçek, 2000: 212-217).

Today, the Bektashis in Macedonia differ depending on where the world headquarters of the Bektashis is deemed to be located and who performs the function of the supreme leader of the world Bektashi community. With the move of Salih Niyazi Dede from Türkiye to Tirana at the beginning of the 20th century, the seat of the Bektashi tariqat was transferred to Albania, where the main Bektashi center is still located, headed by Edmond Brahimaj Dede-Baba. However, Bektashis of Turkish ethnicity believe that the seat of the Bektashis is located in the birthplace of Hadzi Bektash Veli in the Republic of Türkiye, where the first Bektashi *tekke* was established and where his tomb is located. They consider Ali Haydar Erdzan to be the Dede-Baba, ie., the head of the world Bektashi community.

In 2000, a Bektashi religious community was formed which was not recognized by the Islamic religious community in Macedonia. It was active until 2007, when a decision was made by the state that all religious communities established retroactively after 1998 should be re-registered within a period of 3 months. Unfortunately, the Bektashi

community headed at that time by Dzafer Tekeshanoski Baba from the village at Kanatlarci did not submit a request within the given deadline, due to which it was not renewed and re-registered (Halife Baba Sabedin Jusufoski, personal communication, 20 October, 2021).

With the support of the Islamic Religious Community in 2010, based in Kicevo, the Ahl al-Bayt Bektashi community of Macedonia was registered as an independent religious organization representing the Bektashis in Macedonia under the leadership of Murteza Pasho Halife Baba.

The Bektashi community is making an application to the European Court of Human Rights over the inability to re-register its religious community. As previously mentioned, even though there is an officially acknowledged Bektashi community which was formally registered in 2010, there are two different groups and the Bektashi community from 2000 wants to be registered as the Islamic Bektashi community, which has a different name from that of the already registered community (Kalajdziev, 2015: 34-35).

In 2018, the Bektashis were registered as a Bektashi (Sunni) religious community based in Hidir Baba *tekke* led by Ejup Baba, an elder in the Hidir Baba *tekke* in Kicevo, which does not cover all Bektashi *tekke*s in Macedonia (Trajanovski, 2018: 190).

Bektashi Order in v. Kanatlarci

Reference to the village Kanatlarci reaches back to the censuses of 1544 (Çağ, 2010: 234). As of 2016, there are 270 households registered in the village, and it has a population of 1450 people (according to the last census in 2021). It is predominantly inhabited by Turks, with very few Macedonian and Bosnian families in the village.

Eighty percent of the population in this village (whose roots are in Konya and Karaman - Türkiye) are adherents to the Bektashi order, while only 20% of the population subscribe to the Sunni branch. Differences between the Bektashis and the Sunnis concern the sacred rituals, for the secular rites remain identical. Bektashi dervishes perform their rituals in the *tekke* instead of the mosque, they do not fast during the holy month, do not go on pilgrimage, do not pray during the day, light candles during the rituals, show pictures of *imam*s, and consume alcohol (Islam, 2005).

With no concrete sources for its doctrine – its forms and its values – Bektashism in this region is understood by its believers by way of their own inner world, through the prism of their individual viewpoints. Throughout history one can see a variety of approaches among believers, depending on exactly which strand of Islam the Bektashis adhere to. Some of them believe that they cannot be considered either Shiites or Sunnis. Some are of the opinion that they are Sunnis, since they invoke and profess the first pillar of Islam *Shahada*, while a few others note that the Bektashi rituals contain Christian elements. The majority believe that the Bektashis are of Shia origin and that their beliefs originated exclusively with Imam Ali and the Ahl al-Bayt. The reason for such different perceptions lies primarily in the lack of written sources for this dervish order, since this version of Islam arose from and was primarily developed as an oral tradition and an inherited practice. The teaching of the *Halife Baba* was transmitted mainly orally in the form of traditions concerning the miracles of great holy people, but also – more practically – by way of religious rituals. Additionally, this perception is affirmed by favoring religious practices over religious teaching, which is strongly correlated with the folk tradition in which practice and ritual are assigned great importance (Trajanovski, 2019: 129-130).

The existing Bektashism in the village of Kanatlarci is maintained as part of the cultural heritage of Haji Bektash-Veli, Sari Saltuk, and Fatih Sultan Mehmet (Balat, 2019: 38). The founder of this *tekke* is Dikmen Baba (whose real name is Mehmet) from Khorasan, who, according to the testimony of the dervishes in this village, settled in this area before the arrival of the Ottomans. According to their claims, Dikmen Baba was a disciple of Hidir Baba, who founded the Bektashi *tekke* in M. Brod.

The Dikmen Baba *tekke* is considered to be one of the first Bektashi *tekke*s to be established in Macedonia. The tomb of Dikmen Baba represents a cult center for the Bektashi order in this region, and it is often visited by the dervishes, especially during the Eid holiday. In addition to Dikmen Baba, there is in the same location the tomb of another spiritual leader called Kut Dede Sultan (also from Khorasan by origin), who according to the dervishes' claims, arrived in this region before Dikmen Baba (Halife Baba Sabedin Jusufoski, personal communication, 20 October, 2021).

This *tekke*, which bears the name of its founder, was one of the most active *tekke*s during the Ottoman period. Over the many centuries of the *tekke*'s existence, a large number of

Bektashi leaders became prominent. Besides Dikmen Baba and Kut Dede, Edzat Dede, Demir Baba, Ismail Baba, Mustafa Baba, Halife Sulejman Baba, Isa Baba, Idriz Baba, Musa Baba, Dzafer Baba, Halife Hidir Baba, Halife Abaz Baba, Halife Zija Baba, Halife Ismail Baba, Ashim Baba, Musa Baba, Vejsel Baba, Kodza Seid Baba and others were also active (Halife Baba Sabedin Jusufoski, personal communication, 20 October, 2021).

For some reason, the criteria and rules for choosing the *Baba*, the spiritual leader (by inheritance or by merit), became the reason for the division of the Bektashi order in Kanatlarci. Until recently, in the *tekke*, the two groups existed simultaneously, with two spiritual leaders for the celebration of holidays and the performance of religious rites. One is in the main *tekke*, whose spiritual leader is Veli Baba, and the other is in the adapted room in *Misafir Hane* (the guest house) and is headed by Dzafer Baba who handed over the caliphate to Zeynel Abedin Baba (2016) as his successor. On January 16, 2016, Sabedin Halife Baba was appointed by the Head of the Bektashi in Türkiye first as a *Baba* and for a short period as a *Halife Baba*. The division within this dervish order in Kanatlarci is not based on differences in beliefs and customs, but mainly on a disagreement over the legitimacy of the *Baba*'s heir, which is more a political than a religious issue (Trajanovski, 2018: 188).

The ideology of the dervish order in Kanatlarci is based on union with God through the path of unreserved and unconditional love. To realize that spiritual path, the believer has to pass through four gates: *Shariah*, *Tariqah*, *Marifa* and *Haqiqah*. The initial stage is the *Shariah*, and it contains within itself pious and moral values, while the final goal is the *haqiqah* (divine reality). In fact, the path followed by the believer is a combination of these components of Sufi life (Dzilo, 2010: 71). This dervish order represents a system based on the teacher-pupil relationship (*murshid* and *murid*) as a practical method for guiding and training the student on how to trace the correct path, including appropriate thoughts and sentiments (Ćehajić, 1986: 18-19).

Spiritual Rites in the Dikmen Baba *Tekke* in Kanatlarci

Despite the division of the members of this dervish order, there are no real differences in the sacred rituals. These are called *muhabbet*s and consist of verbal communications, as well as the performance of sacred musical forms in which only the members of this brotherhood participate. In the verbal part, there is a discussion about essential

questions, as well as about the philosophical aspects of this dervish order: the love for God and the love for human beings. In this regard, Bektashism embodies a strong altruistic dimension, expressed through selfless love for other people, concern for the well-being of people, and willingness to sacrifice one's own interests for those of others. According to this ideology, man is a being that should be loved and has divine qualities, so one who loves man also loves Almighty God (Halife Baba Sabedin Jusufoski, personal interview date 15 November, 2019).

There are two types of *muhabbet*s in Bektashism that are practised in the Kanatlarci dervish order:

1) *Arifane muhabbet*s – rites that are held every Thursday evening and

2) Official *muhabbet*s – rites that take place on special occasions.

The *Arifane* rite, which is held in the *tekke* premises, has a largely non-formal character. It starts immediately before sunset and lasts until late hours.

The basis of all these rituals is verbal communication, in order to discuss the existing problems of members of the dervish order and in their surroundings.

The rite starts with musical forms. The main purpose of music in *muhabbet*s lies not in entertainment but in unity and togetherness in approaching God with love; to deserve the right for the love of Allah, the Messenger of Allah, and the Ahl al-Bayt. During these rituals, the human voice and words are always in the foreground, even though the first three *nefes*es are usually performed in accompaniment with the string instrument *saz*.

After a discussion between the spiritual leader (*murshid*) and the dervishes, a snack can also be served, although this is not required for gatherings of this kind.

Figure 1. **Figure 2.**

Muhabbet in Dikmen Baba *tekke*, v. Kanatlarci (individual archive, 2018)

The second type of *muhabbet*s, which have an official and solemn ceremonial character, have great significance for the Bektashis in Kanatlarci. These types of rituals are practised during the time of the celebrations of *Eid al-Adha*, *Ashure*, and *Nowruz*, as well as in the ceremonies for admitting new members, i.e., appointing new dervishes.

