

Turkish music instruments in a western-style orchestra setting: Orchestration analysis of Oğuzhan Balcı's "Ninni"

Türk müziği çalgılarının çoksesli orkestra düzeninde kullanımı: Oğuzhan Balcı' nın "Ninni" isimli eserinin orkestrasyon analizi

Gizem Alever Sancaktar¹📧, Eray Altınbüken¹📧

¹ Istanbul Technical University, Turkish Music State Conservatory, Composition Department, İstanbul, Türkiye.

ABSTRACT

This study examines the orchestration techniques employed in Oğuzhan Balcı's composition Ninni for the ITU TMDK Traditional Instruments Orchestra. The research focuses on how traditional Turkish instruments are adapted within a polyphonic orchestral work. Through an orchestration analysis, the study explores instrument combinations, textural layering, and scoring techniques. The methodology includes content analysis of the piece, evaluating orchestration methods applied to different instrument families such as wind, bowed string, and plucked string sections. The study also discusses the role of each instrument in contributing to the overall orchestral sound, emphasizing their textural interactions.

The findings highlight the challenges and solutions in achieving harmonic balance and intonational accuracy with traditional Turkish instruments. Moreover, it explores how Balcı strategically uses orchestration to highlight the expressive qualities of each instrument while maintaining coherence within the ensemble. The results suggest that composers working with traditional Turkish instruments in an orchestral setting must adopt specific scoring techniques to accommodate the unique characteristics of these instruments. By providing insights into the orchestral use of these instruments, this study serves as a resource for composers and arrangers working with similar ensembles. The research contributes to the broader field of orchestration studies by offering a detailed examination of techniques that facilitate the integration of traditional Turkish instruments into a polyphonic orchestral setting.

Keywords: orchestration, traditional instruments orchestra, folk instruments orchestra, contemporary composition, Turkish composer

ÖZ

Bu çalışma, Oğuzhan Balcı'nın Ninni adlı eserinde kullanılan orkestrasyon tekniklerini analiz etmektedir. Araştırma, geleneksel Türk makam ve halk müziği çalgılarının çok sesli bir orkestral yapı içinde nasıl uygulandığına odaklanmaktadır. Orkestrasyon analizi yoluyla, enstrüman kombinasyonları ve doku katmanları incelenmiştir. Metodoloji, eserin içerik analizine dayanarak, nefesli, yaylı ve mızraplı çalgılar gibi farklı enstrüman gruplarına uygulanan orkestrasyon yöntemlerini değerlendirmektedir. Çalışma ayrıca, her enstrümanın orkestral ses bütünlüğüne katkısını tartışmaktadır.

Bulgular, geleneksel Türk makam ve halk müziği çalgılarıyla armonik denge ve entonasyon doğruluğunun sağlanmasında karşılaşılan zorlukları ve bunlara yönelik çözümleri ortaya koymaktadır. Analiz, enstrümantasyon seçimlerinin, bu enstrümanların tınlarını etkili bir şekilde harmanlamada kritik rol oynadığını göstermektedir. Ayrıca, Balcı'nın orkestrasyonu stratejik olarak kullanarak her enstrümanın ifade gücünü vurgularken topluluk içinde uyumu nasıl koruduğu ele alınmaktadır. Bu araştırma, geleneksel Türk makam ve halk müziği çalgılarının çok sesli bir orkestra düzenindeki birlikteliğini kolaylaştıran teknikleri ayrıntılı bir şekilde inceleyerek orkestrasyon çalışmaları alanına önemli katkılar sunmayı hedefler.

Anahtar kelimeler: orkestrasyon, geleneksel çalgılar orkestrası, halk çalgıları orkestrası, çağdaş kompozisyon, Türk besteci

Gizem Alever Sancaktar – alever@itu.edu.tr

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1. INTRODUCTION

In 2019, an orchestra was founded at the ITU Turkish Music State Conservatory (TMDK), featuring entirely traditional Turkish musical instruments within a Western-style polyphonic orchestra setting, similar to those found in countries such as Bulgaria, China, Azerbaijan, Armenia, Kyrgyzstan and many others. The ensemble has been named as ITU TMDK Traditional Instruments Orchestra (TIO). This ensemble encouraged composers to create new works that adapt symphonic orchestration techniques to traditional instruments. Among these works is Oğuzhan Balcı's *Ninni*, which stands out as a representative example. Accordingly, this article analyses the orchestration of *Ninni* to provide insights into the methods employed for a traditional Turkish instruments orchestra.

