

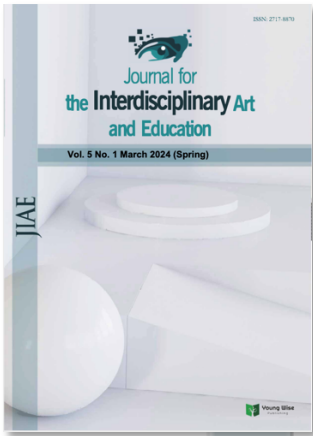


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Interdisciplinary ART & EDUCATION





Research Article

Improvements made to the Kamancheh, bowed musical instrument

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Abstract

Musical instruments that are used in the field of national music of Azerbaijan have been handed down from centuries to centuries and have reached our time. Azerbaijani people have been keeping their musical instruments alive, preserving them and not forgetting them since ancient times. The tar, kamancheh, saz and other national musical instruments need improvement and restoration in our modern times. The main point of the scientific article “Improvement made to the kamancheh, bow musical instrument” is based on this issue. The research article includes the classification of Azerbaijani folk musical instruments, coefficient measurements, problems and their elimination, which we have studied for years. The article shows the coefficient modification and improvement of the kamancheh national musical instruments in a new format. The kamancheh musical instrument is classified based on tables and schemes in the article. As we mentioned above in the article, the consistently appropriation of some of our national musical instruments (balaban, qanun) by someone, and the presentation of these instruments by them on a world scale from time to time are still ongoing. So, our purpose is the preservation of our national musical instruments, showing of their uniqueness as a result of their restoration and improvement, and the determination of their place, importance and role in the development of our national musical culture. So, we are trying to achieve our purpose by relying on important evidence and proofs in our presented scientific article. The improvement work carried out on some of instruments is related to the improvement of their tuning system and sound system. Today, one of the problems is the instruments becoming out of tune quickly. These problems are touched upon in the article and the elimination of the problems is pointed out chronologically. The improvement works carried out on the kamancheh are divided into several areas. So, figures, schemes and tables of the individual kamanchehs are presented here. Figures, schemes and table of the improved Bam kamancheh (the bass kamancheh) are explained. Figures, schemes and tables of the Double Bass Kamancheh, the Double Contrabass Kamancheh and other types, which are calculated with coefficients, are presented to the readers.

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Introduction

Azerbaijan the important places in the improving, restoring work of national musical instruments and creating new instruments, their promotion and use, preservation of cultural heritage and its transmission to future generations. “Azerbaijan – 2020. A Vision of the Future” development concept, which was approved by Mr. Ilham Aliyev, the President of Republic of Azerbaijan, on December 29, 2012, presents a conceptual approach to the preservation and

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effective management of cultural heritage. As a result, several of our national musical instruments have been included in the Representative List of the UNESCO in recent years (web1).

National musical instruments of Azerbaijan are closely associated with the historical development of the nation and its culture. These instruments carry great spiritual energy. A new stage in the improvement of our national musical instruments began in the most diverse periods of our history, in the periods when national self-awareness processes were reflected on the cultural level, especially in the 20th century. (web2) Restoration of musical instruments on a scientific-theoretical and scientific-practical basis has become relevant since the 90s of the last century. Ancient musical instruments have been studied and restored based on several sources, archaeological and fine art works. (Badalbeyli, p. 46). For more than 30 years, the scientific laboratory “Restoration and Improvement of Ancient Musical Instruments”, which started operating under the leadership of Majnun Karimov (1945–2013) at the Baku Academy of Music named after U. Hajibeyli during 1991-1992, has been doing great work in the direction of returning ancient musical instruments to modern performing arts. The “Improvement of National Musical Instruments” scientific-research laboratory of the Azerbaijan National Conservatory has been operating for twenty years (Abdullazade, 2017:12)

It would not be wrong to say that Azerbaijani national musical instruments, tar (Azerbaijan stringed folk musical instrument), kamancheh (oriental bow instrument), qaval (daf), are the leading attributes of Azerbaijani mugham. (web3) The Ancient musical instruments of Azerbaijan and Eastern countries are relearned, improved and restored at the abovementioned Laboratory. We would like to inform you about the improvement and classification of the kamancheh, one of these ancient musical instruments.

Problem of study

The kamancheh is one of the oldest stringed bow musical instruments of Azerbaijan. It is believed that bowed instruments spread in the territory of Azerbaijan since the 7th-8th centuries. The name of this instrument is mentioned in Nizami’s poem “Khosrov and Shirin” and depicted in Tabriz miniature paintings (Aghamirak Isfahani, Mir Sayyid Ali). (Mugham encyclopedia, p.98) is mainly made of walnut wood. It consists of a bowl-shaped resonance box (sound box), a long upper neck, a kelleh (pegbox) where the “ashikhs” (pegs) are placed, and a steel finial called a “shish” (endpin). The resonance box is covered with membrane made from fish skin or lamb skin, and there are no musical notes on the kamancheh’s neck. A bow is made of horsehair covered bow-shaped wooden stick attached to its ends. The kamanchehs had three strings, but modern instrument have four strings. The instrument is used solo, as well as in ensemble and orchestra (Abdullayeva, 2002).

The kamancheh occupies one of the leading places among our national musical instruments. This instrument went through a long evolutionary path, underwent certain changes, improved, had wide performance possibilities and has reached our time.

The genius composer Uzeyir Hajibeyli created an orchestra of folk instruments in 1931, and the orchestra included the tar, balaban, daf and naghara (drum), as well as the kamancheh musical instrument. (Hacıbeyli, 2005: 215).

New reforms have been made to this instrument since from the first days of the establishment of the Azerbaijan National Conservatory. (İsmayılov, 1984:55-58).

It is appropriate to create the kamancheh’s family to increase the sound range of the Azerbaijani folk instruments orchestra to 7 octaves. Because this issue has already been solved in many countries. After many studies and investigations, the work was done in the following order to create the kamancheh’s family: (web3)

Method

First, its ratio between each other was determined to obtain a proportional increase or decrease of the kamancheh. For this, we have used measurement systems that have been passed down from our ancestors for centuries. In this work, we have determined the dimensions of hundreds of the kamancheh instruments and reduced to a common denominator. As a result of the research, it was found that the diameter of 85% of these kamanchehs is equal to 215 mm; 89% of the kamanchehs’ membrane diameter to 120 mm; the neck length of 79% of the kamanchehs was equal to 294 mm. (Karimov, 2003:129).

The scale (the distance from the kherek (bridge) to the kherek) is equal to 314 mm in the majority of kamanchehs. (See Figure 1). The endpin on the knee can vary from 100mm to 50mm. This length is adjusted depending on the performer’s height.

1	$\frac{314 \text{ scale}}{34 \text{ (diameter coefficient of the neck in the resonance box)}}$	= 9.235
2	$\frac{314 \text{ scale}}{32 \text{ (diameter coefficient of the neck in the kelleh (pegbox))}}$	=9,81
3	$\frac{314 \text{ scale}}{125 \text{ (the length of pegbox)}}$	=2,512
4	$\frac{314 \text{ scale}}{125 \text{ (he length of the crown)}}$	=5,71
5	Length factor of the neck	= 1.068
6	Length factor of the pegbox	= 2.512

Figure 1. Determination of coefficients

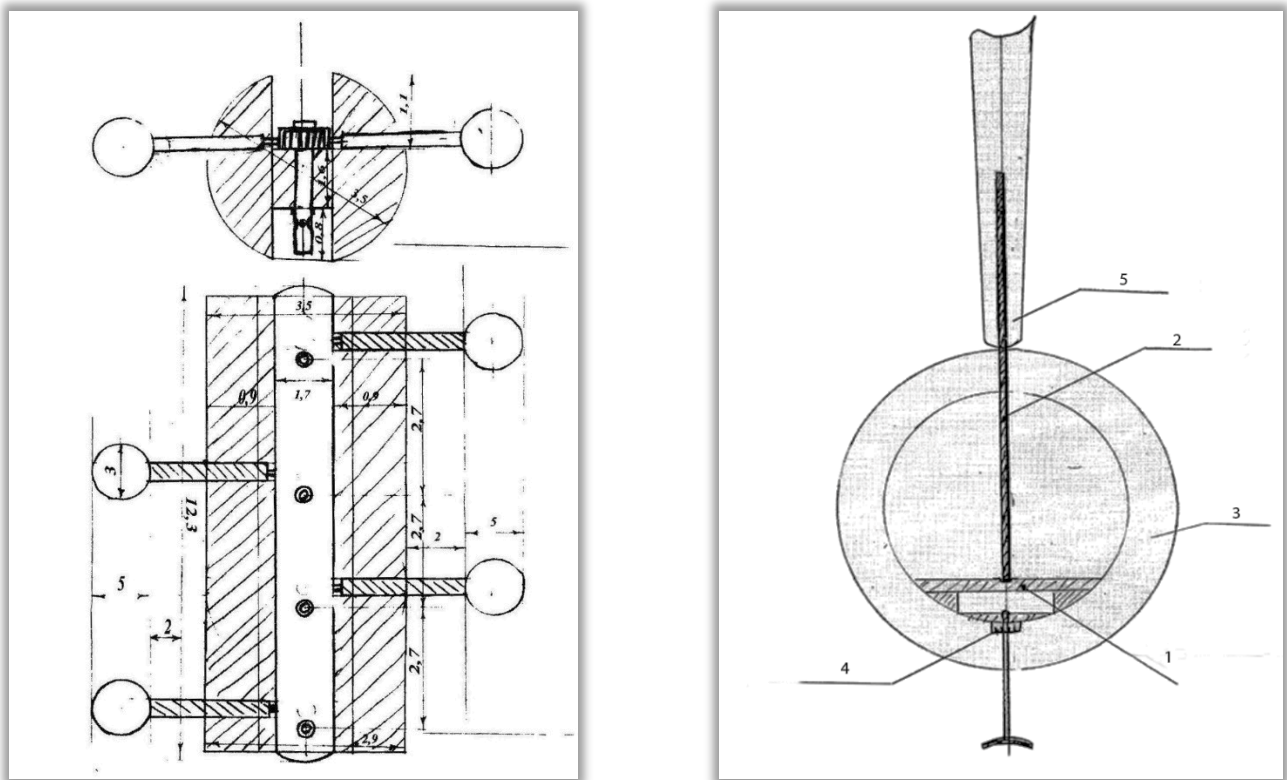


Figure 2 Improvements on the kamancheh

So, I have found the optimal dimensions for the orchestral kamancheh. I determined the coefficients of the parts based on the obtained measurements (Figure 3).

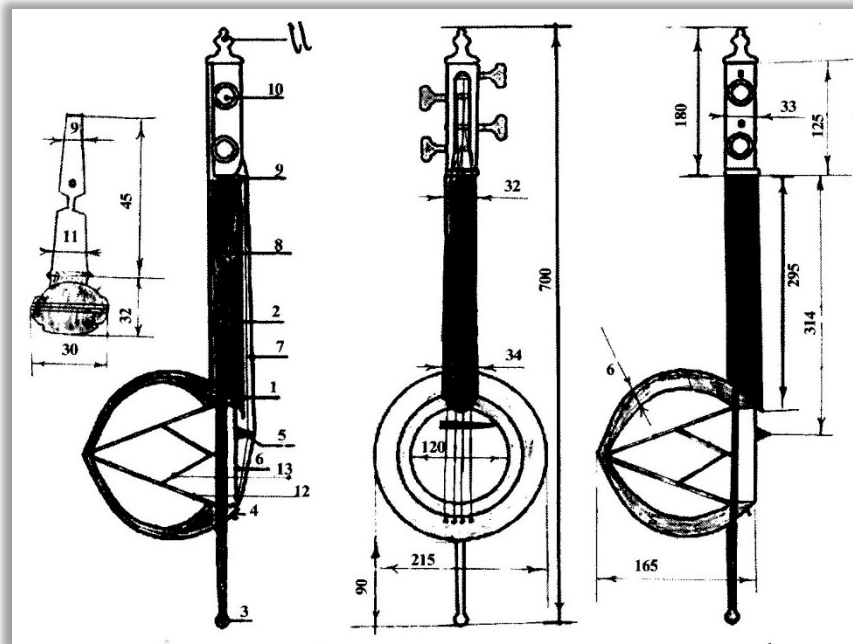


Figure 3. Determination of coefficients

As we know, solving the problems, such as two-sided pinching of the resonance box, becoming out of tune, etc. in the kamancheh musical instrument is one of today's most important issues.

For this reason, the following improvement works were made at the laboratory to eliminate the existing problems of the kamancheh: (Table1)

Table 1. Names of the kamancheh's parts

No	Names of parts
1	I resonance box (sound box)
2	Endpin (inside of the resonance box)
3	I Endpin
4	Tailpiece
5	Kherék (bridge) on the resonance box
6	Skin (membrane) covered the resonance box
7	4 strings
8	Neck
9	Kherék (bridge) on the neck
10	Ashikhs (Pegs)
11	Crown
12	Inner mezarab (plectrum)
13	Resonator
14	Endpin on the knee

- Mechanical adjustment of the strings in the pegbox of the kamancheh national musical instrument (Figure 2)
- Increasing the moisture resistance of the kamancheh's pegs
- Placing a resonator in the resonance box and freeing the resonance box from two-sided pinching. It is registered by the Copyright Agency (registration number 12/C-5432-11, registration date 10.03.2011, exclusive copyright owner is Mammadali Mirali oglu Mammadov).(Figure4)
- Prevention of two-sided pinching of the resonance box and improvement of sound effect. It has been registered and approved by the Copyright Agency (registration number 12/C-8970-17, date of registration 28.04.2017, the owner of the exclusive copyright owner is Mammadali Mirali oglu Mammadov).
- Studying the principle of straight kherék (bridge) and switching to this system.
- Expansion of the diameter of the neck in the direction from the pegbox to the resonance box
- Works against the instrument becoming out of tune.

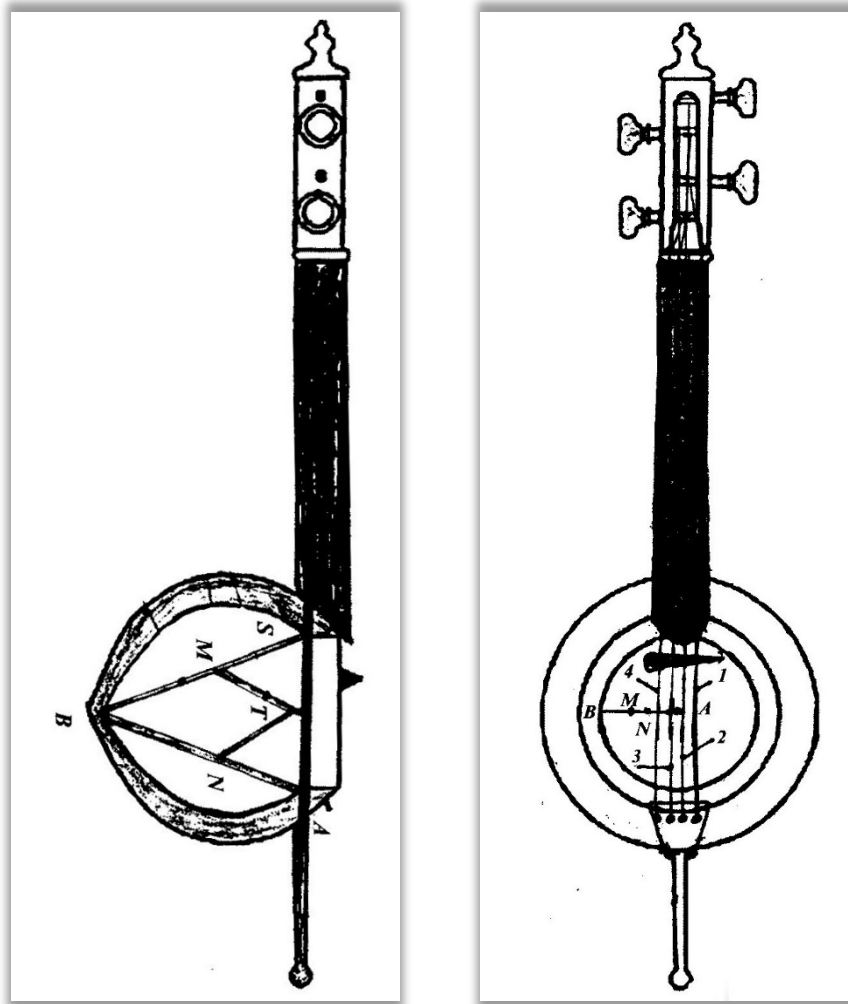


Figure 4. Improvement works on the kamancheh

As a result of the improvement works made to the kamancheh, the dimensions of the Apprentice kamancheh are determined as following:

No	Names of parts	Dimensions of the Apprentice kamancheh
1	I resonance box (sound box)	<i>The diameter of the resonance box – 195.2 mm</i>
2	Endpin (inside of the resonance box)	<i>The diameter of the membrane of the resonance box – 108.8 mm</i>
3	I Endpin	<i>Scale – 285 mm</i>
4	Tailpiece	<i>Neck length – 260 mm</i>
5	Kherek (bridge) on the resonance box	<i>Resonance box height – 150 mm</i>
6	Skin (membrane) covered the resonance box	<i>Total length – 620 mm</i>
7	4 strings	<i>The length of the pegbox with the crown – 120 mm</i>
8	Neck	<i>The diameter of the neck in the resonance box – 32 mm</i>
9	Kherek (bridge) on the neck	<i>The diameter of the neck in the pegbox – 30 mm</i>
10	Ashikhs (Pegs)	<i>The wall thickness of the resonance box – 5-6 mm</i>
11	Crown	<i>The diameter of the pegbox – 30 mm</i>
12	Inner mezrab (plectrum)	<i>The diameter of the pegs – 28 mm</i>
13	Resonator	<i>The pegs' cone – 9-8 mm</i>
14	Endpin on the knee	<i>The length of the endpin – 65 mm</i>

The tunes of the strings in octaves of the orchestral kamancheh are 1-2-3-4. It is registered by the Copyright Agency (registration number 12/C-8983-17, registration date 28.04.2017, exclusive copyright owner is Mammadali Mirali oglu Mammadov) (Picture 1, Figure5).



Picture 1. The improved bam kamancheh

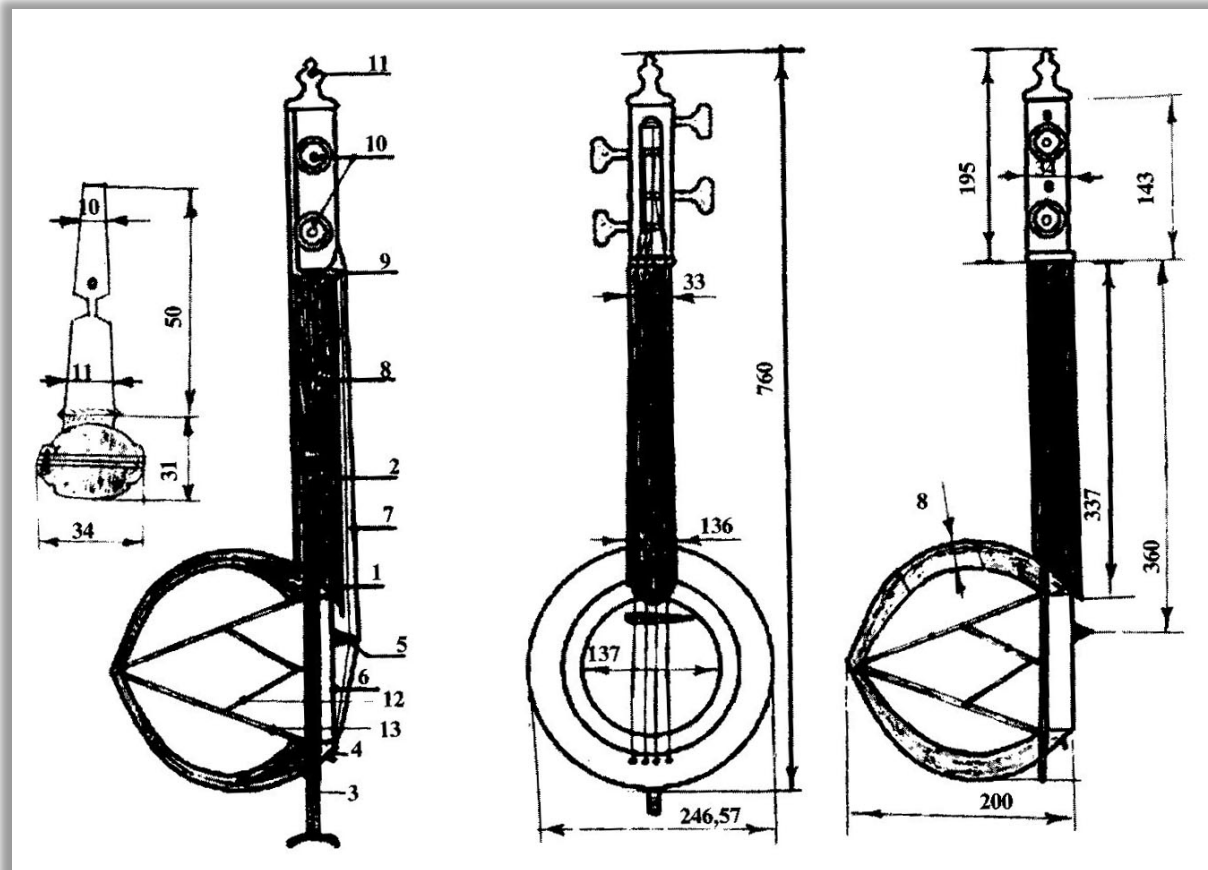


Figure 5 The improved bam kamancheh

Table 2. Dimension table of the improved bam kamancheh

No.	Names of the instrument parts	Dimension of the instrument parts
1	The diameter of the resonance box	246,57 mm
2	The diameter of the resonance box's membrane	137 mm
3	Scale	360 mm
4	Neck length	337 mm
5	Height of the resonance box	200 mm
6	Total length	760 mm
7	Length of the pegbox with the crown	195 mm
8	The diameter of the neck in the resonance box	38 mm
9	The diameter of the neck in the pegbox	33 mm
10	Wall thickness of the resonance box	8 mm
11	Diameter of the pegbox	34 mm
12	Diameter of the pegs	34 mm
13	Pegs' cone	11-10 mm
14	Length of the endpin	30 mm

The Improved Bam (Bass) Kamancheh has been registered and approved by the Copyright Agency (registration number 12/C-8985-17, registration date 04.28.2017, exclusive copyright owner is Mammadali Mirali oglu Mammadov).

The dimensions of the orchestral kamancheh are as following:

No.	Names of the instrument parts	Dimension of orchestral kamancheh
1	The diameter of the resonance box	215 mm
2	The diameter of the resonance box's membrane	120 mm
3	Scale	314 mm
4	Neck length	294 mm
5	Height of the resonance box	165 mm
6	Total length	700 mm
7	Length of the pegbox with the crown	180 mm
8	The diameter of the neck in the resonance box	34 mm
9	The diameter of the neck in the pegbox	32 mm
10	Wall thickness of the resonance box	6 mm
11	Diameter of the pegbox	33 mm
12	Diameter of the pegs	30 mm
13	Pegs' cone	10-9 mm
14	Length of the endpin	90 mm

The tunes of the strings in octaves of the bass kamancheh are 9-10-11-12.

So, we see the mutually participation of the kamancheh's family in all registers. The pitch of the 1st string can rise from the 2nd octave "F" sharp to the 4th octave "F" sharp.



Picture 2. The Double Bass Kamancheh

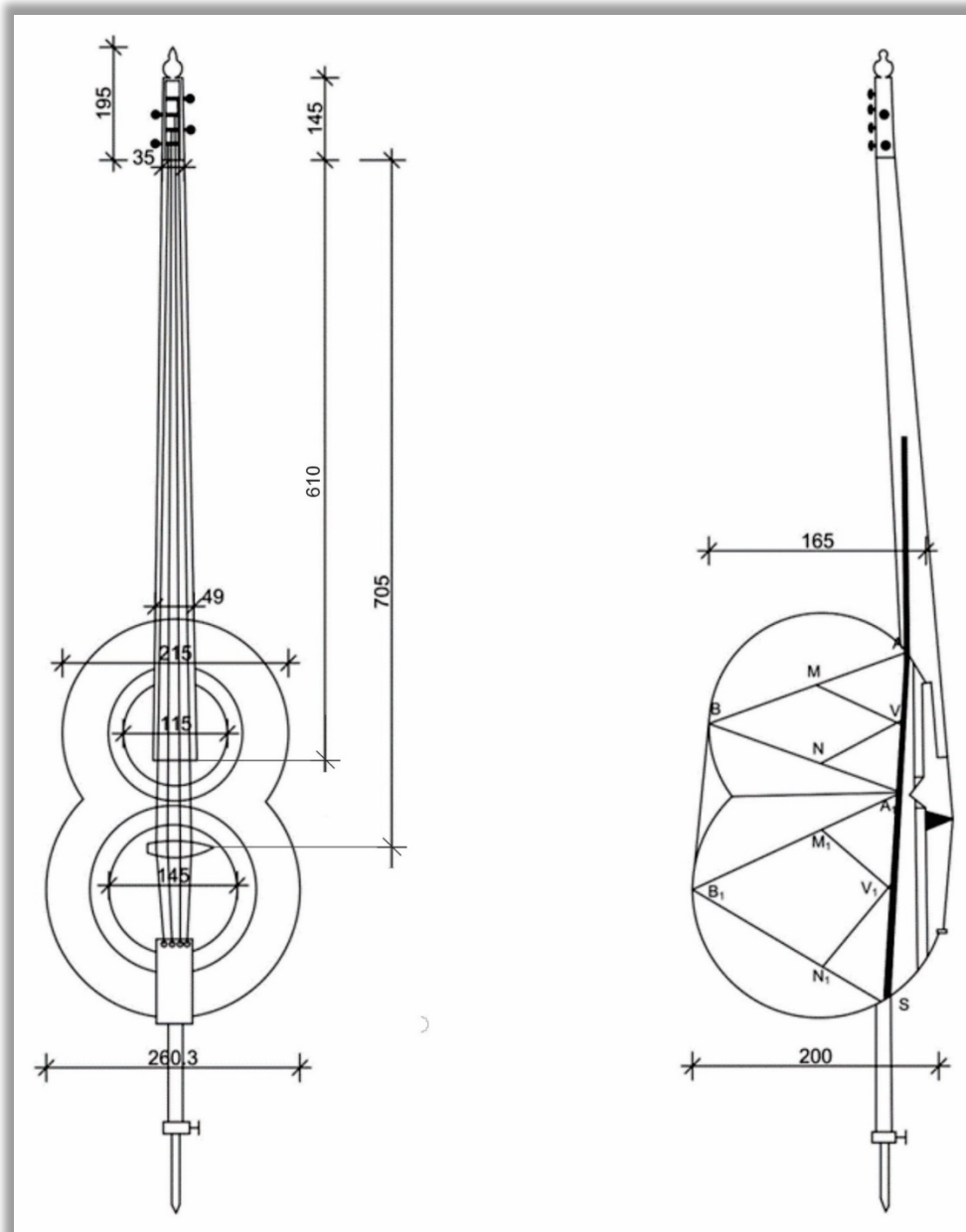


Figure 6. The Double Bass Kamancheh

The dimensions of the double bass kamancheh are as following: (Picture 2, Figure 6)

No.	Names of the instrument parts	Dimension of double bass kamancheh
1	The diameter of the resonance box	215 mm, 2nd resonance box – 260.3 mm
2	The diameter of the resonance box’s membrane	215 mm, 2nd resonance box – 260.3
3	Scale	165 mm, 2nd the resonance box – 200 mm
4	Neck length	610 mm
5	Height of the resonance box	705 mm
6	Total length	1080 mm
7	Length of the pegbox with the crown	195 mm
8	The diameter of the neck in the resonance box	49 mm
9	The diameter of the neck in the pegbox	35 mm
10	Wall thickness of the resonance box	7-8 mm
11	Diameter of the pegbox	40 mm
12	Diameter of the pegs	34 mm
13	Pegs’ cone	14-13 mm
14	Length of the endpin	480 mm

Tunes of the strings in the octaves of the contrabass kamancheh are 13-14-15-16.

The dimensions of the contrabass kamancheh are determined as following (Picture 3, Figure7)



Picture 3. The double contrabass kamancheh

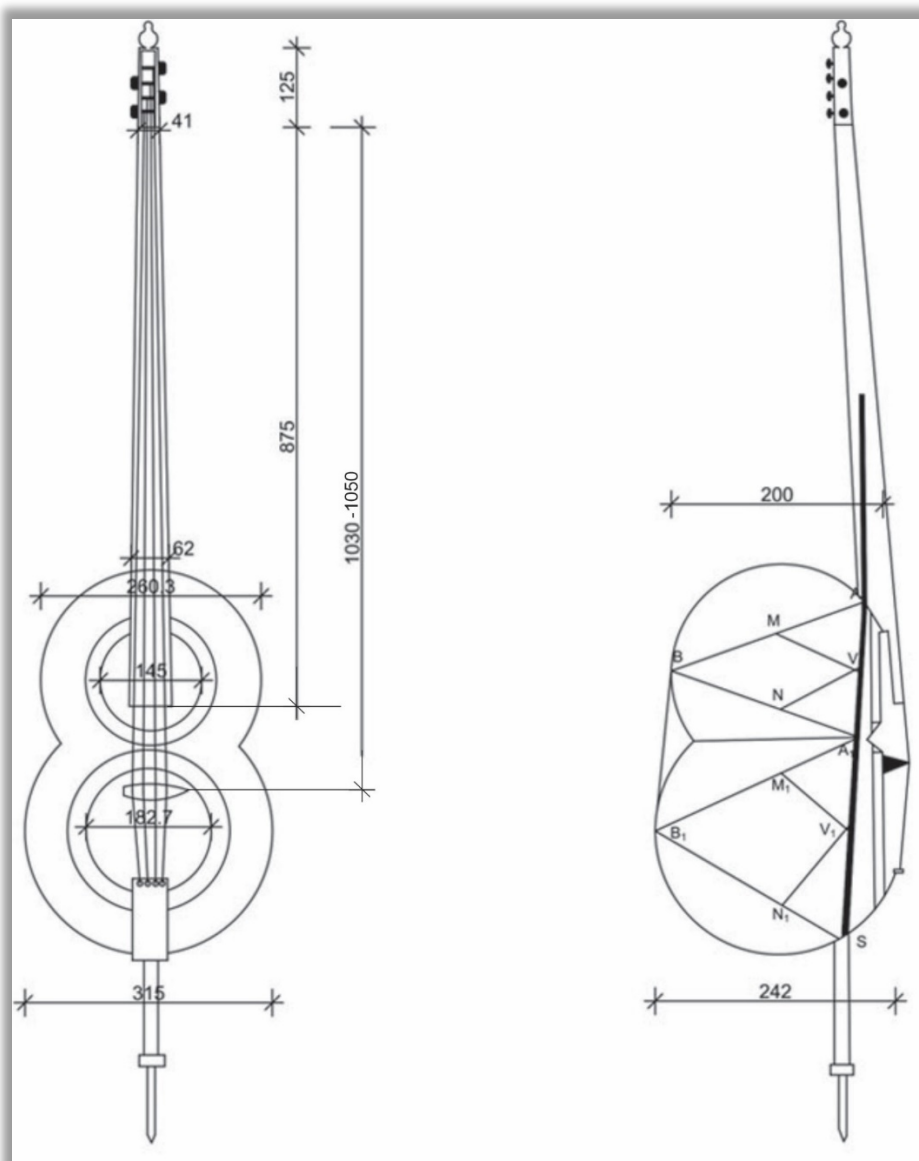


Figure 7. The double contrabass kamancheh

No.	Names of the instrument parts	Dimension of double contrabass kamancheh
1	The diameter of the resonance box	260 mm, 2nd resonance box – 315 mm
2	The diameter of the resonance box’s membrane	145 mm, 2nd resonance box – 182.7
3	Scale	200 mm, 2nd the resonance box – 242 mm
4	Neck length	1030-1050 mm
5	Height of the resonance box	875 mm
6	Total length	1400 mm
7	Length of the pegbox with the crown	180 mm
8	The diameter of the neck in the resonance box	62 mm
9	The diameter of the neck in the pegbox	41 mm
10	Wall thickness of the resonance box	8-9 mm
11	Diameter of the pegbox	50 mm
12	Diameter of the pegs	Mechanical adjustment
13	Pegs’ cone	480 mm
14	Length of the endpin	

Conclusion

The improvement work made to some instruments is related to the improvement of their tuning system and sound system. One of today’s problems is the instruments becoming out of tune quickly:

- In order to overcome this problem in the kamancheh, the moisture resistance of pegs has been increased.
- The same work was carried out on tar's pegs, i.e. the moisture resistance of pegs was increased.
- As you know, it is difficult to tune up the tar's strings. The tension of these strings influences on them becoming out of tune. These strings are attached to a common tailpiece at the top of the big resonance box. To connect to the common tailpiece, the strings are passed over special bridge attached to the neck from the upper part of the tar's neck. That's why we have applied the method of continuously winding the strings for easy tuning of the strings (Patent protection of national musical instruments of Azerbaijan. p 33)
- Adjusting the pitch and tuning of the chang (harp) instrument caused several problems. In order to create conditions for easy tuning, the "law of the correlation of forces" of physics has been applied. The pegs of the improved chang are made of duralumin with a special construction. It is possible to tune the instrument chromatically and diatonically (Alasgarov and Abdullayeva, 1996:115)
- An improved version of the taj santoor, a percussion stringed instrument with a three-octave pitch, differs from the earlier santoor in its tuning. The tensional forces on the strings were not constant when tuning in the earlier santoor instruments. These forces are constant in taj santoor.
- Mechanical tuning of several instruments is also applied. This includes the Karabakh kamancheh and the electro-kamancheh (Ay kamancheh). That is, since the instruments are tuned mechanically, the problem of tuning does not occur and it is easily tuned.
- Innovations have been made to the tuning system of wind instruments. The tuning system of the balabans (a kind of wind instrument) prepared for the quartet has been changed, a "tuning ney" (a kind of musical wind instrument like flute) has been developed.
- The tuning system of the four cornered drum instrument, which is intended for playing in the military orchestra and is different from the drum belonging to the ancient Turkic peoples, is based on geometrical laws. As you can see, we have touched on the classification of other musical instruments (Badalbeyli, 2017:35-37)

But in the end, let's bring to your attention a short report of the work we have done on the kamancheh musical instrument:

- Constructive works were carried out to improve the sound effect in the kamancheh. Basically, two sided pinching of the resonance box was prevented. Inner mezzbars (plectrum) are placed on the endpin, which pass through the center of the resonance box of the instrument.
- The laws of physics have been applied to improve the sound effect of the kamancheh. That is, the oscillation frequencies that generated in the strings due to the effective sounding of the strings and the sound frequencies generated in the membrane are matched. (Huseynova and Karimov, 2015:56-59)
- The standards of the instrument were established by determining the coefficients and measurement system of the orchestral (professional) kamancheh. (Najafzadeh, 2004:128-130)
- According to the coefficients we obtained in the orchestra kamancheh, a kamancheh's family was created and the measurement system of each family member was determined. The Apprentice kamancheh, Orchestral kamancheh, Bam kamancheh, Double bass kamancheh, Double contrabass kamancheh.
- Many musical instruments of the kamancheh's family have been improved, Karabakh kamancheh, Zil (high-pitched) bam kamancheh, Two-cylinder kamanchh, etc. are among them. Each of these instruments has its own timbre.

It should be noted that defining the measurement systems of the Apprentice kamancheh has been registered and approved by the Copyright Agency (registration number 12/C-8997-17, registration date 28.04.2017, exclusive copyright owner is Mammadali Mirali oglu Mammadov) (web4)

Another improved type of the kamancheh musical instrument is the zil-bam kamancheh (high-pitched bass kamancheh). It is registered by the Copyright Agency (registration number 12/C-8997-17, registration date 28.04.2017, exclusive copyright owner is Mammadali Mirali oglu Mammadov) (Rahmanli, 2016:39-42).

The improvement and restoration of our national musical instruments belonging to our people in accordance with the requirements of the modern era and with the application of new technology, accurate producing their measurement

system and coefficients, and the preparation of state standards are urgent issues that await their comprehensive scientific research in our modern era.