In addition to these occasions, *muhabbet*s can be organized on the initiative of any dervish. The occasion usually arises from family issues, such as moving to a new house. Although these rites are held in the homes of the dervishes, their enactment and the background are identical to the *arifane muhabbet*s.

Over the year, 12 sacred rites should be realized, because of the symbolism of the number 12, which is associated with Imam Ali and his 11 *imam*s – followers. The Bektashi is the only dervish order in whose rituals women also participate.

During the ceremony, the musical form *nefes* is performed. This has a ceremonial character and that is why it is performed in strict silence and in a disciplined way. The lyrics of the *nefes*es represent poetic works by well-known poets, such as Yunus Emre, Nesimi Sultan, Pir Sultan Abdal, Bosnevi, Dikmen Baba, and others. In contrast to the Sunni dervish orders, Bektashi poetry praises the name of the Imam Ali. In addition to this repertoire, some of the local dervishes create autonomous poetic forms which are also performed during the rituals.

The rite in the Dikmen Baba *tekke* begins with the performance of parts of the Qur'an. The performance of *nefes*es is started by the leader of the dervish order (*murshid*), and then the other followers accompany him in singing (Sabedin Jusufoski, personal

communication, 15 September, 2020). The interpretation of these forms is accompanied by one or two *saz*es which can be either long- or short-necked. In both cases, they have seven strings divided into three groups (2,2,3) that are tuned on A G D (*bağlama düzeni*) (Alizgar Tekeshanov, personal communication, January 8, 2022).

The most closed type of spiritual rite is the one that is held for the admission of new members to the dervish order. This rite, named *Erkanl'k muhabbeti*, is held three to five times a year. This solemn rite begins with a verbal communication between the *murshid* and the new member, where a spiritual mentor is assigned for training him in the traditional dervish rituals. After this introduction, the table is set and the *murshid* starts the musical part of the ritual. Together with the rest of the dervishes (first those on his right and then those on his left) they sing three sets of three *nefes*es each without the accompaniment of a musical instrument. One of the *nefes*es performed on these occasions without exception is *Niyazına Geldık Dikmen Baba'nın* by Dikmen Baba, as well as *Şu Melamet Hırkasını* by the famous poet Nesimi. This formal part is followed by more free performances of *nefes*es, now accompanied by a *saz*. The total number of performed *nefes*es must not be less than 12. In this part of the ceremony, the spiritual dance called *semah* is also practised.

Musical and Spiritual Characteristics of the Rites

On the occasion of *Eid al-Adha*, the rituals of the Bektashis start with the gathering of the dervishes in front of the *tekke*, which the spiritual leader enters first and where he stays alone for a short period. After a while, the dervishes go inside based on their years of service and on their position in the hierarchy.

Before the beginning of the rite, a prayer is held. However, unlike the Sunnis, who pray five times a day, the Bektashis from this *tekke* pray only once a week, on Fridays, as well as during *Eid al-Adha*. Before the prayer begins, a *Salat-u Ummije* sacred form is performed collectively and repeated 12 times.

In the Friday prayers, the Bektashi *imam* has his back turned on the other dervishes present, while during the Eid prayer, he faces them. During the prayer, the sacred musical forms that are practiced in the mosques are performed. The Bektashi *imam* performs some of them alone, while some are performed collectively.

The sacred rite begins with a performance of the *Niyazına Geldim Dikmen Baba'nın*, which represents a sacred hymn of this *tekke*, and whose subject matter is about the founder of the *tekke* Dikmen Baba. Every *tekke* has its own sacred hymn for initiating the ritual (in the Bektashi *tekke* in Kicevo, it is the *nefes Ağlaya Ağlaya*; in Tetovo, the *nefes* for Sersem Ali; etc.). The *nefes* is performed by the *murshid* with or without a *saz* accompaniment, and this intensifies the emotional ambience for the dervishes. In the continuation of the ritual, two more *nefes*es follow in a collective performance.

When the musical section ends, there is a discussion about the poetic content of the *nefes*es that have been sung. An analysis of the texts is made, and the main points of Bektashi philosophy, as expressed through the poetic language of the authors, are drawn out. After this verbal discussion, called *dem*, a table is set on which mainly salt is placed, followed by other snacks, and then brandy. Consumption of alcohol is one of the practices of this dervish order.

In continuation of the sacred rite, three series of *nefes*es follow (each contains three *nefes*es) in a hierarchical performance by different groups of dervishes: first, those who are sitting to the right of the *murshid*, then those on the left, and finally, those sitting opposite. The performance of *nefes*es, which basically represent one of the ways of submitting to divinity, reaches a higher level during the *muhabbet*s with discussions about their philosophical, semantic, and symbolic depth where true values of humanity are expounded. The largest part of the verbal section during the sacred rites is related to spiritual poems presented through the performance of the *nefes*es.

Symbolism and mysticism, which are characteristic for this dervish order are present in the final part of the ritual ceremony, when at the table, in addition to dinner, a candle is placed as a symbol of the sun, light, and joy. At the beginning of the ritual, in the same room, 12 candles are placed, again to symbolize the twelve *imam*s. The *murshid* blesses those present, thus closing the formal part of the ritual. Five or six hours after the gathering, the sacred rite ends with the departure of the dervishes, with their order once again based on their hierarchical status.

Aşüre (*Ashura* – a sweet dish) is a holiday celebrated on the tenth day of the month of *Muharram* as a symbol of mourning on the occasion of the execution of Imam Hussein (son of Imam Ali and grandson of the Prophet Muhammad (s.a.s.)) during the Battle of

Karbala. For this holiday *aşüre* is cooked, and it is also offered to the non-Muslim population, which contributes to a greater socialization of the village population, regardless of religious or ethnical identity.

This holiday is also celebrated with a 12-day fast, which includes abstinence from drinking water (replaced with yogurt and apples), food of animal origin, personal hygiene (shaving and bathing), and every kind of entertainment. During this period, sacred rites are also absent. During the fast, reading sacred literature about the life of prophets is practised. The fast ends three days before the holiday *Aşüre* when the sacrifice (*kurban*) is slaughtered and the fasting ends. During the rites, musical works are performed whose contents are related to the tragic event in Karbala, such as the *nefes Her Sene Bugünde Ağlarız İmam Hüseyin'e*.

Nowruz represents one of the most important holidays for the Bektashis. This holiday, which represents Imam Ali's birthday, begins on March 21 and is celebrated for three days. On the first two days of the celebration the rites are performed by men and on the last day by women. The celebrations start at noon and last until the evening hours. At the women's gathering, the only man present is the *murshid*. The *nefes*es content is mainly about Imam Ali. During the performing of *nefes*es, in the female part of the celebration, there is no instrumental accompaniment.

In between the performance of the musical works, discussions are held about the historical aspects of Bektashism and about the close family members of Imam Ali (Ahl al-Bayt). Given the more liberal character of this holiday, people who are not dervishes and members of the Sunni community are allowed to be present.

Musical Forms in the Rites

The musical forms used in the sacred rites of the Bektashies from the Dikmen Baba *tekke* are *nefes*es (Islam, 2007: 210; Islam and Zelenkovska Leshkova, 2012b: 172). These mystical songs not only refer to elements of Islamic mysticism, the Bektashi belief system and ethics, but also convey messages about friendship, peace, affection, tolerance, hospitality, love, and destiny. Some songs may also take the form of advice or satire (Duygulu, 1997: 61). These themes provide a deeper understanding of the beliefs and lifestyle of the Bektashis. The multiple themes that appear in the sung poetry of the

*muhabbet*s confirm the notion that the Bektashis place great emphasis on the meaning of life while they live it, teaching goodness, fairness, and solidarity (Bjelica, 2022). The expression of compassion, fraternity, philanthropy and affection in the Bektashis' songs has a great influence on the lives of almost all community members in v. Kanatlarci. The presence of these messages in their mystical songs and messages of universal value and ethical significance enable the rites to reach a wider range of listeners and believers, spreading beyond Bektashi communities. Through them, at the same time, the folk-cultural values of the village Kanatlarci are transmitted from generation to generation (Balat, 2019: 34-45).

Figure 3

Figure 4

*Ashik*s singing and playing on *saz*es during the *muhabbet* in Dikmen Baba *tekke*, v. Kanatlarci (Individual archive, 2018)

The music of the *nefes*es sung in this *tekke* is usually anonymous. Sometimes, songs with the same number of syllables can be sung according to the pattern of the existing melody. This principle applies most often to poetry created by local dervishes. More than 30 poems written by local dervishes were collected during our field research, and some of them are performed in practice in musical settings; they include *Niyazına Geldim Dikmen Baba'nın* (Pir Mehmet, the founder of Dikmen Baba *tekke*), *Yobazlara Kaldım Şimdi*, *Dikmen Baba Dergahın Harabat Olmuş* (Dervish Zekerya Memishoski), and *Yezidler Hep Bir Oldular* (Dervish Aliazgar Tekeshanoski). These texts are mainly adapted to the already existing melodic lines of some of the *nefes*es in use. The performance of musical forms is most often collective, accompanied by one or two *saz* instruments.