After the establishment of TIO, in 2020, alongside Balcı's composition *Ninni*, other ITU-affiliated composers such as Ayşegül Kostak Toksoy and Eray Altınbüken were also commissioned to write works for the ensemble.

In *Ninni*, Balcı employs orchestration techniques to enhance the inherent characteristics of traditional instruments. Before beginning the analysis, it would be helpful to provide historical context about how polyphonic music developed in Turkey, as well as examples of the first traditional instruments utilised in polyphonic music.

Turkey's introduction to European polyphonic music coincided with the abolition of the Janissary corps and its associated *mehter* (military band) in 1826, followed by the appointment of Giuseppe Donizetti as the conductor and music director of the Ottoman court music, known as Muzıka-yı Hümâyün, in Istanbul (Aydın, 2003). With the establishment of the Muzıka-yı Hümâyün, musicians began arranging *makam* music polyphonically, as well as composing operas and other multi-voiced works (Öztuna, 1969).

As the first major Western-style music institution of the Ottoman Empire, the Muzıka-yı Hümâyün consisted of principal branches such as the band, orchestra, *fasıl* ensemble, and *müezzinan*, along with subsidiary sections including opera and operetta, theatre, *ortaoyunu* (improvised popular theatre), acrobatics, and shadow theatre such as *Karagöz*, *hokkabaz*, and *kukla*. With the establishment of this institution, the Ottoman state also began the official use of marches, which encouraged many composers to produce works in the march genre within Turkish *makam* music (Alimdar, 2016).

From the nineteenth century onwards, the staging of European operas in Istanbul increased public interest in musical stage performances and eventually paved the way for Ottoman composers to produce works in opera and operetta. These transformations in genre also influenced compositional practice; particularly in the twentieth century, polyphonic elements and piano accompaniments to songs began to be integrated into Turkish *makam* composition (Alimdar, 2016).

One of the most significant sections of the Muzıka-yı Hümâyün was the *fasıl* ensemble, which was divided into two groups: *Fasl-ı Atik* and *Fasl-ı Cedit*. While *Fasl-ı Atik* performed traditional Turkish music, *Fasl-ı Cedit* adopted a more innovative approach, presenting "fantasy" works and aiming to introduce new elements into the *makam* tradition. Within this ensemble, the works of Rifat Bey and Hacı Arif Bey, as well as *köçekçe* dances, were harmonized and performed, alongside selected works of Western music (Akdeniz, 2017).

The integration of traditional Turkish music instruments into polyphonic music has a history that dates back to the early 20th century. Hüseyin Saadetin Arel's *Kemençe Quintet* (1933) and Ali Rifat Çağatay's *Ud Trio* are among the earliest examples of polyphonic compositions in Turkish music (Özgelen et al., 2023). Later, Ulvi Cemal Erkin (1906–1972) became the first composer in Turkey to incorporate a traditional instrument into a Western-style orchestral work by employing the darbuka in his symphonic piece *Köçekçe* (1943) (Adlin & Altınbüken, 2017). Similarly, Hasan Ferit Alnar pioneered the inclusion of the kanun within a string orchestra in his *Kanun Concerto* (1944) (Boran & Yıldız Şenürkmez, 2020). Since that period, composers such as Necati Giray (1933), Yalçın Tura (1934), Mutlu Torun (1942), Turgay Erdener (1957), Kamran İnce (1960), Münir Nurettin Beken (1964), Hasan Uçarsu (1965), Onur Türkmen (1972), Evrim Demirel (1977), Oğuzhan Balcı (1977), Sadık Uğraş Durmuş (1978), Eren Arın (1978), Mesruh Savaş (1978), Recep Gül (1982), Tayfun Demirbaş (1992), Aslihan Keçebaşoğlu (1994), Hasan Barış Gemici (1996), Yusuf Meşçi (1997) as well as the authors of the article Eray Altınbüken (1975) and Gizem Alever (1994) among many others, used traditional instruments in their music, although often with small ensembles, in the context of different styles featuring tonal, modal or non-tonal pitch organisation.