Acknowledgments

I would like to express my endless gratitude to the President of Azerbaijan and First Lady, Vice President Mrs. Mehriban Aliyeva, who support the development of Azerbaijani national music, mugham, and have a direct role in the preservation of folk music. Also, I would like to express my deep gratitude to the rector of the Azerbaijan National Conservatory, Professor Siyavush Karimi, and all my colleagues for their support. Great efforts of many skilful masters, scientists and musical instrument makers have been spent in the restoration and improvement of our scientific research and musical instruments of Azerbaijan. I can only be proud if this important and necessary restoration work has even a little significance in Azerbaijani musical culture (Karimi, 2017:32-34).

The study and promotion of the nation's cultural heritage belonging to the new renaissance of our culture has become global. Improving, restoring our musical instruments, which are one of the main elements of our national cultural values, and creating new musical instruments are one of the important components of our musical culture.

Biodata of the Authors



Mamedov Mamedali Mirali, music researcher, music instrument restorator. He has been working as the head of the research laboratory “Improving National Musical Instruments” at the Azerbaijan National Conservatory since 2010. Over the years, 64 scientific works of Mamedali Mamedov were registered with the Agency for Copyright and Intellectual Property Rights, and dozens of scientific articles and conference materials were published. The ensemble “From the Time of Ages,” consisting of ancient musical instruments, was created by Mamedali. Mamedali Mamedov made 4 corner drums, a square drum and a “chovgan” (conductor's baton) for the National Military Band. Along with this, the scientist developed and registered with the Copyright Agency new musical instruments that sound in different registers in the database of our musical instruments. In 2018, the book “Improving Azerbaijani Folk Musical Instruments” was published.

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Research Article

Comparison of analog processors and digital signal processors

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Abstract

Mastering, on the other hand, is the process of refining a recording made after the mixing stage using various techniques before the album is pressed and distributed. The mastering process includes adjusting the dynamics of signal frequencies, regulating tonal balances with equalizers, and determining and downsizing audio file formats. Mastering creates coherence among the tracks within an album and provides listeners with a higher-quality listening experience. The entire process of recording and mixing, encompassing mastering, involves converting signals from analog equipment and software into digital values using an Analog-to-Digital (A/D) converter within a Digital Audio Workstation (DAW). These software programs have become essential in music productions. Due to the decreasing cost of technology and the opportunities it provides, music production software has shifted towards home users. People can now, without the need for high-budget studios, complete many recording, mixing, and mastering processes entirely with computer-based systems at lower costs in their own homes. The term "in the box" refers to all these production stages taking place within a computer. With the advancement of technology, individuals have been able to produce albums in home studios, and digital processors, which are cheaper and more practical than analog equipment due to the digitization of analog devices, have started to be preferred over analog equipment. This study explores the extent of changes in technical and technological approaches towards the use of digital signal processors (DSP), which emerged in the 1960s, in place of analog processors. The research aims to identify and examine the differences between digital-based signal processors and analog devices in terms of their usage, implementation, and processing in music technologies. This research investigates how digital-based signal processors differ from analog processors in terms of processing method, processing flexibility, processing speed, processing quality, and sensitivity on the audio signal. Based on these findings, it is concluded that digital-based signal processors, which are replacing analog processors in the music industry, do not possess the same qualities as analog devices.

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Introduction

The history of sound recording technology dates back to the early 1800s and began to develop in the mid-19th century as a result of technological advancements. In 1807, American Thomas Young created a device capable of transmitting acoustic vibrations onto a cylinder, and in 1857, Leon Scott de Martinville invented a device called the phonograph, which had the ability to record sounds. Using an old method, he darkened paper with the heat of a gas lamp to record the sound waves, successfully capturing a French folk song on April 9, 1860 (Cumhuriyet Bilim Teknik, 1994). The

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phonograph, invented by Thomas Edison in 1877, was referred to as a "talking machine" and allowed for the recording and playback of sound. Edison's phonograph marked the first visual representation of sound in recorded history (CNNTÜRK, 2008). Following this invention, Alexander Graham Bell in 1886 and Emile Berliner in 1888 obtained patents for the phonograph (Mc Queary, 1990). The first experiments with magnetic tape recording were conducted in 1888 by Oberlein Smith, and the first magnetic tape recording in 1889 by Danish physicist Valdemar Poulsen using the "telegraphone" (Mumma, Rye, and Kernfeld, 2010). The microphones of telephones used for communication by people contained carbon materials, resulting in uneven frequencies of sounds and signals. In music productions, radios, and recordings, the microphones of telephones caused excessive background noise and were not used in radio broadcasts and music recording studios. The Western Electric Engineering Department developed a dual-button carbon microphone, reducing the background noise in microphones. As a result, these microphones began to be used in radio broadcasting and music productions (Burgess, 2014). Mechanical recordings made during that period experienced acoustic power loss, leading to a decrease in the frequency response of sound and an increase in the level of background noise on the recording. This adversely affected the quality of sound. In the early 20th century, engineers at Bell Laboratories and contemporary scientists began working on electronic sound recording to improve the quality of sound recordings. With the contributions of the Western Electric Engineering Department, an electromechanical recording device was designed, replacing the recording needle with a condenser microphone. In 1925, the first company to obtain a license for electronic recording was the Victor Talking Machine Company (Schmidt-Horning, 2013). BASF and TDK companies produced the first magnetic oxide-coated tapes in 1930. In 1935, AEG introduced the first magnetic tape recording device called "Magnetophone." With rapidly advancing technology, the quality of recorded sounds improved, making sound recordings more practical. The development of vinyl technology led to the emergence and popularity of 45 and 33 1/3 RPM records in the early 1960s. This significantly contributed to the commercial progress of the music industry. In 1955, Les Paul collaborated with Ampex to create an 8-channel recording device. Ampex manufactured the device in 1956, and Les Paul laid the foundation for the channel recording techniques used in today's recording world. Therefore, 1956 is recognized as the year when the first channel recording device was created (Önen, 2010).

Compressor

A compressor is a device that enables automatic control of sound levels (Bartlett, 2005). It applies compression to signals that exceed a predetermined signal threshold, reducing level differences in signals and balancing the output level (Durmaz, 2009). Compressors equipped with a light source are referred to as optical (opto) compressors. As the sound level increases, the brightness of the light source inside the compressor also increases. Conversely, as the signal's sound level decreases, the brightness of the light diminishes (Coşaner, 2008). The initial use of compressors began in the 1930s with the Western Electric 110A series in the United States and became widespread worldwide (Pasinlioğlu, 2016). On the other hand, a limiter reduces the signal as a limiting device and prevents it from exceeding the peak level (Edstrom, 2011). Additionally, a limiter prevents unnecessary signals from distorting sounds during recording (Öcek, 2010). An expander raises the lower levels of the signal, expanding the dynamic range and making lower sounds more pronounced. In short, it aims to emphasize the portions of the signal that fall below a certain level, thereby increasing the dynamic range (Izhaki, 2008).

In today's audio systems, sampling frequencies of 44,100 Hz and above are used as the upper hearing limit for a healthy individual is 20,000 Hz (Rumsey 1994). The focal point of music production extends beyond merely performing or creating a musical piece; it encompasses the recording and processing of the recorded material (Lefford, 2000). Throughout this process, the audio recording industry has undergone a fundamental transformation due to advancing technology. Despite debates between analog and digital technologies, digital technology has become dominant, leading to a transformation in the music production process (Huber, 2010). A debate has emerged regarding the comparison between analog equipment and digital processors, which offer convenience and cost-effectiveness.

Problem of Study

It is important in terms of revealing the level of effectiveness of the techniques applied by using various tools in the production process. This study aims to reveal the extent of differences in technical and technological approaches

between analog processors used in the recording, mixing, and mastering processes and their digital counterparts. By focusing on the use of signal processors in digital music, this research aims to identify the similarities and differences of the software offered by today's computer technology compared to analog devices. The problem of study is;

- What are the differences between analog processors and software-based processors in the production process?

Method

Research Model

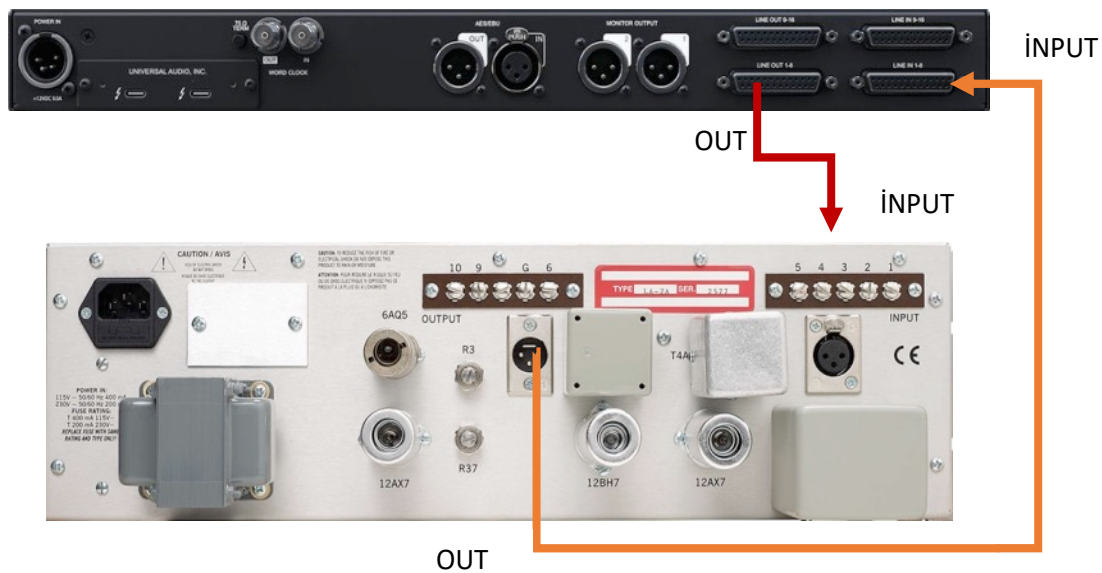
This research has been conducted using the qualitative research method of literature review, and the obtained results have been evaluated and presented in line with the problem of the study. In this study, which aims to highlight the differences between software used in computer technology and analog devices, a comparison based on the principle of matching data with auditory and visual materials has been made.

The qualitative research method involves the use of information collection methods such as observation, interviews, and document analysis. This method aims to present perceptions and events in a natural environment in a realistic and holistic manner (Yıldırım and Şimşek, 2005).

Data Collection Tool

In the research, the Cubase 12 digital audio workstation (DAW) by Steinberg has been utilized for processing audio sources and creating sound analyses. The entire visual and auditory applications essential to the core of the study, comparing analog signal processors with digital signal processors, have been executed within this software. For the visual and auditory applications of sound files, the Apollo x16 A/D and D/A conversion by Universal Audio has been employed.

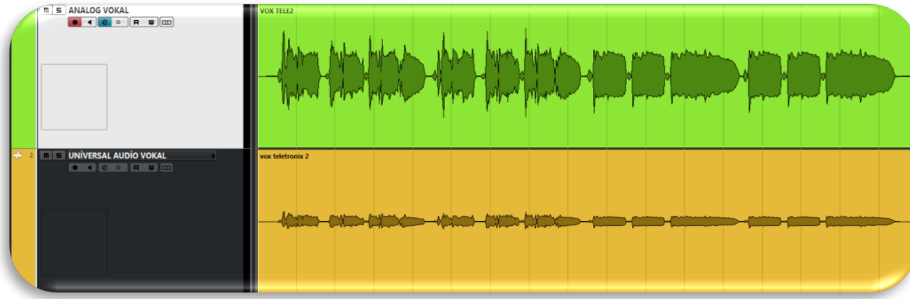
In the processing of audio sources, the digital files used within the DAW were output through a digital converter, and when re-entered into the input section of the designated analog devices, the sound balance was consistently re-recorded. The sound files were created in an iterative process within this loop of output-input-output-input sequence through analog devices.



Picture 1. The visualization of the signal within Cubase DAW

Tools and Materials

In the research, the processing of audio sources was conducted using the Teletronix LA-2A analog processor, specifically the Leveling Amplifier, and its one-to-one simulation, the UAD Teletronix LA-2A Classic signal processor. Prepared vocal and guitar tracks were selected and processed in mono (single-channel) format. The parameters of the audio sources were kept constant at 0 dB.



Picture 2. The visualization of the signal within Cubase DAW



Picture 3. Guitar and vocal mixing settings

Preparation of the Project File

In the research, two previously prepared different channel loops, vocal, and guitar, were selected and created in mono (single-channel) format. Vocal and guitar loops are among the most commonly used channels in the industry. These channels were selected because they can be measured with various analysis programs as they are recorded with microphones and analog devices. They were transferred into Steinberg's Cubase 12 digital audio workstation as two audio tracks. The first channel had the audio file that had previously passed through the analog equipment. The second channel had the version of the same audio that had previously passed through the software. The prepared loops for vocal and guitar are 28 seconds and 26 seconds long, respectively. Frequency analyses were performed on the recordings created from analog and the same analog recordings processed through software. The analyses were conducted using the Fabfilter Pro-Q3 equalizer spectrum analyzer, an industrial-grade tool, during a 30-day trial period. In this process, no filtering was applied to the equalizer; only the spectrum analysis images were used. The Pro-Q3 spectrum frequency analyzer was used for all audio recording files created from analog and the same analog sources.



Picture 4. Screenshot of the FabFilter Pro-Q3 plugin

In the research, the dB level of the two different channel loops, vocal and guitar, was set to 0 (zero). To measure the loudness and dynamic values, a free plugin called "mvMeter 2" from TB Pro Audio was used. The sample rate for both prepared channels, vocal and guitar, was set to 44,100 samples per second, and the recordings were saved in the "wav" mono audio file format with a 16-bit resolution. The audio was exported from the recording station to the outside. The exported audio files were then re-imported into the digital audio workstation (DAW), and the audio and frequency values were examined. The master output of the channels was fixed at 0 dB, and the loudness levels were calculated equally for both analog and software processes.



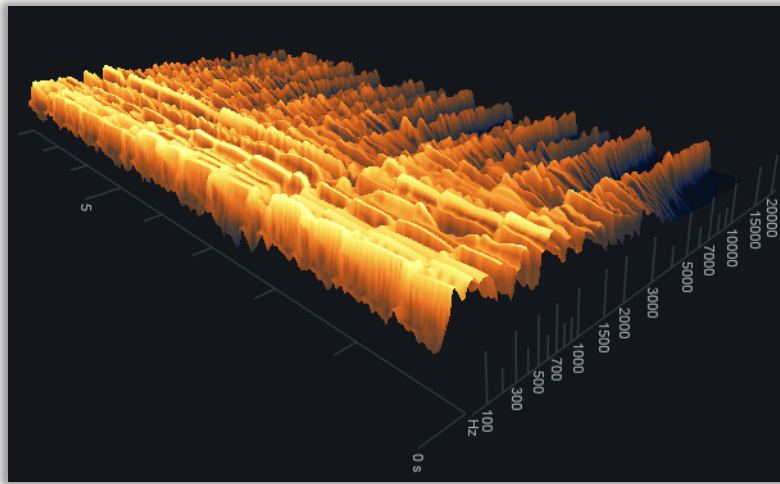
Picture 5. Screenshot of the TB Pro Audio mvMeter-2 plugin

In the research, Insight 2 Pro Metering from Izotope was used for multiple visualizations of stereo field activity and history. The stereo correlation measurements between the left and right channels were evaluated. Processed audio files from both analog and the corresponding software were analyzed using the vector scope measurements in the Insight 2 Pro Metering tool..



Picture 6. Screenshot of the Insight 2 Pro Metering vector scope plugin

Real-time 3D spectrogram graphics were created using Insight 2 Pro Spectrogram from iZotope, generating detailed topographic sound maps. In these sound maps, 3D visual graphics were used to measure the dynamic and static states of sounds, showing how the frequency content of signals changes over time. The progression of signals was observed in 3D visual graphs. Comparisons were made between the spectrogram graphics of analog and the corresponding analog equipment in all audio files. Through these analyses, differences between analog hardware equipment and their one-to-one software simulations were identified.



Picture 7. Screenshot of the Insight 2 Pro Spectrogram 3D plugin

The audio sources were recorded by taking the output through the digital converter within the Digital Audio Workstation (DAW), sending it out from the DAW, passing it through the designated analog devices, and then re-recording it by inputting it back into the DAW. In the processing of audio files, this loop was created within analog devices following the sequence of out-input-out-input. For the processing of audio sources and the creation of audio analyses in the research, Steinberg's Cubase 12 digital audio workstation was used. All visual and auditory applications of analog and digital signal processors, which form the essence of the study, were carried out within this software. For the visual and auditory applications of audio files, Apollo x16 A/D and D/A conversion from Universal Audio were utilized. All visual and auditory applications of audio files were also performed using this sound card.

Sampling

The universe of the research comprises all software programs, including music software, and the computers running these programs. The sample consists of Digital Audio Workstation (DAW) programs, which encompass digital audio processing stations.

Findings

Comparison of Teletronix LA-2A and Universal Audio DSP



Picture 8. Teletronix LA-2A parameters

For the guitar and vocal channels, the compressor parameters of the Universal Audio Leveling Amplifier, Teletronix LA-2A analog device, have been set as follows: Gain: 40, Peak Reduction: 70.



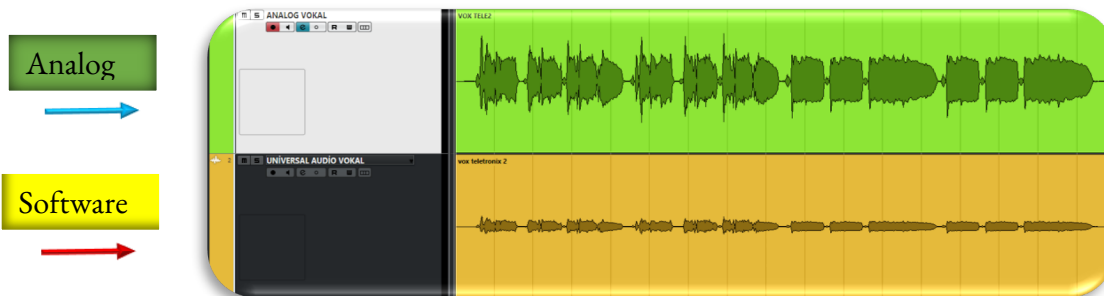
Picture 9. UAD Teletronix LA-2A parameters

The UAD Teletronix LA-2A Classic Leveling Amplifier, which is a direct simulation of the Universal Audio Teletronix LA-2A model, has been configured with the same settings for both the guitar and vocal channels, specifically Gain: 40 and Peak Reduction: 70.



Picture 10. The view of the guitar within Cubase DAW

Following the comparison of the data obtained from the signal processors, the signal forms of the guitar within the DAW are presented in Figure 8. The first channel displays the signal that passed through the analog processor. In the second channel, there is the signal representation of the one-to-one simulation from the UAD company. As evident from the visual representation of the guitar signal within the DAW, it can be observed that, compared to the first signal, the dB value has decreased in the second signal, indicating a weakening in the dynamic range of the signal.



Picture 11. The view of the vocal within Cubase DAW

With the same settings, the signal representation within the DAW after obtaining data from the vocal signal processors is shown in Figure 9. The first channel displays the signal that passed through the analog processor. In the second channel, there is the signal representation of the one-to-one simulation from the UAD company. As evident from the visual representation of the vocal signal within the DAW, it can be observed that, compared to the first signal, the dB value has decreased in the second signal, indicating a weakening in the dynamic range of the signal.



Picture 12. The maximum peak view of the guitar's mvMeter-2 plugin

After obtaining data from the Teletronix LA-2A analog device by Universal Audio and its UAD Teletronix LA-2A Classic simulation, the master output fader level of the guitar channel was measured by assessing the maximum peak level using mvMeter-2, as shown in Figure 10. In this visual representation, the maximum peak level of the data obtained from the Teletronix LA-2A analog device was measured as 6.8 dB using the VU meter. On the other hand, the VU meter dB level of the data obtained from the UAD Teletronix LA-2A Classic simulation of the analog device was measured at a maximum peak level of -9.9 dB. As evident from Figure 10, there is a 16.7 dB loss in sound intensity between the analog device and its simulation.



Picture 13. The maximum peak view of the vocal's mvMeter-2 plugin

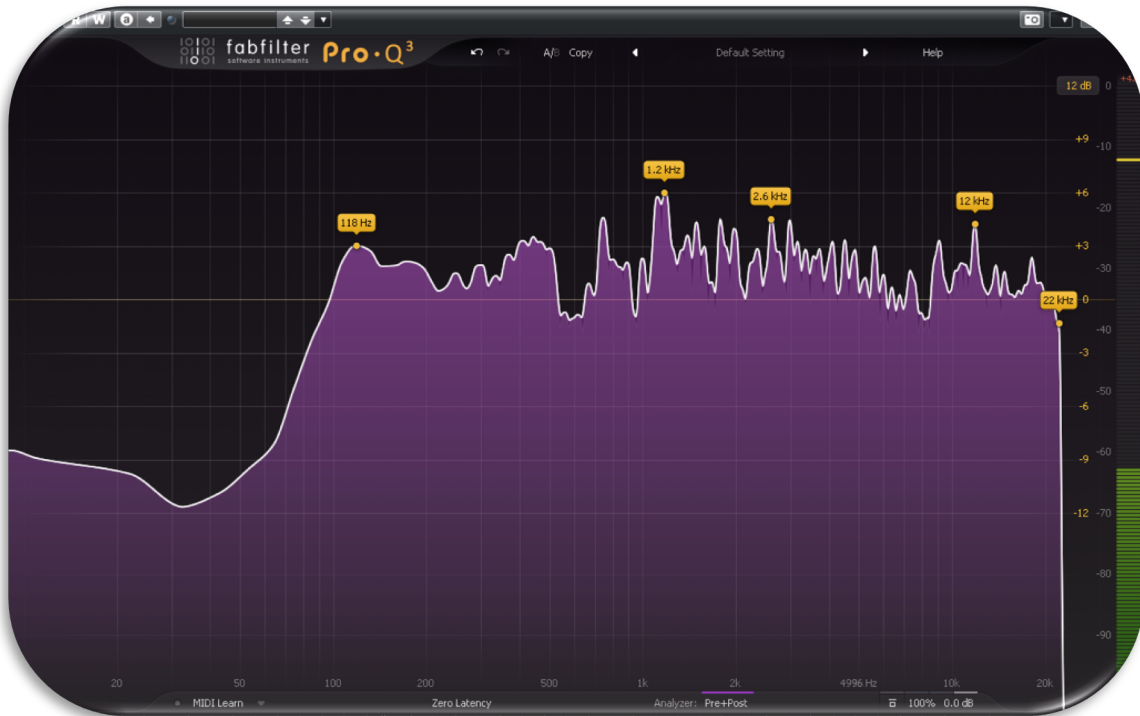
The data obtained from the vocal channel using the Universal Audio Leveling Amplifier, Teletronix LA-2A analog device, and its UAD Teletronix LA-2A Classic simulation are illustrated in Visual 11. In this illustration, while the VU meter of the analog device indicates a level of 8.4 dB, the maximum peak level shown by the simulation of the device is measured at -6.1 dB. In the vocal channel, there is a 14.4 dB loss in sound intensity between the analog device and its simulation.

Discrepancies in dB ratios between the VU meter data obtained from the guitar channel and the data obtained from the vocal channel and the software simulation of the same analog equipment have been observed. While there is a 16.7 dB difference in sound levels between analog and software in the data obtained from the guitar channel, there is a 14.4 dB difference in the data obtained from the vocal channel.

Visual 12 displays the spectrum analysis of the data obtained from the guitar channel of the Teletronix LA-2A analog device. According to this analysis, the guitar has frequency components in the range of approximately 100 Hz to 20 kHz. The most prominent frequency regions of the instrument, as observed from the spectrum analysis, are concentrated around 118 Hz, 1.2 kHz, 2.6 kHz, 12 kHz, and 22 kHz. The Teletronix LA-2A analog device is seen to control the dynamic range of the signal without cutting into the lower-frequency range of the guitar.

Visual 13 shows the spectrum analysis of the data obtained from the guitar channel of the Teletronix LA-2A software, which is a one-to-one simulation by UAD. Similar to the data from the analog device, the guitar exhibits frequency components in the range of approximately 100 Hz to 20 kHz. According to the spectrum analysis, the most prominent frequency regions of the instrument are concentrated around 183 Hz, 1.2 kHz, 2.6 kHz, 4.8 kHz, and 12 kHz, as observed in the analog data. Compared to the analog device, a loss in intensity is observed in all frequency values

with the data obtained from the software simulation of the same analog device. Additionally, the software simulation has applied an automatic low-cut process to the guitar channel for frequencies below 20 Hz to 50 Hz.



Picture 14. Spectrum analysis of the guitar with the Fabfilter Pro-Q3 plugin (Analog)



Picture 15. Spectrum analysis of the guitar with the Fabfilter Pro-Q3 plugin (Software)

In Visual 14, the spectrum analysis of the data obtained from the vocal channel of the Teletronix LA-2A analog device is presented. According to this analysis, the vocal has frequency components in the range of approximately 200 Hz to 20 kHz. The spectrum analysis reveals that the most prominent frequency regions of the vocal are concentrated around 420 Hz, 1.7 kHz, 2.9 kHz, 10 kHz, and 18 kHz. The Teletronix LA-2A analog device is measured in the spectrum analysis, showing control over the dynamic range of the signal without cutting into the lower-frequency range (20 Hz to 200 Hz) of the vocal.

Visual 15 displays the spectrum analysis of the data obtained from the vocal channel of the Teletronix LA-2A software, which is a one-to-one simulation by UAD. Similar to the data from the analog device, the vocal exhibits frequency components in the range of approximately 100 Hz to 20 kHz. According to the spectrum analysis, the most prominent frequency regions of the vocal are concentrated around 420 Hz, 1.7 kHz, 3 kHz, 10 kHz, and 18 kHz, similar to the analog data. The data obtained from the software simulation shows a loss in intensity across all frequency values in the spectrum analysis. Additionally, it is evident from the software simulation that a low-cut process has been applied to the vocal channel for frequencies approximately between 20 Hz and 100 Hz.

While there is no cutting or frequency loss in the lower frequencies in the analog device, the impact created by the software simulation of the same analog device is observed to be different and inconsistent for both the guitar and vocal channels. In the data obtained from the software, the cutting frequency range for the guitar channel is between 20 Hz and 50 Hz, while for the vocal channel, the cutting frequency range is observed to be between 20 Hz and 100 Hz. The impact applied by the Teletronix LA-2A software simulation by UAD on both channels is observed to be different and not consistent.



Picture 16. Spectrum analysis of the vocal with the Fabfilter Pro-Q3 plugin (Analog)



Picture 17. Spectrum analysis of the vocal with the Fabfilter Pro-Q3 plugin (Software)



Picture 18. Vector scope view of the guitar with the Insight 2 Pro Metering plugin

In Visual 16, the vector scope graph measurements of the data obtained from the guitar channel of the Teletronix LA-2A analog device and the software simulation are shown. The vector scope graph depicts the maximum stereo field effectiveness, and measurements of stereo correlation between the left and right channels have been conducted. By displaying the maximum stereo field effectiveness in a 360-degree surround distribution, it is observed that, compared to the software simulation, the analog device spreads the guitar sound over a broader area.



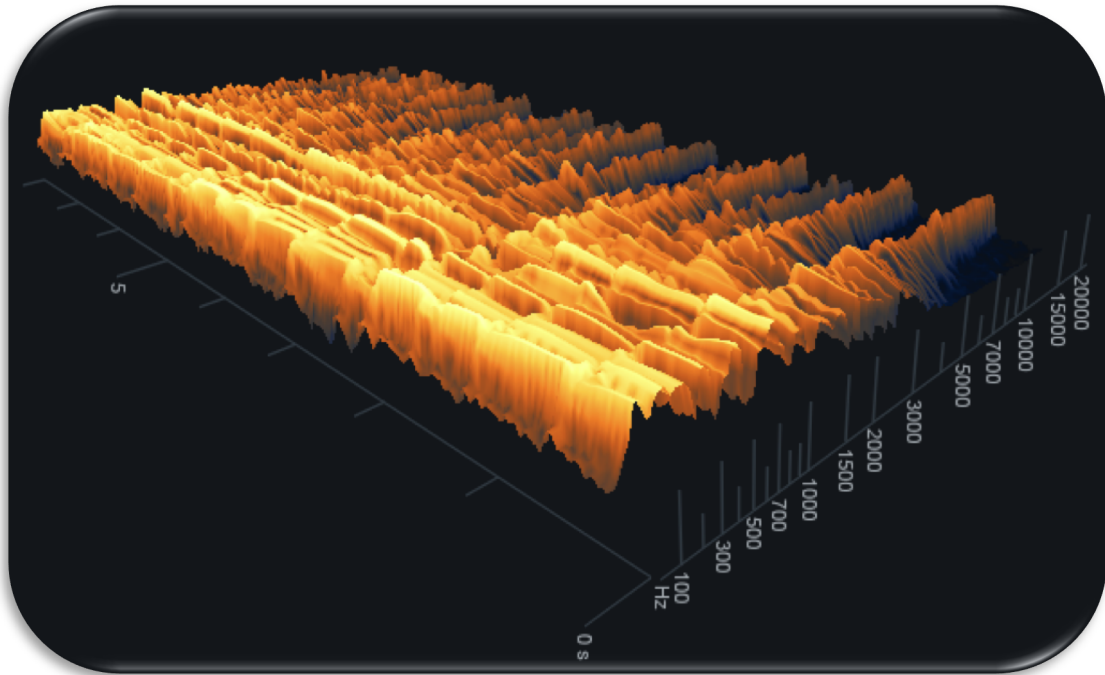
Picture 19. Vector scope view of the vocal with the Insight 2 Pro Metering plugin

In Visual 17, the vector scope comparison graph of the data obtained from the vocal channel of the Teletronix LA-2A analog device and the software simulation is displayed. In the 360-degree surround distribution, representing the

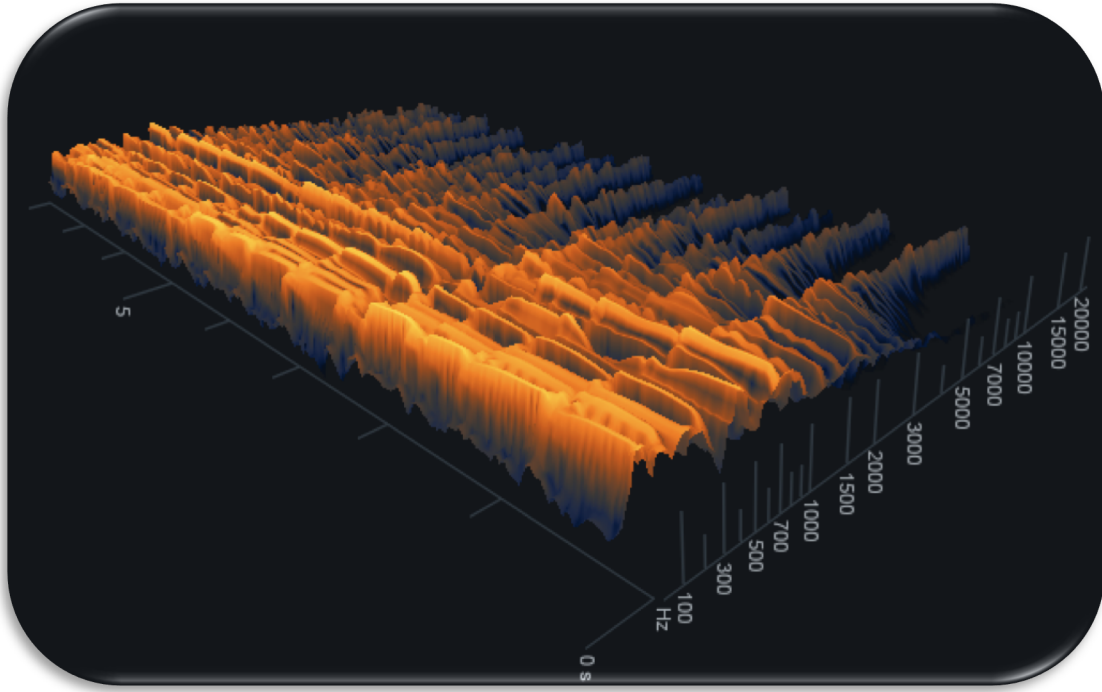
maximum stereo field effectiveness, it is observed that the analog device spreads the vocal sound over a wider area compared to the software simulation.

The three-dimensional spectrogram graph of the data obtained from the guitar channel of the Teletronix LA-2A analog device is shown in Image 18. In this analysis, a detailed topographic sound map of the guitar is created. In the spectrogram graph of the guitar instrument in Image 18, after obtaining data from the Teletronix LA-2A analog device, the graph shape that the signal's static, dynamic, and natural tone should have over time is displayed.

In Image 19, the three-dimensional spectrogram graph of the data obtained from the guitar channel of the UAD Teletronix LA-2A software, a one-to-one simulation of the UAD company, is displayed. While the spectrogram graph of the analog device in Image 18 displays the color of the dynamic area of the signal more brightly, the data obtained from the software shows a more muted and loss of the natural tone of the signal. In the spectrogram graph of the analog device in Image 18, the saturation value is displayed in a distinct color temperature. In Image 19, in the simulation of the software model, this saturation value is observed to be at a lower temperature. In the data obtained from the software, it is observed that the saturation value is limited in the entire guitar channel, and the saturation ratio between 3 kHz and 20 kHz frequencies has significantly decreased.



Picture 20. Spectrogram graph of the guitar with the Insight 2 Pro plugin (Analog)



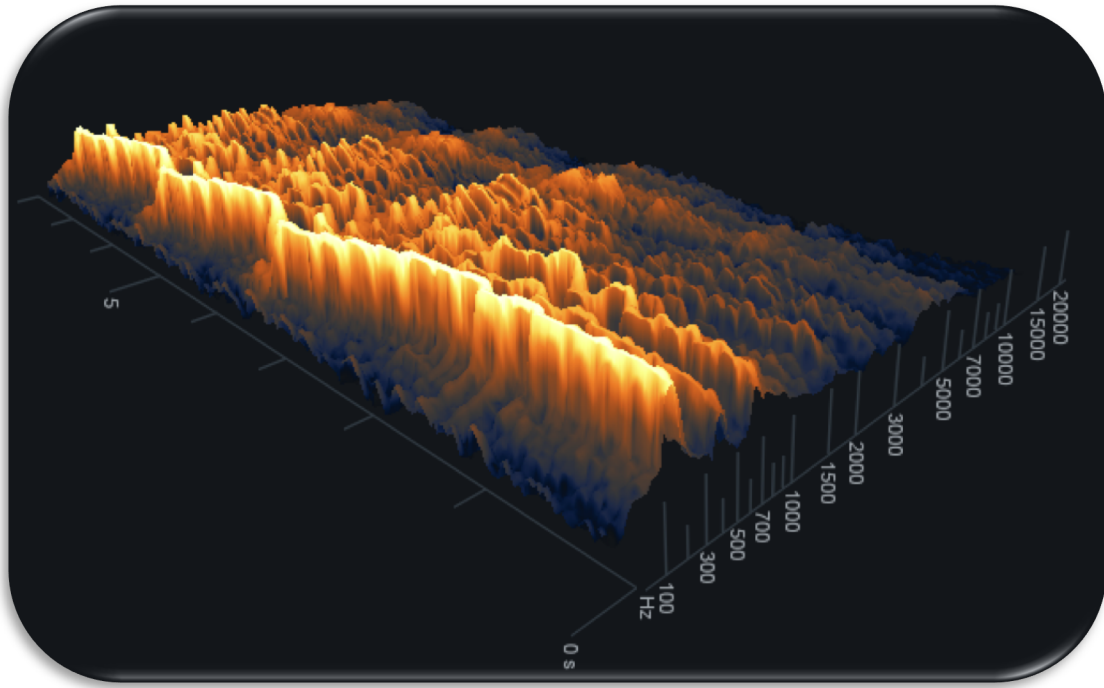
Picture 21. Spectrogram graph of the guitar with the Insight 2 Pro plugin (Software)

The three-dimensional spectrogram graph of the data obtained from the vocal channel of the Teletronix LA-2A analog device is shown in Image 20. In this analysis, a detailed topographic sound map of the vocal is created. In the spectrogram graph of the vocal channel in Image 20, after obtaining data from the Teletronix LA-2A analog device, the graph shape that the signal's static, dynamic, and natural tone should have over time is displayed.