Analysis of the Musical Forms of the Dikmen Baba *Tekke*

Analysis of the musical structure

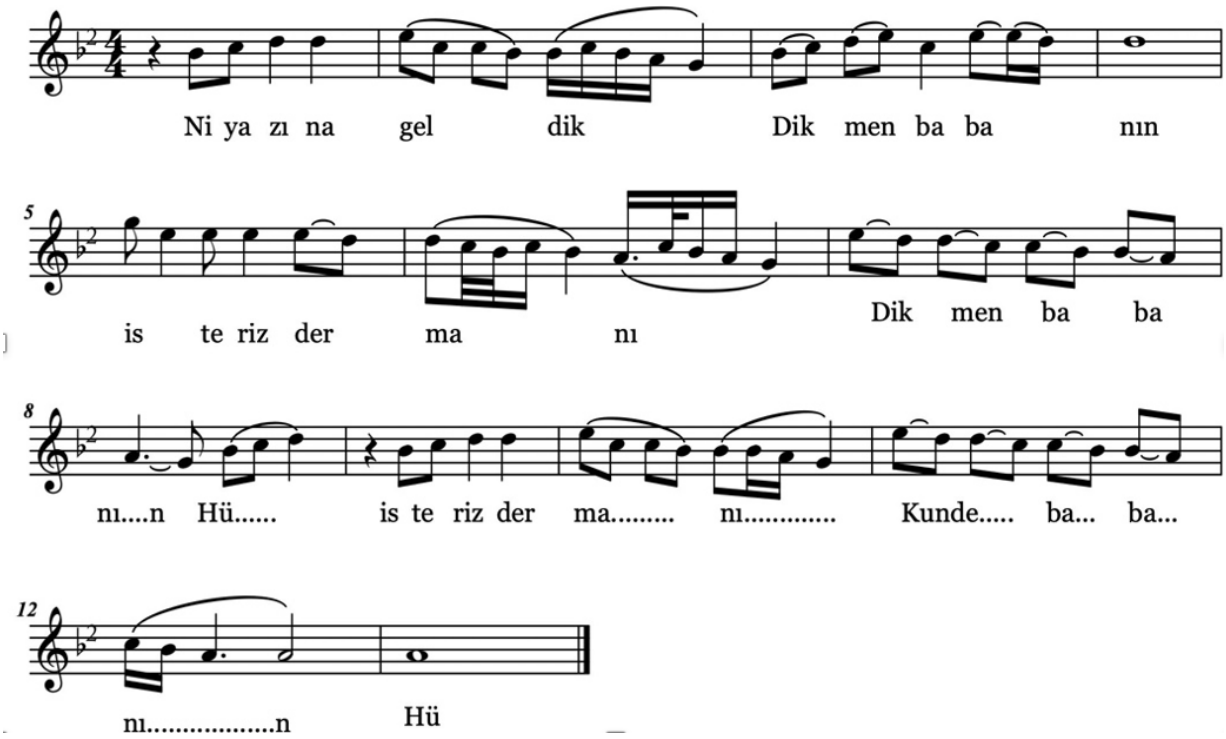
In a musical context, *nefes*es are usually mensural forms, with frequent repetitions of a musical motif. Since they are created by *ashik*s, they have a melodic structure akin to folk music (Nuri, 1992: 371-372; Şen, 2018: 214). In this context, they can be considered as a kind of authentic folk music (Yöre, 2011, 41-42).

During the field research, 11 musical works were recorded. Through the melographs, we can conclude that their melodic structure does not employ the full range of an 8-voice scale. Rather, they are based on a range of 4-5 (tetrachord-pentachord) scale steps, as frequently encountered in the Anatolian *makam* tradition but also in the folk tradition of this region (Islam, 2005). Therefore, the works do not exhibit all the characteristics of *Uşşak*, *Hüseyni*, *Karcığar*, *Mahur*, and *Segah makam*s, as given in the *makam* theory of Ottoman-Turkish musical traditions. Changes to these *makam*s can be noted on the axis of tetrachords and pentachords. The works can be explained with the concept of the mood and tonal structure typical of Anatolian traditional songs, which is in tune with the relevant *makam*.

Accordingly, in the *nefes*es, which are in the mode of *Yahyali Kerem*, which corresponds to the *Uşşak* and *Hüseyni makam*s on tone A, the accidental B flat is heard with 2 comma microtones. The tone F sounds alternately as F sharp or F natural. Eight out of 11 works in our research are sung in this *makam* structure.

Niyazına Geldik Dikmen Baba'nın

Composition: Dikmen Baba
Notated by Mehtap Demir



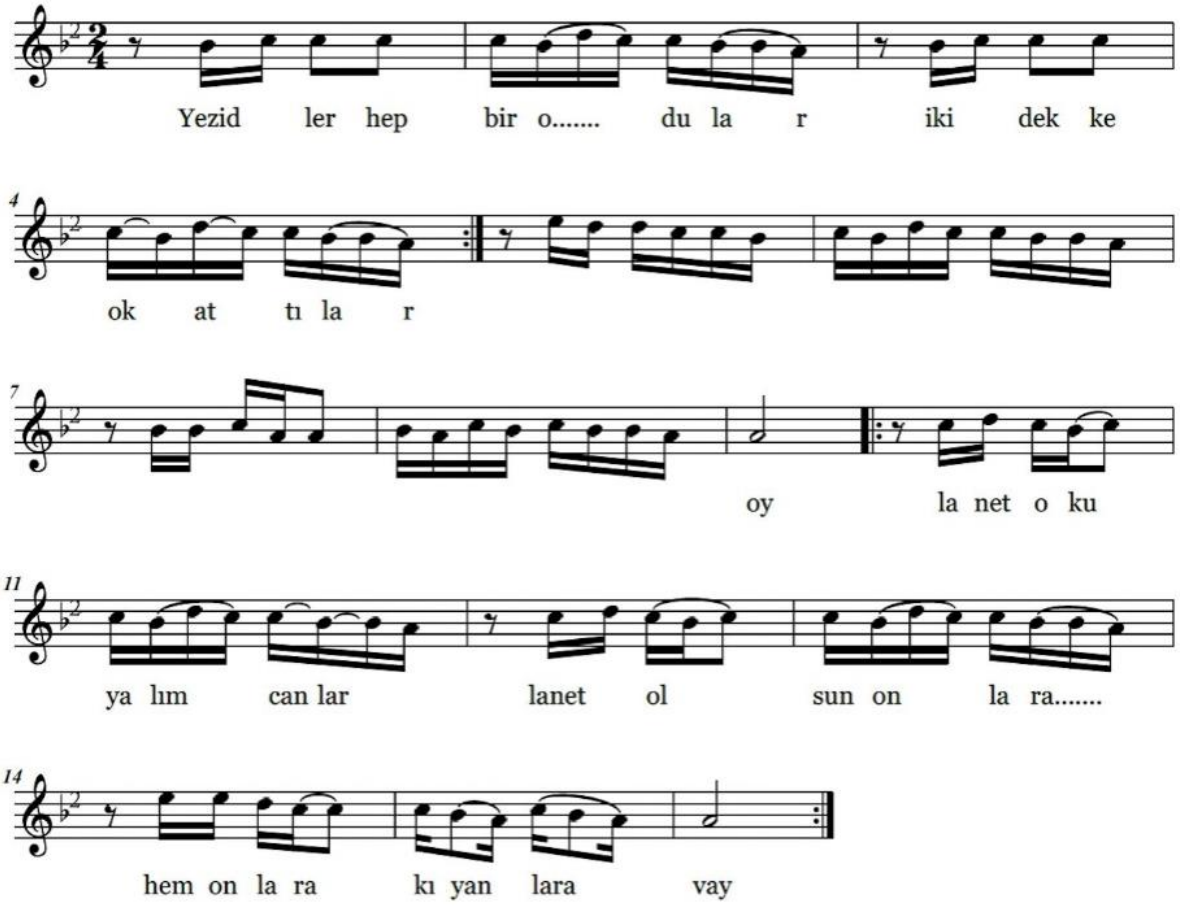
Example 1. *Niyazına Geldik Dikmen Baba'nın*. Performed by dervishes recorded in 2018.

The *nefes Niyazına Geldik Dikmen Baba'nın* (Example 1) uses the *Uşşak* tetrachord on the basic tone – A, while the *Hüseyni* pentachord is heard in phrase B. The *nefes* ends with the musical phrase C in *Uşşak* tetrachord.

A *nefes* which has the same *makam* structure is *Yezidler Hep Bir Oldular* (Example 2). The work is based on the *Uşşak* tetrachord on the tone A, which is equivalent to *Yahyalı Kerem Havası* in Anatolian folk music. Accordingly, the tone B flat sounds with two commas.