In 2019, ITU TMDK administration commissioned Oğuzhan Balcı to compose a piece for an ensemble as large as a symphonic orchestra but consisting entirely of traditional Turkish instruments. To prepare for the orchestration analysis of Balcı's composition *Ninni*, brief information about the instrumentation of the piece may be helpful in order to provide context for understanding how Balcı used traditional instruments in an untraditional orchestra setting, as illustrated in Table 1 below.

Table 1*Orchestra Setting of Ninni*

Winds (number of performers)	Bowed-strings (number of performers)	Plucked-strings (number of performers)
Kaval ¹ (4)	Three-string kemençe ² (8)	Tar ³ (4)
Ney ⁴ (4)	Four-string kemençe ⁵ (8)	Tanbur ⁶ (3)
Mey ⁷ (3)	Kemane ⁸ (4)	Ud ⁹ (4)
	Double bass (1)	Kanun ¹⁰ (6)
		Bağlama ¹¹ (12)

¹Kaval : Wooden rim-blown wind instrument of South-Eastern Europe and Turkey (Atanassov et al., 2001).

²Three-string kemençe : Pear-shaped lyra with usually gut strings widely used in Turkey and Greece (Özgen, 2001).

³Tar : Double-chested plucked lute with membrane widely used in Iran and the Caucasus region (During, Atayan, & Spector, 2001).

⁴Ney : Oblique rim-blown wind instrument mostly made of reed, used in Arabian Peninsula, Iran and Turkey (Hassan & During, 2001).

⁵Four-string kemençe : Pear-shaped lyra, usually with metal strings widely used in Turkey.

⁶Tanbur : Long-necked plucked lute (Grove Music Online, 2016).

⁷Mey : Double reed wooden instrument similar to the balaban of Azerbaijan and the duduk of Armenia (YTÜ TMDK, 2019).

⁸Kemane : Anatolian spike fiddle widely used in the Teke region in Turkey and the Caucasus region (During, Atayan, Spector, Hassan et al. 2001).

⁹Ud : Short-necked plucked lute widely used in the Balkan Peninsula, Arabian Peninsula, Greece and Turkey (Poché, 2001a).

¹⁰Kanun : Plucked box zither widely used in the Balkan Peninsula, Greece, Turkey and the Arabian Peninsula (Poché, 2001b).

¹¹Bağlama : Also known as saz, long necked lute widely used in the Balkan Peninsula and Anatolia (Morris, 2001).

1.1. Purpose of the Research

The purpose of this research is to analyse the orchestration techniques employed in Oğuzhan Balcı's *Ninni* to provide insights into adapting traditional Turkish instruments for a polyphonic orchestral setting. By examining how traditional Turkish instruments are utilised within a Western-style orchestral framework, this study aims to guide composers who wish to write music for ensembles with similar configuration.

1.2. Importance of the Research

By analysing Oğuzhan Balcı's *Ninni*, the research sheds light on how traditional instruments can be effectively integrated into a Western-style orchestral framework. This study is therefore significant in guiding composers, arrangers, musicologists, and educators who wish to write for similar ensembles.

2. METHODS

This article employs content analysis to examine Oğuzhan Balcı's use of traditional Turkish instruments in orchestral settings, with a particular focus on orchestration. While the study does not provide a detailed formal or melodic analysis, it includes a table outlining the overall form to present a more comprehensive view of the work. In this table, diatonic mode or scale names are used instead of *makam* names, since most *makams* contain microtonal pitches and follow their own characteristic melodic development conventions, known as *seyir*. It should be noted that although certain Turkish *makams* may superficially resemble some diatonic modes of Western music, such similarities extend only to approximate scale degrees and do not capture the full scope of the *makam* system. The analysis investigates orchestration techniques used to integrate Turkish musical instruments into a Western symphonic context, examining their functions within sections and their relation to standard orchestration practices. Particular emphasis is placed on how texture is shaped through instrument combinations and the specific roles assigned to each instrument. The study draws on well-established sources in the orchestration literature, such as Adler (2016) and Kennan and Grantham

(2024). Instrumental register characteristics, intonation capacities, and their functions in the orchestra were systematically evaluated. The methodology focuses on analysing various scoring combinations within the piece, including those for wind instruments, plucked strings, and bowed strings, as well as mixed groupings such as winds with plucked strings, winds with bowed strings, and bowed with plucked strings.