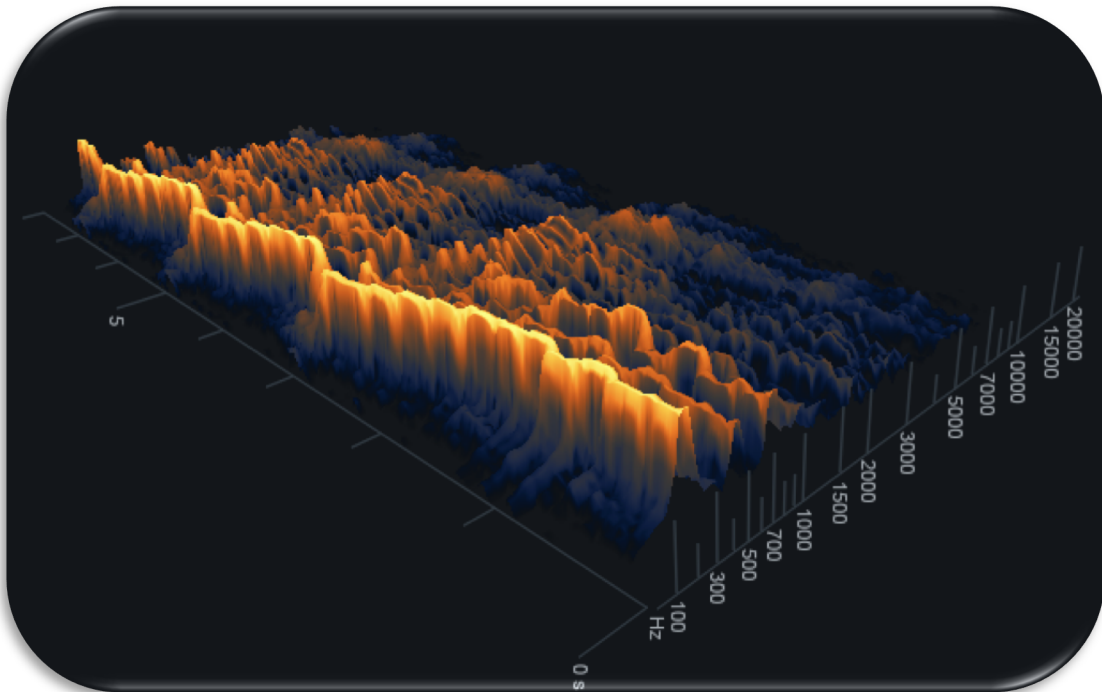
In Image 21, the three-dimensional spectrogram graph of the data obtained from the vocal channel of the UAD Teletronix LA-2A software, a one-to-one simulation of the UAD company, is displayed. While the spectrogram graph of the analog device in Image 20 displays the color of the dynamic area of the signal more brightly, the data obtained from the software shows a more muted and loss of the natural tone of the signal. In the spectrogram graph of the analog device in Image 20, the saturation value is displayed in a distinct color temperature. In Image 21, in the simulation of the software model, this saturation value is observed to be at a lower temperature. In the data obtained from the software, it is observed that the saturation value is limited throughout the vocal channel, and the saturation ratio between 1.5 kHz and 20 kHz frequencies has significantly decreased.

After obtaining data from the Teletronix LA-2A analog device, the file size of the guitar audio file changed from 2.48 to 2.46 megabytes, while after obtaining data from the software, the file size changed from 2.48 to 3.26 megabytes.

After obtaining data from the Teletronix LA-2A analog device, the file size of the vocal audio file remained constant at 4.14 megabytes, while the file size of the data obtained from the software changed from 4.14 to 5.49 megabytes.



Picture 22. Spectrogram graph of the vocal with the Insight 2 Pro plugin (Analog)



Picture 23. Spectrogram graph of the vocal with the Insight 2 Pro plugin (Software)

Conclusion

The analysis conducted in comparing the signals obtained from the Teletronix LA-2A analog device with those obtained from the UAD company's one-to-one simulation software of the Teletronix LA-2A indicates observed harmonic discrepancies. As a result of these evaluations, it has been observed that the software from UAD is less effective on harmonics compared to the Teletronix LA-2A analog device.

In the analog device, the master output peak level in the guitar channel was measured at 6.8 dB with a VU meter, while in the UAD simulation of the device, this ratio was observed to be -9.9 dB, indicating a difference. Through VU meter analysis, it was measured that there is a 16.7 dB difference in sound intensity loss between the analog device and digital simulation. In the data obtained from the vocal channel of the analog device, while the master output shows a level of 8.4 dB, the maximum peak level shown by the simulation of the device is -6.1 dB, revealing a difference. In the vocal channel, a sound intensity loss of 14.4 dB was observed between the analog device and its simulation.

In the spectrum analysis data, it was observed that the frequency components of the Teletronix LA-2A analog device and the UAD simulation software, which is a one-to-one simulation of the UAD company, are not in the same energy ranges. While the analog device does not apply any cutting operation in the low frequencies, the software simulation is observed to apply automatic cutting to frequencies between 20 Hz and 50 Hz.

The comparison of the data obtained from the Teletronix LA-2A analog processor and the UAD Teletronix LA-2A software resulted in the observation that the UAD software, by changing the dynamic range and noise level of the signal, does not reflect the same frequency response as the analog device. According to these analyses, it is evident that the Teletronix LA-2A digital software does not accurately reflect the characteristics of the analog processor in terms of imitation and realism. While saturation values vary depending on the working time of the Teletronix LA-2A analog processor, in the UAD Teletronix LA-2A software, saturation values are processed and set in a constant manner. The compression ratio does not change as the tubes heat up in the analog, unlike in the digital.

The Teletronix LA-2A analog processor operates independently without the need for a computer or a DAW interface. It has its own working principle. The UAD Teletronix LA-2A software, on the other hand, requires an interface to open this software via a DSP processor card and operates on a DAW software. Processing speed and response time vary depending on the processor speed of computers and DSP cards. The Teletronix LA-2A analog processor works independently without the need for a computer or DSP cards, so the processing speed and response time remain stable. While the Teletronix LA-2A analog processor is fixed and used in the studio, the UAD Teletronix LA-2A software is used anywhere without being fixed via a computer. There is no physical limitation. In addition, in terms of recording values and later working with the same values, the use of the Teletronix LA-2A analog processor is more practical and easier than the software. In terms of flexibility and adjustability levels provided by software in the mix process, parameter controls, effect options, and adjustments that can be made during processing are more practical compared to analog devices. At the same time, the effects of analog processors and digital software on the mix workflow vary depending on the number of devices used. While the parameter settings, memory placement, and access to pre-recorded settings for digital software are very easily provided, such a design interface is generally not found in signal processors as they are manual. In conclusion, DSP-based software processes sound recording data differently than analog devices. In this context, it has been concluded that the Teletronix LA-2A software, a one-to-one simulation of the UAD company, does not meet many features of the Teletronix LA-2A analog device, such as saturation, signal character, sound intensity, and frequency components.

Limitations of the Research

This study is limited to digital audio processing stations and their subcomponents.

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Research Article

Threads of unity: the transcultural tapestry of Sidi Larbi Cherkaoui's contemporary dance and theatrical production "Sutra"¹

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Abstract

The article deals with the transcultural connections in choreographer Sidi Larbi Cherkaoui, artist Antony Gormley, and composer Szymon Brzóska's production "Sutra", the main character of which tries to study Chinese martial arts, Buddhism and share European culture with them. scientific research contributes to developing the multidisciplinary research of modern choreography in general. The importance of research is determined by filling the gap that exists in terms of interdisciplinary research of painting and choreography. The purpose of the study is to study the points of intersection of European and Eastern culture in the "choreographic score", sets, and music. This goal implies studying the following sub-problems: to establish the relationship between the symbolic choreographic language of the "Sutra" and Chinese painting; to research the fusion of elements of ancient Chinese martial arts and avant-garde choreography; to investigate how the main character of the spectacle modernizes the choreography language with techniques of ancient martial arts. The research, undertaken from a historical perspective, encompasses descriptive, comparative, and critical scientific analysis methods. The research is based on the choreographic production itself and media reviews. Based on the set goals, the analysis process will be conducted in two phases: (1) determining the main idea and goal of the production. An exploration of how the main character tries to study Eastern culture, and martial arts philosophy; (2) to study how the play's authors reflected the differences and coincidences between Western and Eastern cultures in the choreographic narrative. It is the research on these issues that constitutes the scientific novelty of the article. In the conclusions, it is emphasized that the performance combines European choreography, and scenography, with the features of Chinese painting and martial arts. It is determined that the European traveller tries to harmoniously combine oriental martial arts and European choreography. Sets and music play a huge role in conveying the idea of intercultural connections. Brzóska expressed the poetics of martial arts with romantic music while the fighting spirit of monks with minimalist music. Considering the findings and results obtained in the research, this masterpiece of choreography is recommended to be included in courses on the history of dance and choreography.

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Introduction

The article deals with the intercultural connections in choreographer Sidi Larbi Cherkaoui (Direction and choreography), artist Antony Gormley (visual creation and design, sets and costumes), composer Szymon Brzóska's

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contemporary choreographic dance production “Sutra” (2008, Ali Thabet—Assistant Choreographer, Leila Ransley—Tour Wardrobe Manager, Adam Carrée—Lighting Consultant), that was premiered at London’s performing arts venue—Sadler’s Wells Theatre (Cherkaoui, 2021: 1).³

As Media reporter Ma Yue states “Sutra” made its debut in China late after the European premiere and 240 performances around the whole world (Ma, 2019: 1). According to Sidi Larbi “I was very curious about how Chinese audience would react because ‘Sutra’ is a work about China, and it’s finally coming home after 11 years.” (Ma, 2019: 1). This performance of the Belgian choreographer, who is passionate about ancient Asian culture, yoga, and martial arts, is one of the most interesting productions of the world’s modern choreography.

Coming from the modern Western world to visit Shaolin monks in China, the main character of the play is an outsider who tries to enrich his knowledge of Chinese martial arts, and Zen Buddhism philosophy. Then he tries to introduce Western culture to the monks, but the ultimate goal of the hero’s voluntary journey is self-perfection, spiritual growth, and changing his worldview. “The warrior monks performing in Sutra are from the Shaolin Temple situated near Songshan Mountain in the Henan Province of China and established in 495 AD by monks originating from India. In 1983, the State Council defined the Shaolin Temple as the key national Buddhist Temple” (Muggleton, 2020: 16).

The traveller wishes to break the stereotype of separating the world into two polar parts—the Western and Eastern and perceive it as a whole. The latter is the natural state of world perception, which is reached by the refined consciousness of a person. For the intended purpose, the outsider tries to study the Daoist and Confucian teachings, the essence of meditation, Chinese painting, calligraphy, and martial arts. Finally, he is interested in integrating himself into the Eastern world. It is the research on these issues that constitutes the *scientific novelty* of the article.

Theoretical Framework and Literature Review

Data Analysis, gathered according to the issue and object of a scientific paper, was based on thoroughly reviewing the relevant theoretical framework literature and references. The research was conducted through the classification of these sources according to the following principles:

- Group 1: Works on Contemporary ballet and choreography;
- Group 2: Works on Chinese painting esthetics;
- Group 3: Media resources (interviews, reviews, study resources) about the performance.

I will highlight important sources from each group that helped to create the methodological apparatus:

Group 1: “Contemporary Dance History” by Rico Naranjo helped me define the characteristics of modern ballet. The researcher analyzes what constitutes a completely modern perception of the human body in modern choreography. It is the modern perception that is the basis of “Sutra’s” choreography.

In her manual „History of Ballet“, Nana Loria analyzes the modern performance as a meeting place of styles and cultures, which she explains not by choice of professional choreographers, but with the stylistic characteristics of modern choreography. According to her, in modern dance, “the choreographer enters the already existing global choreographic space and contributes to the advancement of a unified artistic process, which combines the civilization’s past and present creative experience” (Loria, 2014: 154). As “Sutra” is a typical example of postmodernist aesthetics, based on the integration of several cultures and epochs, Loria’s assessment became my starting point for the methodology of analysis.

Group 2: While analyzing the “Sutra”, the research process was conducted by determining the main key of the choreographer’s symbolic language. In this term, Alexander Mann’s statements about Chinese painting, as a cultural event of primary importance, served as the key to understanding Chinese spirituality in general.

³ A recording of choreographic show is available on Vimeo; see SUTRA—Sidi Larbi Cherkaoui + Shaolin Monks - 少林功夫 - Sadler’s Wells Theatre - 佛经 (2017). See <https://vimeo.com/202670621>

The psychological function of Chinese painting is discussed in Sergei Voronin's candidate thesis. The researcher determines painting as the universal form of artistic creativity that is directed towards harmonizing man and environment. This very feature is the basis of the whole production of Sidi Larbi's "Sutra".

The valuable findings about the idea of wandering, which causes the enlargement of the imaginable space beyond the Chinese so-called handscroll can be found in Yaroslav Kovalevski's candidate thesis. These features of Chinese canvas are evident in "Sutra"—the choreographer activates the consciousness of the audience, who begins a journey into the world of imagination and fantasy.

The issue of utilizing the space as well as the significance of symbols in Chinese canvas are highlighted as the main problems of Scholar Irina Sheptunova's research. The same method of utilization of space and symbolism can be observed in "Sutra".

Thus, articles and books of Mann, Kovalevski, and Sheptunova provided me with a theoretical framework when searching several coincidences of Chinese painting with the staging of "Sutra".

Group 3: The study source (for teachers and students) about the production of "Sutra" helped with the research process as it contained interviews and base information about the staging team, production, temple traditions in Henan province, Shaolin monks and their daily schedule, the style of Kung fu.

The problem of cultural bridges led to the fusion of ancient Asian culture and the Western post-industrial era of technologies is discussed in Burt's and Duguid's reviews.

Dance critic Claudia La Rocco and researcher Sissi Liu focus on the issue of enrichment of Sidi Larbi's choreography with tricks of Martial arts, which led to the new hybrid genre.

La Rocco mentions Shaolin monks as "Warrior-Dancer Monks", who managed to transform combat movements into dance.

Sissi Liu discusses Sutra as an epoch-making movement theatre production in which Shaolin monks and European collaborators created the new artistic genre of contemporary dance—the inaugural piece of "kung fu dance theatre" (Liu, 2018: 192). Even though there is significant domination of the number of scenes with kung fu tricks, the scholar states that the ontological realm of kung fu is expanded. The scholar explores how the collaborative process obscured boundaries between kung fu and dance, giving rise to a new genre; "Sutra" is a clear example of such a newcomer genre because it combines features of theatre, dance, martial arts, and contemporary movement theatre.

Thus particular research was based on these three types of sources that gave a theoretical framework for comparisons, and descriptive analyses.

The importance of the Study is underscored by several factors:

- filling the gap that exists in research on "Sutra" as an interdisciplinary choreography production with its intercultural links in the modern choreographic language.
- The significance of this research lies in the genre uniqueness of the sutra; The traditions of the 1500-year-old temple in Henan Province, the style of Kung fu, and the philosophy of Zen Buddhism have consistently captured the interest of European artists. However, for the first time in the history of choreography, due to Sidi Larbi's imagination and creativity, Shaolin monks were introduced to the public as dancers, while the techniques of kung fu turned into a potential source for enriching the modern European choreographic language. It is not by chance that Researcher Sissi Liu labels the performance as "kung fu dance theatre: (Liu, 2018: 192) and dance critic Claudia La Rocco refers to Shaolin monks as "Warrior-Dancer Monks" (La Rocco, 2010: 1).
- The relevance of the research is also determined by the second crucial aspect - the choreographic performance conveys a profound philosophical concept given in the form of a rhetorical question—Is it possible to harmoniously merge Western and Eastern cultures in the modern globalized world replete with challenges, even as these cultures exhibit openness to foreign assimilation and Great desire to interact?

Scientific research contributes to the development of the multidisciplinary research of modern choreography in general, and particularly "Sutra".

Problem of Study

The main problem is to study the points of intersection of European and Eastern cultures as well as to determine the symbols of Eastern and Western cultures in the “choreographic score”, sets and costumes, and music.

This goal implies to study the following **sub-problems**:

- to determine the interdisciplinary character of the performance
- to determine the specific elements of avant-garde choreography used in the production
- to establish a relationship between the symbolic choreographic language of the “Sutra” and Chinese monochrome painting
- to research the fusion of elements of ancient Chinese martial arts and avant-garde choreography
- to determine the specifics of the spectacle’s dramaturgy
- to research how the main character of the spectacle modernizes the techniques of Chinese martial arts with elements of modern choreography
- to establish the role of music in the creation of the “choreographic score”, which in turn plays a major role in the unfolding of the idea of intercultural connections of the production.

Method

This research, undertaken from a historical perspective, encompasses descriptive, comparative, divinatory, qualitative, and critical scientific **analysis methods**. The research is based on the choreographic production itself and internet media reviews.

Based on the set goals and objectives, the process of analysis will be conducted in two phases: The first phase is determining the main idea of the work, which is conveyed by the autobiographical narrative of the traveller. An exploration of how the main character tries to study Eastern culture, the essence of meditation, and the philosophy of martial arts, with their religious aspects. The second phase; is to study how the play’s authors identify and harmonize the differences between Western and Eastern cultures, and then how this is reflected in the choreographic narrative.

Result and Discussion

The plot and main idea of the “Sutra”

The choreographic play “Sutra” deals with the thought-provoking problem of intercultural connections focused on the story of a European traveller who visits China to expand his worldview, learn about a new culture, and find points of intersection between Western and Eastern cultures. Outsider’s hosts are 10 years-old child monk and seventeen adult Shaolin warrior monks, who master meditation techniques for spiritual and physical perfection.



Image 1. 10 years-old child monk and seventeen adult Shaolin warrior monks (Web 1)

They follow a Zen Buddhist doctrine, Kung-Fu, and Tai Chi martial arts that are an integral part of monks’ daily regime, which equally involves the discipline of both, mind and body. “Perhaps, the Shaolin martial arts are not

intended for fighting but rather for mental self-cultivation. Perhaps, the Shaolin monks are not training their bodies for battle; rather they are cultivating their minds for spiritual awakening” (Shahar, 2020: 14).

Many parts of the play depict the daily life of the Shaolin monks when after the traditional morning Buddhist ritual, they begin kung fu exercises with fists and weapons: a long staff weapon—a Chinese Gun and a sword—long Pudaο. At the end of the performance, the traveller from the West and the Shaolin monks try to find the connecting bridges between their cultures and present an organic fusion of Western modern choreography, athleticism, hip hop, gymnastics, and ancient traditional Eastern martial art techniques as a harmonious whole (Burt, 2010: 1).

The inseparability of these diverse streams has a hypnotic effect on the viewer (Numeridanse, 2014: 1).

The main idea of the choreographic play—the search for points of intersection between Western and Eastern cultures, is fully revealed in the play, which is determined not only by the rich artistic imagination and professionalism of the creative team but also primarily by their personal experience. The trip to China was of great importance for the choreographer. Extracts from an innovative Belgian choreographer’s diary show that he found inspiration in the mountain temple of the Shaolin monks: “I made two visits to the temple last summer and it had been a big surprise. It was very beautiful, set on a mountainside, but it wasn’t exactly as I had imagined. The monks were talking on mobile phones, they were allowed pop music, and an internet connection was close by. They told me this was natural, as the Shaolin have always been on top of new technology. Back when paper was first invented, they adopted it very quickly. This openness was good for me because it meant the monks were receptive to my ideas” (Mackrell, 2008: 1).

After visiting Indian monasteries, artist Anthony Gormley is also fascinated by Asian culture, yoga, and the art of meditation. He travelled to India and the Dominion of Ceylon (from 1972—Sri Lanka) to learn much more about Buddhism from 1971–1974 (Duguid, 2008: 1). Like the choreographer, Anthony Gormley wants to show us the place of Western man in a quiet Eastern spiritual monastic environment.

The structure of the “choreographic score”

The performance consists of 18 separate parts, which are connected by the principle of contrast. Relatively passive choreographic sections depicting landscapes of nature are alternated with either sections conveying the thoughts and introverted nature of outsider traveller or sections depicting Chinese martial art exercises. These sections are titled to depict the main idea of the section: 1. Sword; 2. Pond; 3. Maze; 4. War; 5. Box; 6. Lotus; 7. Boat; 8. Forest; 9. Solo; 10. Monkey; 11. City; 12. Pagodas; 13. Animals; 14. Dormitory; 15. Dominoes; 16. Wall; 17. Temple; 18. Courtyard (Mugleton, 2020: 34/35).

The performance is an artistic space for meeting and mutual influence of different cultures and traditions

Interculturalism is manifested in many directions in the play. First of all, the title of the play is noteworthy. It contains a hint of a link to something. The title of the production prompts us to explore transcultural links, as the etymology of the word “Sutra” is related to the Sanskrit meaning: “woven”. It is known that the sutras represented a special type of literary composition, short aphoristic statements. These narratively autonomous handwritten painted sutras were united into a collection of threads woven mostly from palm leaves, which is a hint to the close connection of Chinese sutras with nature.

It should be emphasized here that the play draws attention not only to the mutual influence of two cultures but also to the issues of the synthesis of innovation and tradition as well as their relationship. Little has changed in the rituals and traditions of the Shaolin Temple and the monastic way of life since its inception. Therefore, the relationship between the representative of the modern Techno century from the West and the Shaolin monks goes into the “dialogue” between the modern Techno era and the era of the formation of ancient traditions that are millennium-old. The artist of the play symbolically expressed this detail in the sets as follows.

Twenty one human-sized plywood boxes symbolize historical antiquity, and the only “anomaly” of the scene—an aluminum box is an attribute of the techno-century, which symbolizes the intrusion of a foreign body into the disciplined monastic life. According to Antony Gormley, it is this futuristic aesthetic box that reminds us of a completely different post-industrial era of technologies (Duguid, 2008: 1).

On stage, the audience watches the various movements of the monks' ancient martial training and Cherkaoui's non-hierarchical choreography, characteristic of modern Western ballet dance. (Eastman, 2010: 1) Significantly, Chinese martial arts are also characterized by speed and the alternation of relatively fast and slow techniques, and modern choreography is also characterized by amazing speed and constant rhythmic changes (Naranjo Rico, 2010: 1).

The most thought-provoking and challenging thing for the European choreographer was to transform the combat movements into dance. He saw the potential of choreography in the techniques of Chinese martial arts and tried to make these movements compatible with modern dance techniques. The choreographer explains this process as follows—"For me, Kung Fu became a classical dance language, that is how I looked at it and it made it very acceptable suddenly. It was a big shift in my head because when I worked on this piece I suddenly realized how dance was limiting itself by not understanding that these other forms are also part of its family" (Muggleton, 2020; 19).

Music as a sound method of intercultural connections

The composer of the show—Szymon Brzóska, a graduate of the Music Academy in Poznań and the Royal Flemish Conservatory in Antwerp exhibits a creative interest in projects that explore the mutually enriching connections between various art fields. Szymon Brzóska's primary focus lies in the intersection of music, cinema, and contemporary dance, leading him to engage in collaborative art projects. His cooperation with choreographers—Sidi Larbi and David Dawson is of outstanding importance. Szymon Brzóska demonstrates his commitment to the interdisciplinarity of art fields and actively collaborates with several dance companies across Amsterdam, Buenos Aires, Berlin, Gothenburg, New York, and Madrid. His music has been performed at several dance festivals and venues at the Sydney Opera House, Brooklyn Academy of Music (New York City), Esplanade in Singapore, Sadler's Wells Theatre (London), Lincoln Centre (New York City), and the Festival d'Avignon (Avignon).

Szymon Brzóska who is influenced by the minimalist music of Arvo Part, American minimalists Steve Reich and John Adams, is mostly well-known for creating music for dance, that is based on synergy between music and movement.

Due to the complete congruence of the idea and the compositional idea, performances decorated with Brzóska's music are successfully staged all over the world.

He collaborated with famous choreographers (Vladimir Malakhov, Maria Pages, David Dawson), and dance companies such as Eastman, Het Nationale Ballet, Cedar Lake Company, and Semperoper Ballett (Muggleton, 2020: 13). "His musical language can be placed somewhere between contemporary avant-garde and expanded tonality with a touch of minimalism, yet is deeply rooted in the very tradition of the classical music" (Muggleton, 2020: 13).

Szymon Brzóska creates an organically adapted rhapsodic score for the play.

The ensemble of musicians (2 violins, cello, piano, and percussions: Triangle, Tam-Tam, Temple blocks) follows the choreographic narrative with a live performance as the recorded music is not suitable for "Sutra" (Muggleton, 2020: 23).



Image 2. Live performance of the musicians behind a semi-opaque screen (Web 2)

Separate samples/sections for different scenes combine trends of avant-garde, minimalism, and lyrical embodiment of romantic music.

The music score is represented by autonomous samples for separate scenes. The titles of each of them convey the character of an entire scene and are intended to symbolize choreographic ideas. The 18 music samples are presented in the following order: 1. the sword/Cadenza I; 2. Strings; Cadenza II (drunk monks); 3. Machine music; The Maze, 4. The dragon; 5. Slow down (Sigh language); 6. The Lotus flower/Barocco; 7. Redemptio (Redemption); 8. The fight; 9. Inside the box/solo box Cadenza; 10. Monkey canon; 11. The child; Pagodas; 12. Flowing I (animal solos); the coffins; 13. Flowing I; machine music (the same sample as for the third section—Maze; 14. The dorm; the dolphin (Tai Chi); 15. Marche Funebre; 16. Building the Wall/moving Wall Cadenza II; Flowing II; Dichotomy (building the temple, bars 1-31); 17. Dichotomy (building the temple, bars 32-49); Ultima Forsan: 18. Praying.

Thanks to various stylistic streams, music in turn intensifies the feeling of intercultural and epochal dialogue and plays a major role in opening the idea of interculturalism embedded in the performance. The art of Eastern meditation, the inner peace of monks during a religious ritual, and the thoughts of an outsider are conveyed through slow romantic, melancholic music, while the inner motility of Eastern martial arts is expressed through fast tempo and minimalist European music. All this forms the “rhythmic poetry” of the work.

In the sections of “Sutra” that convey the outsider’s thoughts and self-absorption, the composer favors the timbre of the violin. The solo violin is the only instrument in the following music samples: Cadenza1 (The Sword cadenza); Cadenza II (Drug Monks); Solo Box cadenza; and Moving Wall cadenza. The use of a single instrument is compensated by the additional colors of violin playing techniques ponticello and glissando almost in all the above-mentioned sections. Seems a European outsider emphasises his identity through this popular European instrument that always symbolizes the intimacy of personality.

The composer uses the allusion method, whose purpose is to remind us of either Asian or European musical sound analogies. So, for example, the music for the 11th Section Music titled “The Child” is written in the style of an American Christmas movie or music for Christmas commercials.

Although the scenes depicting the training of fighters are accompanied by a relatively active, March-like nature of music, the latter seems to reduce the militarism of military combat techniques and focuses on the balance achieved between the monks’ inner peace of mind, and physical strength, which is the goal of their daily training. It is significant to emphasize that the composer’s goal was not to use the elements of Chinese traditional music, but to create an atmosphere of oriental culture without any citation. In one of his interviews, he emphasized that he avoided predictable formulas of Chinese music but kept the spirit of Chinese music. According to composers, he was using “certain melodic patterns, or techniques (like glissandi) that could refer slightly to the traditional Chinese music

although my aim was never really to copy any particular style” (Muggleton, 2020: 23). To give the music an authentically specific, local and exotic sense, he used Chinese instruments. According to the composer: “We used some percussion instruments from China, from the temple, to be specific,” he said. “But it was more about creating an atmosphere. The strings helped me to create the harmony I wanted, and the piano brings in rhythm, too” (Ma, 2019: 1). By the way, it should be noted that the musical score is so clear and simple that it evokes associations exactly with Chinese monochrome canvases; Szymon Brzóška’s musical landscapes are as bright and plain as the performance scenography (Sets and costumes).

To the extent that the monks’ martial arts exercises are not accompanied by music, the composer’s score is written to create a general atmosphere and does not give the impression of synchronizing with the monks’ movements, instead, the music meticulously reflects the foreign traveller’s sign language in the choreography. According to the study resource—“The idea was to write a score that didn’t interfere too much with the monks’ inner rhythms but rather surrounded them gently, sometimes accentuating the energy following the movement, sometimes creating a certain emptiness while staying in the background.

There are a few moments when the music is very coherent with the movement and those mostly refer to the Foreigner’s character. For the rest, the music follows the general structure of the show more rather than the movement itself. The monks are not used to moving on the music so (apart from a few cues) most of the time the musicians follow them and their pace. That can change from show to show” (Muggleton, 2020: 23). It is not by chance that researcher Sissi Liu labels this production an extraordinary piece in which Shaolin monks are showing Kung fu tricks against the background of “Brzóška’s contemporary music with strong minimalist influence for two violins, cello, piano, and percussion”, thanks to which the performance acquires uniqueness (Liu, 2018: 197).

Thus, Brzóška’s music, which expressed both the martial spirit of the monks and the romantic nature of the outsider, probably made an incredible contribution to the success of the play.

Chinese painting allusions in the play as a main source of interculturalism

The main problem of the research is the following: what is the unconscious influence of Chinese painting on the sets and costumes as well as on the choreography of the play?

The sets and costumes, dramaturgy, and choreography of the play show that the production team is aware of the primary role of painting in the path of spiritual development and self-improvement in the Buddhist world.

In addition to the fact that the Chinese canvas, as a sample of painting, reflects the artistic thinking of the nation, it has a kind of psychological function—to evoke the feeling of happiness given by the feeling of harmony with the human world. According to a researcher of Chinese painting, S. Voronin, it is the genre of landscape that is the universal form of artistic creativity of harmonizing man and the world in China (Voronin, 2009: 7).



Image 3. Dong Qichang: Mountain Landscape, 1617 (Web 3)

Theologian Alexander Mann believed that the first step for a European to get to know Chinese spirituality is to see the landscapes in their painting. For him, landscapes in Chinese painting represented the spiritual roots of general humanity, which are the harbingers of the rapprochement of peoples (Men, 1992: 30).

The points of intersection between performance and Chinese painting can be seen in many ways. Both the sets and costumes of English artist Antony Gormley and Larbi's European choreography are influenced by Chinese painting. Let us consider the unconscious influence of Chinese painting as it manifests itself in this choreographic show.

The idea of wandering

The play conveys the idea of travel, and wandering, which is equally relevant to Eastern and Western cultures; The poetic-musical art of travelling musicians from the Western world constitutes the greatest legacy of the literature of the Western Middle Ages, Renaissance, and Romanticism.

The idea of travel is not alien to Chinese painting either. The point is that the grand landscapes in China were kept in the form of a scroll, and when viewed, it was slowly opened, to activate the viewer's imagination, the presenters focused the viewer's gaze on the white section of the picture. Consequently, the viewer could not perceive the composition painted on the grand canvas as a whole. The observer's imagination was activated and he/she could fantasize in advance in his/her mind what he/she could see next on the canvas. In this way, such an idea of space perception is embedded in the Chinese so-called handscroll painting, which allows the observer to make an imaginary journey through the space of the canvas in his mind. According to a researcher of Chinese painting, Kovalevski, on the Chinese canvas, the composition is organized in such a way that it offers an even larger space beyond the picture frames (Kovalevski 2009: 16).



Image 4.五代遼朝的胡壤: Rest Stop for the Khan (Web 4)

The idea of the whole performance is exactly the realization of the idea of travelling and wandering. According to Sidi Larbi: “It must have been an emotional journey for someone who wanted to be a monk. Everyone had their journey, and I had mine, which carried me there” (Ma, 2019:1).

The Beauty beyond the canvas and spectacle

The following characteristic of Chinese painting is presented in the performance—the pattern of Chinese painting is drawn from imagination, not from nature, which activates the imagination of the observer. Each of the scenes of the play “Sutra” also reflects not real objects and situations from the daily life of Shaolin monks, but the reality brought to life in the author’s imagination. The mystery of the effect of its influence on Chinese painting is hidden not in the beauty of objects, but is revealed in their interpretation, the mechanism of their perception, and answers the question “how we perceive” and not “what we see”. The audience feels the beauty of individual scenes of the play more intensely not while watching the ongoing action, but during reflection and thinking about it. Moreover, many images of new configurations of boxes are born in the imagination of the audience until they see it on the stage.

How do the authors of the play activate the audience’s imagination? the scenography of the play is as relaxed as possible, which is generally the main feature of the style of Antony Gormley.

On the stage, there is one type of set (boxes) expressing the aesthetics of minimalist sets, but when the audience looks at examples of the multi-functional use of these boxes, their imagination is also active, as new objects are born in their mind before constantly new configurations of the boxes appear on the stage in front of them in reality. Thus, beauty is born in the imagination of the viewer.

Human-sized white boxes carved out of spruce tree material turned into an existentially relevant object. These white boxes are constantly moved around the stage by the performers who give them the function of different things or objects. It is this process that activates the viewers’ imagination, as a result of which it is easier for them to see in their mind a new object, thing, or subject a few seconds before the next configuration of boxes is completed on the stage. So, for example, The various geometric configurations include a cell, a sarcophagus, a bed, a mass grave, a table, a boat, a lotus flower, dominoes, a hideout, a dragon, a Pagoda, a Great Wall of China and others.

According to the choreographer, since 2005 he “started developing a new type of work where the objects or the scenographic elements could be re-organized not only to generate new shapes but also new spaces, so suddenly you are in a graveyard or a temple or you are in front of a wall or stairs. It would all just be part of re-organizing the Lego blocks and suddenly you would be somewhere else” (Muggleton, 2020:9).

The scenography of the performance was created by building various constructions with boxes, like children’s toy Legos, and the choreographic score by utilizing the inner space of these empty boxes, including it in choreographic plasticity. According to the choreographer—“We experimented with the boxes to see what we could create with them. If they would just stand there or lie there, and sometimes we just put them next to each other or pushed them. For the Dominoes section, for example, the child monk, Dong Dong, was just climbing over the boxes, and it felt like we could make one long row of them just suddenly arriving there. We experimented with people being inside them. We built up the ideas together from scratch. We tried to see how many people could fit into one box and that kind of gave this effect to the boat. Then we thought that they could jump off from another situation into that box so it looked like you had to jump from land into that boat. So those were certain images that we felt spoke to us and it was really step by step that themes emerged” (Muggleton, 2020: 18).

Thus, the choreographer of the performance activates the consciousness of the audience, who begins a journey into the world of imagination and fantasy.

The expansion of artistic space and the attempt to overcome its framework in “Sutra”, as the influence of the wide spatial capacity of the Chinese canvases

In Chinese painting, it’s important to go beyond what you see on the canvas and watch a larger artistic space. This is a kind of test for the viewer—can we go beyond the limited boundaries of the canvas frame and imagine additional landscapes expanding our limited imagination? The choreographic performance “Sutra” also offers us an amazing expansion of the stage space and activation of the imagination.

So, for example, in the dream scene of the monks in the tiered dorm (scene N14. Dormitory), Gormley's most powerful scene, the human-sized boxes give us a hint about the world within a world (Burt, 2010: 1).