Yezidler Hep Bir Oldular

Composition: Aliazgar Tekeshanoski
Notated by Mehtap Demir

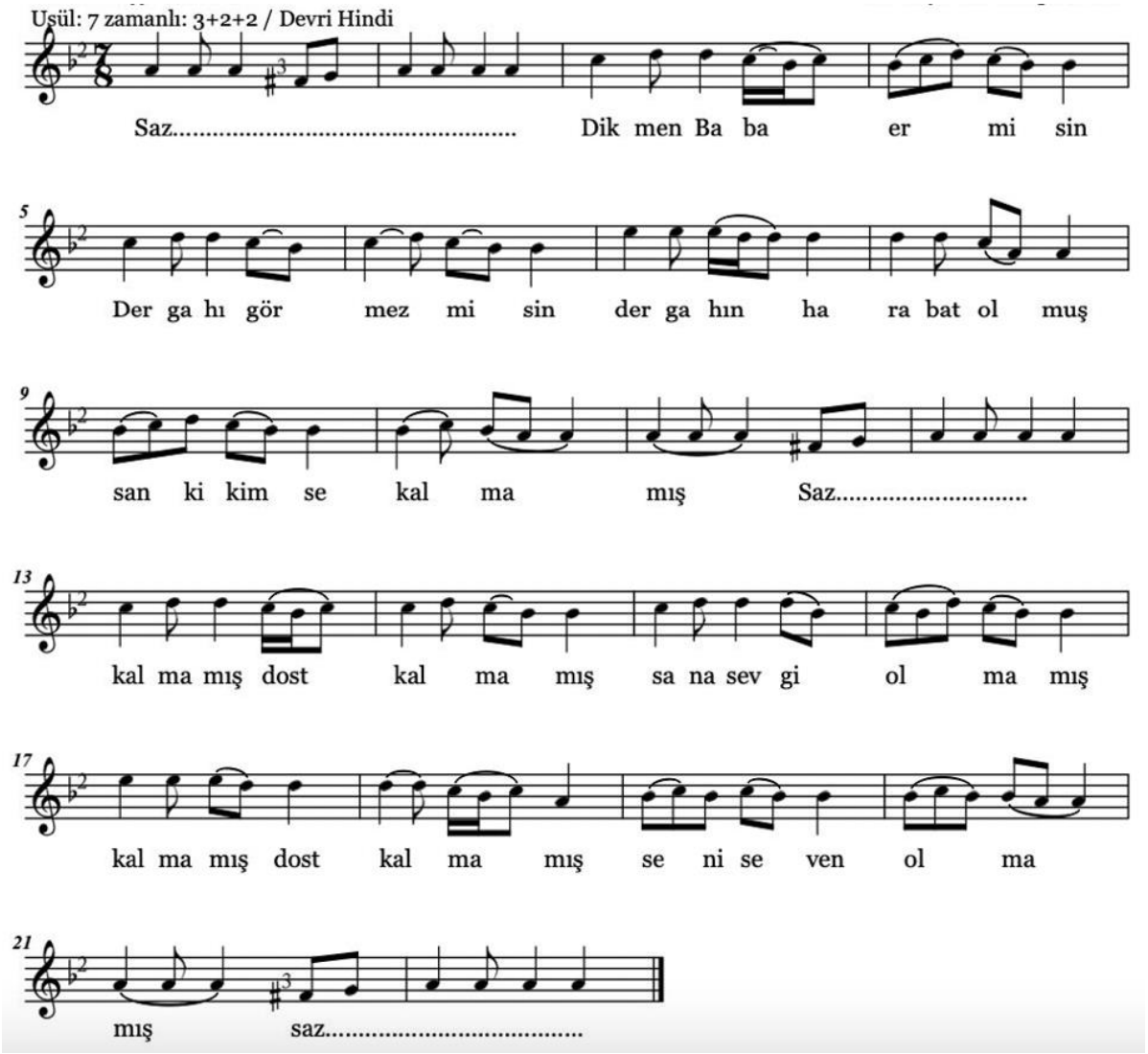


Example 2. *Yezidler Hep Bir Oldular.* Performed by dervishes, recorded in 2018.

The same tonal structure is found in *nefes*es *Dikmen Baba Dergahın Harabat Olmuş* (Example 3) and *Yezid Kasteyledi Bize* (Example 4).

Dikmen Baba Dergahın Harabat Olmuş

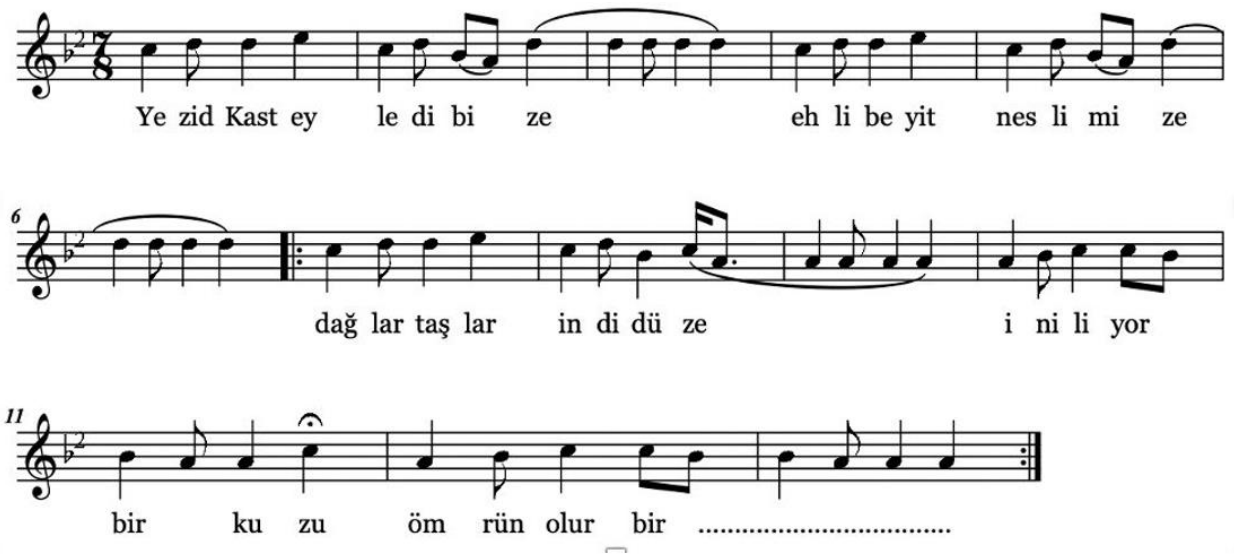
Text: Zekerya Memishoski
Notated by Mehtap Demir



Example 3. *Dikmen Baba Dergahın Harabat Olmuş*. Performed by dervishes, recorded in 2018.

Yezid Kasteyledi Bize

Notated by Mehtap Demir

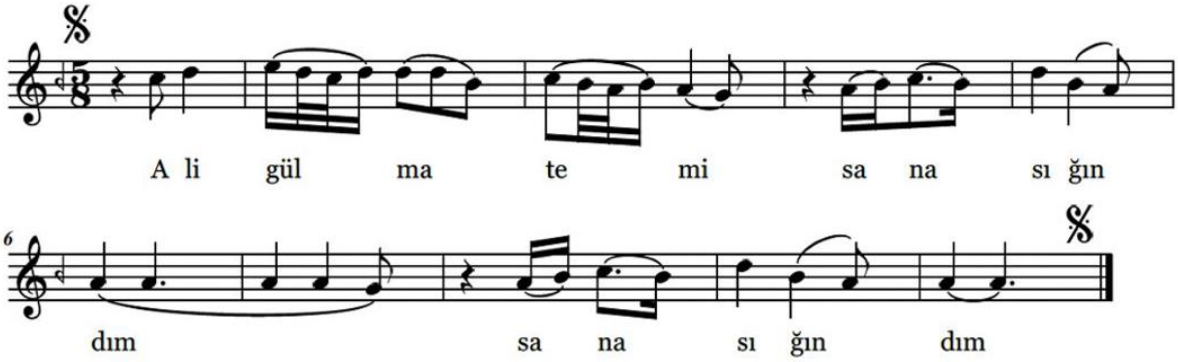


Example 4. *Yezid Kasteyledi Bize*. Performed by dervishes, recorded in 2018.

The *nefes Sana Sığındım* basically consists of two musical phrases. It is built on the *Uşşak* tetrachord in A, only sounding the E briefly in the second measure of the A sentence (Example 5). In this sense, the work does not have the character of a full *makam* system. It was sung in the form of *Düvaz-ı İmam* which is a *nefes* praising the 12 *imam*s.

Sana Sığındım

Notated by Mehtap Demir

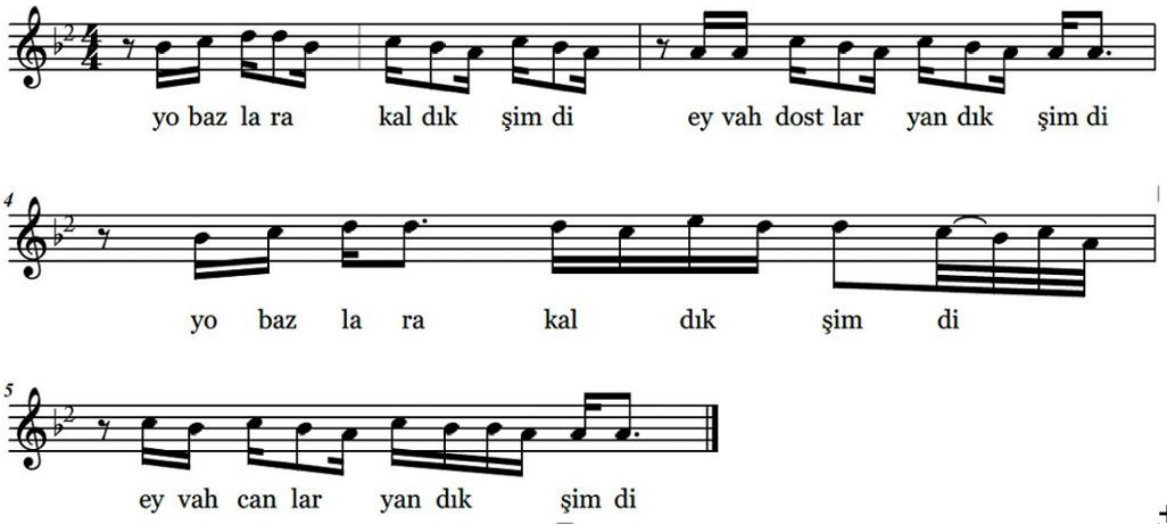


Example 5. *Sana Sığındım*. Performed by dervishes, recorded in 2018.