2.1. Ethical Approval

In this study, no data collection process requiring Ethics Committee approval was carried out

3. ANALYSIS

Oğuzhan Balcı's composition *Ninni* serves as a remarkable example of how orchestral textures can be applied to traditional Turkish instruments within an orchestral setting. Written in a through-composed form except the reappearance of the A section's content in the very end, the piece unfolds with distinct thematic sections, each showcasing a unique tonal or modal character. The through-composed musical form (Table 2) consists of an introduction followed by sections labelled as A, B, C, D, E and a recapitulated A' section. In the D section, between measures 68 and 85, the composer employs F# Dorian with an implication of *hüseyni makam* due to the use its melodic development properties (*seyir*), though no direct indication of the *makam* is provided due to the lack of the *hüseyni*-related microtonal scale degrees. Similarly, in the E section, the composer uses G Dorian #4 mode, reminding the *nikriz makam*, despite the absence of an explicit reference.

In the following paragraphs, we will explore how Balcı orchestrates a variety of textures, providing examples of how different combinations of instruments are set.

Ninni begins with an 8-measure introduction featuring *kanun* 1-2 sections. This introductory theme features multiple leaps, an uncommon practice in traditional Turkish music but a characteristic element of linear writing in many post-tonal works . This opening theme, As shown in Figure 1, suggests harmonic relationships in tonal music despite its monophonic texture.

Table 2

The form of Ninni

Introduction	A	B	C	D	E	A'
m. 1-8	m. 9- 25	m. 26 - 33	m. 34- 41	m. 48 - 85	m. 86 -128	m. 131 - 151
	A major	D major	Bb Lydian & A major	m. 48 – 67 E major m. 68 – 85 A major – F# Dorian	m. 86 - 107 Fragmentation of the 1st theme and preparation to m. 108 – 128 G Dorian #4	

Figure 1

Kanun 1-2 sections, m.1-9



Between measures 9 and 16, the melody is played by *Ney* 1-2 sections while *kaval*, and *kanun* sections provide a homophonic accompaniment. Here the melody is given to two instruments *ney* 1 and *ney* 2, it has a registral span from A4 to C#6. In this register, *bolahenk nisfiye ney* (in G) sounds brightly. The sustained chord pads created by *kaval* section are enriched by the *kanun* section's broken chords, adding pinpointed attacks, as shown in Figure 2.

Figure 2

Ninni by Oğuzhan Balcı unpublished score, m.9-16

The image displays a musical score for six instruments: Kaval 1-2, Kaval 3-4, Ney 1-2, Kanun 1-2, Kanun 3-4, and Kanun 5-6. The score is written in treble clef with a key signature of one sharp (F#). The Kaval parts (1-2 and 3-4) play sustained chords, with dynamics marked *p*. The Ney part (1-2) plays a melodic line with dynamics marked *mf*. The Kanun parts (1-2, 3-4, and 5-6) play sustained chords, with dynamics marked *p*. The score is organized into measures, with some measures containing rests for certain instruments.

Scoring for Wind Instruments

The wind section of the orchestra includes instruments such as the *kaval*, *ney* and *mey*. Among the families of instruments in an orchestra, the wind section is often considered the most challenging. The fundamental difficulty is achieving accurate tuning and intonation across multiple instruments. These challenges are increased in ensembles comprised entirely of traditional Turkish instruments. Intonation concerns emerge from both the technical skills necessary to play these instruments and the materials used in their construction. Traditional instruments, as opposed to modern instruments created with precise manufacturing procedures, are usually handcrafted, complicating the achievement of harmonic unity.

The *ney* in particular, requires players to switch between different *ney* sizes depending on the required transposition in a given passage. Since a single *ney* cannot comfortably cover all registers, players change to the appropriate *ney* to facilitate performance across different octaves.