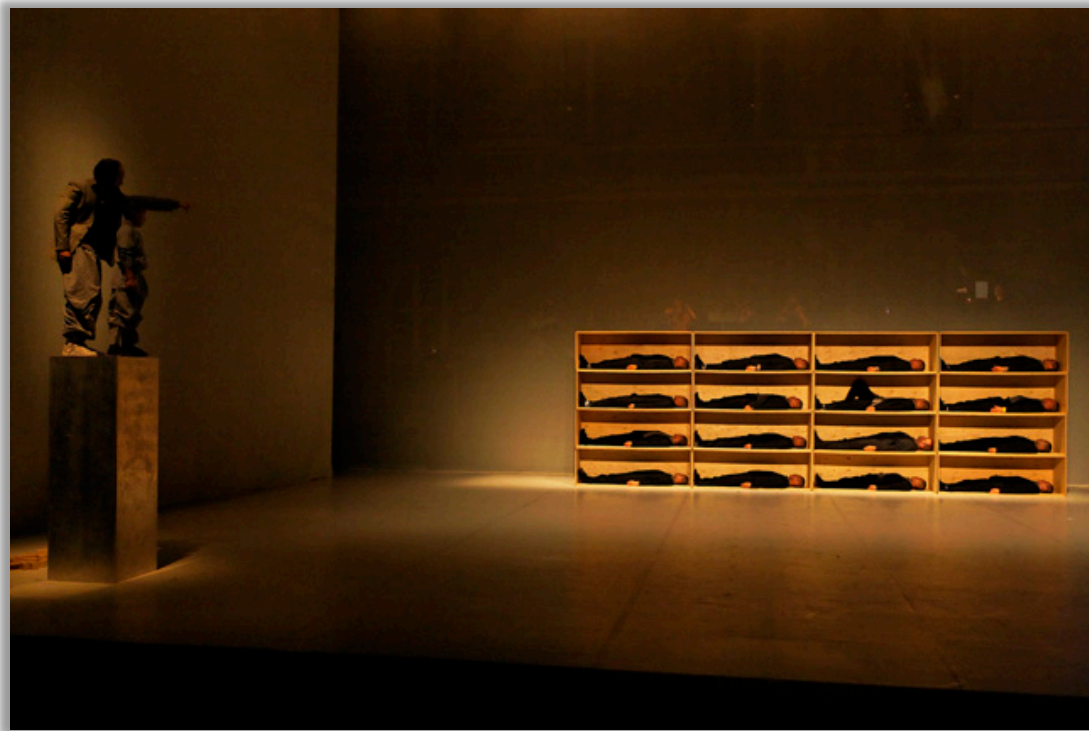


Image 5. Dormitory, photo of Christophe Raynaud de Lage (Web 5)

Since movement in the box is limited, the monks try to overcome this mass limitation by hitting the boxes with their hands or feet from the inside. The action of the people placed in it is a test proposed by the choreographer—how will we accept the limitation? will we try to overcome it? will we turn the micro space into the macro world? Sidi Larbi explained his attitude to the symbolic meaning of boxes' limited space—"There is one short solo that I do in the middle where I am inside a box and one of the monks suggests, "Why don't you try it too, to live within this?" and then you realize how hard it is to express yourself within a space that is so limited. I try to dance a whole solo that in my eyes speaks of loneliness, being caught within yourself. If you really put yourself out there, you are also confronted by yourself and your own limits. It's a very interesting thing to be in a box, to be put in a box by others because I feel we all put each other in boxes" (Mugleton, 2020: 19).

The idea and concept conveyed by symbols

As in Chinese painting, symbolic thinking is highlighted in this play. As it is well-known, in Chinese painting, various figures depicted on the canvas have symbolic meanings—teacher, apprentice, pine tree, moon, flower, and others. According to scholar I. Sheptunova, the figure in Chinese painting is a kind of tuning fork raised to the level of a symbol, a telling detail, and the key to the content of the picture (Sheptunova, 1987: 138).

The artist Antony Gormley reduced the decoration of the performance to a minimum, thereby increasing its symbolic weight.

The symbolic meaning of the box should be highlighted separately, they have the greatest function in the "choreographic score". Actors will "wear" these boxes on their bodies as a kind of cloth, due to which these dancing boxes have lost the function of decoration and are perceived as an organic component of body plastic. According to the choreographer—"Also in Sutra the monks have to relate to objects, which became part of the movement as well. Moving the boxes around, and having them slide or fall, they were part of the choreography, as well as the sticks and swords. It's great to realize we can use objects to dance with, to just go beyond your own body" (Mugleton, 2020: 19).

We should also highlight the symbolism of the flower, which is of great importance in Chinese culture as well as in the performance of “Sutra”. In ancient collections of Chinese poems and songs, the flower is a metaphor for beauty. According to the researcher Uday Dokras, Buddhism considered it to be among eight amazingly important symbols.

According to a legend, lotus flowers appeared everywhere after the first steps made by Gautama Buddha in his childhood (Dokras, 2020:10).

The choreographer gave great importance to the lotus flower, recognized as a symbol of purity in Chinese painting and culture. A boy sitting on a flower bud is meditating, and monks sitting on flower petals are praying, which “evokes the association of the incarnation of the Buddha surrounded by monks” (Vaghi, 2013: 1).

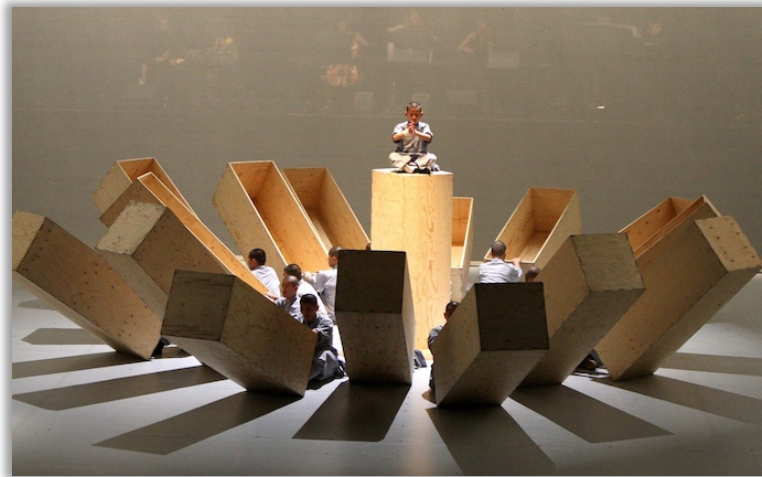


Image 6. A child monk sitting on a Lotus flower meditating (Web 6)

Thus, the aesthetics of the symbolism depicted in the “Sutra”, can be linked both to the influence of Chinese painting and the aesthetics of modern Western contemporary scenography, which is characterized by a lack of sets on the theatre stage in the era of the boom of multimedia.

The specifics of utilizing the stage space

In the play, the choreographer and the artist occupy only a small part of the stage space, which also connects the play with the Chinese canvas, on which the figures occupy a relatively small part of the space and there are many necessary voids on the canvas. Both the void left on the canvas and the unfilled space of the stage enhance the viewer’s imagination.

The “Sutra”, unloaded from decoration sets, is a sample of scenographic laconism. The only decoration—the boxes are placed on the stage mostly asymmetrically, and often a certain section of the stage (even more than half) remains fully empty, which creates the illusion that the action takes place on a half-empty stage.

Psycho-emotional load of a white colour

When grandiose Chinese landscapes preserved in the form of a scroll were shown to the viewer, the canvases were slowly unfolding on a white section, because white colour was assigned a special psycho-emotional load.

The artist of the “Sutra” Antony Gormley uses exactly white lights, white clothes, and white boxes for Sets and costumes. It is significant to emphasize that the total monochrome of the performance resonates both with Chinese painting and with the aesthetics of one of the currents of Western art—minimalism.

Rejection of the principle of theatrical dramaturgy

If we recall the long Chinese scrolls, different landscapes one after the other are drawn on them that are not related to each other meaningfully or causally, which creates contrasts.

By the way, even the ancient Chinese sutras lack a narrative plot (Burt, 2010: 1). The dramaturgy of the “Sutra”, in which the cause-and-effect links are less pronounced, is not built on the sequential opening of the narrative. According to Ma Yue, “the work itself doesn’t have a very clear storyline” (Ma, 2019: 1). Sixteen contrasting sections (images conveyed in the language of dance) are separated by musical-choreographic pauses.

There are contrasts between the Choreographic images, which correspond to the principle of a European musical suite. Sections depicting the thoughts of an introverted, self-absorbed outsider are replaced by the fastest sections of combat training, where amazing synchrony of movements is achieved.

It was not by chance that the performance was rated as a collection of aphorisms or short pictures (Vaghi, 2013: 1).

It is significant that the story-telling with cause-and-effect narrative, which is replaced by the landscapeness, is influenced not only by Chinese painting but also by Western culture:

- The influence of a popular musical genre in European music—the suite, which is also alien to plot's the penetrating development built on the cause-and-effect principle
- The performance expresses the aesthetics of Western avant-garde choreography, which speaks of futuristic trends (aluminum box), the geometry of boxes expressing constructivism, decentralization of stage space, elimination of narrative, and preference for asynchrony of music and dance movements (Naranjo Rico, (2010: 1); There are used the principles of choreography that are typical for modern choreography: isolation—separation of different parts of the body and their independent movement and opposition—the opposite movement of one part of the body to its opposite part (Loria, 2014: 157)
- Due to the dancers' poses (Sidi Larbi and child Shaolin monk), an interesting allusion arises with a bronze sculpture by Auguste Rodin—The Thinker, that brings us closer to Western art.



Video 1. Sidi Larbi Cherkaoui, Antony Gormley and Szymon Brzóska (Web 7)

Meditation as a method of thinking

It is a commonly accepted axiom that looking at a Chinese painting should induce a meditative state. Many sections of the “Sutra” also serve to create a meditative mood, because meditateness is the method of the choreographer’s artistic thinking. From this point of view, the dance of the boy and the outsider in the aluminum box can be mentioned as one of the fascinating scenes. According to the choreographer’s words, being placed in such a small box, that symbolizes monastic cells, stimulates extraordinary spiritual abilities during meditation.

Thus, the choreographic play “Sutra” is full of allusions that unmistakably guide the audience to Chinese monochrome painting.

Thought-provoking finale of “Sutra”—the attempt to harmonize Eastern and Western traditions and cultures

In the finale of the play, Cherkaoui’s choreographic alchemy reaches its apogee. He blends and harmonizes elements of Eastern and Western cultures and traditions in “Sutra”. The authors of the play want to break stereotypes about the

incompatibility of Eastern and Western culture, Eastern and Western thinking, as well as tradition and innovation. For this goal, the outsider tries to overcome the artificial barrier constructed in the human mind, which is symbolized in the play by the impenetrability of the Great Wall of China. A very impressive scene in this respect is the dance of the outsider and the child monk in one box as they try to achieve tandem. At the end of the “Sutra”, the mutual sympathies of the representatives of the two worlds are also expressed. According to Ma Yue: “For example, the monks display their kung fu skills wearing Western suits” (Ma, 2019: 1). One more hint to this is the following scene—warriors are sitting on vertically standing boxes, which should symbolize Western skyscrapers and Chinese Pagodas at the same time therefore indicated to the principle of double coding in the performance. According to the choreographer—“The things that are different are only different as long as you don’t absorb each other’s language. Let’s say that the Shaolin monk has a movement that’s different from mine, but the moment I try to learn it then it’s a movement that my body also accepts” (Mugleton, 2020:10).

In the finale, Sidi Larbi sheds light on the main idea of the work—the dialogue between the two worlds, as a matter of fact, has been accomplished. Sherkaoui repeats the tricks of the monks with amazing precision, but the dynamics of the romantic, tonal music miss the dynamics of the movements of the Shaolin monks. The chronotope⁴ of Western-style music does not match the chronotope of an Eastern Tai Chi training scene. Isn’t this a hint that the Eastern martial techniques performed with mathematical precision by a Westerner lack something internal, something that cannot be learned in a few months or years, something that can be explained more by the phenomenon of genetics? He specifies his opinion in this regard in one of the interviews: “My assumptions about China came from Bruce Lee movies I watched in childhood. But later you realize Chinese culture is much more than that” (Ma, 2019: 1). Perception of martial arts techniques of Shaolin monks as an original and completely new language of dance is the result of a European choreographer’s artistic research, but the attitude of the monks to this issue turned out to be also very interesting; As Sidi Larbi recalls in one of the interviews: “they asked me what a choreographer is. I thought that was perhaps the best question I’ve ever been asked” (Ma, 2019: 1).

In the context of intercultural connections, the main essence of “Sutra” reminds me of the main idea of Rudyard Kipling’s poem—“The Ballad of East and West”⁵, where the poet questions universally recognized facts about fundamental differences and the everlasting dichotomy between East and West. The writer sees the solution to this problem in the meeting of gifted and strong individuals who can assist in vanishing differences, transcend boundaries, and bridge the gaps created by cultural, geographical, and social divisions. In “Sutra” these gifted and strong individuals take shape as a traveller from the Western World and Shaolin monks from China.

Conclusion

The opinion about ballet dramaturgy—according to which, it is a synthesis of four types of dramaturgy: theatrical, musical, choreographic, and pictorial (Loria, 2014: 7)—may be expressed in the modern choreography play “Sutra” as well.

Choreography, music, and painting are harmoniously coordinated, which determines that the main ideas of the choreographer and the concept of the performance are presented very clearly, which even causes the admiration of the audience.

During the research, it was determined the following:

- There is a lack of scientific literature available on the subject of the Sutra;

⁴ The term is used with the same meaning as it has been introduced by A. A. Ukhomsky his physiological research in 1925 (Zueva 2015: 30), then cultivated in the humanitarian field by M. M. Bakhtin, and leads to the illusion of overcoming the flow of time (Beaton 2010: 59).

⁵ Rudyard Kipling. “The Ballad of East and West” (1889)

“Oh, East is East, and West is West, and never the twain shall meet,

Till Earth and Sky stand presently at God’s great Judgment Seat;

But there is neither East nor West, Border, nor Breed, nor Birth,

When two strong men stand face to face, though they come from the ends of the earth!” (Kipling 1889/1994: 1)

- The authors of the choreographic play “Sutra” want to show the meeting of Eastern and Western cultures, which turns not only into a cultural dialogue but also an epochal one;
- The European traveller tries to harmoniously combine oriental martial arts and modern European choreography techniques, and enrich European culture with elements of older Asian culture;
- The performance combines, on one hand, modern European theatrical thinking, choreography, and scenography, and on the other hand, the principles of Chinese painting, and the features of ancient martial arts. It is clearly stated in the guideline of the “Sutra” that the choreographer learned rituals, movements, and rhythms of the monks of the Shaolin temple, and offered them a contemporary choreography standard made up of other capacities of the body. “This exchange, made into a show on stage, resembles the learning process of a new language, written between East and West, that respects the tradition of kung fu and gives it an original point of view” (Numeridanse, 2014: 1);
- Sets and costumes play the biggest role in conveying the idea of intercultural connections in the play “Sutra”;
- The Sets and costumes and choreography of the performance were greatly influenced by principles of Chinese monochrome painting, which was reflected in the partial use of the stage space, the colour limit of the decorations and scenography, etc.;
- Szymon Brzóska’s musical style combines the peculiarities of avant-garde music, minimalism, and lyrical romantic music, thus symbolizing Western and Eastern worlds: The composer shows the poetics of Eastern martial arts through romantic music, while the fighting spirit of Shaolin monks is emphasized with minimalist music. Thanks to these stylistic layers, Szymon Brzóska in his turn intensified the intercultural and epochal dialogue in “Sutra”;
- We can easily consider Sidi Larbi’s “Dance Odyssey” as a dance of cultures, as an intercultural choreographic production beyond national borders, that is based on the choreographer’s autobiographical experience.

Recommendations

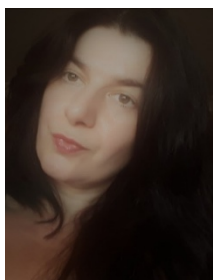
Considering the findings and results obtained in the research and the actual problem of intercultural connections posed in the play “Sutra”, this masterpiece of modern European choreography is recommended to be included in courses on the History of Choreography or the History of Ballet.

Acknowledgment

While working on the scientific research, I would like to give very special thanks to the composer of the play—Szymon Brzóska who gifted me with the musical score of the “Sutra”, which is not available on the Internet thus providing invaluable assistance in my research. I couldn’t have managed the research without his support.

The research paper is dedicated to the memory of Nana Loria, the Georgian musicologist, and author of the first Georgian-language textbook in the history of ballet. She laid the groundwork for the methodology of scientific research in ballet and contemporary dance in Georgia, which greatly aided me in conducting this specific research.

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Research Article

The image of Saint Petersburg in Tchaikovsky's operas

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Abstract

The theme of St. Petersburg in Russian literature is currently explored quite extensively, whereas in music it remains largely unexamined. This article investigates the portrayal of St. Petersburg in two operas by Pyotr Tchaikovsky - Eugene Onegin and The Queen of Spades. The research subject is the 'dualism' as an essential characteristic of St. Petersburg in these two operas by Tchaikovsky, the bipolarity of its culture, the ambivalence of its image and the nature of interaction between these poles. The study is based on the works of Yuri Lotman and Vladimir Toporov the latter of whom introduced the concept of the 'Petersburg text' into scholarly discourse. Within the philosophical consideration of the image of St. Petersburg from a systemic approach, this work relies on the parameter of 'temporality'. By analysing compositional techniques, the author identifies the peculiarities of depicting St. Petersburg in the two operas through the lens of temporal and spatial perception of the city as a holistic system of Tchaikovsky's era. After examining the content of Tchaikovsky's two operas and conducting searches for the essence of the phenomenon of St. Petersburg, a conclusion is drawn about the specific genesis of the northern capital, which lies in the unique combination of its European nature with Russian tradition. The study of the capital as a metaphor in contemporary musical art appears promising and sheds light on new possibilities for the development of urbanistic theories, and on the other hand, it continues the exploration of the sphere of musical content.

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Introduction

In the realm of musical art, city names often appear in compositions from the Baroque and Classical eras. The titles of such compositions were derived from the names of the cities to which they were dedicated or were assigned later to signify the place and period of composition. However, the depiction of the city wasn't always manifested in the content of these works. During the Romantic era, the focus on 'geographical' locations shifted towards images more closely connected with rural life. The pinnacle of urban themes in musical art arrived in the 20th to early 21st century². It was during this period that new dimensions of urban themes emerged, and, crucially for our research, these compositions increasingly exhibited metaphorical qualities of the city.

The Petersburg landscape as a unique phenomenon in European musical culture was shaped through intercultural interactions resulting in the formation of a cohesive, vibrant, and dynamically evolving cultural space. Petersburg became a site of cultural and semiotic contrasts where many elements developed distinctively. Initially perceived as an 'embodiment of order' the city transformed into the most phantasmagorical city in world mythology and texts, where mystery became the driving force of narration.³ Yuri Lotman asserts that the Petersburg mythology has always been

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² Anna Stepanova, 'City on the borders: aesthetic facets of the image in the literature of transitional epochs', *Ural Philological Bulletin. Series: Russian literature of XX-XXI centuries: trends and currents* (4), 2014, pp. 25-38; here, 25.

³ Jurij Lotman, *Selected Articles* (Tallinn: Alexandra, 1999), 21.

present in the city's real history and the everyday life and beliefs of its inhabitants were imbued with mythological elements. Oral tales and rumours of terrifying events played an exceptional role in urban folklore.

In the 19th century, St. Petersburg with its cultural landscape became the culmination of meaningful elements, manifested in musical compositions, and acquired a metaphysical existence, becoming an integral part of world culture.⁴ Over its more than three-hundred-year history, the Northern Palmyra became a source of inspiration for numerous composers. It is portrayed as a system conveying various attributes into the realm of musical art, creating the opportunity to concentrate hidden meanings, intricate ideas, and metaphysical questions related to human existence within specific works.

The visual imagery of objects - streets, buildings, squares, monuments - largely shaped the lives of characters in classical musical works. St. Petersburg inspired Mikhail Glinka but also gnawed at his creative instincts, persistently drawing his sunny sensitivity into pessimism. Alexander Dargomyzhsky was the first to reveal in music the grotesque faces of the 'underground' world of St. Petersburg and the bitter, mocking laughter of 'vulgar anecdotes'. In this city, Modest Mussorgsky's creative output matured into song cycles like *Without Sun* and *Songs and Dances of Death*. His tragic humour, akin to Dargomyzhsky's, found an inexhaustible source in the life of the bureaucratic city with its distorted and emaciated existence.

Tchaikovsky can be considered a chronicler of St. Petersburg, as his creative work was interwoven with the city and infused with its moods.⁵ The theme of St. Petersburg, which resonates with Tchaikovsky's work, unfolds through a metaphorical interpretation of the city: St. Petersburg serves as a metaphor for the loss of Russian 'folkness', the erasure of roots, and the suppression of individuality, which condemns the Petersburg hero to agonising experiences and a tragic outcome.

Exploring the city as a metaphor in contemporary musical art holds promise. On one hand, it sheds light on new possibilities for the development of urban theories, and on the other hand, it continues the research into the realm of musical content.

The image of Saint Petersburg in Tchaikovsky's works

St. Petersburg played an immense role in Tchaikovsky's life and creative journey. Within the city on the Neva River, his childhood impressions intertwined with his earliest vivid musical experiences and the composer's own tragic emotions. It was in this city that his passion for music was ignited, his determination to dedicate himself entirely to music solidified, leading him to forsake a bureaucratic career and transform into a professional musician. St. Petersburg birthed Tchaikovsky's initial compositional experiments and offered a receptive audience for his music. He returned to St. Petersburg multiple times - initially to reunite with his family - but then the city became the nucleus of his fame. It was here that he graced theatre stages and concert halls, where the public recognised and adored him. St. Petersburg was the place where he first tested his conducting skills; it became a hub for close friendships, family ties, and creative connections.⁶

Tchaikovsky perceived St. Petersburg not merely as a location of education and residence, but as a life force, a living essence. Thus, in his compositions, St. Petersburg assumes various facets. The sensation of the city's unparalleled beauty intertwines with the social and historical contradictions of Russia. In Tchaikovsky's works, St. Petersburg is multifaceted: it can be haunting, exquisite, and majestic.⁷

The longing for the city's white nights resounds vividly in Tchaikovsky's lyrics, blending with fantastical hues and his unique sense of humour, inherent to his music. The fifth piece, *May (White Nights)*, from the piano cycle *The Seasons*, includes a nocturne. From the first notes, the listener is transported to the atmosphere of the northern capital in spring. St. Petersburg's music couldn't help but convey its terror and mystic dread through unprecedented sounds.

⁴ Maria Kholodova, 'Domestic musical 'Petersburgiana': a historical excursion', *PHILARMONICA: International Musical Journal* (4), 2020, pp. 1-10; here, 4.

⁵ Boris Asafiev, *Symphonic Etudes* (Leningrad: Music, 1970), 159.

⁶ Lydia Koniskaya, *Tchaikovsky in St Petersburg* (Leningrad: Lenizdat, 1969), 320.

⁷ Solomon Volkov, *Balanchine's Tchaikovsky: Interviews with George Balanchine* (Moscow: Eksmo, 2004)

The initial sounds immediately immerse the listener into the atmosphere of a bright summer night. A calm tempo, undulating movement, and soft arpeggios convey a captivating image. A gentle crescendo, a melody ascending to a higher register, leads to a minor climax. A duple melody overlays a triple meter, outlining something ephemeral, weightless, and mysterious.⁸

The city's character is conveyed diversely by the composer and assumes an independent identity in many of his works - a feat achieved by only a few artists. Tchaikovsky was a poet-musician of this city, vividly embodying the horror of its urban intricacies. Ultimately, St. Petersburg embraced Tchaikovsky, drew him in with family ties, admiration for his music, meticulous staging's, and splendid performances of his operas, becoming his final sanctuary.

Resisting the embrace of St. Petersburg was impossible: the intoxication of white nights, the sweet shimmering of their ethereal forms, autumn mists, the fading joys of summer, the comfort and sharp contradictions of Petersburg life, the meaningless revelry of Petersburg revelers, the romantic yearning of secret Petersburg encounters and promises, the seeming cold disdain and indifference of high society toward superstitions and rituals, even to the sacrilegious laughter at the supernatural. Secret meetings and promises in Petersburg, the seemingly cold disdain and indifference of high society toward superstitions and rituals, even to the sacrilegious laughter at the supernatural, and at the same time, the mystical trembling before the unknown - these were the moods and emotions that filled Tchaikovsky's soul. He carried this poison with him everywhere, and his music was steeped in it, both in its highest achievements and in its adaptation to middle-class Petersburg life.⁹

Tchaikovsky became the first Russian composer whose sentiment for St. Petersburg poured into powerful nostalgia, concentrated in his *Fourth Symphony*, where the foreground is dominated by sentimental sorrow for the lonely soul lost in the vast city. On one hand, this conflict seems to rise upwards, dissolving into the expanses of the Universe, as a confrontation between a person and their fate. On the other hand, the individual is consumed by tragic questions within themselves.¹⁰ In both cases, the city becomes almost unreal, otherworldly. These nostalgic motifs, interweaving with admiration for Mozart and the 18th century, gave rise to *The Variations on a Rococo Theme for cello and orchestra* (1876) and the orchestral suite *Mozartiana* (1887). The Petersburg theme occupies a significant place in the composer's oeuvre and is present in three of his major operas: *Mazeppa*, *Eugene Onegin*, and *The Queen of Spades*. Alexander Nikolaev remarks: 'In Tchaikovsky's music, life is reflected, perpetually triumphing over death in its eternal renewal. His art reaches towards the sun, light, and warmth; it gives us a sense of joy, makes us dream of a beautiful future, and teaches us to appreciate the beauty in the present'.¹¹

In Tchaikovsky's symphonies, one can trace a quarter-century evolution of his relationship with St. Petersburg - a path that mirrors Russian culture's journey over 150 years. In his first three symphonies, Tchaikovsky's admiration for the imperial capital is evident, with its dazzling atmosphere, vibrant parades, and lavish balls.

Tchaikovsky portrayed the forces of evil in various manifestations of social life. Violence and cruelty in merchant households in the Overture to *The Tempest*, social inequality rooted in the power of money in the opera *The Queen of Spades*, and the 'fatal' conventions of social morality leading to Lensky's demise in *Eugene Onegin* - these are just a few examples of the diverse yet socially significant embodiments of evil in Tchaikovsky's music, which the composer himself unified under the concepts of 'fate' and 'destiny'. Furthermore, loneliness as detachment from others and death as eternal separation from them, thus representing a philosophy of individualism as a conscious detachment from societal life, as a philosophy of estrangement - this constitutes another set of primary adversaries for Tchaikovsky's characters in his music.

Eugene Onegin

The first two acts of the opera take place at the Larin estate, where there is a high degree of life's regularity, and the leisurely rhythms of rural residents prevail. The absence of haste, bustle, and movement forms the image of a space

⁸ Boris Asafiev, *On Tchaikovsky's music* (Leningrad: Music, 1972), 204.

⁹ Solomon Volkov, *Balanchine's Tchaikovsky: Interviews with George Balanchine* (Moscow: Eksmo, 2004), 46.

¹⁰ Boris Asafiev, *On Tchaikovsky's music* (Leningrad: Music, 1972), 249.

¹¹ Alexander Nikolaev, *Tchaikovsky's Piano Heritage* (Moscow: Muzgiz, 1958), 62.

with a lesser intensity of time perception. In the third act of the opera, events unfold in St. Petersburg, where eternity and a moment intertwine. A socio-philosophical view when examining the city allows for correlating time with social and personal changes, as well as local and global transformations. The city, being a temporal system, constitutes a collection and sequence of events occurring within its space.

In the opera *Eugene Onegin*, Act III, Scene VI, the ‘St. Petersburg Ball’ depicts the domestic and social context. The action opens with a triumphant polonaise, sounding with a vividly expressed splendour and brilliance, painting a picture of the Petersburg elite. In the score, Tchaikovsky intentionally notes: ‘The scene represents one of the side rooms of a wealthy nobleman’s house in Petersburg’.

Here, the ‘glittering Petersburg’ is portrayed with its conventional social relations in the upper echelons of society, where restraint, controlled emotions, and so-called social etiquette reign, as evident from the solemn polyphonic ‘polonaise’ and Prince Gremin’s aria ‘All ages are submissive to love’.

After the polonaise, against the backdrop of a D major waltz, Tatiana appears, and the chorus of guest’s comments on her arrival. The waltz provides a direct development of the opera’s main dramatic line; in this case, the dance not only creates the atmosphere of the capital but also introduces a new image of Tatiana, now connected with high society life. This is her facade, concealing her true essence and portraying her as cold and emotionless. This is emphasised by the composer’s remark ‘con dolcezza e eleganza’ (with sweetness and elegance).

Gossip about Onegin: ‘Strange, pretentious, sad madman’ - this theme depicts the portrayal of Petersburg society: the contrast between the tranquil rural life depicted in the first part of the opera and the finale, showcasing the upper echelons of city society (Example 1).

The image displays a musical score for a vocal and piano piece. The tempo is marked 'Poco più animato'. The vocal line begins with the syllable 'жу!' followed by a piano dynamic marking [p]. The lyrics are: 'Чу дак при твор ный, пе чаль- ный, стран- ный су-ма сброд. В чу-жих кра'. The piano accompaniment features a waltz-like rhythm with a piano dynamic marking [p] and a 'p cresc.' instruction. The score is written in a key signature of three flats (B-flat major or D-flat minor) and a 3/4 time signature.

Example 1. Tchaikovsky, *Eugene Onegin*, third act ‘Scene, Ecocese and Gremin’s aria’

It should be noted that originally, in the first version, two intermezzi (musical interludes) were absent, which Tchaikovsky composed at the request of the theatrical director Ivan Vsevolozhsky for the staging of the opera in Petersburg in 1885. This was done to intensify the drama and create a more vivid atmosphere of early 19th-century Petersburg. The lost urban space is manifested in a contemporary cultural phenomenon known as the ‘departing nature’ of the capital, representing the disappearing historically developed urban environment. The loss of the past leads to a rupture in time and the potential for its reconstruction.

Tchaikovsky presents the city as a dynamic entity, encompassing numerous conceptual parameters that allow it to be perceived as a whole. Petersburg is characterised by a unique experience of urban space in the form of a lost past.

The complexes of intonations inherent to individual characters intertwine with each other in kinship sharing emotional states and affects becoming not so much personal as generally human under the given circumstances. Furthermore, they merge with the psychological portrayal of the era and dramatic situations. This forms a system of compositional intonational arcs, sound arcs, a kind of transition from one point of action to another. The noticeable prevalence of sequences in the composition of *Eugene Onegin* is indicative of the presence of an associative system of reminiscences or reflected reflexes.¹²

The final scene takes place in the drawing room of Prince Gremin's house. The key shifts to D minor, resulting from a harmonic modulation from D major with a dominant bass on 'F'. The orchestral theme recalls the theme of the dying swan from the ballet *Swan Lake* (Example 2).

Allegro Moderato

Allegro Moderato

Allegro Moderato

Example 2. Tchaikovsky, *Eugene Onegin*, third act 'Final Scene' (1)

¹² Boris Asafiev, *On Tchaikovsky's music* (Leningrad: Music, 1972), 74.

The musical score is presented in a system of six staves. The top two staves are for vocal parts (Soprano and Bass). The middle three staves are for the piano accompaniment (Right Hand, Left Hand, and Pedal). The bottom staff is for the grand piano (Right Hand and Left Hand). The score is marked 'poco' in several places. The music features a mix of melodic lines and rhythmic patterns, including a prominent ascending sequence in the grand piano part.

Example 2. Tchaikovsky, *Eugene Onegin*, third act 'Final Scene' (2)

In the major key, dissonances resonate. When the waltz in D major sounds during the ball, a welcoming and composed Tatiana appears. Years have passed, and she has become the wife of Prince Gremin. Fate has brought her and Onegin together again. Their brief conversation is nothing more than a polite exchange of opinions. However, as a reminder of the past, one of the themes from the letter scene sounds in the orchestra, and a change occurs in Onegin's character. For the first time in the opera, his music is filled with sincerity and emotional warmth – 'There's no doubt, I'm in love'.

The recitative conveys her surprise at meeting Onegin. Tatiana has 'learned to control herself', as Onegin advised her in the first act, after receiving her letter. Even the music does not betray her state, portraying the heroine as composed and experienced.

Indirectly, her character is also shown in Prince Gremin's aria 'All ages are submissive to love'. Here, Tatiana is contrasted with the heartless society surrounding her, where cunning and indifference prevail: 'She shines like a star in the clear night sky'. A weighty accompaniment with ascending sequences in G \flat major is heard. A parallel can easily be

drawn with Lensky's aria 'I love you, Olga' from the first act. Thus, the essence of the temporality of existence emerges based on the contradictory unity of time, eternity, and the moment.

At the end of the opera, the duet-*élegie* in C minor between Tatiana and Onegin is heard: 'Happiness was possible, how close it was'. Its foundation is a melody close to the leading lyrical themes of Lensky and Tatiana. The entire concluding section of the scene is devoted to revealing Tatiana's resolute character and emphasising the significance of duty to her. The scene and *arioso* of Onegin mark a turning point in his character development. Tatiana's thematic material is heard in Onegin's part (roles are reversed), and he even responds to her with her own words from the first act.

In the final scene, the main character is depicted as 'frozen': he 'pauses' while explaining to Tatiana, signifying the transition from 'movement' to 'stillness' - from life to death. In the finale, he remains in Gremin's drawing room 'forever' - symbolically, Onegin is struck by the rejection of his beloved woman.

Tatiana: But my fate is already decided, And irrevocably so! I am now married, you must, I implore you, leave me in peace! Why hide, why deceive! Ah! I love you!

Eugene: What do I hear! What words you have uttered! Oh, joy! My life! You have become the Tatiana of old again!

Tatiana: No! No! The past cannot be undone! I am now devoted to another, my fate is already decided, I will be faithful to him forever!

The mirror-like composition is a highlight of the libretto of the opera *Eugene Onegin*. At the beginning of the work, St. Petersburg with its way of life, customs, and manners personifies the charming rogue, the flirtatious Onegin, who rejects Tatiana Larina and reads notes to the naive girl. However, by the finale, all the unattractive aspects of city life are embodied in the married socialite lioness Tatiana Gremina. She responds to Onegin with a rejection, depriving him of the happiness of being together, although she still loves him. St. Petersburg is the embodiment of Tatiana, as if she is dressed in it. According to Tchaikovsky's opinion, St. Petersburg is not merely the backdrop of events - it is an active participant in the drama. It influences what happens, affects the destinies of people, and shapes their consciousness.

The Queen of Spades

The genuine 'Petersburg' masterpiece became the opera by Pyotr Tchaikovsky *The Queen of Spades* created in 1890 based on the story of the same name by Alexander Pushkin.

The Queen of Spades had to undergo transformation, or more precisely, almost entirely dissolve within the waves of Tchaikovsky's music, to indirectly contribute to the fading of the old myth of Petersburg and the creation of something new.

Yakov Platek, the author of essays dedicated to the Petersburg theme in the life and work of Tchaikovsky, agrees with the statement of ballet master George Balanchine:

'For me, Tchaikovsky is a composer of Petersburg, absolutely a Petersburg composer. And not just because he studied in Petersburg, graduated from the conservatory, and lived here for a long time. Not just because he considered this city his own and spoke about it. What is much more important is that in the essence of his music, Tchaikovsky is a Petersburg resident, just like Pushkin and Stravinsky were natives of Petersburg. It's not by chance that the entire creative life of the composer unfolded in this city'.

The foundation of the plot of *The Queen of Spades* is one of the most 'Petersburg-centric' aspects of Tchaikovsky's work.¹³ At its core is the obsessive idea of the gambling addict Herman, who attempts to unearth the secret of the three magical cards from the old countess, fails, and loses his sanity. Many future motifs of the literary Petersburg myth are already embedded in this story. But who was the Queen of Spades, and where was her residence located? The first question was answered by Alexander Pushkin, the author of the story that served as the opera's libretto. On April 7, 1834, he recorded in his diary: 'At court, a resemblance was found between the old countess and Princess Natalia Petrovna, and it seems they are not upset'. The famous 'mustached princess' Natalya Golitsyna, a distant granddaughter

¹³ Solomon Volkov, *Balanchine's Tchaikovsky: Interviews with George Balanchine* (Moscow: Eksmo, 2004), 45.

of Peter the Great, was close to Catherine the Great, who admired her intelligence and independent judgment. As a lady-in-waiting and courtier to five emperors, Golitsyna symbolised the continuity of power. Her city mansion was a hub for French aristocratic emigrants, and she herself exerted influence on public opinion. Being received at the countess's reception was considered a great honour, and presenting a young lady to the princess before introducing her to society was deemed proper etiquette. She instilled fear and submission in those around her. Princess Natalya Petrovna passed away at the age of 97 on December 20, 1837, outliving the immortal Pushkin.

Her residence was situated on the left side of Malaya Morskaya Street, at the corner of Gorokhovaya Street, without intersecting it. Today, this is house number 10 on Gogol Street. This elongated three-story building has survived to the present day. Beneath the porch of this house, Herman, with the profile of Napoleon and the soul of Mephistopheles, spent long hours amidst rain and wind.¹⁴

Tchaikovsky expresses the substrate of the city's system from a socio-philosophical perspective, using numerous elements of urban life that reflect its existence in time, space, and movement.

In the first act, first scene ('Scene in the Summer Garden'), the action takes place in spring. 'Rarely does the sun, dear ones, delight us with joy!' The urban public space shapes the visual image of the city, revealing its social essence. The key of B minor (associated with masses, death, suffering) shifts to Mozart's favoured key of D major. The Summer Garden resembles Mussorgsky's 'Tuileries Garden' from *Pictures at an Exhibition* symbolising hope and vitality (Example 3).