The *nefes Yobazlara Kaldım Şimdi* is also in the mode of *Yahyalı Kerem*, which corresponds to the *Uşşak* tetrachord on A and does not have a typical modal character and modal features. Accordingly, a 2 commas flat is heard on tone B, and the tone E appears only in the third measure as an ornamental note (Example 6).

Yobazlara Kaldım Şimdi

Composition: Zekerya Memishoski
Notated by Mehtap Demir



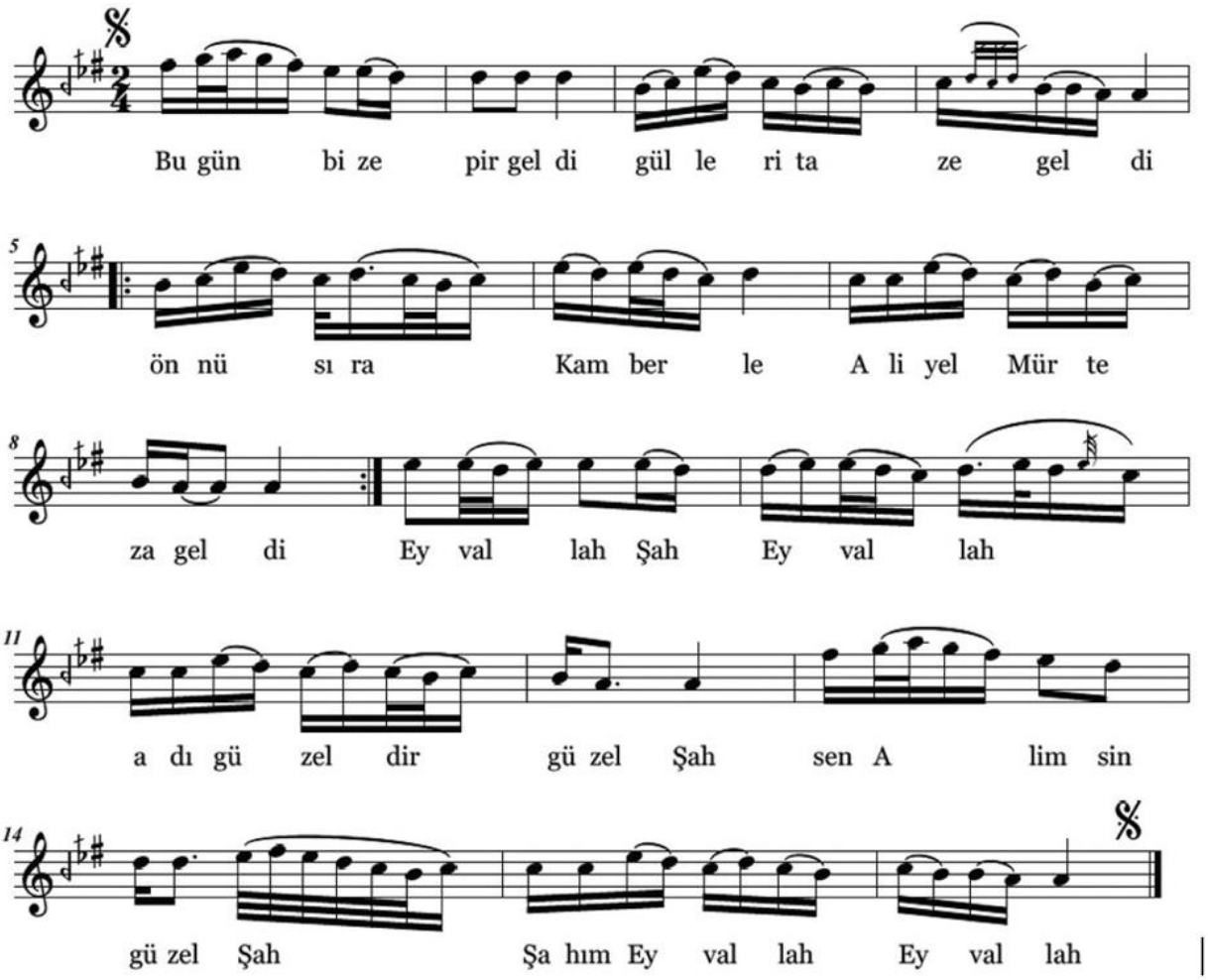
Example 6. *Yobazlara Kaldım Şimdi*. Performed by dervishes, recorded in 2018.

In the *nefes Bugün Bize Pir Geldi* (Example 7) sung in the *Karcığar makam*, the tonal structure is formed by adding the *Hijaz* pentachord on D2 (*Neva*) to the *Uşşak* tetrachord

on A. Accordingly, these comprise of B flat with 1 comma, E flat, and F sharp alterations that can be heard in the performance. There is only one work sung in this *makam* presented in the recorded material.

Bugün Bize Pir Geldi

Aşık İsmail Daimi Notated by Mehtap Demir



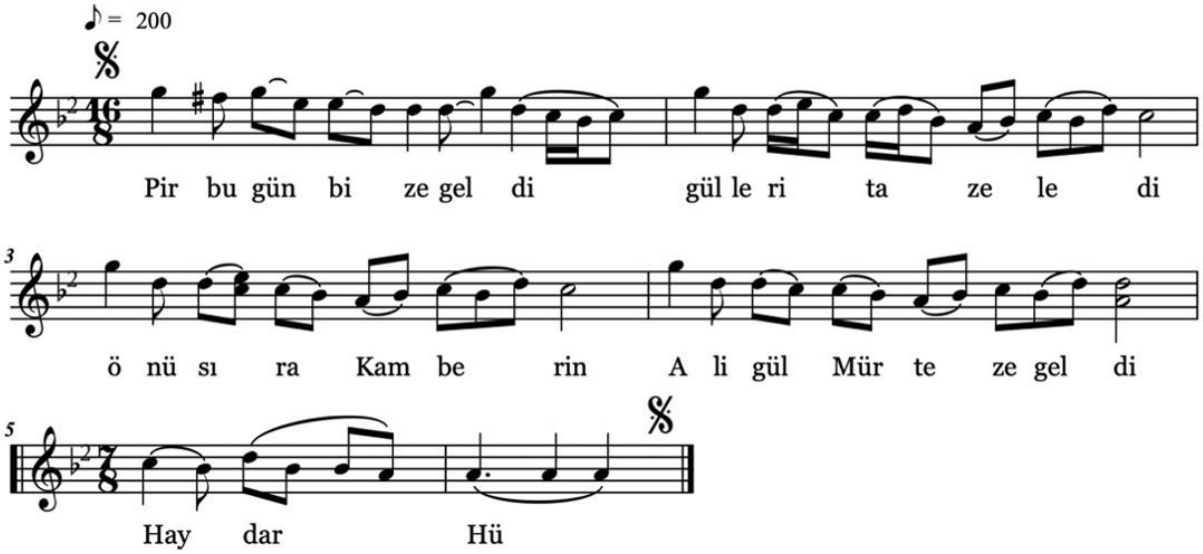
Example 7: *Bugün Bize Pir Geldi*. Performed by dervishes, recorded in 2018.

This *nefes* is also found in Erzincan as a work of Aşık İsmail Daimi (1932-1982), and although the original musical specificities are mostly preserved, a sound structure and melody typical of the Balkan region can be heard in this performance.

The second performance of the same *nefes* sung by a female vocalist is in the tonal structure of the *Uşşak makam* and has characteristics typical of the Dikmen Baba *tekke* (Example 8).

Pir Bugün Bize Geldi

Resource person: Kanatlarci village women performance
Notated by Mehtap Demir

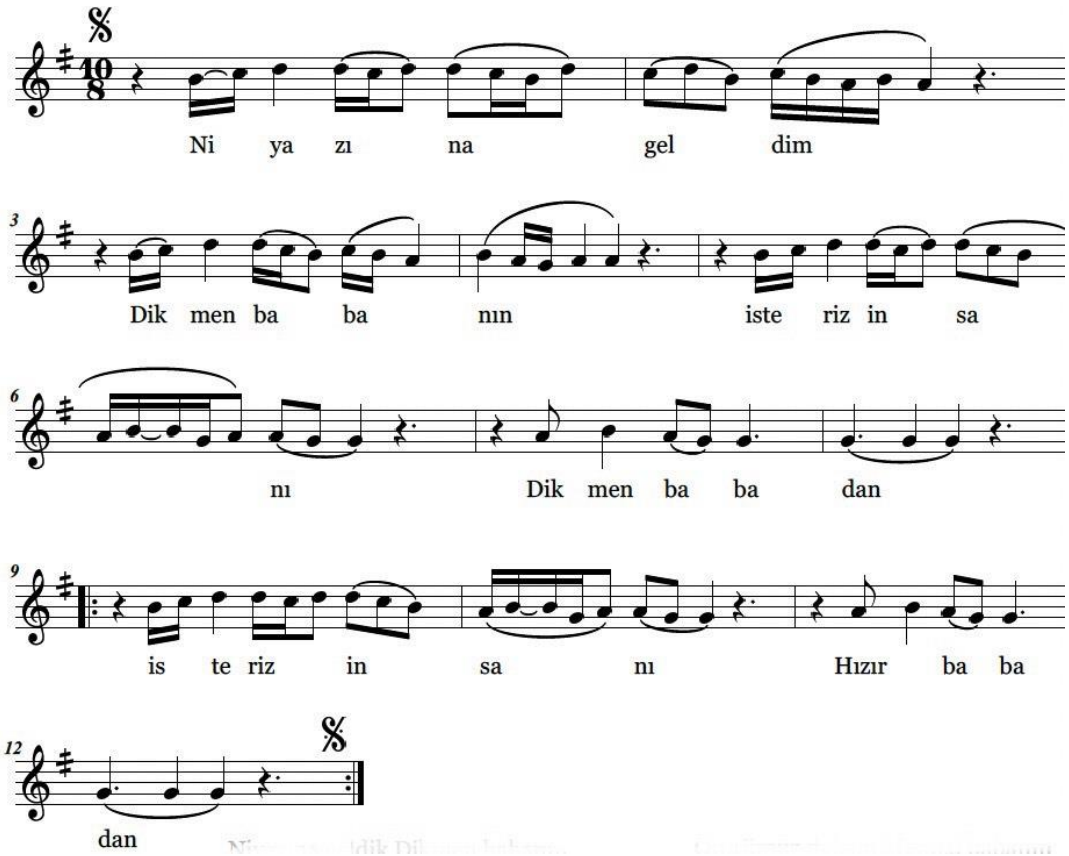


Example 8. *Pir Bugün Bize Geldi*. Performed by dervishes, recorded in 2018.