For instance, passages in the high register are often played using *bolahenk nisfiye* (G), *süpürde mabeyn* (F-sharp), or *süpürde* (F) *ney*. To achieve a more comfortable tone in the middle register, players may use *yıldız* (E-flat), *kız* (D), or *mansur* (C) *ney*. Meanwhile, for low-register passages, *şah* (B-flat), *davut* (A), and *bolahenk* (G) *ney* are preferred (Gunca, 2007).

The same challenge applies to the *kaval* section. Players frequently switch between differently tuned *kavals* depending on the required transposition in a given passage. This ensures better control over intonation and allows them to navigate different registers more comfortably. In the score, Balcı did not specify which *ney* or *kaval* should be played. As a result, the players decide how to switch between instruments. If the score included this information, it would help clarify the transposition logic of the instruments.

Figure 3*Ninni* by Oğuzhan Balcı, unpublished score m.26-32

In this seven-measure passage as shown in Figure 3, *kaval* 1–2 and *ney* 1–2 play the melody in unison, with doubling. *Kaval* 3–4, *ney* 3–4 and *mey* sections provide accompaniment. The melody parts is designed to be heard clearly and brightly due to its written register, in contrast to the accompaniment section. Here, Balcı uses these traditional Turkish wind instruments similar to the woodwind family in a symphonic orchestra. However, the chord accompaniment, which is expected to be played by the *kaval*, *ney*, and *mey*, may encounter intonation issues, as mentioned above. In this excerpt, we see that Balcı groups instruments with similar timbral qualities such as *ney* and *kaval* which blend well together and create homogenous sound.

Scoring for Bowed String Instruments

In a Western-style symphonic orchestral setting, the bowed string section is known for its homogeneous sound, often providing a consistent tonal foundation (Adler, 2016). In contrast, the string section of traditional Turkish instruments orchestra comprises instruments from varied families, *kemane*, four-string *kemençe* and three-string *kemençe* each with distinct timbral characteristics. Even within a single family of instruments, such as the *kemençe* section differences in timbre emerge due to variations in construction and string types. This results in a heterogeneous structure where the diversity of timbres contributes to a unique soundscape, differing fundamentally from the cohesive sonority of Western bowed strings.

Figure 4*Ninni* by Oğuzhan Balcı, unpublished score m.18-22

In this excerpt, as shown in Figure 4, the *kemençe* sections play the primary melodic line, doubled in octave, while the *kemane* provides a secondary melodic line. This multi-layered method not only enhances the interplay of timbres but also highlights an orchestration technique distinct from the homogeneous sonority of the symphonic string section. At the same time, the way the writing separates the layers and incorporates a quasi-canonic structure is reminiscent of the polyphonic textures we usually see in Western symphonic string sections.

Scoring for Plucked String Instruments

In this excerpt as shown in Figure 5, *tanbur*, *tar* and *kanun* 3-4 sections play the primary melodic line, while *kanun* 1-2 sections play a secondary melodic line. The *ud* and *kanun* 5-6 sections provide a harmonic background, and *baglama* provide rhythmic dynamism.

Figure 5

Ninni by Oğuzhan Balcı, unpublished score m.18-25

The image displays a musical score for ten different instruments. The staves are arranged vertically from top to bottom: Tanbur 1-2-3, Tar 1-2, Tar 3-4, Bağlama 1 (5), Bağlama 2 (5), Bağlama 3 (5), Kanun 1-2, Kanun 3-4, Kanun 5-6, Ud 1-2, and Ud 3-4. The score is written in a single system with a common time signature. The Tanbur and Tar parts feature long, sustained notes with some grace notes. The Bağlama parts consist of rhythmic, repetitive patterns with triplets. The Kanun parts play a melodic line with some grace notes. The Ud parts provide a harmonic background with sustained chords and some grace notes.