The musical score for Example 3 is presented in a standard format with multiple staves. The top staff is the vocal line, and the lower staves are the piano accompaniment. The score includes dynamic markings such as *p*, *mf*, and *dim.*. The lyrics are written below the vocal line: "Ред - ко сол-ныш-ко вас, ро - ди-мы-е, те - шит ра - дость-ю!". The score is in 4/4 time and B minor.

Example 3. Tchaikovsky, *Queen of Spades*, First act 'Chorus of Children, Nurses and Others'

The opera presents two contrasting groups of musical themes: a bright beginning that symbolises humanity's aspiration for happiness, moral uplift, the beauty of emotions, and the force of darkness, evil, and death. These themes,

¹⁴ Andrei Yatshevich, *Pushkin's Petersburg* (Saint Petersburg: Petropol, 1993), 234.

encompassing the overarching theme of the work – the collision of light and darkness, life, and death – interact and intertwine.

To enhance the conflict, the opera begins with a depiction of childhood. Portraying children among the city's inhabitants reveals one aspect of Petersburg society. The boys' chorus (evoking associations with the boys' chorus from *Carmen*) performs the children's march 'Long live the wise queen, the mother of us all...' about Catherine the Great. Amid the tense drama and central conflict of the scene, these childlike images characterise the domestic aspect of the opera, concealing something far more significant beneath. Dramatically, the children's march, Liza's aria 'I do not know his name', the quintet 'I am frightened', and Tomsky's ballad from the very beginning of the opera intensify the conflict and foreshadow the tragic resolution of the finale (Example 4).

The musical score is presented in two systems. The first system begins with a vocal line in treble clef, marked *f*, with the lyrics "Да здрав - ству-ет же-на, пре-муд - ра - я ца-ри - ца". Below the vocal line is a piano accompaniment consisting of five staves: two treble clefs and three bass clefs, all marked *p*. The second system begins with a vocal line in treble clef, marked *p*, with the lyrics "как ма - терь всем о - на, сих стран им-пе - рат-ри - ца и". Below the vocal line is a piano accompaniment consisting of five staves: two treble clefs and three bass clefs, all marked *p*. The score is in 4/4 time and the key signature has two flats (B-flat major).

Example 4. Tchaikovsky, Queen of Spades, First act 'Chorus of Children, Nurses and Others'

Temporal dimension, as a parameter of the urban system relates to the reflective perception of the 'duration' of urban environment objects over time and the eventfulness of the territory. For Tchaikovsky, it becomes a philosophical

parameter of the city system concept. Time, in relation to urban dynamics, can be interpreted as a measure of its development, reflecting global processes within the civilisation space.

In the finale of the second act, in the third scene, Catherine the Great herself appears at the ball. ‘In the chorus, there is great excitement. The host divides the crowd to create a passage for the queen’. In the Russian Empire, there was a prohibition on depicting the tsars in operas. Herman stands apart, uninterested in her – this is a dramaturgical device employed by the composer. The hero's thoughts are preoccupied with something entirely different. At the end of the scene, the key changes to D minor, and tension is felt in the orchestra.

In the third scene, ‘Chorus of Promenaders’ sings together and then divides into social groups: the elderly men and women, the young people, and the young ladies. In the key of F major, they sing about the same topic but in different ways. The number is based on polyphony: each group has its own thematic material, and each does not listen to the others. This way, the composer portrays the division within society and juxtaposes age and death with youth and life (Example 5).

Lo stesso tempo (Allegro)

4

Example 5. Tchaikovsky, Queen of Spades, First act ‘Chorus of Promenaders’

The external atmosphere of Petersburg is intertwined with the inner lives of the main characters in the duet of Yeletsky and Herman who are both in love to Liza. The key of F-sharp minor with a dominant organ point foreshadows the tragedy. The archetype of the Russian woman is depicted – one who loves to pity. The Prince represents the highest society of Petersburg, behaving and speaking formally, while Liza is drawn to Herman's passion.

The intimate and social aspects of Petersburg are portrayed in Scene 7 (the duet), where Tchaikovsky presents Liza with a high status – she is the Countess' granddaughter. The interconnection between ‘person and city’ is defined by understanding the semantic ‘body’ of the cultural living space. The composer manages to infuse deep philosophical

meaning linked with contemplation and detachment from worldly affairs, enabling the enrichment of life with true values. The home is a primary component of the substrate, with its enclosed format. Liza is shown playing the harpsichord in the Countess' house, in a chamber-like setting. The personal space of the individual in the urban environment is a significant factor in human development. It is undeniable that humans live in two types of time: inner and outer. External time is defined by the individual's response to social challenges within the cultural context of existence. The temporality of the inner character is based on Liza's personal impressions of significant life events. Petersburg, as the 'natural' habitat of the opera's characters, greatly shapes the temporal perception of their personal worlds.

The third act of *The Queen of Spades* – the masquerade – artistically captures the amusements and daily life of Russian aristocracy. The key of D major brings back an aura of hope and happiness. The delightful intermezzo 'The Sincerity of the Shepherdess', with its naive narrative and borrowed passages from Mozart's piano concertos and Dmitry Bortniansky's sonatas, is artistically one of the prime stylisations of courtly Rococo.

The Countess sings in French in the 'Scene and Chorus of Governesses and Governesses-in-waiting'. Her recitative 'Le duet d'Orléans, le duet d'Ayen...' – a language spoken only by the upper echelons of society – is given in C-sharp minor (Example 6).

The musical score for Example 6 is presented in two systems. The first system consists of three measures. The vocal line (treble clef) features triplets of eighth notes: 'Le due-d'Or-leans', 'le-due d'Ae-en', and 'due de Colg-ny'. The piano accompaniment (treble and bass clefs) is marked *ppp* and features a steady eighth-note accompaniment in the bass and a more active line in the treble. The second system also consists of three measures, starting with a measure rest in the vocal line. The vocal line continues with triplets: 'La com-tesse d'Estrades', 'la du-ches-se de Braneas', and 'Ка-ки - е и - ме-'. The piano accompaniment continues with the same *ppp* texture, with some changes in the treble line.

Example 6. Tchaikovsky, *Queen of Spades*, Second act 'Scene and Chorus'

In the memory scene, Tchaikovsky convincingly portrays the old lady's caprices, her grumbling, and stubbornness. Set to a leisurely and majestic minuet rhythm, the Countess reminisces about her splendor at the Versailles court, how she danced with distinguished representatives of French aristocracy. The music accompanying this recitative monologue provides a general idea of the minuet, its rhythmic structure, intonated by the solo clarinet (Example 7).

Poco meno

А бы-ва - ло кто тан-це- вал? Кто пел?

Example 7. Tchaikovsky, *Queen of Spades*, Second act 'Scene and Chorus'

This motif, with its calm indifference and consistently repeating melisma in the third measure, conveys a peculiar detachment and dreamy tranquillity. There is a certain lifelessness in it. For the old lady, who stands with one foot in the grave, this graceful melodic figure serves as a catalyst for memories: Back then, she lived – danced, sang, played games of chance, had lovers; now, in the pale light, her days are only left with faint echoes of past merriment. When memories reach their zenith, the English horn enters with a carefree, naive quadruple melody infused with tender melancholy. It embodies the 'golden age' of gallant celebrations, a lost paradise, and the countess's habits. As her faded lips utter the king's name, a gentle breeze passes by, a ghostly whisper 'pppp' and vanishes immediately. This is the only emotional movement that the old lady is still capable of.

Tchaikovsky's Petersburg is a place where a person confronts their destiny, attempting to subdue the irrational, mystical forces of nature, history, and fate. Liberated from moral constraints (a central theme in the works of Fyodor Dostoevsky), the criminal hyper-persistence in achieving goals introduces new nuances to the artistic world of opera, conveying themes of temptation, destructive desires, passion, and death. Each scene of the opera is directed towards depicting the psychology and cause-and-effect relationships of characters, determined by the Petersburg setting.

Tchaikovsky's nostalgia and intuitive dread of the impending revolutionary catastrophe and the crumbling Petersburg way of life – in accordance with the legendary curse and fashionable Slavophile theories – find powerful reflection in *The Queen of Spades*. Petersburg in the opera is profoundly psychologised. Here, the fate of the state is not pondered; only love, life, and death are of concern. Death triumphs in Tchaikovsky's opera: not only does the Countess die (as in Pushkin's novella), but also the main characters – Herman and his beloved Liza. The listener may not immediately realise that their demise foreshadows the downfall of Petersburg. However, once understood, the sense of the city's inevitable demise emanating from the music of *The Queen of Spades* becomes indelible.

In the third act, during Scene 20 on the embankment, Liza's aria resounds in a sombre D-sharp minor tonality with the use of brass instruments. Midnight helps realise life from the perspectives of the 'temporal' and the 'eternal', actualising the question of the temporality of individual existence in the urban context. Liza mentally comprehends the static essence of being and her imminent passing (Example 8).

ва - ла - я? Ту - ча при - шла и гро - зу при - нес - ла, счас - тье, на - деж - ды раз

Tempo I

би - ла! Я ис - то - ми - лась!

Example 8. Tchaikovsky, *Queen of Spades*, Third act ‘Liza’s Arioso’

‘Night’ becomes a symbol of the stylistic poetry in Tchaikovsky’s later works, as manifested in *The Queen of Spades*, *The Nutcracker*, and *Iolanta*. Following *The Queen of Spades*, where the breath of death was so ethereal and yet real, the Composer even attempted to replace the word ‘death’ with euphemisms in his letters (for instance, ‘old lady’), as if imposing a taboo upon it. The night awakens fears and loneliness, pangs of conscience, and terrifying visions. With the onset of twilight, a different attitude toward life emerges, unveiling new realms of time – gateways to the bites of conscience.¹⁵ *White Nights* and their accompanying major tonality unveil new dimensions of time, reflecting the daytime world and commenting on it.¹⁶

The ‘nocturnal’ manifests itself as a distinct type of perception—a contemplative re-evaluation of daytime impressions, where one phenomenon is inseparable from another, like images united by a single emotional affect. Nocturnal fantasy emphasises much more actively the ‘strange and unusual’ qualities of night-time images, whose level

¹⁵ Michael Gassmann, *Die Musik der Nacht: Musik, Malerei, Liturgie, Literatur. Vorträge des Symposiums im Rahmen des Musikfestes Stuttgart* (Kassel: Bärenreiter-Verlag Karl Vötterle), 63.

¹⁶ Boris Asafiev, *On Tchaikovsky’s music* (Leningrad: Music, 1972), 340.

of concreteness is elevated here to that of 'characters', and their development takes on distinctly pronounced narrative forms.

The scene in the Countess' bedroom, in the barracks, by the Winter Canal - all of this portrays Petersburg with its hypnotic irrationality, divinations, and enchantments. The sombre view of the night barracks harmoniously blends with the mournful music. All the necessary stage effects for the appearance of the ghost are present: late evening, moonlight that flickers on and off, the howling of the wind, fleeting shadows, and snowstorm. However, all this necessary stage setting is not truly frightening; the music itself is what is truly terrifying, acting with indescribable force. And it's not so much the howling of the storm that is terrifying, but the precise understanding of all the motifs and expressive means that possess an almost 'speaking' power.

In the scene at the gambling house, the atmosphere of drunken revelry naturally gives rise to the genre of a 'playful' song and dance. The entire scene authentically reflects the lives of the noble representatives of the 'golden youth' of old Petersburg. The music is filled with genuine zest for life, and that's where its strength lies. Through the method of genre characterisation, Tchaikovsky, like no one else, achieved the most accurate and vivid portrayal of the dissipated lifestyle of the 'golden' youth. Against this backdrop, the tragic finale of the opera becomes particularly vivid.

In a letter to Nadezhda von Meck in 1878, Tchaikovsky wrote: 'Petersburg currently exerts the most oppressive, melancholic influence on my soul. The weather is dreadful: fog, endless rain, dampness'.¹⁷ The motif of 'strangeness', 'illusion', 'phantasm', and the 'appearance of the visible', introduced by Boris Asafyev in his essay on this opera, became a distinctive feature of Tchaikovsky's *The Queen of Spades*, creating a significant and vivid context in the exploration of one of the most expressive and poignant pages of St. Petersburg's musical narrative. Regarding the 'strange' element, which holds the status of a leitmotif in the Petersburg text, Vladimir Toporov writes: 'General operators and indicators of modality: suddenly, unexpectedly, at this moment, strangely, fantastically'.¹⁸

It is not surprising that the plot of *The Queen of Spades* triggered in the composer's imagination a tumultuous influx of sound images and rhythms, clothed in distinctly specific harmonies and hues. In his composition, the composer conveyed the atmosphere of the peculiar Russian city, embodying the cold, granite-destructive phantasmagorical world of the Northern capital - precisely in this key did the master perceive Herman's tragedy, a truly 'Petersburg type' of person, consumed by his passion for roulette.

The 'eerie' orchestral colour, achieved through the peculiar use of timbres and intricate rhythmic lines of the woodwinds (especially the bassoon and clarinet), could only be born in Tchaikovsky's mind under the influence of distorted reflections of vital and grotesque phantasms of Petersburg. The state of heartrending emptiness and coldness of Petersburg is expressed through the timbre of the clarinet.

In *The Queen of Spades*, Tchaikovsky interprets Petersburg as a city of 'distorted reflections of life force and grotesque phantasms', a city with its hypnotic irrationality, divinations, and enchantments. The composer captured the 'essence of the city, shrouded in mystery and pursued by irrational forces'.¹⁹ Tchaikovsky's music is infused with the illusions of Petersburg's white nights and contrasting winter scenes: black tree trunks, a snowy blanket, the oppressive weight of granite masses, the precision of forged patterns.

The use of the minor seventh chord of the second degree is often encountered in episodes of oppressive melancholy and terrifying solitude: in the scene of the approaching ghost in the fifth act and in the episode of the Countess' death. In both cases, the composer modulates to the key of the minor dominant: from A minor to E minor in the fifth act and from E minor to B minor in the fourth. In both cases, the tonic and dominant of the new key are prolonged (especially in the fifth act), and the entire development is built on various transformations of the seventh chord of the second degree, subtly conveying the emotional sensation of severe Petersburg. The seventh chord appears in various forms: tremolo in the bass, swirling harmonies in the winds, harmonisation of the theme of secrecy, descending scale-like progressions.

¹⁷ Pyotr Tchaikovsky, *Correspondence with Nadezhda von Meck in 3 vol.* (Moscow: Music, 1935), 431.

¹⁸ *Ibid.*, 314.

¹⁹ Boris Asafyev, *Symphonic Etudes* (Leningrad: Music, 1970), 328.

The urban cultural landscape emerges as a result of the creative transformation of the hero's geographical environment in the opera. Space becomes a landscape imbued with philosophical content. In episodes of emotional intensity, dominant organ points are often encountered. The sequential development of melody on the dominant is one of the composer's favourite techniques in tense, evolving dramatic moments, embodying both the bright and dark sides of the city.

Indeed, mysticism and infernal elements in the interpretation of the theme become defining for the characters. The tragic fatalism of fate in Herman, Liza, and the Countess, tied to the 'world' of Petersburg, is inseparably linked with the image of this city - a phantom city, a ghost, where life resembles a dream. Tchaikovsky's music is enveloped in the illusions of white Petersburg nights and the contrasting elements of winter: black tree trunks, a snowy veil, the crushing weight of granite masses, the sharpness of 'iron railings'.²⁰

As the plot of *The Queen of Spades* unfolds, the orchestral score becomes infused with dark and sombre chords, accompanying the melodies of the characters as the opera's events lead them to a tragic conclusion. The white night, coming with spring, is poisoned by this sorrow. It torments, lures, beckons with its strange, reflected light, and when the sun rises, people have no strength left to rejoice in it; they are enervated by the process of being drawn toward the light. Longing for spring, the tantalising and inexplicable attraction to elusive images - this is one sphere of emotions. But in the winter twilight and the reflected light of summer nights in this city, other feelings arise: a sense of phantasmagoria and the transience of all existence, and from there - a keen curiosity about the process of destruction and death. Destruction and death, not as natural laws of development, but as existing for their own pleasure. The fantastical images that emerge inevitably take on the appearance of eerily real ghosts, while real images distort to the point of delirium. For those who perceive all that is visible as illusion, or for those who are inclined to the enchantment of the irrational, maintaining equilibrium among them is difficult.

In the opera, the city represents a self-contained and self-sufficient space where shifts in societal formations, cultural paradigms, and types of cultural consciousness occur. These developments are cultivated and established by aesthetic thought, and it's within this city that Herman finds himself at a pivotal moment in his life. Tchaikovsky's understanding of St. Petersburg is twofold: on one hand, it's a city of triumph and national identity; on the other, it's a hub of evil and crime, a city of abyss. The music of *The Queen of Spades* allows the protagonist to immerse himself in a 'world of shadows', which proves to be a reality. Thus, St. Petersburg becomes the authentic subject of intense, often contradictory aesthetic experiences.

In *The Queen of Spades* there is a collision of two spatial worlds: the real and the unreal. The spatial organization of the text is multi-layered - mystical narration cannot exist within the framework of real space. In the unreal Petersburg, spatial distortion and its mirror reflection occur.

Every day and mystical episodes take place in different locations and types of space. The unreal space is characterised by boundlessness, transformation, dynamic action, constant changes, and rapid movement. Everyday space is always limited and often static.

Tchaikovsky's music could not help but embody in unheard-of sounds the horror and fleeting mystique of Petersburg. The ominous orchestral colour achieved through characteristic timbres and complex rhythms (especially among bassoons and clarinets) could only arise under the impression of Tchaikovsky's distorted reflections of 'Petersburg life and grotesque'.²¹

In *The Queen of Spades* Tchaikovsky does not display cynicism because he keenly felt that the time when one could approach the 'Petersburg' theme with indifference or cynicism had passed. In Tchaikovsky's music the 'fatal' forces of evil are represented by unjust and inhumane social relations that govern and oppress the protagonist. These forces restrict his consciousness and behaviour, limit his freedom, destroy his nature, cloud his mind, distort his feelings, and ultimately ruin his life.

²⁰ Pyotr Tchaikovsky, *Correspondence with Nadejda von Meck in 3 vol.* (Moscow: Music, 1935), 329.

²¹ Boris Asafiev, *On Opera: Selected Articles* (Leningrad: Music, 1976), 328.

By performing a requiem for Herman at the end of the opera with a sublime and sombre choral composition Tchaikovsky bid farewell to himself and to Petersburg - a gesture that would later be echoed in his *Pathétique Symphony*. Since Herman's fate was intertwined with that of Tchaikovsky himself and the city it became a psychologically charged symbol of a new era in Petersburg culture.

In *The Queen of Spades* Tchaikovsky created a social tragedy revealing the characters as contemporary people. The composer depicted their suffering with great sympathy which is caused by the injustice of the social order. The music revealing the drama of the characters contrasts sharply with the themes in scenes depicting everyday life. Strolling in the Summer Garden, festivities among the nobility, and the gambling house - these are background scenes, and their themes are not always related to the era's atmosphere.²²

Thus, alongside Herman's tragedy Tchaikovsky succeeded in making his opera a truthful reflection of Russian reality, an objective expression of ideas, relationships, and customs in their generalised form. In other words, Tchaikovsky's objective portrayal of Russian reality in *The Queen of Spades* captured its essential aspects, preserving its significance for many decades.

For the Petersburg 'sense of the world' the notion of phantasmagoria is characteristic intertwined with the tradition of visions and prophecies, as well as theatricality, the sensation of being present in the city's grand architectural ensembles, creating an indelible impression of scenery.²³

As Vladimir Toporov noted, the essence of Petersburg is determined by the duality of nature and culture where nature is characterised by amorphousness, curvature, horizontal planes, and culture by clear formality, linearity, verticality. The spiritual, metaphysical essence and atmospheric specificity of the city and the Petersburg text are defined by their phantasmagorical and transparent nature. The Petersburg text like the city itself is characterised by the impression of a mirage, metaphysical properties, fantastical elements, intentionality, and phantasmagoria: miracles, revelations, dreams, prophecies, visions, divinations.²⁴

Petersburg as a theme of fate, intertwined with the theme of the card, becomes a metaphor for a predetermined tragedy for both the characters and the author. This new transformation was achieved through Tchaikovsky's music.

Conclusion

Saint Petersburg, from its foundation, has become a symbol of profound change and grand achievements, always standing apart from other Russian cities. Its uniqueness besides the fact of its emergence on marshlands against nature's odds is affirmed by its entire subsequent history. Located on the edge of Russian territory it peculiarly merged European and inherently Russian national traits, forming a new phenomenon - Petersburg culture.

Interest in cultural phenomena such as Petersburg has persisted over many generations retaining its significance. As noted by the renowned literary scholar Toporov, 'The theme of Petersburg leaves few indifferent. Far from being exhausted or definitively resolved, it is characterized by a special antithetical tension and explosiveness'.²⁵

In Tchaikovsky's two operas Petersburg is depicted as proud, mysterious, and shrouded in secrecy. The soul of Petersburg is 'hidden in tightly buttoned uniform'. In these works, the city is portrayed with an intense flow of life. The rules of high society, the depersonalisation of individuality, and indifference are the main characteristics of the capital in the two operas.

The city reflects the spiritual upheavals of Tchaikovsky's opera characters and appears as a temporary space of personality. The temporality of Petersburg is combined with transience indicating a crisis moment in the characters' lives: Herman - Liza, Tatiana - Onegin.

In Tchaikovsky's works Petersburg is not only a backdrop but also an independent character. The image of Petersburg is calmly reflected in the steel Neva preparing for a new, unprecedented transformation of its famous reflection. The city ceases to be perceived as a closed and orderly space awakening the elemental movement of the free

²² Yulia Rozanova, *History of Russian Music, vol. 2: The second half of the XIX century* (Music, Moscow, 1981), 219.

²³ Jurij Lotman, *Works on sign systems XVIII. Scientific Notes of the Tartu State University* (Tartu: Tartu University Press, 1984), 36.

²⁴ Toporov, Vladimir, *Petersburg Text of Russian Literature: Selected Works* (Saint Peterburg: Art, 2003), 30.

²⁵ *Ibid.*, 259.

human spirit, independent of the cultural imperatives of the preceding era creating new values and a new space. In this sense Petersburg represents an experience of borderline 'elusive' consciousness existence revealing the intimate interdependence of the capital phenomenon as an aesthetic ideal and a litmus test of social environment and living conditions.

During the research, the musical interpretation of the northern capital and the customs of people of Saint Petersburg in Tchaikovsky's two musical works was established. In *Eugene Onegin* the capital's parade-representative image is shown while in *The Queen of Spades* the city appears 'from the inside'. The wide panorama of musical incarnations of the image of Petersburg testifies to its sharply expressed bipolarity which constitutes the essence of the city as a holistic phenomenon. It seems that two dissimilar operas by Tchaikovsky are for the first time aligned within the framework of belonging to the unified theme of Petersburg.

Thus, in Tchaikovsky's two operas every day and mystical episodes take place in different locations and types of space. Characteristics of unreal space include boundlessness, dynamic action, transformation, constant changes, and swift movement. Everyday space is always enclosed and often static. Another distinguishing feature separating real space from unreal is the content and character of its contents. In Tchaikovsky's operas everyday space is filled with simple material objects. Real space encompasses the material sphere, the sphere of physical and sensory experience. The mystical and unreal are characterised by boundlessness, often represented by natural and astral phenomena, air, and spirits.

Indeed, in Tchaikovsky's two operas Petersburg not only accurately conveys the cultural context of the era but also becomes a 'mirror' for the characters reflecting their hopes, feelings, and dreams of happiness.

Petersburg serves as the centre of a certain coordinate system with the main directions being the musical text and its interpretation which form a cohesive image of the city. As a result, a consistent chain of musical interpretations of Petersburg is built forming a unified representation of the capital.

The artificiality of the Petersburg situation gave rise to its mythogenicity, eschatological expectations, and premonitions of doom. According to Nikolay Antsiferov's viewpoint, the foundational ideas of the Petersburg text were predetermined by its unique individuality, the city's tragic imperialism, and the mysterious life of its complex and subtle soul: Petersburg – 'a city of great struggle... facing grandiose tasks - the struggle with tension is palpable. The spectre of a great catastrophe hovers over it, like the spirit of inexorable fate'.

In terms of the quantity of texts, codes, connections, associations, and the volume of cultural memory accumulated over its historically insignificant period of existence, Petersburg can rightfully be considered a unique phenomenon in world civilization. Simultaneously, like the unique Petersburg architecture, Petersburg culture is one of the national conquests of Russia's spiritual life.²⁶

Thus, the attribute of 'duality' of Petersburg, the organic unity and interdependence of its opposing elements, has been discovered. However, besides the entirely obvious duality of the image of the city on the Neva, conditioned by the strongest influence of Western culture 'cultivated' on Russian 'soil' no less significant and essential characteristic of Petersburg is the opposition of its two contradictory aspects: the parade 'façade' and the 'reverse side'. It is these aspects that form the basis for sharply contrasting and unequivocal assessments evoked by Petersburg in Tchaikovsky's perception.

Recommendations

The article would be recommended for scholars and researchers interested in interdisciplinary studies bridging Russian literature, musicology, and cultural theory. Additionally, readers interested in the philosophical consideration of urban imagery and systemic approaches to cultural analysis, as well as those studying the intersection of music and literature, would benefit from the insights provided in this research. Overall, this article offers a promising avenue for further exploration into the representation of cities in musical art and its implications for urbanistic theories and musical content.

²⁶ Jurij Lotman, *Selected Articles* (Tallinn: Alexandra, 1999), 21.

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Research Article

Unlimited freedom in art: Jackson Pollock

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Abstract

Expressionist artist Jackson Pollock is one of the painters who made an important breakthrough in the history of art. The artist has boldly used the new signs of life of art on his canvases and created the most creative works. In his works, which he performs with melody-laden, dazzling colors, he has performed works that do not overdo it, just as if they reflect a universal harmony. Pollock's introverted works, which do not cling to a rational utopia, have an understanding that does not get stuck in a distant past. He also has the goal of getting rid of scary truths and expressing the truth that he is after. Reflecting his boundless energy on his canvas, Jackson Pollock opposed the forms imposed on him and took steps towards creating his own form and style. Abstract Expressionism is not an aimless art, it reconsiders the reality of the inner world. Reflecting a reality of the embodied mind, Jackson Pollock creates an expression of the embodied inner world in mental enlightenment. Jackson Pollock, who freely reflects his boundless energy on his canvases, opposed the forms imposed on him. Jackson Pollock, who revealed the testability of art in a poetic universe instead of taking refuge in spiritual realities, realized his works with an optimistic atmosphere aimed at artistic freedom. The artist Jackson Pollock, who uses an unlimited freedom in his works, has pushed the boundaries of the art he is passionately attached to. Pollock, whose thoughts on art were very clear and obvious, broke the chain of bondage in art and presented new ideas for art. Therefore, the artist's adoption of an understanding of art in this way has revealed a different approach to art. This has created differentiated formations in the art environment and has led to many researches. In this direction, this article is intended to address a series of works by Jackson Pollock depicting the boundless creativity of the artist, which are mentioned in the understanding of art adopted by the artist and the Decoupling between his work. In this sense, the necessary data have been scanned and the point where the art field has also gained a place has been touched upon.

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Introduction

There are very important individual breakthroughs and exits in the History of Art. The artist Jackson Pollock, who made one of these breakthroughs, carried himself to an important point in the history of art art. Jackson Pollock explored the depths of the self, completely broke down the old patterns and created a new formation. Approaching art from a new point of view, Pollock has developed a way of understanding that demolishes the classical worldview and opens the door to the artist's dreams, desires and freedom. Every work of the artist Jackson Pollock has created excitement and paved the way for the formation of many different works pregnant with new excitements. All of Pollock's works come across as works that do not hide behind a dry and unpleasant logic. The radiance of the new is immediately felt in all the works

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of the artist and he has created a suitable form of understanding for himself, pushed by his subconscious. Thus, the artist's inner world breathed and the artist produced more qualified works. Pollock, who brought a great richness to universal art, left his thoughts unclaimed and allowed them to overflow. It is very clear how Jackson Pollock's bold desires, which constitute his creative power, are embodied in his works. In this context, the artist's works have revealed a libertarian structure in the formation of an abstract-expressive attitude.

Jackson Pollock and His Perspective on Art

Artist Jackson Pollock (Figure 1), born in 1912, is the youngest of five children. He grew up in the West: Arizona, 1915-18, 1923-25; Northern California, 1918-23; Southern California, 1925-29. In 1925-1929 he began studying painting at the High School of Crafts in Los Angeles. He then studied with Thomas Benton, Art Students League, New York, 1929-31. Trip to the West in 1930, 1931, 1932 and 1934. He worked on the WPA Federal Art Project, York, 1938-42. Married Lee Krasner in 1944; He lived on Long Island from 1946 until his death.



Figure 1. Jackson Pollock, 1912

One-man shows: Art of This Century, New York, 1943, 1945, 1946, 1947; Art Club Chicago, 1945, 1951; San Francisco Museum of Art, 1945; Betty Parsons Gallery, two exhibitions in 1948-1949; Peggy Guggenheim's Century of Art collection, Venice and Milan, Italy, 1950; Venice Biennale, 1950; Museum Modern Art, New York, as one of the "15 Americans", 1952; Gallery Michel Tapie, Studio Paul Facchetti, Paris, 1952; Bennington College, 1952; Williams College, 1952; Kunsthau, Zurich, 1953; Janis Gallery Sydney, 1952, 1954 and 1955 (Hunter, Pollock & Karpel, 1956). Growing up in the Western states, Pollock's interaction with American culture began early in his life. In 1923, when Pollock was just 11 years old, he, his brother and a friend discovered local ruins near Phoenix, north of their home. His brother Sanford stated that during his life in the West, there was always a local person around him. Later, while in New York, Pollock would often talk to his cadres about local rituals, as if he had actually witnessed them as a child, and further explored his knowledge of indigenous art and culture in New York (Öztürk Kamışoğlu, 2012).

Problem of Study

The problem of this research; What is the view of the abstract painter Jackson Pollock, who appeared in the history of art, on the art world based on his creative power and what are the results?

In this research, it is investigated how Jackson Pollock is reflected in his work within the framework of his understanding of art and creative instincts. In this context, it is a review and interpretation research based on the literature. In order to reach this information, necessary researches were carried out on the aforementioned artist and it was transferred to the literature within the scope of the research.

Method

The works included in this article have been chosen not only because they embody all the hallmarks of expressionism, but also because they are the realization of a dream that the artist Jackson Pollock had the freedom to realize. Here, the works created by the artist were realized with great excitement in the form of actions. In addition to the enormous impact of these works, they can also be said to embody Jackson Pollock's inner reality. In this context, this study aims to discuss and examine the innovations brought by Jackson Pollock's understanding of art. In this regard, the selected works were examined taking into account both the understanding required by expressionism and the libertarian understanding adopted by the artist. In particular, the fact that the artist Jackson Pollock is one of the most important artists who created difference and change in the history of art and guided research was a key factor in directing research in this context. In the works discussed in this direction, the differences and similarities in the artist's works and the artist's understanding of art are touched upon. Although each work was expressed differently, the examinations were carried out in this direction. It is hoped that in this contextual study, Jackson Pollock's place in the art scene will be examined through the specific works he created and will contribute to the literature.

Results

An examination of the works "No. 1, Reflection of the Big Dipper, Number 3, Number 1 (Lavender Mist)" depicting the Abstract Expressionist attitude of the artist Jackson Pollock within the framework of freedom in art.

Jackson Pollock and "No.1"



Figure 2. Jackson Pollock, No.1, 1948

The free spirit played an important role in making Jackson Pollock the most famous modern man. It was the artist's hometown and, in many ways, the most influential person of his generation in America. Artists are featured in the press in a more meaningful way and often make an impact on ordinary people. After his incredibly contemporary expression of artistic freedom and his untimely death in a car accident that lasted for generations, he is being hailed as a revered icon of a sense of freedom and joy, a new hope for young artists. Besides a number of contemporary painters and sculptors, a heterogeneous group was associated with Pollock, an informal movement sometimes also called Abstract Expressionism. He was responsible for instilling vitality and faith in American art. Compared to the period immediately after the Armory Show, the artist is in his best form. His work is seen as an unexpected intersection of an aimless, dogmatic stereotype. In the 1930s, while creating new forces and energies in the artistic methods that dominated and consolidated advanced American painting, the painting of the independent artist Pollock was animated by his own determination

and, in retrospect, distinctly American art. At the same time, he was deeply inspired by purely modern forms of continental painting art and created spiritual works that knew no national boundaries. One of his most important achievements was to revive the European understanding of art and make it possible. He did this because of local sensitivities (Hunter, Pollock & Karpel, 1956). Thus, Cemil Sena expressed the effectiveness of the rights and freedoms that art and the artist have at the point of dissemination and exchange of art as follows: "Realizing that he was really a creator in the realm of art, man was able to breathe a little in the face of the impossibility of freeing his feet from the earth bound by the chain of scientific laws, but in the field of infinite beauties created by the imagination rising under the wings of art; and he hoped that he would relieve his suffering in this realm. A person who could not deceive himself with science felt that his sufferings were getting deeper and deeper, even when he thought that he would be happy in the field of art, which he was trying to forget. This perception, like a child who can have a little more fun changing toys, connected the artist to various principles and ideals. These sometimes changed according to the subject of art, sometimes according to the feelings and thoughts advocated on the subject, sometimes according to the characteristics of language, sometimes according to the form. The artist, who jumped from one to the other when he got tired of one, became a spoiled child who had fun mixing pieces of his old toys with toys that would be broken again, imagining that he was always running after novelty and looking for a new pleasure and creating. Even from time to time, he also liked to break the ones of prudent children who were able to keep their old toys, making them look like the ones he had worn out and torn down. While this war and these attempts always express an infatuation of the same creature that cannot be deceived, humanity will continue to move forward with new works, ideas, systems and activities under the constant pressure of this infatuation. This creative passion is nothing but "freedom" in its broadest sense" (Elmas, 2006:283).

The artist exhibited his paintings for the first time in 1948, which he created by dripping or pouring paint from cans on large canvases placed on the ground. This is the brain, the mind, the eye and the hand in Pollock's paintings; paint and canvas are almost in a state of internal fusion with each other. Painting was no longer something expressed directly or symbolically; it became a space that bears the traces of the painter's movements, reveals what he wants to tell with the traces of paint, gives simultaneous immobility to all his movements over time (Yener, 2006).

Jackson was a diligent but unsuccessful student throughout his artistic life, especially when drawing from live models, which he did not enjoy. Her classmate, Yvonne Penu de Bois, remembers her struggling while bent over a drawing board: She couldn't draw, and she knew she couldn't. The sight made him miserable. Several other classmates also mentioned that Jackson was worried about his drawing assignment; Joe Delenay noticed that Jackson's hands were shaking when he tried to draw. From then on, it looks like it's going to be minimal, he said. Incompetence has been more than an achievement for Pollock throughout art history. Van Gogh, like Pollock, was a poor painter. You only have to look at the designs of these three artists to see how a lack of talent translates into creativity. From Degas to Monet, from Picasso to Dali, many great artists dazzled with their virtuosity. It is not surprising that all three of them went down in history not for their mastery, but for their original and inimitable style; Talent is the norm and creativity is personal. The main thing is that instant expression can be mediated. This view, which was adopted as a principle by New York artists from 1945 to 1955, can be seen as a continuation of German Expressionism. In Bayl's words, for Germans, expressionism was more a matter of "me" than a passing fad. They are methods that allow self-expression in the shortest possible time. To the same end, American expressionists avoided sketches and worked directly on canvas to express emotions quickly and without intermediaries. Pollock has been one of the names that best exemplify this general principle (Kalfa, 2019).

Known primarily for his drip technique, his first paintings in the 1930s were influenced by the Mexican painter Orozco and the Native American culture he had previously been interested in. The works of this period, in which the influence of surrealism is also seen, have a symbolic language predominantly formed by the subconscious. His experience also played an important role in shaping his early paintings. Alcohol treatment, which can be considered the reason for such instrumental improvisations in his art, is considered a turning point for him. In the course of his treatment, which began in 1937, Pollock met Dr. Jungian psychoanalyst. She meets Joseph Henderson and paints for therapy, following Jung's teachings on the collective unconscious. In the content of these paintings, under the influence of the archetypal symbols put forward by Jung; tortured figures, moaning heads, wounded horses and bulls. Jungian theories caused

Pollock to be influenced by surrealism, turning to the unconscious and working with automation techniques. Automatism and Jung formed the basis of Pollock's early studies on ancient and mature studies focused on psychology (Erdoğan and Tatar, 2021).