One of two performances of the *nefes Niyazına Geldik Dikmen Baba'nın* (Example 9) sung by a female vocalist has a melodic structure in *makam Mahur*, which moves within a pentachord on the G as a tonic.

Niyazına Geldim Dikmen Baba'nın

Notated by Mehtap Demir



Example 9. *Niyazına Geldim Dikmen Baba'nın*. Performed by dervishes, recorded in 2018.

Niyazına geldim Dikmen Baba'nın
İsteriz insanı Dikmen Baba'dan
İsteriz insanı Hızır Baba'dan
Dertliler de derde derman isterler
İsteriz dermanı Dikmen Baba'dan
İsteriz dermanı Hızır Baba'dan.

İkrar edip Ezeli demişiz Veli
Münkirin gözüne görünür Ali
Yezidin gözüne görünür Şahım
Erenler görsün gerçekleri
Görününür virane Mehmet Baba'dan
Sürülsün devranı Veli Baba'nın.

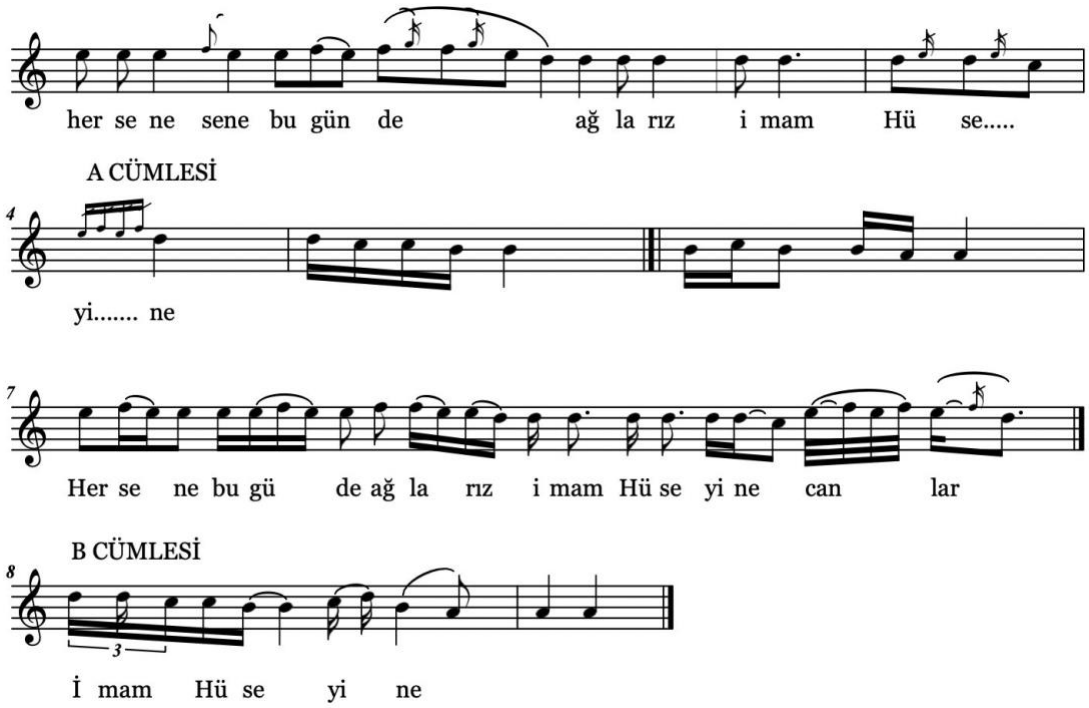
Ederim yezide daim laneti
Müminlere olsun Hakkın rahmeti
Kardaşlara olsun Şahın laneti
Büyükler yüz sürer ister himmeti
İsteriz himmeti Dikmen Baba'dan
İsteriz himmeti Hızır Baba'dan.

Ömrümüz dolsun Mehmed Baba'nı
Duası burdadır Baki Geda'nın
Gülbeng ile yanar çıra
Sürülsün devranı Mehmed Baba'nın
Açıktır meydanı Veli Baba'nın.

The lament-based *nefes Her Sene Bugünde Ağlarız İmam Hüseyin'e* (Example 10) has the form of an *uzun hava*. This free-rhythm work contains two main themes. The first musical phrase A, which is known as *Azeri hava* within the Anatolian Turkish repertoire of folk music, is based on a diminished pentachord on the tone B flat with one comma. In the second phrase, the performer took the tone A as a tonic and changed the *makam* structure of the work, i.e., the tonal sequence here represents the *Buselik* pentachord over tone A. This is probably the result of the performer's lack of proficiency with the *saz*. When evaluated according to the recording at hand, this lament in free form reflects emotional transitions during the *muhabbet* and indicates that the community's performance is a kind of improvisation.

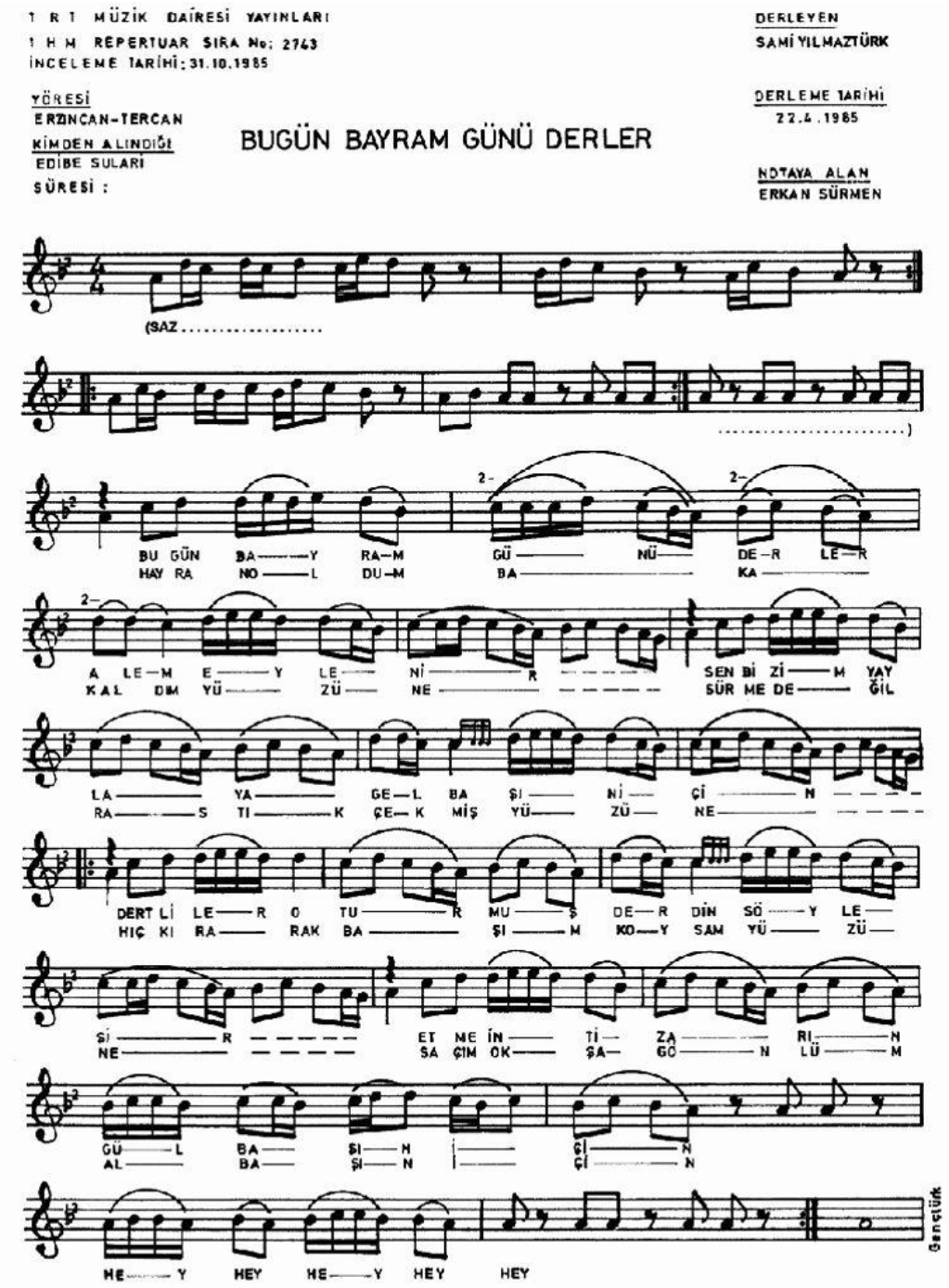
Her Sene Bugünde Ağlarız İmam Hüseyin'e

Notated by Mehtap Demir



Example 10: *Her Sene Bugünde Ağlarız İmam Hüseyin'e*. Performed by dervishes, recorded in 2018.