Scoring for Winds and Bowed String Instruments Combinations

In this excerpt, as shown in Figure 6, the winds and bowed strings collaborate in various roles: at times, they perform solo passages (e.g., the *mey* in measure 36), while at other times, they provide harmonic support or double the melodic line. Specifically, *kaval* 1-2, *ney* 1-2, *kemane* 1-2, three-string *kemençe* 1-2, and four-string *kemençe* 1-2 play the melodic line initially introduced by the *mey* one measure earlier. This blending of winds and strings creates a distinct timbre, contrasting with the solo *mey*. Simultaneously, *kaval* 3-4, *ney* 3-4, *mey* 2-3, *kemane* 2-3, four-string *kemençe* 3-4, and three-string *kemençe* 3-4 perform the chordal line, enriching the harmonic texture. In this way, the woodwinds and the strings can be used within the texture by exchanging roles.

Figure 6

Ninni by Oğuzhan Balcı, unpublished score m.36-39

The musical score for Figure 6 is a page from an unpublished score for the piece "Ninni" by Oğuzhan Balcı, covering measures 36 to 39. The score is written for a western-style orchestra and features several parts for traditional Turkish instruments. The instruments and their parts are:

- Kaval 1-2**: Two parts, both starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *mf*.
- Kaval 3-4**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.
- Ney 1-2**: Two parts, both starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *mf*.
- Ney 3-4**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.
- Mey 1**: One part, starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *mf*.
- Mey 2-3**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.
- Kemane 1-2**: Two parts, both starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *mf*.
- Kemane 3-4**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.
- 3 Telli Kemence 1-2**: Two parts, both starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *p* in measure 36 and *mf* in measure 37.
- 3 Telli Kemence 3-4**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.
- 4 Telli Kemence 1-2**: Two parts, both starting with a rest in measure 36 and then playing a melodic line in measure 37, marked *mf*.
- 4 Telli Kemence 3-4**: Two parts, both starting with a rest in measure 36 and then playing a sustained chord in measure 37.

The score is written in a common time signature (C) and features a variety of musical notations, including rests, melodic lines, and sustained chords. The dynamics range from *p* (piano) to *mf* (mezzo-forte).

Scoring for Winds and Plucked String Instruments Combinations

In this excerpt, as shown in Figure 7 below, the wind section plays the melody in unison and octave doubling, which sounds effective in this register, with the melodic structure being very suitable for this treatment. The *tar* and *bağlama* sections provide rhythmic dynamism, which is highly effective with their plucking technique. Meanwhile, *kanun* 1-2-3-4 and *tanbur* establish the harmonic background, with the *tanbur* providing arpeggiated spans and the *kanun* sections outlining broken block chords within the measure. *Kanun* 5-6 and the *ud* reinforce this foundation by playing a secondary melodic line. The *bağlama* and *tanbur* contribute to both the harmonic and rhythmic structure, enhancing the overall texture.

Figure 7

Ninni by Oğuzhan Balcı, unpublished score m.60-64

The musical score for 'Ninni' by Oğuzhan Balcı, measures 60-64, is presented in a multi-staff format. The instruments are arranged as follows from top to bottom:

- Kaval 1-2
- Kaval 3-4
- Ney 1-2
- Ney 3-4
- Mey 1
- Mey 2-3
- Tanbur 1-2-3
- Tar 1-2
- Tar 3-4
- Bağlama 1 (5)
- Bağlama 2 (5)
- Bağlama 3 (5)
- Kanun 1-2
- Kanun 3-4
- Kanun 5-6
- Ud 1-2
- Ud 3-4

The score features a complex rhythmic structure with various articulations and dynamics markings, including accents and slurs. The wind section plays the melody in unison and octave doubling, while the plucked string section provides a rich harmonic and rhythmic foundation.

Scoring for Plucked and Bowed String Instruments Combinations

In this excerpt, as shown in Figure 8, for the first time, we see that most of the plucked instruments play the melodic line, except for *kanun* 5-6 and *ud* 3-4. With tremolos, the sound becomes strong and effective. *Kanun* 5-6 plays an arpeggio, supporting the harmonic background and contributing to rhythmic dynamism. The bowed strings and *ud* 3-4 provide accompaniment to the melodic line with block chords, which create the harmonic background.