Jackson Pollock is one of the important abstract expressionist artists. The artist drips, splashes, sprinkles paint on the canvases he lays on the ground, and creates works by adding rhythms with his own body movements to the canvas he creates. The marks on the canvas recorded the movements of the painter who approached him from various angles, swung his arm in various directions and moved his hand over the surface of the canvas and scattered the paint. (Lynton, 1991). Based on this, Pollock said that the painting he made did not come out of the easel while describing his art. He says that because he needed a hard surface, he put his paintings on the floor and could move around to get into the paintings easily. While drawing, the painter used materials such as sticks, trowels and knives instead of the usual traditional materials. It prefers a liquid paint that is suitable for spilling or a thick paint that worsens glass or sand shards (Custom, 2020).

Jackson Pollock, "Reflection of the Big Dipper"



Figure 3. Jackson Pollock, Reflection of the Big Dipper, 1947

In Jackson Pollock's 1947 work "Reflection of the Big Dipper" (Figure 3), the artist presents a rich range of colors created by many colors. Presenting a complete visual feast with layers of paint, stains and lines, Pollock brought this feeling and dream to life and gave the enthusiastic and colorful atmosphere of his inner world in his paintings. The originality of his works has given him an important identity. He experimented with a wide variety of forms, especially with an ethnic style that was easy to pour or drip paint on canvases. Pollock's works, which put people in a calmness, are one of the most important examples of Abstract Expressionism.

In fact, abstract expressionism in the artist's paintings will probably become popular. Because the artistic logic of the communist regime was at least as repressive as Hitler's, and the art that followed social realism was too satisfying for the artist, who wanted both of them to respond to this situation. However, Abstract Expressionism gives the impression of an artistic movement that is both free and liberated. Undoubtedly, many artists have made intellectual criticism of this sociocultural climate; we also come across writers and artists who are trying to awaken society from this so-called dream by making realistic analyses of the concepts of freedom and happiness that America has made propaganda material, especially in literature. In any case, there was no doubt that the styles called the new expressionist movements in painting

created an artistic environment consistent with the political goals of the United States. However, abstract expressionist art's own dynamics, i.e., its irregular and anti-material nature, already allowed it to adapt to the typology of the contemporary individual. The desire of the age was being fulfilled in this art and with this art. Jackson Pollock was cited as the pioneer of the movement. What is remarkable about Pollock in this sense is that he instantly transfers the basic logic of this movement to the paint surface as the painter feels his feelings or thoughts, not based on any sketch/plan. The pattern created is not a pattern determined by the artist in advance, but a combination of abstract elements that appear during the work (Kalfa, 2016).

Jackson Pollock, "Number 3"



Figure 4. Jackson Pollock, Number 3, 1948

In this work of Jackson Pollock in 1948 called "Number 3" (Figure 4), yellow and red colors are immediately noticeable. Pollock, who performs abstract and imaginary works at the same time, differs from other artists with definite lines. Pollock, who offers an important understanding of art, makes a miraculous debut in art and engages in important activities to reduce the intensity of his desires. Their thoughts that have lost their warmth are replaced by a new one. Pollock, who brought an important breath to art, creates the most important formations of Abstract Expressionism.

Jackson Pollock, "Number 1" (Lavender Mist) (detail)

The artist's work "Number 1 (Lavender Mist) (detail)" (Figure 5), which he also made in the 1950s, is one of his powerful works formed by the combination of many colors, as in his other works. The contrast created by dark and light tones is immediately noticeable. Pollock, who carried out abstract and imaginary works, had unforgettable effects on art, apart from his other works.

Pollock's drip style was not a technical invention that was applied for the first time. In the mid-1920s, the surrealists also experimentally applied paint to surfaces by dripping or splashing. However, the reason why Pollock's paintings are different from others is his use of technique, which is considered a revolution in painting, and the free use of thoughts and art that shaped this approach. We also know that the artist prefers numbers when naming names in many of his paintings (Karabaş and Polat, 2016).

Artist Jackson Pollock's rejection of traditional easel painting is internationally recognized as a turning point in post-war art. Pollock's paintings did not appear as randomly as one might think. The artist aimed to express his emotions in his works rather than drawing them. This allows the artist to control the flow of the paint; None of them emerged by chance, without a start and end date, they emerged as a whole with unlimited formal freedom. Therefore, this expresses the freedom that the artist expresses while creating a different formation in the artist. Therefore, this integration of art with the artist brought about many new expansions and influenced many movements such as the Abstract Expressionist artists that came after it (Ahmetoğlu and Denli, 2013).



Figure 5. Jackson Pollock, Number 1 (Lavender Mist) (detail), 1950

Conclusion and Discussion

One of the pioneers of Abstract Expressionism, Pollock's works exemplify how his boundless energy is reflected in his understanding of art. Jackson Pollock and other Abstract Expressionist artists tried to free art from monotony and add a whole new way of understanding to it. Jackson Pollock has given self-guidance in navigating the inner layers of structure and emotion to find a way out in the perception of art. The artist has not lost his confidence in the future and has expressed his depth with an enthusiastic look. Pollock's works based on unusual shapes captivated the audience and left a great impression. The artist Pollock has reached a different understanding of form by painting with tactile transfers and paint drips on large canvases. By creating independent, original and creative works, Pollock has managed to reveal his inner world, express the thoughts in his head and turn them into works of art. By eliminating the learned facts, Pollock also paved the way for new forms of experimentation. Thus, the artist Pollock has played an important role in art and has gained recognition by creating works with impressive understanding.

Jackson Pollock's radical approach to painting in the late 1940s revolutionized the possibilities of all modern art that followed him. Pollock drew on a wide range of influences, including Navajo sand painting, Surrealism, Jungian analysis, Mexican mural painting, and even Picasso's revolutionary reinvention of painting, but he realized that the way he created his artworks was a work of art in itself. Pollock redefined what it meant to make art through sculpture through Cubism and turn-of-the-century constructed sculpture. His departure from easel painting and traditionalism was a sign of liberation for the artists of the period and for all artists since. Artists who achieved unlimited freedom in art used Jackson Pollock's method of arranging a yawning, raw canvas in such a way that artists and industrial materials were attacked from all sides. A straight line of paint that drips and is discarded. Draw, paint, brush. The lack of imagination and imagination has essentially prioritized the creation of art above all else. Abstract Expressionism in general has expanded

and developed the definitions and possibilities that artists need to create new works of art. This gave rise to forms of free expression in art.

According to Rosenberg, before American painters, canvas appeared as the context of a work that emerged from a certain period, whether its subject was real or imaginary, recreation, design, analysis, was usually preferred as a field of expression. Thanks to these tools and their effect on the board, he could reach the desired area. Subjective impressions, images and painters were the result of this discussion. At this point, everything is created with a sea of colors that can be created with a paint tube. When an artist paints according to a plan, it looks as if he has painted the canvas exactly as it looks. It needs to be done for what the human mind records and translates directly on the page. The goal here is to turn a painting, sketch or drawing of a process into another work. In fact, these two actions are so similar to each other that various Abstract Expressionists have given this view a name. Before these schools of painting, art was not pure. This means that the use and aesthetics of art also depend on the circumstances (Hajali, 2016).

Ironically, however, it was not Piaget's humiliation during his student years that redefined the reaction to Piaget and his work after 1952, but rather the emergence of Honour's process photography and Rosenberg's commentary/article, and this and it became an existential process. Jackson's legacy has become an integral part and has influenced generations of artists. Watching him work, marveling at his visual impact in the studio, marveling at the end product of these liberating practices, and reading the meta commentary on Jackson's compositional scene was a must. Being a scene rather than an object, the possibilities of a compositional text re-imagined in this way were enormous. Vardeneau was just one of the critics who noted that the new strategy proposed by Jackson led to many artistic advances (Sirc, 2002).

Pollock's restlessness and the need to constantly face new problems instead of reinforcing solutions led him to create formations using various painting techniques in the early 1950s. Pollock felt liberated from the need to focus on the complex relational structure within himself and began to create a liberating art called the art of abstract expression. In this direction, the artist was able to focus on the composition he adopted and go beyond, and the boundaries of the canvas were pushed. The artist's unrepresentative black and white painting ignores these boundaries by loosening and opening them, while his figurative paintings ignore them and focus on the central image (Millard, 1983).

There are very important individual developments and inventions in the history of art. The artist Jackson Pollock, who created one of these inventions, has reached a very important universe in the history of art. Artist Jackson Pollock explores his own depths and creates a new form by completely breaking old patterns. Approaching art from a new point of view, Pollock has developed a way of understanding that breaks away from the classical worldview and opens the door to the artist's dreams, desires and freedom. Each of Pollock's works arouses excitement in the buyer and prepares the ground for the emergence of many different works full of new excitements. The radiance of the new is immediately noticeable in every work of the artist, who creates an appropriate interpretation for himself under the guidance of his subconscious. In this way, the artist's inner world can breathe and the artist can create better quality works. Pollock, who brought an enormous wealth to popular art, reached freedom by taking his thoughts outside the limits of art and adopted an unlimited understanding of art. This way of understanding inevitably means that Pollock's relationship to discourse, the libertarian nature of modern man, and especially Jung and vitalist thought, his ideas and his will to compensate for their desire for necessity, carry many of the same ideal logical connotations as these intellectual sources. In his earlier works, Pollock is involved in the same ideology, repeating this in his adoption of Jungian symbolism. The situation of the drip paintings is more complicated, given what initially seemed to be the claim that they represented a strong anti-capitalist (Rampley, 1996).

His uncompromising free spirit significantly contributed to Jackson Pollock becoming the most famous modern artist. The free expressions of contemporary art spanned a generation and were revered as a revered symbol of young artists' new feelings of freedom and hope in the face of their untimely deaths in a car accident. As well as a number of contemporary painters and sculptors, there was a separate group linked to Pollock, a movement sometimes referred to as Abstract Expressionism. He was responsible for bringing vitality and confidence to American art. Compared to the period immediately after the Armory Show, the artist has signed works in his best form

Jackson was a diligent but unsuccessful student throughout his artistic life, especially one who did not like drawing

from live models. Her classmate, Yvonne Penu de Bois, remembers her struggling by bending over a drawing table: "I didn't know how to draw, and I knew I couldn't do it. This image shocked him. Several other classmates also mentioned that Jackson was worried about his drawing assignment; Joe Delenay noticed that Jackson's hands were shaking as he tried to draw him. "It looks like it's going to be minimal from now on," he said. For Pollock, incompetence was more than an achievement throughout art history. Van Gogh, like Pollock, was a bad painter. You only have to look at the designs of these three artists to see how a lack of talent translates into creativity. From Degas to Monet, from Picasso to Dalí, many great artists amazed with their mastery. It is not surprising that the three of them have gone down in history not by their mastery, but by their unique and inimitable style; Talent is the norm and creativity is personal. The main thing is to be able to convey an expression instantly. First adopted by New York artists from 1945 to 1955, this vision can be seen as a continuation of German Expressionism. In Bayl's words, for Germans, Expressionism was a matter of "me" rather than a passing fad. These are methods that allow you to express yourself as soon as possible.

Known for his drip technique, his early paintings in the 1930s were influenced by the Mexican painter Orozco and the Native American culture he had previously been interested in. The works of this period, in which the influence of Surrealism is also seen, have a symbolic language predominantly formed by the subconscious. His experience also played an important role in shaping his early paintings. His involvement in alcohol, which can be seen as the reason for such instrumental improvisations in his art, is considered a turning point for him. During the treatment process, which began in 1937, Pollock met Dr. Jungian psychoanalyst. She meets Joseph Henderson and paints for therapy, following Jung's teachings on the collective unconscious. The content of these paintings was influenced by the archetypal symbols that Jung introduced; Tortured figures, moaning heads, injured horses and bulls. Jungian theories led Pollock to be influenced by surrealism, turning to the unconscious and working with automation techniques.

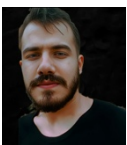
Research Limitations

The research is limited to Jackson Pollock's understanding of art and his artistic works.

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Figure 1. <https://yandex.com.tr/gorsel/search?family=yes&lr=103885&text=Jackson%20Pollock>

Figure 2. <https://www.wikiart.org/en/jackson-pollock/no-1-1948>

Figure 3. <https://www.wikiart.org/en/jackson-pollock/reflections-of-the-big-dipper-1947>

Figure 4. <https://www.wikiart.org/en/jackson-pollock/number-3-1948>

Figure 5. https://www.wikiart.org/en/jackson-pollock/not_detected_185248



Research Article

Tragic elements in Molière's comedy: a study of the play "Le Misanthrope"

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Keywords

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Abstract

Molière, who abolished the classical distinction between tragedy and comedy that Aristotle had engraved in the foundations of Western theatre with the Poetics, developed writing strategies that violate the boundaries of tragedy in many of his texts. The most important feature of this approach is that Molière's characters are people who, like the characters of tragedy, succumb to their hybris. The character of Alceste in Molière's Misanthrope exemplifies this situation with her arrogant and intemperate behaviour, listening to no one. The second quality that Molière reveals with Alceste is that he removes the distinction made by Aristotle between comedy and tragedy by saying that comedy "imitates people lower than the morality of the average man". Alceste is moral, as is a hero of tragedy. The third quality that Molière has in common with the tragedians is that of the secondary characters, who act as a chorus, warning the heroes and calling them to common sense. The characters of the honnête homme/femmes, which means reserved, kind, honest, representing the ideal intellectual identity around the court of the time, in which Molière can also be included, invite the protagonists, who are arrogant and trapped in their self-love, to reason, virtue and moderation. This study will analyse the tragic elements that come to the fore in the characters of Molière's play Le Misanthrope.

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Introduction

Nowadays, we have to face the fact that the genres of comedy, drama, epic, drama, etc., have largely disappeared in the writing and performance of plays. Hybrid structures and grey areas, in which narrative and dramatic flow are intertwined; absurd texts are staged with realistic acting; the concrete and the abstract are fused; historical texts are mixed with current issues, tragic and comic elements are presented one after the other, characterise playwriting and staging. In this context, the question of "is the play we are about to see a comedy or a drama?" loses its meaning.

Although such a radical change is usually attributed to the developmental phases of modern theatre (historical avant-garde movements, the 60s, the 90s, the post-dramatic or post-modern phase, etc.) and tried to be grasped in a linear line, it is obvious that the beginning of this line, at least in the context of authorship, should be sought much further back. From a broad perspective, it is possible to trace the origins of such a historical development to the Renaissance, to the Middle Ages on the basis of Bahtin's "grotesque" determinations, and even to Ancient Greece with Krates of Athens, who wrote comedy with the virtuous characters of tragedy. Motivated by this search, this study will focus on Molière, one of the most important figures of the French Renaissance.

"Le Misanthrope (Le Misanthrope ou L'Atrabilaire amoureux), one of the milestones of Molière's writing, stands out as a comic text with tragic qualities (Jauss, 1983, p. 318). He wrote this text by violating the rules of writing that have been filtered through the history of Western theatre, starting with Aristotle and reaching their strictest form with

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the neoclassicists. The place where the violation begins is the distinction between the hero in tragedy and comedy, contained in the Poetics and manifested in the Neoclassical rules. According to this, the hero of tragedy must be a flawed character with "above-average morality, but not perfect". The hero of comedy, on the other hand, should be a character with a lower-than-average moral structure, a character who is not noble. "Alceste, the heroine of *The Misanthrope*, is both noble and of above-average morality" (Morgan, 1984, p. 297), which makes her out of place in a comedy. However, her "hybris" attitude is closer to tragedy than to comedy.

Accordingly, his excesses, such as jealousy and not listening to anyone, his arrogant attitude that sees himself as superior to many, are rational and consistent in his own name, as can be observed in the tragedies of ancient Greece and Shakespeare. Not through his stupidity as a comic quality, or his blindness revealed by his thoughtlessness. The other quality of the play that tends towards tragedy is the presence of honnête homme/femme characters who represent the "social common sense" carried by the "chorus" element, which is particularly prominent in Ancient Greek tragedies. As in his texts such as *Dom Juan*, *Le Tartuffe* and *L'Ecole des femmes*, Molière created honnête homme/femme characters who directly invite the protagonist and indirectly the audience to "social prudence" and "moderation". In this context, we see Dom Carlos in *Dom Juan*, Cléante in *Le Tartuffe* and Chrysalde in *L'Ecole des femmes*, as well as Philinte and Eliante in *Le Misanthrope*.

Problem of Study

The aim of this study is to find the roots of the disappearance of genre distinctions in contemporary theatre by identifying the tragic elements that come to the fore in Molière's 17th-century comedy *Le Misanthrope*. In this sense, the sub-problems of the research are as follows

- How does Alceste in *Le Misanthrope* abolish the moral distinction between the characters of tragedy and comedy from Aristotle to the present day?
- How do the excesses and grandeur of Alceste's character approach the quality of hybris in ancient Greek tragedy?
- How does the character of Alceste, with all her excesses, relate to the Honnête Homme/Femme characters who carry the notion of Sôphrosûnê (moderation) in the play?

Method

This study used a case study design, one of the qualitative research methods. Qualitative research is a broad term that encompasses research methods that analyse experiences, behaviours and relationships without the processing of numerical data (Merriam, 2009). A case study is a research approach used to gain an in-depth, multifaceted understanding of a complex issue in its real-life context. It is an established research design that is widely used in a variety of disciplines, particularly in the social sciences (Crowe, et al. 2011).

Data Collection

This research used the technique of document analysis, which is used in qualitative research methods. Document analysis is a systematic process for reviewing or evaluating documents - both printed and electronic (computer-based and web-based) material (Bowen, 2009).

Data Analysis

This study used the technique of content analysis, which is a qualitative research method. According to Bogdan and Biklen (2007), content analysis is the objective and systematic examination of oral, written and other materials and their organisation according to particular themes.

Results

Breaking Aristotelian and Neoclassical rules: Alceste's high morality

In the Poetics, Aristotle makes the following moral distinction between the main characters in tragedy and comedy:

"The things that representative artists represent are the actions of people, and if people are represented they are necessarily either superior or inferior, better or worse, than we are. (Differences in character you see derive from these categories, since it is by virtue or vice that people are ethically distinct from each other)... The very same difference makes the distinction between tragedy and comedy: the latter aims to represent people as worse, and the former as better, than people nowadays are" (Aristotle, 2013, p. 18-19).

This epistemological distinction of Aristotle's, which is still accepted and circulated by many today, reached its strictest form in the neoclassical view that marked Molière's period. In neoclassical thought, it is forbidden to mix genres. "A play must be either tragedy or comedy" (Iji & Umukoro, 2011, p. 171). Although Molière followed the neoclassicists' "rule of three unities" in terms of place, time, and plot in the structure of his plays, as seen in *The Misanthrope*, he rejected this distinction through the protagonist by making Alceste, the protagonist of a comedy play, better and more moral than the average person.

Alceste's honesty and morality, approaching that of a classical tragic character, are first revealed in his opposition to the sycophants and unvirtuous behaviour that surround him. Accordingly, Alceste maintains a courageous and heroic attitude throughout, which can be appreciated in any society and culture. His ruthless behaviour and his refusal to give up what he knows to be right, even when he is condemned in unfair trials, make him something of a tragic hero. The moral structure inferior to that of the average person, the lack of nobility, the vulgar and light qualities that Aristotelian conventions and established rules look for in comic characters are not found in Alceste. He was taken to court by the nobleman Oreste, whose poetry he did not like, but he ignored the warnings and suggestions of those around him and persisted in his ideas. Oreste's poetry is terrible, as anyone can see. Therefore, the only moral and virtuous thing to do is to tell him to his face, and not to give up speaking this truth, which people with other concerns cannot speak. In this respect, Alceste, with her moral attitude and courage, is not like Harpagon or Knemon, but like Antigone, Othello and Hamlet:

Alceste. "...You can't stop me, I'm leaving—high time I was gone.

There's far too much corruption in the world today;
 ...The fact that I was in the right led me to trust
 That I would win—but no, the judgement's a disgrace!
 With justice on my side, I've gone and lost my case!
 ...It's got to be preserved for all posterity,
 A fine example, to enable men to gauge
 The vile corruption of this modern day and age" (Molière, 2008, p. 262-264).

With this strict moral attitude, Alceste does not spare his words throughout the play for gossips, hypocrites, sycophants, manipulators, braggarts and those who engage in false relationships. However, while maintaining this attitude, he often goes to extremes and behaves immoderately in a way that appalls even those who agree with him. His excesses and extravagance not only lead him to express himself and judge his surroundings, but also to a fever of jealousy in his love for Celimene. At the same time, this situation brings him one step closer to becoming the hero of the tragedy, in a way that can be considered together with the concept of *hybris*.

The *hybris* phenomenon in the *misanthrope*: the extremes and awesome of Alceste

The notion of '*hybris*', which leads Alceste to approach the hero of tragedy, is one of the most important concepts in the ancient Greek world, which forms the basis of Western thought and lifestyle. *Hybris*, which represents an attitude, character and line of action that is the exact opposite of the ideal sober life (*sôphrosûnê*), has also left its mark on tragedy. In this sense, the concept of '*hybris*' encompasses much more than its dictionary meanings of 'intemperance' and

'arrogance'. Macdowell (2018) identifies a number of topics in the ancient Greek world in which the attitude of *hybris*, which can also be the subject of legal punishment, appears (252-253). Excessive eating and drinking, excessive sexual activity, causing mischief, physical violence or killing, appropriating the property or privileges of others, mocking or insulting others, disobeying human and divine authority; each of these are topics associated with *hybris* attitudes and behaviour. These headings produce a negative energy in the person, making him or her "full of himself or herself" and prone to fulfil his or her own desires and wishes without respect for the wishes, rights and preferences of other people.

While Alceste stands up to the moral problems around him, such as corruption, sycophancy, deviation from the truth and unjust authority, he does so with "excess", "immoderation" and "arrogance", which is *hybris*. Like the heroes of ancient Greek and Shakespearean tragedies, his *hybris* blinds him to common sense. This blindness is most evident in her attitude and behaviour towards Celimene, with whom she falls in love. Alceste's *hybris* leads her to focus only on her own thoughts and feelings in her communication with Celimene. Although Celimene expresses that she loves him, Alceste sees this love as insufficient and sometimes false. He pressures her to adopt the same radical ideas and attitudes as he does, and wants her to reveal more of her love for him. He is also extremely jealous of her:

Celimene. "You're growing jealous of the entire universe.

Alceste. The universe pays court to you, it's too perverse.

You say that I'm a lot too jealous. Tell me, what Advantages do I have, that the rest have not?

Celimene. The joy of being sure that I'm in love with you.

Alceste. I feel so anxious—how can I believe it's true?....

Celimene. Well since I've told you so, and I'm not one to bluff,

I think that my confession should be quite enough.

Alceste. But how am I to know? The truth may be that, when

You say you love me, you're two-timing other men" (Molière, 2008, p. 226).

In addition to his excessive behaviour towards Celimene, he treats everyone outside his moral framework in an outrageous manner, insulting, ridiculing, always talking down to them and approaching them with anger.

Alceste. "I want to lose my temper, and to make a stand..

...

Philinte. You seem to have decided I'm the one to blame...

Alceste. That's right. Why don't you crawl away and die of shame?

You met a man, you treated him as your best friend,

You were all over him, you hugged him without end,

...I asked you for the fellow's name, when he had gone,

And you scarcely remembered who he was—come on!

No sooner had he turned his back on you, I swear,

You spoke of him to me, as if you didn't care.

Good grief! The way you carry on is a disgrace.

You worthless coward, must you really be so base?" (Molière, 2008, p. 209-210).

Alceste says these words to his best friend because of his behaviour, which includes praising, approving and flattering each other as part of the courtesy between nobles. Although Philinte tries to explain these behaviours as customs to be followed, he only provokes Alceste's anger. At this point, Alceste imposes his own strict moral views on his friend, and he does so in an excessive and exaggerated manner, to the point of insult. Even if he is telling the truth, the way he says it is extremely immoderate. His behaviour is similar to that of Oronte, who later accuses him of insults and sarcasm. Oronte has written a sonnet and wants to read it to Alceste, whose opinions are very important and respected. Although Alceste tries to put it off, he can't keep his mouth shut:

Oronte. "...But what's the difficulty with my sonnet, pray?

Alceste. Quite frankly, you'd much better throw the thing away
 You took your inspiration from a doubtful source;
 The whole effect is artificial, and lacks force.
 What do you mean by Hope alleviates our woe?

...

Or by Oh, Phyllis, we grow hopeless, when we find
 That hope prolonged just turns into despair?
 The precious way you write is popular, it's true,
 But, frankly, it's contrived, and unconvincing too
 It's full of clever puns, elaborate word-play, ...

Oronte. Well, many other people liked it quite a lot.

...

Alceste. Yes, that's because they're hypocrites, which I am not.

Oronte. ... Hey, there, my little man, don't take that tone with me.

Alceste. I'll take the tone I like, you don't have to agree" (Molière, 2008, p. 221-223).

Alceste's negative qualities of "hybris", manifested in excess, immoderation, mockery, humiliation, judgement, arrogance, anger and insult, make him a frightening and feared person for society. On the other hand, his truthfulness, courage and honesty win the admiration of his beloved Celimene, as well as Philinte and Eliante, who invite him to reason in the play:

Philinte. "... The Marshals did their best, and tried in vain to find

A way to coax Alceste to stop, and change his mind. ...

"No, gentlemen, I won't take back my words," said he.

Eliante. He really does behave in an eccentric way,

But I think that he's special too, I have to say.

The way he won't agree to play the hypocrite

Does have a noble and heroic side to it

...If only other people tried to do the same!

Philinte. I find it more and more surprising, for my part,

That he's let passion conquer him, and win his heart

He's not the same as other people. Heavens above!

I can't see how he's had the face to fall in love" (Molière, 2008, p. 250-251).

This double hybris quality of Alceste, that is, the aspects that both frighten and disturb people and win their admiration, is related to the concept of "deinos" that we often encounter in tragedy. The quality of "deinos" that we observe in characters such as Antigone, Oedipus and Hamlet is the ambiguous revelation of positive and negative qualities. In addition to their fearlessness, power and arrogance, the heroes of tragedy are also respected for their intelligence and admirable talents (Oudemans & Lardinois, 1987, p. 129). The English equivalent of deinos can be seen as "awesome". Alceste is "awesome" in a way that tends towards tragic heroes, with all her fearfulness, terrible behaviour, intelligence and admirable virtues.

The problem of the Sôphrosûnê of Alceste and the characters of the common sense of Le Misanthrope

In ancient Greek tragedies, we see the phenomenon of "sôphrosûnê" as the opposite of hybris. "sôphrosûnê", which roughly means moderation, measure, often includes meanings such as common sense, prudence, caution, foresight, moderation, self-knowledge, knowing one's limit (Arıcı, 2005). In this context, hybris is revealed by the abduction of sôphrosûnê. The insurance of moderation, which stands as a central virtue in the ancient Greek world, in the tragedy form is undoubtedly the Chorus. While the chorus structurally fulfils many functions and tasks within the

dramatic structure, it endeavours to guide both the audience and the tragic characters towards moderation. In this respect, the chorus functions as a social common sense that observes religious, cultural, national and state values.

In Molière's texts, a role similar to this function of the chorus is given to the honnête homme/femme characters, who are often close to the main character. "Honnête hommes/femmes" has its origins in Cicero and even Aristotle, but especially after the Revolt of the Fronde, it is used to refer to the ideal aristocratic morality and social environment around the French aristocracy of the 17th century. "Honnête" is an adjective with meanings such as honest, rational, cultured, refined, measured, gentle, truthful, wise, decent, moderate, rhetorical, tasteful. This characteristic, which is encountered in the moral writings of names such as Pascal, La Rochefoucauld and La Fontaine under the leadership of Montaigne, appears as an ideal desired to be achieved in society in the France of the period (Calder, 2002, p. 73-79).

The notion of honnêteté can be detected in Molière's texts on many levels. Firstly, the ideal of honnêteté is sometimes signalled by the main character's adversaries and sometimes by the development of the plot. Thus, it is not possible to speak of virtue in a place where there is no moderation, truthfulness, honesty, and where one acts only according to one's own value paradigm. Secondly, as a writing strategy, Molière uses secondary characters in his texts to reveal the hybris qualities of the main characters and to keep the themes of the play on the audience's agenda. These honnête homme/femme characters, like the ancient Greek chorus, play a multifaceted role in a place that observes social prudence, moderation, virtuous behaviour, cultural norms, etc. Dom Carlos in *Dom Juan*, Crysalde in *L'Ecole des femmes*, Cleante in *Tartuffe* are examples of these characters. In *Le Misanthrope* there are two characters with these qualities. The first is Alceste's best friend Philinte and the other is Celimene's cousin Eliante.

In the play, Philinte is positioned in a place that carries moderation, kindness, moderation, and invites Alceste to be moderate, just like the relationship of the ancient Greek chorus to the characters of tragedy:

Alceste. "No. My disgust is general. I hate all men
 ... Hate some of them because they are an evil crew,
 And others for condoning what the villains do,
 Instead of treating them with loathing and contempt.

...

Philinte. For heaven's sake, don't try to be responsible For all society.
 It's quite impossible
 To be so critical of humans as a whole
 ...You'd better tone it down, and show some self-control.
 You must live in the world, you can't stay on the side,
 A reasonable man shouldn't go to extremes:
 Be sensible, and don't indulge your crazy dreams" (Molière, 2008, p. 212-213).

In *The Misanthrope*, Éliante is the second character, after Philinte, to carry the idea of "honnêteté". Éliante is the cousin of Celimene, with whom Alceste falls in love, and Alceste's friend. As mentioned in the previous chapter, he secretly admires Alceste, but keeps her at a distance, both through the presence of his cousin and through his reserved behaviour. Even when Alceste proposes marriage to him after the quarrel with Celimene, he does not succumb to his feelings and maintains his behaviour:

Alceste. "... Oh, help me fight this war. I must have my revenge

Éliante. What, me avenge you? How?

Alceste. That's easy. Just accept
 My hand in marriage now, instead of her, Madame.
 ... To punish her I'll dedicate myself to you.
 I'll make you happy, more than other lovers do;
 I'll worship you. You'll see, it'll be paradise...

Éliante. You're suffering agonies... I truly sympathize;

You offer me a love that's worthy in my eyes.
 But things may not be quite as awful as they seem,
 And later you may find you'd rather drop this scheme.
 You're eager for revenge right now, but you may find,
 Since you love your tormentor, you may change your mind.
 You may hate her for now, your feelings may be strong,
 But you may soon forget the way she's done you wrong.
 The anger that you feel can melt away, and fast:
 We all know that a lover's fury doesn't last" (Molière, 2008, p. 253-254).

Éliante's measured distance from Alceste, even though she is very fond of him, and her rational attitude, subtle views and wise approach to judging events are examples of her "honnête femme" personality. Moreover, like Philinte, she invites those around her to behave prudently:

Celimene. "Oh, cousin, these two gentlemen are hounding me.
 ...They're terribly insistent they must have their way:
 They're forcing me to choose between them, right away.
 I've got to turn one of them down, now, to his face,
 Reject his love, and send him straight off in disgrace!
 Now, tell me, did you ever hear of such a thing?"
 Éliante. Oh, don't expect me to relieve your suffering.
 You'll see you've not picked the right person, for I find
 That I prefer it when a woman speaks her mind" (Molière, 2008, p. 267).
 He maintains the same prudent attitude during Alceste's tantrums.
 Éliante. Just keep your self-control, and try not to give way.
 Alceste. ... I'm done for!
 I've... I've been betrayed!
 Yes, Celimene... oh, who'd believe it, is it true?

Éliante. Oh, come! Have you got proof? How can you be so sure?

....

Alceste. ...Oh, yes, Madame, in here, a letter to Oronte...

Philinte. A letter isn't always quite what it appears,
 It may mean nothing much, so calm your jealous fears.

Alceste. ... Don't sort out my affairs, just look after your own.

Éliante. You must try to control yourself. If this is true..." (Molière, 2008, p. 253).

The notion of *honnêteté*, which comes to the fore in these two minor characters, occupies a central place in Molière's textual strategies. The first of these strategies is that, through characters with a *sôphrosûnê* attitude, Molière makes visible and comedic the "folly", the immoderate behaviour and overvalued attitudes that he sees as one of the main problems of his age. It is a dialectical view. It creates a dramatic conflict in the view of the audience/reader by pitting one or two sane people against the irrational behaviour and thoughts of almost all the characters. In this way, the audience is confronted on the one hand with the disorders and abuses in the society of which they are a part, and on the other hand is subjected to a kind of thesis-antithesis-synthesis process. Whatever conclusions he reaches, the dramatic structure points to *sôphrosûnê*. For although the character of *hybris* does not lead to great destruction and suffering in seventeenth-century France as it did in ancient Greece, the fall into a ridiculous situation, achieved through the stupidity and blindness that Molière points out, is a very destructive situation. A virtuous man must be restrained and know his limits. Otherwise, like the heroes of tragedy, he may succumb to his *hybris* and make great mistakes (*hamartia*) that will

cause him to lose his dignity or be ostracised by his social environment. Molière himself, who brought such a social lesson to the masses through the theatre, abolished the notions of time and space, carried it into the present day and continued his influence throughout the world, is undoubtedly a "honnête homme" figure.

Conclusion

As an integral part of Western thought, the division into genres is not only related to the establishment of boundaries, but, as Derrida points out, it is an act of creating a hierarchy that will find its counterpart on political and ideological levels (Derrida, 1980, p.81). The effort of Western metaphysical thought to divide the art of drama into genres and categories since Ancient Greece has made it a duty to create sharp lines between tragedies, which will carry the morality and entertainment of the upper class, and comedies, which belong to the lower class in terms of theatre (Mosse & Street, 2016, p. 131). This is like a Platonic distinction that sets art and philosophy against each other, with philosophy being superior to art. The more philosophy is superior to art, the more tragedy or drama is superior to comedy. And this view has maintained its hegemony for almost 2400 years.

In contemporary theatrical practice, such rigid boundaries, distinctions and hierarchical approaches are gradually being erased. Contemporary playwriting and staging practices, which reject rigidly prescriptive dramatic conventions, interweave genres, and create hybrid forms and structures are characterised by versatility, multi-layeredness, and heterarchy (Radulescu, 2018, p.259-268). In this direction, it becomes increasingly meaningless to see a play text as comedy or tragedy under genres. What matters now is the original interpretation and creative approaches that a director brings to a classical or contemporary text, moving away from all limitations, distinctions and conventions. This is also the case with playwriting. Beyond the limits of genre distinctions and mimetic representation, the author's wandering in the free fields of imagination and the creation of a self-reflexive field of existence determine the production processes. Thus, it is no longer genres that play a decisive role in theatre production, but rather hybrid structures, the interweaving of different writing and staging strategies, dramaturgical approaches that attempt to develop a different view of each play, and interdisciplinary orientations that are established with different art fields.

Although these developments may seem like a moment in time of a hundred years, they actually have roots that go back to the times when genre distinctions were first made. From Ancient Greece to the Middle Ages, from the early Renaissance to Romanticism, there are many examples of genres intertwining and beginning to erase distinctions. From the Crates of Athens to Shakespeare, from the *Comédie Larmoyante* to the historical avant-garde, from the melodramas to Chekhov, there are many texts and productions in the history of theatre in which genre boundaries are violated. In such a historical flow, the place of Molière's writing, as analysed in this study, is quite special and important. "Molière developed strategies that intertwined tragic and comic elements in 17th century France", where the distinctions made by Aristotle in the *Poetics* and the rules he laid down were even more rigid.