The *nefes Bugün Bayram Günü Derler* (Example 11) is an Anatolian folk song from Erzincan, written by Asik Ismail Daimi. Although the Balkan timbres and ornaments in the melodic line can be felt in the Kanatlarci version, it has preserved the original structure. The work has a structure corresponding to the *Uşşak makam*.



Example 11: *Bugün Bayram Günü Derler*. (Retrieved from www.baglamist.com. 2022).

The performance of the Erzincan *deyiş*es (an Alevi term for *nefes*) *Bugün Bize Pir Geldi* and *Bugün Bayram Günü Derler* as *nefes*es in the Dikmen Baba *tekke* in Kanatlarci can be explained by way of theories of cultural interaction and affiliation. According to the musical analysis, there is no change in the measure or rhythmic patterns. The difference in the performances of the members of this *tekke* from those in Erzincan stems from the vocal color and melodic traces characteristic of Balkan idioms. Vocal ornaments and

accents have not changed the basic melodic patterns and metric system. Certain melodic additions or subtractions are the result of an oral tradition that has been practised for centuries.

Analyses of the rhythmic patterns and the poems

With regard to the rhythmic structure of the works, according to our analysis the number of regular and irregular rhythms are identical, and there is also one performance in free rhythm.

Three out of five in regular rhythm are in the 4/4 *Sofyan* while two are in 2/4 *Nim Sofyan usûl*s. The presence of these rhythms corresponds to the rhythmic pattern characteristic of rural folklore in these regions (Islam, 2005).

In terms of irregular rhythms, one is in a 5/8 *Aksak* rhythm, two in 7/8 *Devr-i Hindi*, and one each in 10/8 *Aksak Semai* as well as 16/8 *Çifte Düyek*.

The following *nefes*es are sung in *Sofyan* and *Nim Sofyan* rhythms: *Niyazına Geldik Dikmen Baba'nın, Yezidler Hep Bir Oldular, Bugün Bize Pir Geldi, Bugün Bayram Günü Derler, and Yobazlara Kaldım Şimdi*.

The work that is sung in the five-beat *usûl Aksak* (2+3) is *Duvaz-i İmam Sana Sığındım*, while the seven-beat rhythmic pattern *Devr-i Hindi* (3+2+2) is found in the *nefes*es *Dikmen Baba Dergahın Harabat Olmuş* and *Yezid Kasteyledi Bize*.

The second version of the *nefes Niyazına Geldik Dikmen Baba'nın* is in a complex rhythmic pattern with 10 beats (3+2+2+3). The only *nefes* in the 16-beat *usûl* is *Bugün Bize Pir Geldi*, and the *nefes* in free form is *Her Sene Bugünde Ağlarız İmam Hüseyin'e*.

The most common syllable structures in these musical forms are 7, 8, and 11, which appear equally in three examples each, while one of the *nefes*es contains 15 and one 16 syllables.

In the majority of the musical works, the content of the poetry relates to the 'Hak-Muhammed-Ali' trilogy, which presents the essence of the Bektashi belief system, while in two examples it is about the founder of the *tekke* in Kanatlarci, Dikmen Baba, as well as about Imam Hussein and the 12 *imam*s.

In addition to the sacred forms of the mosque, which are practised during prayer and are in the Arabic language, other musical forms are performed in the Turkish language. The authentic language dialect that is used by the Yuruk population in this region is also reflected in the poetry in almost all *nefes*es. There is an example of the *nefes Niyazına Geldık Dikmen Baba'nın,* where the words *geldık*, *isterız*, *dermani* are pronounced according to the local dialect.

Niyazına geldık Dikmen Baba'nın,

İsterız dermani Dikmen Baba'nın Hu,

İsterız dermani Kunde Baba'nın.

Spiritual Dances - *Semah*

Semah, which is a part of Bektashi worship, is performed with the accompaniment of *saz* (Yöre, 2011: 232). Thus, this dance in the *tekke* Dikmen Baba is performed only on special occasions at the request of the *murshid*. During the year, from a total of 12 official ceremonies, the dance is integrated in *muhabbet*s only on the occasion of the announcing of a new member or sometimes for one of the important Bektashi holidays.

There are two types of dances practised in this *tekke*: 1) the dancing *semah* and 2) the *gayip semah*.

In the first type of *semah*, the dervishes dance in pairs (men-women). The dance is usually performed by three couples who dance opposite each other, taking care not to turn their backs to the *Baba*. During the dance, the hands take on a characteristic position, with the left palm facing the earth and the right facing the sky to symbolize connecting the earthly to the heavenly, which is the primordial aspiration to God. In the absence of women, the dance takes place among men (Sabedin Jusufoski, personal communication, 3 January, 2023).

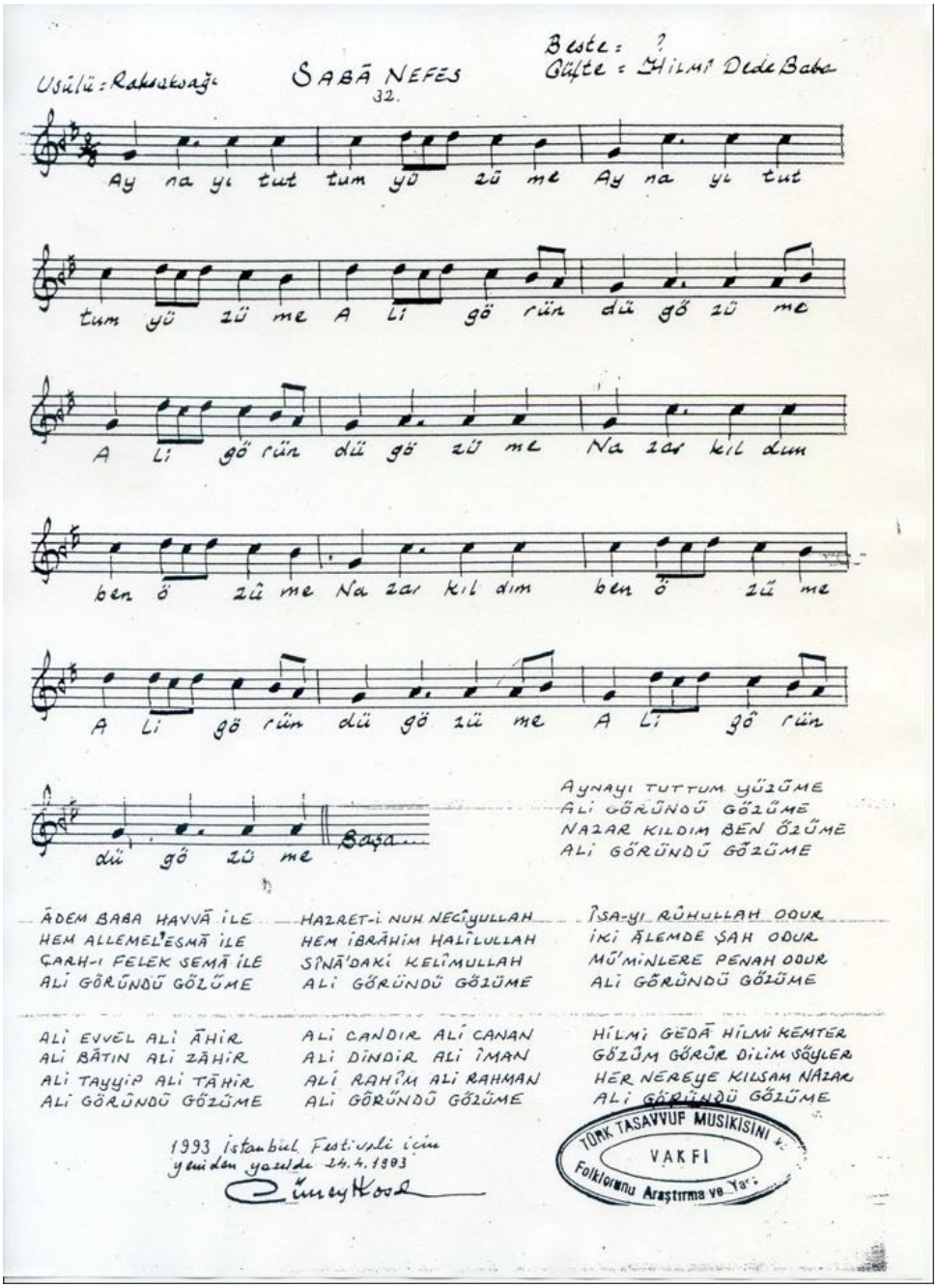
Within the sacred rite performed at the end of fasting during the *Aşüre* holiday, the dance *gayip semah* can also be performed on the *murshid*'s request, as well as the normal singing.

The second type of *semah* represents a passive dance that is performed in the sitting position. With the crossing of the arms of the dervishes, a chain is created that extends to

the *murshid*.