Figure 8

Ninni by Oğuzhan Balcı, unpublished score m.109-113

The musical score for Figure 8 is presented in two systems. The first system consists of six staves for Kemane and 3 Telli Kemence instruments. The second system consists of ten staves for Tanbur, Tar, Bağlama, Kanun, and Ud instruments. The score is written in a key signature of one flat and a 2/4 time signature. Dynamics are marked with 'f' (forte). The Kanun 5-6 part features a prominent arpeggiated pattern, while the Ud 3-4 part plays a melodic line with tremolos. The bowed strings (Tanbur, Tar, Bağlama) provide a harmonic accompaniment with block chords.

4. CONCLUSION

The research highlights how Balcı integrates traditional Turkish musical instruments within a Western-style polyphonic orchestral structure. The analysis explores scoring techniques for various instrument families, including winds, bowed strings, and plucked strings, as well as their combined uses, respectively as bowed strings with winds, plucked strings with winds, and bowed strings with plucked strings. Additionally, the study examines how each group is treated within a polyphonic context.

The analysis of Oğuzhan Balcı's *Ninni* demonstrates the possibilities and challenges of orchestrating traditional Turkish instruments in a polyphonic setting. The study reveals that careful consideration of instrument timbres, technical capabilities, and adaptation of conventional Western style orchestration techniques is essential for achieving a cohesive orchestral texture. The findings suggest that instrument groupings, register selection, and articulation techniques play a significant role in balancing the orchestration. The results contribute to a deeper understanding of orchestration approaches in this context, offering valuable insights for future compositions and arrangements.

One of the key issues identified in this research is achieving harmonic balance and intonational accuracy among instruments that were traditionally not designed to play in the Western-style polyphonic orchestra. Balcı's orchestration choices demonstrate a deep understanding of the technical and expressive capacities of each instrument. By strategically distributing melody, harmony and rhythmic lines within different instrument sections, he ensures that each voice contributes meaningfully to the overall texture while maintaining clarity. The scoring techniques analysed in *Ninni* demonstrate how composers working with similar ensembles can effectively address these challenges.

One key aspect of Balcı's orchestration is the use of register placement and doubling techniques to achieve a well-blended orchestral sound. Additionally, timbral differentiation is emphasized in various textural contexts, such as homophonic or polyphonic passages, keeping the timbral characters perceivable within the whole.

Wind instruments such as *ney*, *kaval*, and *mey* are frequently combined to create a homogeneous timbral layer, minimizing potential intonation issues. Similarly, in the string section, instruments like the three- and four-string *kemençe* and *kemane* are written in ways that balance their unique timbral characteristics while maintaining a cohesive ensemble sound.

The plucked string section including *bağlama*, *tar*, *kanun*, *ud*, and *tanbur* is utilized mostly to provide harmonic foundation and rhythmic drive, but also occasionally to play the melodic line, demonstrating its versatility within different textures.

Another significant aspect of Balcı's orchestration is his approach to textural layering. By carefully distributing melodic, harmonic, and accompanimental roles, the composer creates a dynamic orchestration that preserves the distinct character of Turkish instruments while aligning with Western orchestral principles. For instance, passages featuring winds and bowed string in combination demonstrate an intentional blending of timbres, enriching the overall sonic landscape. Likewise, the interplay between plucked and bowed strings adds depth and rhythmic vitality to the composition. By analyzing *Ninni*, this study provides practical insights for composers and arrangers seeking to work with instrument combinations involving Turkish instruments to be used inside a Western-style orchestral framework. The findings underscore the necessity of adapting standard orchestration approaches while still accommodating the nuances of traditional instruments, ensuring both technical feasibility and artistic expressivity.

In conclusion, the way Oğuzhan Balcı orchestrated his piece *Ninni* exemplifies how traditional Turkish instruments can be effectively incorporated into a polyphonic orchestral setting. Balcı's work serves as a valuable case study for future compositions. This research not only enriches the field of orchestration studies but also provides a foundation for further exploration into the evolving role of traditional instruments in contemporary ensemble music.

Ethical approval

In this study, no data collection process requiring Ethics Committee approval was carried out.

Author contribution

Study conception and design: GAS, EA; data collection: GAS, EA; analysis and interpretation of results: GAS, EA; draft manuscript preparation: GAS, EA. All authors reviewed the results and approved the final version of the article.

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Conflict of interest

The authors declare that there is no conflict of interest.