The play *Le Misanthrope* is one of Molière's most important works in which these writing strategies are evident. As this study will attempt to analyse, Molière violates the thickly drawn boundaries between comedy and tragedy with the tragic heroic qualities he creates, especially in the character of Alceste (Simon, 1975, p.410). In this direction, he first of all makes Alceste more moral than the average person, and in this direction he abolishes a convention attributed to comedy and even made obligatory for it from the beginning. In addition, he gives Alceste the quality of "hybris" (excess, intemperance), which appears as a negative trait in the heroes of tragedy and leads them to their tragic end, through his never-ending rage, his unlimited jealousy, his unrestrained intemperance, his attitude of humiliating others, of not listening to anyone, of mocking them, his arrogance and his pride that only cares about himself. This characteristic is the direct opposite of the notion of *sôphrosûnê* (moderation), which dominated the life of the polis in ancient Greece in legal, religious and cultural terms. In addition to this negative aspect, *hybris* has a positive side in tragedy. The heroes of tragedy are also extreme in their intelligence, talent and courage, but their excesses are so great that they leave others in awe. Thus Molière endows Alceste with this second aspect of *hybris*, in addition to all his negative aspects, and transforms him into a wonderful human portrait.

As the study attempts to establish, we see that Molière, again as a writing strategy, creates *honnête homme/femme*

characters that can be contrasted with the concept of hybris. In 17th-century France, the notion of honnêteté, which represents values such as temperance, gentleness, wisdom, virtue, etc., is similar to sôphrosûnê. The function of the chorus, which represents sôphrosûnê in ancient Greek tragedies and represents social prudence in a way that reminds the characters and the audience of it, is given to these characters in Molière's plays. In this sense, Philinte and Éliante in *Le Misanthrope* are given tasks that will trigger the common sense that will develop in them and in the audience, with a contrast that will reveal Alceste's hybris.

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Research Article

Examination of Ulvi Cemal Erkin's Piano Concerto with GTTM¹

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Abstract

In the first half of the 20th-century, our composers, who mix the usûl, scale and variety structures of Turkish makam music sound materials with Western music sound system and harmony techniques, form, resorted to scale-based approaches. It is consider that Erkin was composed Piano Concerto in these approaches. However, in the common practice of the sonata allegro or the rondo form in the classical period, there is a systematic plan in the harmonic progression. The aim of this study is to examine Ulvi Cemal Erkin's style of harmony through the example of the Piano Concerto. In this context, it will be tried to determine the harmonic path, the tension-relaxtion regions and points in the melodic and the harmonic progression that the composer constructed in this work. Our main concern will be the tonal/modal construct that Erkin establishes while handling these forms. Our sub-problem is to investigate whether there is a systematic relationship between sections in Erkin's Piano Concerto in the context of tonal/modal constructs. Specifically, we will examine whether Erkin adhered to the harmonic progressions commonly used in the Classical period while handling the sonata allegro and rondo forms. If not, we will try to find the tonal/modal setups he employed. In this study, answers will be sought to the questions of what are the qualities of the scales as the sound material used. This study was employed a literature review and musical analysis method. A Generative Theory of Tonal Music (GTTM) was used as a musical analysis method. The literature review was carried out in theses, articles, reviews, and biographical publications on Erkin's works and The Piano Concerto, as well as papers, articles, and theses on GTTM. As a result of the study, harmonic progression that we defined in global regions in the Erkin's Piano Concerto coincide with strong prolongation and weak prolongation patterns, except for two regions and repetitions of regions. In this direction, we consider that while composing this work, Erkin adhered to the tonal harmonic progression, and composing the first part of the work in the form of sonata allegro form and the fourth part in the rondo-chain form. However, a specific harmonic construct was designed in both sections. In this dissertation, it has been observed that Erkin used tetratonic, pentatonic and heptatonic scales, which are sound materials used in Turkish makam music and Western music in the 20th century. In our dissertation, four rule proposals and one rule revision were made for GTTM in the context of the Erkin's Piano Concerto.

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Introduction

In 20th-century, Western music tradition was different than in previous generation. While composing tonal music continued, some composer have created and used new harmonic ideas, techniques in terms of their guide such as atonality, polytonality, neotonality and twelve-tone methods. "It was a time of competig styles, from impressionism and expressionism to neoclassicism, minimalism, and neo-Romanticism..." (Burkholder et al., 2010, p. 771). After World

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War I, Nationalism was effective in culture, politics, the arts, so in music. Composers were expected to compose about their national identity and drew on regional traditionals. Under the influence of Nationalism, composer had elements exhibited their own cultural traditions. They synthesized “a personal style from the diverse mix of national and foreign influences and of old and new music that surrounded them” (Burkholder et al., 2010, p. 786).

The first generation of composers in our country realized their works under the influence of the education they received abroad, the Modernism movement and Turkish music. In this context, it is observed that our composers reinterpreted tonality under the influence of Impressionism and neo-classicism in their early works. We can say that “*Rey and Erkin, who studied in France, were closer to the Impressionist movement, while Akses and Saygun were under the influence of neo-classicism*” (Çöloğlu, 2005, p. 16). In the first half of the 20th-century, our composers, who blended the *usûl*, scale and variety structures of Turkish *makam* music sound materials with Western music sound system and harmony techniques, resorted to scale-based approaches. In the production of the Turkish Five, the avoidance of tonality and functional harmony, as well as an element such as a chord or pitch that characterizes the center and a scale approach that ensures centrality, make themselves felt (Çöloğlu, 2005, p. 33).

About the works of Erkin, who was a member of Turkish Five, such as String Quartet, Piano Concerto, First and Second Symphony and Violin Concerto were published in the domestic and foreign press (Çalgan, 1992). The common point of these opinions is that Erkin was influenced by the French and Impressionist movements, combined the rhythms of Turkish *Makam* Music and folk dances (*Horon, Zeybek*, etc.), included *taksim*, and used Anatolian melodies with an individual understanding of modality. According to these foreign and domestic critics, Erkin mixed his vocal material with Western music forms and imitated the timbres of folk music instruments (especially the Black Sea *kemençe*) in the orchestration.

While Erkin dealt with Western music forms, especially in his large-form works such as concertos and symphonies, he adhered to the form elements of the Classical period by applying a plan in which he included a sonata allegro in the first movement, influenced by Western music, an adagio section in the second movement, influenced by traditional Turkish music with a mystical atmosphere, a scherzo in the third movement, influenced by folk dance rhythms especially from the Black Sea region, and a rondo form in the fourth movement (Aydın, 2003; Çalgan, 1992). His Piano Concerto (1943) is among the works in which he exhibited these form elements.

There are opinions on the form, orchestration and sound material of the work in magazines, national and local newspapers, books, articles and theses about this work. The common point of these opinions is that the composer “did not depart from the classical [Western music] style” and “adhered to national values” (N., 20 February 1950, Cumhuriyet Newspaper, p. 3), “making extensive use of our folk and art music” (Çiçekoğlu, 31 May 1950, Akşam Newspaper), “incorporating the richness of our folk music” and becoming original by filtering Western and Turkish music through his own filter (22 February 1950, Akşam Newspaper), and “a work that is faithful to the elements of classical form but melodically and rhythmically enriched with elements of folk music” (23 October 1966, Yeni Newspaper).

Common opinions about form of the work are that first movement is the sonata allegro form, the second movement is the lied form (ABA), the third movement is the trio form, the last movement is the rondo form (ABACA) (Çalgan, 1992; Sayın, 2018). According to Çınar (2015) key of the first movement is Re minor. It is considered that affect of *makam* music is perceived in the second movement (Çınar, 2015). It is thought to be “not quite [*S*] *aba* [*makam*], but very resembling of [*S*] *aba*” (Çalgan, 1992). Karadeniz considers that the second movement isn't Saba maqam, and is not only resembling of scale of *Hüzzam makam* but also close to sound elements of the traditional *Çargâh makam* (Karadeniz, 2019, pp. 174-179).

GTTM will be used as a musical analysis method. GTTM is a theory that aims to describe the listener's musical intuition, to reflect and analyze certain aspects of the tonal music. One of the functions of this theory is ‘the study of prolongation processes and deep structures in a piece of music’. In this context, in addition to the listener's cognitive intuition, one can get an idea about a piece of music. GTTM is a method used to analyze deep-root structures or

prolongation processes in Western music composed in the 20th-century as well as in tonal music. In this context, Lerdahl and Tsougras extended the conditions and principles of GTTM.

GTTM was first introduced in 1977 (Lerdahl & Jackendoff, 1977). Then, the theoretical content was explained in 1980 (Jackendoff & Lerdahl, 1980). The grouping structure, the *formal theory* and connection with the *Gestalt psychology* approach of GTTM were discussed in 1981. (Lerdahl & Jackendoff, 1981a). The metric structure of GTTM and the basic metrical concepts in music were explained in 1981, as well (Lerdahl & Jackendoff, 1981b). The time-span reduction of GTTM and relationship some part of phonological theory to GTTM was explained in 1982 (Lerdahl & Jackendoff, 1982). All of these studies came together in the book *A Generative Theory of Tonal Music* in 1983.

Lerdahl adapted the rules of GTTM to atonal music (Lerdahl, 1989). Lerdahl proposed the ‘salience conditions’ instead of stability conditions. For this purpose, Lerdahl proposed the preference rules for the prolongational importance. Lerdahl focused on the pitch events instead of the chord events in this study. In this case, there was a problem that how dissonance pitches were eliminate among the pitch events. Lerdahl analysed Schonberg’s Op. 19, No. 6 and Op. 11, No. 1 in this study. Lerdahl concluded that GTTM wasn’t useful for 12-tone music, but that GTTM would be useful for 20th-century music combining tonal and atonal elements and for some of Bartok’s work “with a stable conditions variety” (Lerdahl, 1989, p. 84).

Deliège conducted two experiments on two groups of musicians and two groups of non-musicians, in which he tested the grouping structure rules of GTTM with proximity and changing features in terms of musical sense. The experiment focussed on the following problems: Does the grouping structure segmentation by subjects respond to the predictions of the grouping structure rules in all cases? Does the listeners’ categorisation of groups coincide with the grouping structure rules? Do the segmentations determined by musician or non-musician subjects correspond to all aspects predicted by the GTTM grouping structure rules? Do the structure group rules correspond to perceptual incongruence (salience)? In the first experiment, the works played were selected from a wide repertoire ranging from Bach to Stravinsky. In the second experiment, “simple melodic sequences”, which are contradictory in terms of proximity and change, were played. The results obtained confirmed and confirmed the rules of GTTM (Deliège, 1987).

Dibben discusses the cognitive reality of hierarchic structures through the analysis of time-reduction, which represents the hierarchic structure that the listener infer from the musical surface. Dibben carries out his analysis with three experiments on tonal and atonal music. In the first experiment, three time-span reduced pieces were played to 28 subjects by changing a chord at the reduction level. The subjects were 26 students from City University Music Department and 2 music instructors. The replaced chord was replaced by a chord of hierarchically secondary hierarchic importance that was reduced on the musical surface. For each piece, a reduction passage with one reduction and 5 incorrect chords was played for comparison. The pieces played to the subjects were Handel’s Piano Suite No. 1 in G Major (bars 1-8), Brahms’ B Minor op. 119 Intermezzo No. 2 (bars 1-16) and Haydn Variations (bars 1-10). In the second experiment, 22 university students were selected as subjects. The same pieces, passages and reduction passages from the first experiment were played. In the third experiment, 27 subjects were used. The subjects were played Schoenberg’s op. 11 no. 3 (bars 1-10) and op. 19 no. 2 (track 4) were played. In these atonal pieces, there is a lack of a benchmark to determine the hierarchy and to evaluate the stability between movements. Listeners were able to form a hierarchical representation of musical passages in tonal pieces. According to the results of the experiments, while the tonal system is heard by a listener in the context of strict hierarchical conditions, there is no such hierarchical situation for atonal music (Dibben, 1994).

There is a hierarchic priority in the application of rules in GTTM. Firstly, structure grouping and metric structure should be determined independently. Then, time-span reduction rules are applied according to the result obtained from these two components. Extension reduction rules are applied according to the data obtained from the time-span reduction component. According to Frankland, there are preference rules in the first two components that damage this hierarchical structure: Structure grouping preference rule 7 (stability in terms of time-span and extension) and metric structure preference rule 9 (time-span interaction). Frankland also criticises some rules for the ‘circularity’ of the theory: time-span reduction preference rules 5 (metric stability) and 6 (extension stability), extension reduction preference rule

1. According to Frankland, Lerdahl and Jackendoff are aware of this ambiguity. However, they attribute the ambiguity to "lack of knowledge" (Frankland, 1998, pp. 72–73).

According to Frankland, due to the hierarchical structure of the theory, "any grouping boundary at a higher level must also be a grouping boundary at the lowest level...units at the lowest level are the fundamental building blocks of later structures, and these units are delineated by very simple rules that pertain to the surface structure." (Frankland, 1998, p. 73). In response to this problem, Frankland has determined quantitative values for the second and third grouping rules. In order to measure the values he determined, he conducted an auditory melody segmentation experiment with forty-one female and sixty-one female subjects from the departments of music and psychology. In this way, he tried to measure the validity of the quantitative values given to the rules. Frankland concluded that GTTM can partially predict melody segmentation and that the application of the grouping structure preference rules 4 and 6 can be improved and extended with the additions he developed (Frankland, 1998).

Frankland and Cohen, aimed to test the grouping structure rules of GTTM related to the es (GPR 2a), movement point (GPR 2b), register (GPR 3a) and length (GPR 3d) conditions. Two experiments were conducted in the study. In the first experiment, listeners with different types of musical training were played two familiar children's song melodies and one unfamiliar tonal melody, each played three times. Listeners indicated the location of the boundaries between the units by pressing a key during each listening. The second experiment involved a change of the stimuli of the first experiment. The melody of a familiar and unfamiliar children's song and a tonal melody from the classical Western music repertoire were played. The results generally favoured some aspects of the GTTM, while indicating that some modifications might be beneficial. According to Frankland and Cohen, the rest and slur conditions should not be combined into a single rule as in GPR 2a. While slur is concerned with the span between notes, rest is concerned with the absence of any sound in the position that can be created by any note, for a duration similar to that of the notes. It seems appropriate to combine the slur condition with the articulatory alternation rule (GPR 3c), which includes staccato and legato. This point of view is consistent with Deliège's (1987) observation that for es it is a party-specific element, whereas for ligature it is an element of performance. In addition, it was suggested that the attack point and length condition could be combined in a rule and evaluated under the same conditions. As a result of these two experiments, the grouping structure rules of the GTTM have some predictive validity (Frankland & Cohen, 2004).

Hjortkjær conducted two experiments to investigate the hierarchical perception of tonal and atonal melodies. The hierarchical structure of tonal melodies was inspired by GTTM. The experiments were designed to quantitatively evaluate different aspects of time-span reduction in GTTM. The experiments used what the author calls "original" long and unfamiliar short tonal melodies. These were pairs of melodies in the form structure AA, BB or AB, BA. In the experiment with tonal melodies, the detection rate of melodic deviations was found to be strongly related to the level of the time-span. Then atonal and poorly constructed tonal melodies were played. The subjects' detection rates were not low for the poorly constructed tonal melody, but they were low for the atonal melody. In general, "the correlation of responses with reductional level was found to be much stronger than with alternative musical parameters that could be thought to influence detection rate, such as metrical position." Quantitative measurements of detected hierarchical levels have been found in experiments to be subject to variations not normally anticipated by music analysis (Hjortkjær, 2009).

The first movement of Hindemith's flute and piano sonata *Ordonana* and *Laucirica* was played to the performers/performers and they were asked to determine the group boundaries with the grouping structure rules of the GTTM. These performers/performers are students and relatively professional musicians. The reason for choosing this sonata movement is that it is thought having tonal ambiguity in the melody. Three professional musicians and three women were selected as performers or performers from among intermediate level students at the conservatory. The recordings played were commercial recordings of professional musicians. In the study, the selections of both groups were compared. Differences were found in the boundary determinations of the two groups. The reason for the differences in preferences may be due to the skill level, technique and experience of the performers. The determined group boundaries do not contradict the grouping structure rules of GTTM. As a result of the study, the partitions made by professional

and student performers/performers are clearly related to the grouping rules of GTTM. The study concluded that although there were differences in partitioning preferences, the applicability of the GTTM rules was concluded (Ordoñana & Laucirica, 2010).

Hirata, Tojo and Hamanaka conducted a study to measure the similarities in melodies with the theoretically proposed similarities in GTTM and the reliability in listening experience experimentally and by algebraic calculations. In the study, the similarity between the variations in Mozart's *Ah vous diraije, maman*, K. 265/300e was compared experimentally. Eleven undergraduate students took part as subjects. The study is perceptually important in terms of calculating the exact time-span distance. As a result of the study, it was revealed that the theoretically constructed representation of the time-span branch diagram and their algebraic calculations can support perceptual similarities to some extent (Hirata et al., 2014).

Bigand conducted a study aiming to test the time-span reduction and prolongation reduction components of the GTTM. In his study, four melodies with different rhythmic and melodic organisation but the same important structure were played to musician and non-musician subjects in certain stages. At the end of the experiment, it was concluded that the two reduction components made positive predictions (Bigand, 1990).

Tsougras adapted some rules of GTTM to modal music in 2002 (Tsougras, 2002). Tsougras added some new rules and supplemented the existing rules to rules of GTTM. In this way, Tsougras proposed an analysis approach for the modal music idiom, adding 'specific rules category'. Tsougras consider that although the prolongational analyses in atonal music are considered to be questionable, these analyses are suitable for modal music (Tsougras, 2010).

The thesis studies on Erkin (Altınsoy, 2017; Belce, 2018; Çınar, 2015; Göldoğan, 1999; Kalın, 2019; Sayın, 2018) have identified the form structures of some works and the *makam* elements as sound material. However, they have not discussed the relationship between the tonal/modal plan or the tonic as a center. Our study differs from others by defining the modulation of scales and modal construction as sound material and examining its relationship with musical form. In addition, in the literature, it is seen that the works analyzed in the context of A Generative Theory of Tonal Music (GTTM) are small-form works. This study is the first to apply GTTM to a large-form work such as a concerto.

Problem of Study

The aim of this study is to analysis Ulvi Cemal Erkin's understanding of harmony through the example of his Piano Concerto. In this direction, the harmonic road map constructed by the composer in this work will be tried to be determined, and the tension-relaxation regions and points in the melodic and harmonic progression. In this way, it will be tried to reach the representation of the musical development and harmonic progression in this work. In this context, our sub-problem is as follows:

- Is there a systematic relationship between sections or divisions in Erkin's Piano Concerto in terms of tonal/modal plan or construction?
- What are the qualities of scales and chords as sound materials used in the Erkin's Piano Concerto?

Method

This study was employed a literature review and musical analysis method. *A Generative Theory of Tonal Music* (GTTM) was used as a musical analysis method. The literature review was carried out in theses, articles, reviews, and biographical publications on the Erkin's works and The Piano Concerto, as well as papers, articles, and theses on GTTM. Considering the chord structures, the modes used, tonic and the elements of form, the conditions of GTTM developed by Lerdahl and Tsougras will be used to identify the prolongation processes in the U. C. Erkin's Piano Concerto. Based on the findings obtained from the analysis, it will be attempted to identify the tension-relaxation regions in the work. Set theory method is used to identify the sequence regions.

In this study, it will be analysed of form, harmonic and metric structure of Ulvi Cemal Erkin's Piano Concerto. In this way, it will be tried to determined such factors as tonic regions, cadance events, and key/mode regions. While a scale of a given region is determined, first of all tonic will be determined. After that all of the pitches will be organized from bottom to top according to tonic. It will be evaluated whether or not our identified factors are consistent or sufficient

with GTTM's conditions (stability, hierarchy, etc.) and components (grouping structure, metric structure, etc.) and rules (preference rules, transformational rules, etc.). As GTTM's rules and/or component conditions do not correspond to the condition of the work, we will propose a new rule/rules for GTTM.

In the first part of the study, brief historical information about the Erkin's Piano Concerto and GTTM will be given. Then, the reduction approach in atonal music will be explained; the principles we propose for GTTM in the analysis of the work and the set theory method we use for the identification of the scale regions will be stated. In the rest of the study, the related studies in the field and the findings obtained as a result of the analysis are evaluated. The study complied with research and publication ethics.

Ulvi Cemal Erkin's Piano Concerto

Some opinions were published in the domestic and foreign press about Erkin's works such as String Quartet, Piano Concerto, First and Second Symphony and Violin Concerto (Çalgan, 1992). The common point of these opinions is that Erkin was influenced by the Impressionist movement and French composers, that he combined the rhythms of Turkish *Makam* Music and folk dances (Horon, Zeybek, etc.), included intermediate taxis, and used Anatolian melodies with an original modality. In the eyes of these foreign and domestic critics, Erkin blends his vocal material with Western music forms and imitates the timbres of folk music instruments (especially the Black Sea fiddle) in orchestration. Especially in his large-form works such as concertos and symphonies, he remained faithful to the formal elements of the Classical period by applying a plan in which he included the sonata allegro in the first movement, an adagio section with a mystical atmosphere in the second movement, a scherzo in the third movement influenced by the rhythms of folk dances, especially from the Black Sea region, and a rondo form in the fourth movement. One of the examples of these traces he remained faithful to is his Piano Concerto.

According to Erkin about his Piano Concerto was that it "contains our riches" and that it was "the most successful" work he had written up to that date. The first performance of the work was on March 11, 1943. It was performed by pianist Ferhunde Erkin accompanied by the Riyaset-i Cumhur Philharmonic Orchestra under the direction of Dr. Ernst Praetorius. In 1938, Frenchman Alfret Cortot visited the Ankara State Conservatory and listened to Erkin's String Quartet. After listening to this work, Cortot suggested Erkin to write a piano concerto. Upon this suggestion, Erkin begins to work on the concerto. He completed the Piano Concerto in 1943 for the composition competition organized by the Republican People's Party in 1943. According to Çalgan, the first movement is a sonata allegro and "the second movement is in lied form. In the second movement, alaturka *makams* are utilized. Although the *makam* that strikes the ear here is not exactly *saba*, it is very reminiscent of *saba*" (Çalgan, 1992, p. 63). Çalgan's opinion on the other sections is as follows:

"The third part resembles a Black Sea region melodies. It is not a repetition of any existing melodies; similar melodies of these melodies were created in the composition. In the middle of this part, a clarinet taksim is also placed, giving the piece a special characteristic. The folk dance becomes more and more emotionalise and at its most emotionalised point it is suddenly interrupted and the third part ends... The fourth part is in the form of a rondo. This part is mostly inspired by motives in folk dances. After these continue for a while, the fourth part ends with the introduction at the beginning of the first part." (Çalgan, 1992, p. 63).

Another opinion about the work belongs to Halid Fahri Ozansoy:

"It is a concerto in the modern school style. Some parts of the piece evoke of the Russian school, and it is a bit choreographic... In the modern school, it is not easy to sense the inspiration of a composer. We have to admit, we had a hard time in this regard. In the last parts of the piece, we remembered our Black Sea region and sensed Romanian music." (Ozansoy, 1943, Son Posta Newspaper; cited in Çalgan, 1992, p. 67).

A Generative Theory of Tonal Music (GTTM)

Fred Lerdahl (composer) and Ray Jackendoff (linguist) developed a theory of music in the context of music affected from Gestalt Psychology, Chomskian model of generative grammar and Schenkerian Analysis (Lerdahl & Jackendoff, 1977, 1981b, 1983a). In this theory which is based on the analogy between linguistic and music analysis, Schenkerian

Analysis is an important factor. Questions such as “Does music have a deep structure?” and “Is there a universal existence in music?” influenced the composer in the 1970s. The opinions of Lerdahl and Jackendoff which had begun with a chapter of papers since 1977, concluded with GTTM (1983). This theory was designed in order to understand the mental process behind music cognition (Lerdahl & Jackendoff, 1977, p. 114).

The goals of Lerdahl and Jackendoff with GTTM is to be “formal description of the musical intuitions of a listener who is experienced in a musical idiom.” (Lerdahl & Jackendoff, 1983a, p. 1). Beside “the theory seeks to describe an idealized final state of understanding rather than how music is processed in real time.” (Lerdahl, 2015, p. 87). Rules of this theory designed for classical Western tonal music. One of the goals of this theory is to obtain a particular way of classical Western a tonal music, and to set a systematic model for discussing about of this pieces of music. GTTM seek to “*how adequately it describes musical intuition, what it enables us to say of interest about particular pieces of music, what it enables us to say about the nature of tonal music and of music in general, and how well it dovetails with broader issues of cognitive theory.*” (Lerdahl & Jackendoff, 1983, p. 4). With GTTM a, it is sought out “prolongational models and ‘deeper structures’ in a given piece of music.” (Baysal, 2011, p. 9). Reduction approach utilized in GTTM. In this approach a nonchord note such as passing note, appoggiatura and neighbouring note, and a given chord or functional chord which are structurally relatively secondary in importance are eliminated according to stable conditions. Reduction was generated from figure/ground principle of Gestalt Psychology. With reduction approach, it is attempted to reach the shape of the melodic skeletons which work is “*generated*”, in other words core structure which relatively important pitches. Tension-resolution region is shown with tree diagram on score in work. Tree diagram or tree notation is utilized to represent to hierarchy among pitch.

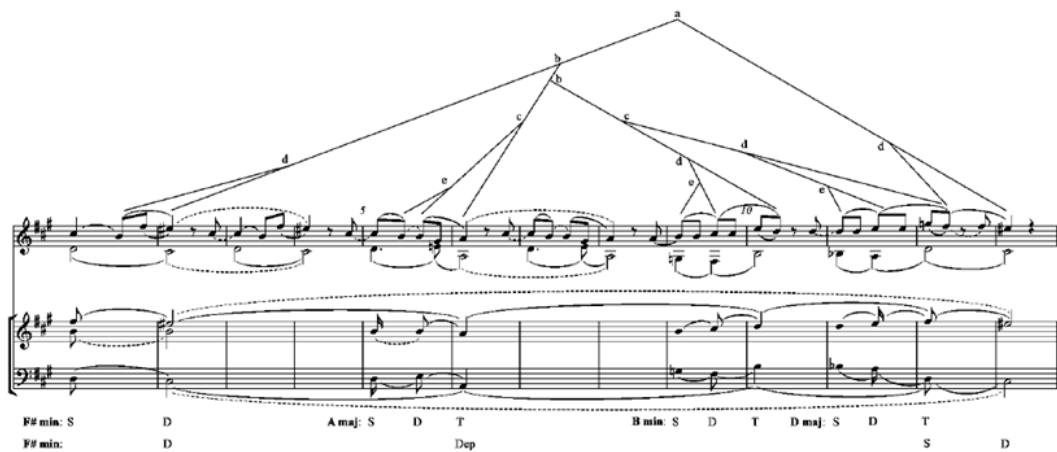


Figure 1. A tree diagram in GTTM. (Lerdahl, 2015, p. 356).

According to GTTM, music which listened is musical surface structure level at score. This level analysis with GTTM’s rules. These rules designed hierarchically. This hierarchy can be related to consonance or dissonance in the context of one of the scale, function, chord type and key region. For example tonic is the most important degree in major or minor scale in tonal music. There are three others hierarchic levels. The second hierarchic level is 3rd or 5th degree in diatonic major key. Third level is 4th or 6th or 7th degree. And last hierarchic level in scale is chromatics ones (Knauss, 2011, p. 16). “*The importance of pitches that make up scale according to a certain tonality is also related to chords formed on these pitches or relations of the chords with each other.*” (Nemutlu & Manav, 2011, p. 27). This relationship between some pitches and chords in tonal music creates a hierarchical relationship in the context of evoking a sense of stability, cadence, going somewhere, reaching a certain conclusion. In this way, relative tension is created (Nemutlu & Manav, 2011, p. 28). Krumhansl, Bharucha & Kessler (1982) and Bharucha & Krumhansl (1983) was a couple of audio experiments on subject. Topic of these experiments is functional hierarchy among chord of seven degree in major or minor scale in tonal music. According to conclusions of experiments, functional hierarchy is $I > V > IV > vi > ii > iii > vii$ among scale degree (Brewer, 2014, p. 14).

In GTTM, by hierarchy are mean “an organization composed of discrete elements (or regions), such that one element may subsume or contain other elements. The elements cannot overlap; at any given level they must be adjacent; and the relation of subsuming can continue recursively from level to level. The theory identifies and assigns structure for four types of hierarchical organization.” (Lerdahl, 1987, p. 137). These organizations are grouping structure, metrical structure, time-span reduction and prolongational reduction.

“Grouping structure describes the listener’s segmentation of the music into units of various sizes. Metrical structure describes the hierarchy of beats that the listener attributes to the music. Time-span reduction establishes the relative structural importance of events within the heard rhythmic units of a piece. Prolongational reduction (which bears some resemblance to Schenkerian reduction) develops a hierarchy of pitch stability in terms of perceived patterns of tension and relaxation.” (Lerdahl, 1987, p. 137).

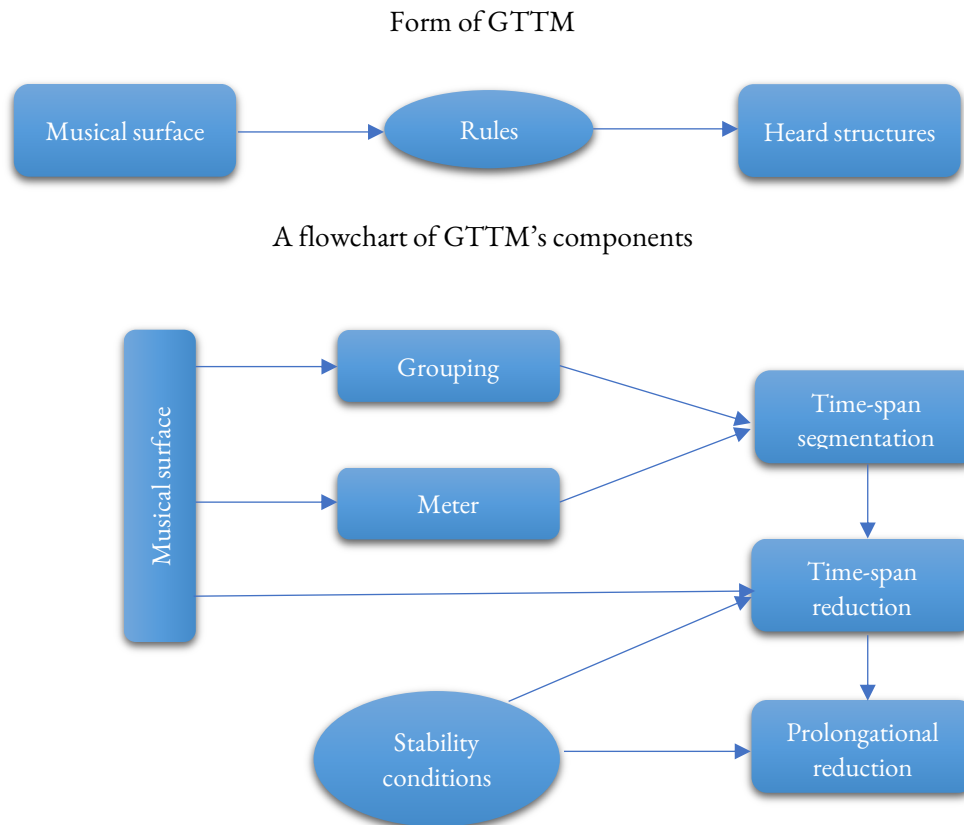


Figure 2. The form of GTTM and its flowchart adapted from Lerdahl (2015:348)

We indicated above that music which listened is musical surface structure level at score in GTTM. This level is the lowest level in context of hierarchy. First of all, musical surface are made segmentation to groups with rules of grouping structure. According to Lerdahl, music has “perceived pitches, chords, and rhythms as its elementary objects” and these objects constitute “psychoacoustic level.” (Lerdahl, 2013). But in opinion to Lerdahl “music theory tends to ignore the psychoacoustic level” and these objects “can be referred to as ‘(pitch) events.’ At larger levels, units consist of groupings of events.” (Lerdahl, 2013, p. 260). In these group, *head events* are determined among pitch events through stability conditions. In two-unit metrical structure which split in two beat, the most stable one of every two events, or in three-unit metrical structure, the most stable one of every three events is determined as head event in the given time span (Figure 3).

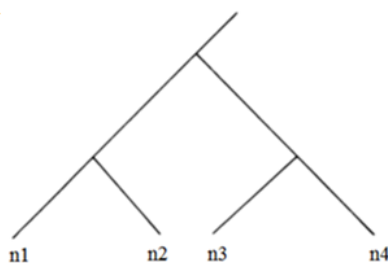


Figure 3. Tree-diagram of head events

This elimination continues in the other reduction level, until reaches event which represent the whole work. This process constitute hierarchic relationship among head events. This relationship is exhibited above the musical surface with tree diagram (or notation) at score. Head events are exhibited below the musical surface level by level on staff (Figure 1).

Musical stability is condition to be on tonic. Stability degree is relation whether a pitch/chord close to tonic or not. Lerdahl separate stability conditions to four branch: melodic stability, harmonic stability, harmonic progression stability and metric stability. Tho most stable pitch is tonic in melodic stability. Harmonic stability “define the relative stability among possible vetical combination of pitches.” (Lerdahl, 1983, p. 296). Harmonic progression stability is “horizontal and vertical dimensions combine such as relatedness by the circle of fifths.” (Lerdahl, 1983, p. 296). The most stable function is tonic. Stability of others chords are determined according to their distance from tonic chord on the circle of fifths. Downbeat is relatively the most stable conduction at bar in metric stability.

According to Lerdahl & Jackendoff, “*generative music theory, unlike a generative linguistic theory, must not only assign structural descriptions to a piece, but must also differentiate them along a scale of coherence, weighting them as more or less ‘preferred’ interpretations.*” (Lerdahl & Jackendoff, 1983, s. 9). In this context the rules of theory are divided into three branch: Well-formedness rules, preferences rules and transformational rules. These rules have a strict hierarchical form. Well-formedness rules “specify the possible structural descriptions.” These rule type are inspired by the function of recursive sentence structure rules from the generative linguistics approach. Transformational rules “accounting for phenomena (e.g. elisions) conflicting with the well-formedness conditions by describing how an underlying structure can in some cases be transformed into an alternative surface structure.” (Hansen, 2011, p. 35). In this way, while analysing conditions that are considered to be relatively non-well-formedness, such as overlapping sentence structures on the musical surface, it aims to transform them into a relatively well-formedness form in the background. Preference rules focus on the best preference among factor determinated by well-formedness rules. Beside they focus on perceiving grouping in acoustic context such as the elements of similarity and proximity in Gestalt psychology. By preference rules “registers particular aspects of presented musical surfaces and selects which well-formed or transformed structures in fact apply to those surfaces.” (Lerdahl, 1992, p. 103). Function of preference rules is to select the maximally stable structure. “They define what assignments of structure to a musical surface are perceptually ‘good’. Thus the preference rules in effect constitute an explicit statement of the Law of *Prägnanz* as it applies to musical perception.” (Lerdahl & Jackendoff, 1983, p. 304).

By well-formedness rules and preference rules, musical surface is been interpretation. And these rules constitute two major rule systems of the musical grammar. (Lerdahl & Jackendoff, 1981a, p. 86). It is predicted that archetypal patterns in musical structure will emerge through preference rules of the musical grammar³ proposed in GTTM (Lerdahl ve Jackendoff, 1983, p. 288).

In the grouping structure, musical totality which listener infer from musical surface is segmented. This segmentation is made principle of similarity and proximity. Motive, sentence, period and section which are accepted structural

³ “The result is a theory formulated in terms of rules of musical grammar. Like the rules of linguistic theory, these are not meant to be prescriptions telling the reader how one should hear pieces of music or how music may be organized according to some abstract mathematical schema. Rather, it is evident that a listener perceives music as more than a mere sequence of notes with different pitches and durations; one hears music in organized patterns. Each rule of musical grammar is intended to eexpress a generalization about the organization that the listener attributes to the music he hears. The grammar is formulated in such a way as to permit the description of divergent intuitions about the organization of a piece.” (Lerdahl & Jackendoff, 1983, p. x).

elements of a given work are accepted as groups of structure. In this way, the form of musical surface and subcomponent of musical phrase can be analysed. So that, work is segmented by hierarchically. Note, motive, phrase and section is gradually degree ascending order in this hierarchy. While this hierarchy is made, relatively big groups are constituted such as phrase at *global level*, by combining small note groups at *local level*. While grouping, it is considered such factors as attack-point, slur/rest, change of register, change of timber, change of articulation, change of dynamics and cadence. Broads of group are shown below of staff with slur. There should be no overlapping of groups at the same level, except for the region where occur on the musical surface.



Figure 4. The Grouping Structure (Lerdahl & Jackendoff, 1983b, p. 233).