The symbol of the *semah* is attributed to the rotation of the planets in the universe. According to the dervishes, these dances are a means of purification from sins and of having instant communication with the Almighty. All full members, as well as women, can participate in these rituals, except for external guests who leave the space before the start of the dance ceremony.

During the dance, the *nefes Aynayı Tuttum Yüzüme Ali Göründü Gözüme* is performed, whose poem is written by Hilmi Dede Baba.



Example 12: *Aynayi Tuttum Yüzüme* (Retrieved from https://dilbeyti.com/besteler/399. 2023).

Conclusion

Of the majority of Bektashi *tekke*s that are active in the RN Macedonia, the *tekke* in v. Kanatlarci is the only one whose members belong to the Turkish ethnic community. 80% of the population of v. Kanatlarci belongs to this dervish order, while the remaining part of the population is Sunni. However, despite the differences in religious affiliations, the everyday sacred rites and customs of the population are identical. This is one of the

Bektashi *tekke*s that had almost no interruption to its activity across many centuries.

In the sacred rites, the *muhabbet*s that are characterized by authenticity still preserved all segments of the Bektashi traditional rituals. Music represents a very important segment of the spiritual rites in this *tekke*. In the performance of these musical poetic forms, string instruments – *saz*es – are used.

Regarding their structure (*makam*s and *usûl*s), the *nefes*es are very similar to rural folk songs. These sacred forms are performed collectively or by the instrumental performers known as *ashik*s. In addition to the poems of eminent poets, the poems of local writers are also performed in this *tekke*'s sacred rites. These verses, created by some of the dervishes, are most often performed on the melody of some other *nefes* of the current repertoire.

The largest number of musical works are built on the tetrachord of the *makam Uşşak*. In terms of the rhythmic structure, regular and irregular rhythms are equally represented. The presence of these rhythms corresponds to the rhythmic pattern specific to rural folk traditions in these regions.

The spiritual dance *semah* is integrated into the formal sacred rites of the Dikmen Baba *tekke*, especially on the occasion of admitting new members to the dervish order, as well as during subsequent promotions to a higher status: first they are called *muhip*, then dervish, and after that *baba* and *halife baba*. Members, depending on their current mood, dance standing or sitting during these rites. From the cultural point of view, it can be said that despite the synergies between the dervish ritual tradition in the Dikmen Baba *tekke* Kanatlarci with the tradition in Türkiye, especially the Erzincan region, it is distinguished by its authenticity in the following respects: *nefes*es dedicated to the founder of this *tekke*; rhythmic patterns and melodic structures specific for musical folklore in this region; and integration of an authentic language idiom.

REFERENCES

Balat, Gülçin. (2019). "Makedonya Kanatlar Köyünde Söylenen Nefeslerde Hacı Bektâş-ı Velî" (Hadzi Bektash-i Veli in the *Nefes*es Sung in Kanatlar Village Macedonia).

Balkanlarda Türk Dili ve Edebiyatı Araştırmaları Dergisi. 1(1): 34-45.

Bjelica, Maja. (2022). "Aleviness, Music, and Hospitality". *Musicological Annual.* VIII/1. 58(1): 101-121.

Çağ, Galip. (2010). "16 ve 17. Yüzyıllarda Osmanlı Hâkimiyetinde Manastır" (Bitola Under Ottoman Domination in the 16th and 17th Centuries). *Ph.D Dissertation*. Sakarya University, Institute of Social Science, Sakarya: Türkiye.

Çelik, Mahmut and Süleymani, Ümit. (2018). "Makedonya'da Bektaşi Tarikati'nin İzleri" (Traces of the Bektashi Order in Macedonia). *Bal-Tam Türklük Bilgisi*. 29: 43-55.

Çibik, Hatipler Tuba and Umaroğulları, Filiz. (2017). "Balkanlarda Bektaşilik ve Bektaşi Tekkeleri" (Bektashism and Bektashi Lodges in the Balkans). *İnsan ve Toplum Bilimleri Araştırmaları Dergisi.* 6(1): 458-481.

Demir, Saniye Emel. (2016). "Kalkandelen Bektaşi Tekkesi Haziresi" (Tetovo Bektashi Lodge Cemetery). *Master dissertation*. Marmara University, Social Science Institute, İstanbul: Türkiye.

Duygulu, Melih. (1997). *Alevi Bektaşi Müziğinde Deyişler* (Deyişes in Alevi-Bektaşi Music). İstanbul: Sistem Ofset Publishing.

Dzilo, Hasan. (2010). *Филозофија на суфизмот* (Philosophy of Sufism). Skopje: Logos-A

Gülçiçek Ali Duran. (2000). "Anadolu ve Balkanlardaki Alevi Bektaşi Dergâhları - Tekke, Zaviye ve Türbeler" (Alevi Bektashi Dervish Lodges - Dervish Lodges, Zawias and Tombs in Anatolia and the Balkans). *Turkish Culture and Hacı Bektash Veli Research Quarterly*. 16: 212-217.

Hamzaoğlu, Yusuf. (2000). *Balkan Türklüğü: Araştırmalar, İncelemeler – Makedonya, Sırbistan, Hırvatistan* (Balkan Turkism: Research, Studies – Macedonia, Serbia, Croatia). Ankara: Republic of Türkiye Ministry of Culture Publishing.

Hafız, Nimetullah. (1976). "Yugoslavya'da Bektaşi Tekkeleri" (Bektashi Lodges in Yugoslavia). *Çevren*. 11: 57-67.

Izeti, Metin. (2013). *Balkanlarda Tasavvuf Akımları* (Sufi Movements in the Balkans).

İstanbul: Gelenek Publishing.

Islam, Aida, Zelenkovska Leshkova, Stefanija. (2014). *"*Between Social Transformation and Continuity: Bektashi Sufi Music Tradition in the Republic of Macedonia*". Review of European Studies.* 6(2): 63-80.

Islam, Aida, Zelenkovska Leshkova, Stefanija. (2012a). "Spiritual Islamic Music Tradition in the Balkans at the Time of the Ottoman State". *Journal of Academic Studies*. 14(52): 1-18.

Islam, Aida, Zelenkovska Leshkova, Stefanija. (2012b). "The Islamic Mystical Spiritual Music Tradition in the Era of New Musical Tendencies". *Asian Journal of Social Science*. 8: 170-175.

Islam, Aida. (2007). *Tonskiot sistem na turskata muzika so kratok pregled na istorijata na turskata muzika i muzichkite formi* (The Tonal System of Turkish Music with a Brief Overview of the History of Turkish Music and Musical Forms). Skopje: Kultura.

Islam, Aida. (2005). "The Reflections of the Ottoman Music Culture in the Contemporary Music Culture of the Turkish Community in the Republic of Macedonia". *Ph.D Dissertation*. UKIM "Ss Cyril and Methodius", Faculty of Music, Skopje: RN Macedonia.

Kalajdziev, Gordan. edt. (2015). *Pravosudstvoto i temelnite prava vo Republika Makedonija – Proekt Mreza 23.* (The Judiciary and Fundamental Rights in the Republic of Macedonia – Project Network 23). Skopje: Helsinki Committee for People's Rights of the Republic of Macedonia.

Noyan, Bedri. (1999). *Seyyid Ali Sultan Velayetnamesi* (Seyyid Ali Sultan's Custody Certificate). Ankara: Ayyıldız Publishing.

Nuri, Özcan. (1992). *Bektaşi Musikisi* (Bektashi Music). İstanbul: TDVİA.

Şen, Yavuz. (2018). "Bektaşi Nefesleri Üzerine Makamsal Bir İnceleme" (A Makam Study on Bektashi Nefeses). *Bilig*. 85: 209-231.

Trajanovski, Viktor. (2018). "Дервишкиот ред Бекташи во Македонија карактеристики и современа состојба" (The Bektashi Dervish Order in Macedonia,

Chracteristics and Modern Condition). *Balcanoslavica.* 47(1): 188-190.

Trajanovski, Viktor. (2019). *Етнолошко и антрополошко проучување на дервишкиот ред Бекташи од село Канатларци Прилепско* (Ethnological and Anthropological Study of the Bektashi Dervish Order of Village Kanatlarci, Prilep Region). Skopje: Institute for Ethnology and Anthropology, PMF/UKIM.

Yahya, Abaz. (2001). "Makedonya'da Tekkeler ve Tekke Musikisi" (Dervish Lodges and Lodge Music in Macedonia)*. Master Dissertation*. Marmara University, Istanbul: Türkiye.

Yahya, Abaz. (2015). "Makedonya'da Bektaşi Musikisi" (Bektashi Music in Macedonia)*. Yeni Türkiye*. 67: 2137-2042.

Yılmaz, Ali and Coşkun Kökel. (2005). "Ali Koç Baba ile İlgili Kısa Bir Değerlendirme ve İki Yeni *Secere"* (A Brief Evaluation and Two New Genealogies about Ali Koç Baba). *Hacı Bektaş Veli.* 36: 125-136.

Yöre, Seyit. (2011). "Alevi Bektaşi Kültürünün Müziksel Kodları" (Musical Codes of Alevi Bektashi Culture)*. Turkish Culture and Hacı Bektash Veli Research Quarterly.* 60: 219-244.

Vishko, Ali. (1997). *Harabati Teqe e Tetovës dhe veprimtaria në të në periudhën e kaluar* (Harabati Teqe of Tetovo and the Activity in the Past Period). Tetovë: Arbëria design.