Etik kurul onayı

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Yazarlık katkısı

Çalışmanın tasarımı ve konsepti: GAS, EA; verilerin toplanması: GAS, EA; sonuçların analizi ve yorumlanması: GAS, EA; çalışmanın yazımı: GAS, EA. Tüm yazarlar sonuçları gözden geçirmiş ve makalenin son halini onaylamıştır.

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GENİŞLETİLMİŞ ÖZET

1. Giriş

Bu çalışma, geleneksel Türk makam ve halk müziği çalgılarının çok sesli orkestra düzeni içinde nasıl kullanıldığını incelemektedir. Örnek olarak, 2019 yılında kurulan ve tamamen geleneksel Türk müziği çalgılarından oluşan İTÜ TMDK Geleneksel Çalgılar Orkestrası ele alınmıştır. Batı orkestrasyon tekniklerinden faydalanarak özgün bir ses dokusu oluşturmayı amaçlayan bu topluluk için, besteci ve orkestra şefi Oğuzhan Balcı tarafından 2020 yılında Ninni adlı eser bestelenmiştir. Çalışma, Balcı'nın bu eserinde uyguladığı orkestrasyon tekniklerini analiz ederek, geleneksel çalgıların çok sesli orkestra düzeni içinde nasıl kullanıldığını inceler.

Balcı, Ninni adlı eserinde geleneksel çalgıların karakteristik özelliklerini öne çıkaran orkestralama tekniklerini kullanmıştır. Bu bağlamda, Türkiye'de çok sesli müziğin gelişimi incelendiğinde, 19. yüzyılda Mızıka-i Hümayun'un kurulmasıyla başlayan süreçte, geleneksel çalgıların çok sesli yapıya uyarlanmasına yönelik çalışmalar dikkat çekmektedir. 19. yüzyılın sonu ve 20. yüzyıl başlarında Hüseyin Sadettin Arel, Ali Rifat Çağatay ve Ferit Alnar gibi besteciler öncülük etmiş, daha sonraki yıllarda ve günümüzde de birçok besteci geleneksel çalgıları hem oda müziği toplulukları içinde hem de daha büyük ölçekli topluluklarda kullanmaya devam etmektedir.

2. Yöntem

Çalışma, içerik analizi yöntemi ile gerçekleştirilmiş olup, Balcı'nın eserinde uyguladığı orkestrasyon teknikleri detaylı olarak incelenmiştir. Bu çalışmada armonik analiz, makamsal analiz, form analizi gibi konular incelenmemiş, sadece orkestrasyon analizine odaklanılmıştır. Araştırmada, nefesli, yaylı ve mızraplı çalgılar gibi farklı enstrüman gruplarının böyle bir müziksel bağlamda nasıl kullanıldığı, doku katmanlarının nasıl oluşturulduğu ve armonik dengelerin nasıl sağlandığı analiz edilmiştir. Ayrıca, geleneksel Türk müziği çalgılarının orkestrasyon açısından göz önüne alınması gerekebilecek entonasyon, ses dengesi ve tınsal entegrasyon gibi zorlukları ele alınmıştır. Çalışma, geleneksel Türk makam ve halk müziği çalgılarının çoksesli müzikte kullanımına hizmet edebilecek orkestrasyon yöntemleri ortaya koymayı amaçlamaktadır.

3. Bulgular ve Sonuç

Araştırmanın bulguları, geleneksel Türk makam ve halk müziği çalgılarının çok sesli bir orkestra düzeninde kullanılabilmesi için özel olarak bu amaca yönelik orkestrasyon tekniklerinin geliştirilmesi gerektiğini ortaya koymaktadır. Balcı'nın eserinde, farklı çalgı gruplarının bir arada dengeli bir şekilde kullanılabilmesi için belirli enstrüman kombinasyonlarına özel önem verildiği görülmektedir. Çalışmanın sonuçları, bestecilerin ve buna benzer topluluklar için düzenleme yapacak kişilerin geleneksel Türk müziği çalgılarını kullanırken dikkat etmeleri gereken temel unsurları ortaya koymakta ve bu tür orkestrasyon çalışmalarını için rehber niteliğinde öneriler sunmaktadır.