Metric structure try to predict or identify hierarchically beat pattern corresponding to relatively on strong and weak beats and the intuition in the alternation pattern of these beats. In the metric structure, strong and weak beats are grouped in a bar, time spans in a bar and time spans which are larger than a bar. This is done hierarchically. According to Lerdahl and Jackendoff, “listener instinctively infers a regular pattern of strong and weak beats...for these patterns of beats is *meter*.” (Lerdahl & Jackendoff, 1983a, p. 12).

In metric structure, the hierarchy of beats are shown by the amount of dots at each levels, shown vertically in diagram. First level which is close the staff is the lowest level. This level represent *tactus* in work (Figure 4).

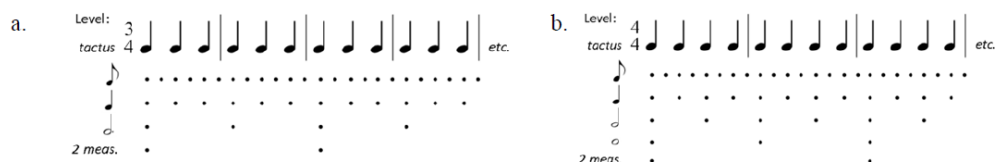


Figure 5. The metric structure levels (Lerdahl & Halle, 2017, p. 5)

The time-span reduction “accommodates the notion that each (small-scale) metrical and (large-scale) grouping segment of a piece is dominated by a particular event.” (Harvey, 1985, p. 293). A time-span is a process that starts at a given beat and then continues to the starting point of the next beat. The reduction is applied by data obtained from grouping structure and metric structure in GTTM. The most important events that are relatively preferred as dominant hierarchically determine in the context of stability. In this way, data is constituted for prolongational reduction by relatively important events been obtained from the relatively complicated musical surface. Beside, a diagram is made which predicts how experienced listener perceives harmonic progression in the context of cognitive of music. Thus, deep structures and archetypal pattern can be obtained from the analysed musical surface. For this purpose, *head events* are determined. The head events are determined by embellishment and non-chord tone eliminate in groups which obtained from grouping structure and metric structure. This process is made according to the principles of the structural hierarchy of importance. For this purpose, the relatively metric or harmonic or melodic consonant event is considered as a head event.

The prolongational reduction represents the global harmonic intuition in a time-span. This reduction is made by the tonal hierarchy approach. Prolongational reduction predicts to reflect a harmonic and/or melodic tension-relaxation pattern, and musical intuition of pitch, hierarchically, on the listener in musical process. In this component, it is considered that there are tension and relaxation points in a given work or piece. Thus, aim is to represent of musical progress and prolongation. “The degree of tension or relaxation between two events depends on the degree of continuity between them” (Lerdahl, 2001, p. 14). For this component, the most important events are determined among data

which determined by time-span reduction. These events are utilized to form a tree-diagram that relatively represents the work.

Repeating events are prolongation of their first event in the harmonic progression. According to Lerdahl, this approach close to Schenker's approach. In prolongational reduction, the stability of between two events is represented with prolongational tree-diagram (Figure 6). This also represents the way of tension and relaxation. Head events which determined with time-span reduction are utilized for this diagram. This diagram try to represent abstract or 'basic form' of work.

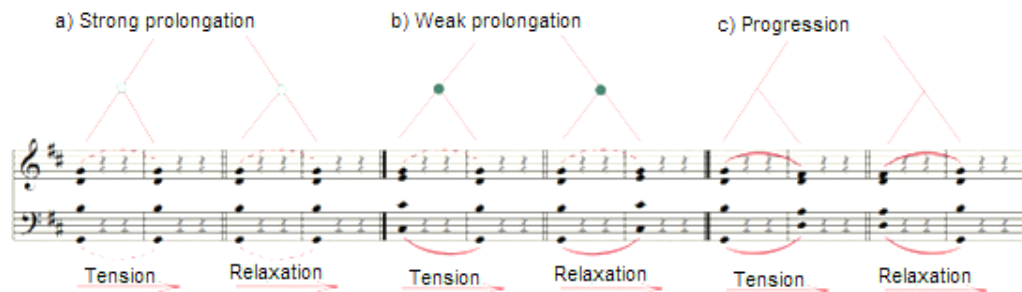


Figure 6. A prolongational reduction tree diagram

While a tree-diagram forms, a special elaboration is utilized with prolongational reduction rules. In prolongational reduction, the reduction is made from global region and the top level to musical surface. There are tree condition at tree-diagram: strong prolongation, weak prolongation and progression. Strong prolongation is the most stable condition and represents repetition and prolongation of bass and melodic treble line (Figure 6a). Strong prolongation is shown with white dot on the joining of branches. Weak prolongation represents repetition or prolongation of bass or melodic treble line (Figure 6b). Weak prolongation is shown with black dot on the joining of branches. Progression represents connection between two different chord sequence. All of the conditions, pitches which repetition are shown with dashed slur, pitches which not repetition are shown with slur on diagram (Figure 6). Progression is not stabil.

In the classical Western music, there are not any choice or application that “a phrase or piece begins in utmost tension and proceeds more or less uniformly toward relaxation” (Lerdahl & Jackendoff, 1983a, p. 197) (Figure 7a) or reverse (Figure 7b), or “begins and ends in tension with a relaxed midpoint” (Lerdahl & Jackendoff, 1983a, p. 197) (Figure 7c). “Rather, a tonal phrase or piece almost always begins in relative repose, builds toward tension, and relaxes into a resolving cadence.” (Lerdahl & Jackendoff, 1983a, p. 198) (Figure 7d).

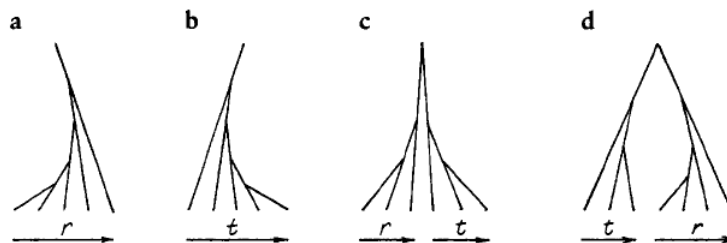


Figure 7. The tension and relaxation tree-diagram conditions

In the last condition above, a shape like ‘a diamond’ is obtained in the middle of the shape (Figure 8). The most basic form of this condition is called *normative prolongational structure* for the tension and relaxation pattern in tonal music (Figure 9). Normative prolongational structure shows tension-relaxation pattern which ends cadence in a given group. “[T]his pattern is an organizing principle for the listener and thus states it as a PR that influences branching formations.” (Lerdahl, 2001, p. 25–26).

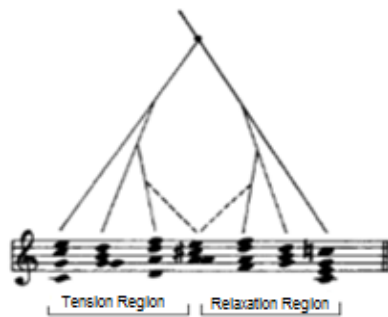


Figure 8. A tension-relaxation tree-diagram (Lerdahl ve Jackendoff, 1983, p. 189)

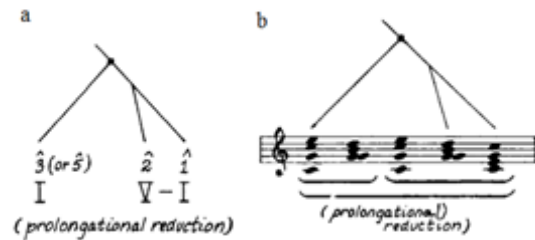


Figure 9. The normative structure (Lerdahl ve Jackendoff, 1983, p. 189)

Reduction

A reduction is to eliminate systemically the relative structural more less important pitches than others, non-chord notes, embellishments etc. on the music score. In this way, an archetype pattern of pitch events which is relatively attributed importance by relevant music theory is obtained in analysed work.

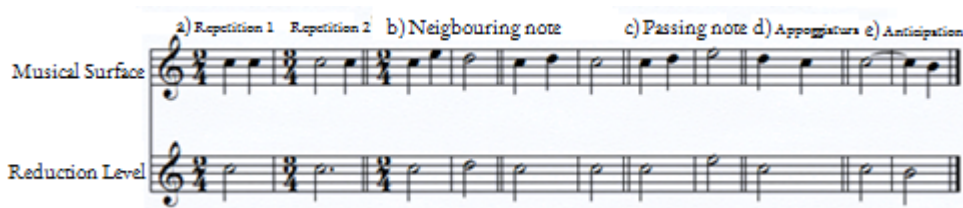


Figure 10. The eliminated embellishment conditions on the reduction approach

In GTTM, the reduction method try to be represent the structure that the intuition of listener perceives relatively from a piece of music. According to Lerdahl and Jackendoff, a listener does not perceive an aria or its variations as different pieces, as in Bach's Goldberg Variations (Bent & Pople, 2001). In this context, Lerdahl and Jackendoff proposed two conditions for the reduction in order to reach the archetype pattern perceived from a given work: "a. Pitch-events are heard in a strict hierarchy. b. Structurally less important events are not heard simply as insertions, but in a specified relationship to surrounding more important events." (Lerdahl & Jackendoff, 1983a, p. 106). These conditions are called 'Strong Reduction Hypothesis' in GTTM. The Strong Reduction Hypothesis has three branch: "(1) what the criteria of relative structural importance are, (2) what relationships may obtain between more important and less important events, and (3) precisely what musical intuitions are conveyed by the reduction as a result of 1 and 2." (Lerdahl & Jackendoff, 1983a, pp. 106–107) The criteria of structural importance in this hypothesis are circle of fifths, root and inversion chords, triad chords, consonance and dissonance chords, and major or minor key. A relationship of importance among pitch events is considered as ornament process in the sequence of pitch events. In this approach, a pitch such as tonic or dominant attributed relative structural importance is been elaboration with neighbour ornament conditions. It is considered that there is hierarchical relationship between tonic events and ornament events. The ornament events have secondary importance in this condition. An event attributed relative structural importance is a *head event*, neighbour and ornament events are elaborations of head events.

There are four different type in reduction: ordinary reduction, fusion reduction, transformational reduction and cadential retention. Head event is determined with the ordinary reduction in a given time-span. Non-separation multiple events such as arpeggio is combined with the fusion reduction. The chord tones of the two most structural important events are transformed into a more stable event by combined them into a single chord with the transformational reduction. Two or three events in the cadence pattern are shown as one unit with the cadential retention until a specific level without reduction (Lerdahl & Jackendoff, 1983a, pp. 154–158). The reduction is made with stability conditions (Figure 2). In this context, the factors for the stability conditions are as follows (Lerdahl & Jackendoff, 1983a, pp. 117–118):

- The regional consonance is more stable than the regional dissonance.
- The root chord is more stable than the inverted chord.
- Tonic is the most stable degree in the scale.
- The stable state between two chords depends on the distance of the root from the tonic in the circle of fifths.
- For the principles of good voice-leading, a given “conjunct linear connections are more stable than disjunct ones.” (Lerdahl & Jackendoff, 1983a, p. 118)
- In metric structure, the events on strong beats are more stable than the events on weak beats.

Reduction in the atonal music

We have just said about stability conditions in tonal music for reduction. But in chromaticism the tonal stability conditions lose their weight. According to Lerdahl in these conditions, salience conditions comes to important position. Even though events being on the strong beat or having long in duration is dissonant, they can be more stable in salience conditions. Such salience conditions as the long in duration events, structural important of event, being metric position and being end of group can attribute structural important to events in monodic linear melody (Lerdahl, 2001, p. 315).

According to Lerdahl, the psychoacoustic salience plays important role in determining prolongational structure in chromaticism. “GTTM’s time-span reductional PRs can be divided into two categories, those that compare relative pitch stability of the events within a given span or region and those that compare the relative salience of events.” (Lerdahl, 2001, pp. 313–315).

According to Lerdahl, Psychoacoustic salience “is not always obvious which pitches in a melodic line are harmonic and which are nonharmonic.” (Lerdahl, 2001, p. 316). In this case, temporally adjacent sequential pitches with intervals smaller than minor third in melody can be consider together as a group or as a chord arpeggio (Lerdahl, 2001, p. 316). Lerdahl called streaming or ‘anchoring’ for these principles. He proposed a rule for anchoring principles, and ‘salience conditions’:

“Salience Conditions: Of the possible choices for the head of a time-span T, choose an event that is; (1) attacked within the region, (2) in a relatively strong metrical position, (3) relatively loud, (4) relatively prominent timbrally, (5) in an outer-voice (high or low) registral position, (6) relatively dense (simultaneous attacks), (7) relatively long in duration, (8) next to a (relatively large) grouping boundary, (9) relatively important motivically, (10) parallel to a choice made elsewhere in the analysis.

Anchoring/Reduction Rule: In a melodic sequence, if temporally adjacent pitches in a stream are less than a minor third apart and are comparably dissonant, choose the second pitch.” (Lerdahl, 1989, pp. 73–74, 2001, p. 320).

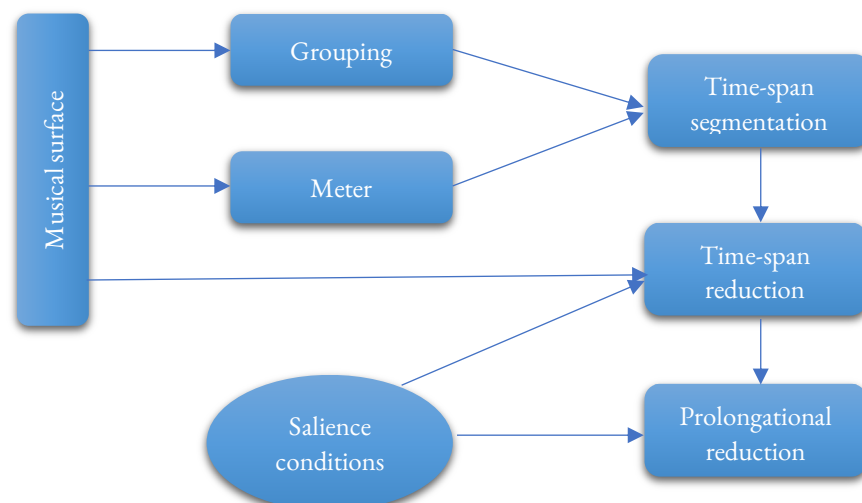


Figure 11. The flowchart of salience conditions in GTTM adapted from Lerdahl & Jackendoff (1983a)

The conditions of salience, such as metrical position, timbre, loudness, position of register and intensity, and long in duration (conditions a to g) apply to the musical surface at the local level, whereas the conditions of motive significance, position in the group and parallelism (conditions h to i) apply to the conditions of the global level over a large time-span (Lerdahl, 1989, p. 74). In these conditions, moving away from the tonic is represented with right branching and returning to the tonic is represented with left branching.

Approaches for the analysis of Ulvi Cemal Erkin's Piano Concerto

In this study, it was analysed of form, harmonic and metric structure of Ulvi Cemal Erkin's Piano Concerto. In this way, it was tried to determined such factors as tonic regions, cadance events, and key/mode regions. While a scale of a given region is determined, first of all tonic will be determined. After that all of the pitches will be organized from bottom to top according to tonic. It will be evaluated whether or not our identified factors are consistent or sufficient with GTTM's conditions (stability, hierarchy, etc.) and components (grouping structure, metric structure, etc.) and rules (preference rules, transformational rules, etc.). As GTTM's rules and/or component conditions do not correspond to the condition of the work, we will propose a new rule/rules for GTTM. With this approach, grouping structure conditions correspond with Piano Concerto's conditions. The metric structure is 7/8 meter in three movement of work. This condition is dissonant in GTTM. Because, the time-span must be equal between two beat in the tactus level according to Metric Structure Well-Formedness Rule 4 (MWFR 4). In other words, the tactus level must be able to divide to two or three beat. However, Tsougras proposed a specific rule for this dissonant metric condition: *Specific Metrical Well-formedness Rule (SMWFR)*. According to this rule the time-span is not able to be equal between two beat in the tactus level (Tsougras, 2010, p. 183). For these conditions in work, we will use the SMWFR.

While eliminating among events in the time-span reduction and the prolongational reduction, the stability conditions has primarily important for preference. In these stability conditions, melodic and harmonic stability were constituted to depend on the tonal functional harmony. However, feature of the functional harmony did not met in the Piano Concerto. In this context, we prefer to use Lerdahl's anchoring rule and salience conditions.

In the first movement of the Piano Concerto the main theme (first theme or opening theme) consist of transposed repetition in the center of $e\leq$ and e in the A section. In the first repetition (bars 14-24), in the melodic line and the bass line are different mode, but enharmonical (Figure 12). The tonic center is $d\#$ in bass line, but $e\leq$ the melodic line. This continues until cadence. However, the repetition or changing of pitches affect quality of the harmonic progression when the prolongation is represented in the prolongational reduction (strong prolongation, weak prolongation etc.). For solving this problem, we can purpose a transformational rule. But before proposing, we should prefer one of two modes for represent the layer at lower level. In this context, it is proposed that to prefer the mode which closes the main mode center, taking into account the stability.

Figure 12. The first movement, bars 14-17

Time-span Reduction Transformational Rule 1 (Enharmonic Interval): If there are different mode center, but enharmonic in the melody and bass line, prefer one of them to transform into mode or key which is the closest to the main mode or key.

Some cadences are open-fifth chord on some cadence point in the work, for example bar 13 in the first movement. The non-triadic chords are unstable in GTTM. Hence, this cadence should unacceptable as head event. However, Tsougras have proposed a specific rule for the open-fifth chords in modal music:

Special Time-Span Reduction Preference Rules (STSRPR) 3: Prefer a open-5th chord as the structural end of a piece.

Tsougras have proposed this rule for harmonized original melody. In this case, it may be necessary to extend the scope of this rule and propose to a rule:

STSRPR 3 Revise: Prefer a triad or a quartal or a open-fifth chord as the structural end of a piece, in a cadence of a time-span T.

The tonic is different according to the main theme in bars 81-112 in the first movement. The tonic is G note in this passage. However, the main theme begins on the bass line, D is the pedal note on the top line. The theme continues in the sixth bar of the passage on the top line. During the reduction the integrity of the theme will be disturbed and the prolongation will not be shown the structural events of the theme at the lower levels. The same conditions are seen in bars 97-106 (Figure 13). For this purpose, it is necessary to propose a rule.

Time-span Reduction Transformational Rule 2 (Transfer): Transfer the theme exactly to the upper part, when the theme is in lower parts other than the upper part on the musical surface.

For these cases, the reduction which we made in the lower level will be made in the context of ‘transfer’ rule.

Stable pitch events are preferred as head events according to the main mode and tonic in the bars 1-24 of the third movement. In this passage, the progression occurs in the A section due to modulation to the F# Phrygian mode in prolongational reduction. It occurs $\#2 \rightarrow \#2 \rightarrow \#2 \rightarrow 5 \rightarrow 1 \rightarrow 1$ in the melody line and $3 \rightarrow 3 \rightarrow \#2 \rightarrow 6 \rightarrow 2 \rightarrow 4$ in the bass line according to the F# center in the harmonic progression. Even though the main theme is the G# Phrygian mode, due to the modulation in the cadence of section the main mode is shown as the F# Phrygian mode in these harmonic progressions. However, after bar 59, the tendency towards to the G# center make consider that the center of the main mode is the G# in the follow of work. In this case, it is necessary to determine the hierarchy between the G# and the F#, because the G# is prolonged in the global level (Figure 14, bars 1-24). In this case, a salience condition may propose as follow:

Specific Salience Condition 1 (Tonic): Prefer tonic and/or repetitive event in prolongational case.

Lerdahl proposed last three condition for such global level as phrase, period and section in the salience condition. However, a tonic and/or a cadence affect(s) to prefer in the Piano Concerto. In this case, a salience condition is necessary for cadential retention.

Specific Salience Condition 2 (Cadence): If the following conditions obtain in a time-span T, then label the progression as a cadence and strongly prefer to choose it as head:

- The last element of this harmonic progression is the tonic.
- The tonic is at the end of T or is prolonged to the end of T.
- There is a larger group G containing T for which the progression can function as structural ending.

These specific rules which we have proposed for conditions that do not correspond to the rules of GTTM will be utilized in the analysis of the work.

Figure 13. The first movement, bars 97-106.

Figure 14. The third movement, the time-span reductions, global level

A Pitch Set Formulation

Identify of the tonic is necessary for determining a tonal/modal region in a given work. For which, a beginning chord and a cadence is an importance indicator. Karadeniz (2020) utilized a Pitch Set Technique⁴ which has tonic with specifically approach for determining scale in a musical passage for 20th-century chromatic modal music. In this approach, Pitch Set is “a point of focus that is the *warp and woof* of the region to which it is related.” (Karadeniz, 2020, p. 4). In other words, it is to determine the sound material or scale used in a musical passage from ascending order, ignoring repetitions. In this case, it is necessary to determine the tonic in order to determine the scale. The formulation of determined scale is identified by accepting “the distance of adjacent pitches in the pitch set to each other as a chromatic interval, 1 step.” (Karadeniz, 2020). For example, C-Db-E-Ab-B-C pitch set formulate as $c(13431)$ in C center. In this formula c is the tonic, the digits represent the sum of 1 step between two adjacent notes. While computing the interval between two adjacent notes, for example E-Ab, four step is written to pitch set.

⁴ This technique is not the same with pitch class set theory. Only it is influenced from pitch class set theory.

In the analysed passage, while identifying the tonic and the mode region, first of all beginning pitch and ending pitch of group is determined. Then, the scales were constituted from among used pitches in the passage. While constituting pitch set, regions were identified in the groups. Interval class of the pitches in these regions was identified. First of all, pitch sets and pitches which salience of their loud in the melody and bass line in every region were analysed separately. Then, constituted scale from combination of pitch sets in two part was tried to identify. The constituted scale patterns were compared with the scales in Western music theory and Turkish *makam* music theory. In the passage pitches as the tonic function can be observed as pedal notes or as the most frequently emphasised, intensely observed and melodically oriented pitch, sometimes rhythmically (long duration value, strong time, etc.) or at the boundaries of motive or theme changes which divide large passages. Other pitches are related to the pitch whose intensity is prominent and some pitches may stand out in this relationship.

Results

The Erkin’s Piano Concerto has four movements: *Allegro, andante, scherzo, andante-allegro*. The first movement is Re Phrygian mode. The form of this movement is sonata allegro [(Exposition: (A₁B₁)-Development: (A₂C)-Recapitulation: (A₁B₂)] (Figure 15). A section has four sentences (aa’a”b). There is sequence of the ‘a’ sentence in the exposition. The main theme modulates from D Phrygian to Eb and E Phrygian modes in this sequence. There is a new theme in the b sentence which modulates to the _d(1213) and the _{eb}(1312131). There is a second theme in the B section which modulates to the _f(3121311) and the _{db}(3121311).

In the development, the main theme opens IV degree of the main mode, then, returns to the tonic center. In this context, a development of the main theme is occurred by the modulation. There is the cadence section of concerto in the C section. The motives of the main theme and ‘b’ phrase are developed in this section. A₂ has four sentences (a’a-b’c). The center mode in the main theme (a) is in the G Phrygian mode in the A₂ section, then the D Phrygian mode. The center mode is the _c(1312131) in the b’ sentence and the G Mixolydian mode in the c sentence. In the C section, there is the development of two different themes from the A₁ section. The _x(121) tetrachord is in four different mode centers, C#, F#, B and G# in this section.

In the Recapitulation, different from exposition, the mode center is the _{gb}(3121311) and the _d(3121311). In this context, there are the Phrygian mode and the _x(121) tetrachord in the minor region, and the Mixolydian mode and the _x(1312131) mode in the major region.

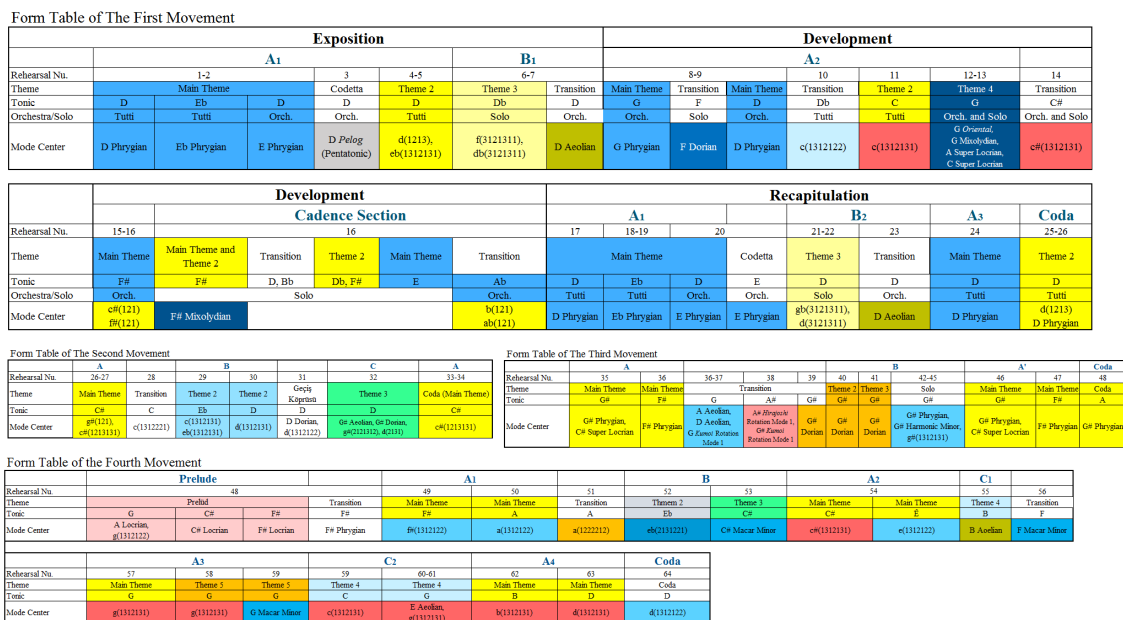


Figure 15. The form table of the U. C. Erkin’s piano concerto

In the 19th-century concerto works, the AB sections in the opening section are traditionally played by the orchestra without modulation and then repeated by the solo instrument (Gauldin, 2004). If the main key is major, the solo instrument modulates to the dominant key in the B section in the repetition played by the solo instrument, and if the main key is minor, the relative major key is modulated. The cadence section is traditionally placed in the coda section at the end of the recapitulation. Erkin did not prefer this traditional practice in the Piano Concerto. In the recapitulation section, section A₁B₁ is played *tutti* and section B₁ is not repeated by solo instrument. The cadence section does not come again in the coda section at the end of the exposition, but in the C section, and exhibits elements of development. Under these cases, we consider that Erkin expanded the exposition section and displayed an individual approach in the first movement of the concerto works of the 18th and 19th-centuries in his Piano Concerto, considering the traditional practices in the classical period.

Andante, the second movement, has three main sections (ABC). The c#(1213) pentachord dominates in the A section. In the B section, there are modulations of x(1312131) to C, Eb and D pitch center, in the second theme. In the C section, there are modulations of the G# Aeolian mode, the G# Dorian mode, the g#(2121312) mode and the a(2212131) mode. In the coda section, the mode center is the c#(1213131) mode and the main theme is based on a C# pedal note. In these cases, there is the minor-major-minor balance in the second movement. The pitch centers are adjacent C#-D-G#-C# which are related by the fourth and the fifth interval.

Scherzo, the third movement, is in the ternary form (Figure 15). The main mode is the G# Phrygian mode. Then, the main theme modulates to the F# Phrygian mode. In the B section, the mode center is the G# Dorian mode. The bass clarinet solo is in this section. In this solo, the harmonization is based on a G# pedal note and has the Phrygian mode, Harmonic minor key and a g#(1312131) mode. In the repetition of the A section, it returns to the G# Phrygian mode.

In the *Andante-Allegro*, the fourth section, form is the chain-rondo or seven-part rondo (Hepokoski & Darcy, 2006, p. 401): Prelude-A₁BA₂C₁A₃C₂A₄. In the prelude section, the main theme is in the Locrian mode with A, C# and F# tonic center. Erkin used the main theme and the second theme in parallel in the A₃ and A₄ sections.

In the 18th and 19th-centuries, it was common practice in the classical Western music to return to the main key while repeating the main theme in the rondo form. Erkin did not adhere to this practice in the fourth section. In the A sections, there are modulations to x(1312122) and x(1312131) modes. The modal centers are F#-A-C#-E-G-B-D in these sections. There is a minor 3rd interval relationship among these adjacent pitches. These pitches occur in the D major scale in the D tonic center.

Erkin used the tetratonic, the pentatonic and the heptatonic scale in this work which are used as sound material in the Turkish *makam* music and the 20th-century Western music. There are *tri-hemitonic scales* such as x(1312131), x(1312122) and x(1312212) modes which resemble Turkish *makam* music scales among the sound materials used by Erkin (App.-I; Table 1).

According to Lerdahl, the normative structure is usually realized in the process of weak prolongation in the context of tension-relaxation. In the Piano Concerto, it was observed not only the normative structure but also the progression and the strong prolongation. In the exposition, the weak prolongation is in the A₁ section, the progression is in both the B₁ and the A₂ sections (App.-II). In the second movement, there is the weak prolongation in the main theme but there is progression in the other themes. This case shows us that the whole second section is in a process of tension. In the third movement, the tension progression is observed with the strong prolongation and the weak prolongation right-branch tree diagram. In the fourth movement, the left-branch tree diagrams are observed in the period regions. However, the tension progression continues owing to modulation in each section (App.-II).

Table 1. Identified scales in the U. C. Erkin's piano concerto

Movements	Mode	Rehersal Nu. and Tonic
The First Movement	Phrygian	1-2 (D, Eb, E); 8-9 (G, D); 17-20 (D, Eb, E); 24 (D); 25 (D)
	<i>Pelog</i> (Pentatonic)	3 (D)
	Pentachord 2 (1213)	4-5 (D)
	Tetrachord 1 (121)	15-16 (C#, F#)
	Heptatonic Scale (1312131)	5 (Eb); 11 (C)
	Heptatonic Scale (3121311)	6-7 (F, Db); 21-22 (Gb, D)
	Aeolian	7 (D); 23 (D)
	Mixolydian	12 (G), Cadence (F#)
	<i>Oriental</i>	13 (G)
	Super Locrian	13 (A)
The Second Movement	Heptatonic Scale (1213131)	26-28 (G#, C#); 33-34 (C#)
	Tetrachord 1 (121)	26 (G#)
	Heptatonic Scale (1312131)	29 (C); 31 (D)
	Heptatonic Scale (1312122)	29 (Eb); 31 (D)
	Lydian	30 (D)
	Dorian	31 (D); 32 (G#)
	Aeolian	32 (G#)
	Pentachord 1 (2131)	32 (D)
	Heptatonic Scale (2121312)	32 (D)
The Third Movement	Phrygian	35-38 (G#, F#, G, E); 46-47 (G#, F)
	G Kumoi Rotation Mode 1	36 (G), 38 (G#)
	Hirajoshi Rotation Mode 1	38 (A#)
	Aeolian	36 (A, D)
	Dorian	39-41 (G#)
	Harmonic Minor	43 (G#)
	Heptatonic Scale (1312131)	44 (G#)
	Ionian	48 (A)
The Fourth Movement	Locrian	48 (A, C#, F#)
	Phrygian	48 (F#)
	Heptatonic Scale (1312122)	49-50 (F#, A); 54 (E), 64 (D)
	Melodic Minor <i>Undertone</i>	51 (A)
	Heptatonic Scale (2131221)	52 (Eb)
	Macar Minor	53 (C#), 59 (G)
	Aeolian	55 (B), 60-61 (A)
	Hepatatonic Scale (1312131)	54 (C#), 57 (G), 58 (G), 59 (C), 62-63 (B, D)

Conclusion

In this study, harmonic approach of Erkin is analysed through the example of his Piano Concerto. In this context, modal plan of the work and the tension-relaxation regions was analysed with GTTM approach. Firsr of all form of the work, harmonic process and metric structure was analysed, then, the tonic centers, the modal regions, and the chord structures were observed. These elements were compared with GTTM's conditions. We tried to understand that GTTM's conditions correspond to the Piano Concerto's conditions.

Erkin's Piano Concerto has four movements: Allegro, andante, scherzo, andante-allegro. The first movement is Re Phrygian mode. The form of this movement is sonata allegro [(Exposition: (A₁B₁)-Development: (A₂C)-Recapitulation: (A₁B₂)]. In the development section, a development of the main theme is ocured by the modulation. In the context of the modulation, relationship of the major-minor mode occurs in the A₁ section and B₁ section of the exposition. The common feature of scales in major region is the *tri-hemitonic* scale structure, for example $x(131)$ or $x(1312)$. In the context of form, we consider that Erkin expanded the exposition section and displayed an individual approach in the first movement of the concerto works of the 18th and 19th-centuries in his Piano Concerto, considering the traditional practices in the classical period.

In the Piano Concerto, the tension-relaxation region correspond to GTTM's strong and weak prolongation pattern to a large extent. In this case, we think that Erkin adhered to the harmonic progression under stability conditions.

We can separate the scales to four branch in the Piano Concerto: The diatonic heptatonic modes, the non-diatonic heptatonic modes, the tetratonic scales and the pentatonic scales. The non-diatonic modes separates two branch each other: (1) Synthetic scales, (2) the scales of the sound materials used in Turkish *makam* music, which are similar to the well-tampered system of the Western music. In synthetic scale, Erkin used two individual scales: $\times(1222212)$ and $\times(3121311)$. The tetratonic scales resemble the Turkish *makam* music sound materials. Pentatonic scales are the anhemtonic and the hemitonic scales. The Far Eastern influence is felt in the anhemitonic pentatonic scales. Erkin not only used the tetratonic and the pentatonic structures to create the sound boundaries in the themes, but also used structures as modulation or temporary modulation.

According to our findings, we can say that Erkin did not adhere to common-practice, the Classical period form elements contrary to the literature. These conditions reveal that Erkin exhibited a neo-tonal style with his individual preferences for sound material, influenced by the Impressionist and innovative movements of 20th-century music, his approach extending the Classical period form elements and considering to harmonic progression.

GTTM, which was designed for tonal music, has been evaluated in the context of Hindustani (North Indian) classical music (Clarke, 2017) and 20th-century modal music (Tsougras, 2002, 2010). Lerdahl and Jackendoff, who are the founders of the GTTM, pioneered this approach. Lerdahl proposed some principles and defined conditions for adapting GTTM to atonal music (Lerdahl, 1989). Lerdahl concluded that the theory does not apply to atonal music but can be adapted to Eastern European native music. Beside, it was observed that GTTM was not used in the literature to analyse such orchestral works as concerto, symphony etc. In these case, while analysing Erkin's Piano Concerto, Lerdahl's 'salience conditions' (Lerdahl, 1989) and 'anchoring principle' (Lerdahl, 2001) were applied, four rule suggestions and one rule revision were made: Time-span Reduction Transformational Rule 1 (Enharmonic Interval), Time-span Reduction Transformational Rule 2 (Transfer), Special Time-Span Reduction Preference Rules (*STSRPR*) 3 Revise, Specific Salience Condition 1 (Tonic), Specific Salience Condition 2 (Cadence).

Recommendations

In the context of the hierarchy in GTTM, we think that the metric hierarchy at the hypermetric level in which the large time intervals such as sentences and periods should be discussed again, and more acoustic experiment studies should be done. It is also suggested to adapt the conditions and rules for GTTM for analysing neo-tonal works, revise existing models or derive new models for representation in the direction of modulation. It may be considered to make studies that observe the composer's aesthetic development process by analysing the modal plan in Erkin's large form work such as symphonies, quintets and sonatas. In this context, it is considered that comparative analysis between periods composers will provide resources for comparative studies.

Biodata of Author



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Appendix 1. Similarities of non-diatonic modes in Erkin's Piano Concerto with Turkish *makam* music

We can separate the non-diatonic modes separates two branch each other in the Piano Concerto: (1) Synthetic scales, (2) the scales of the sound materials used in Turkish *makam* music, which are similar to the well-tampered system of the Western music. These scales and their similarities with *makam* music are as follows:

Heptatonic Mode $_x(1312212)$: *Makam* of Hicaz and Hicaz Uzzal (Ezgi, 1933a, p. 275; Kutluğ, 2000, pp. 179, 183). Heptatonic Mode $_x(1312122)$: *Makam* of Hicaz Hümayün (Ezgi, 1933a, p. 275; Kutluğ, 2000, p. 181). Heptatonic Mode $_x(1312131)$: *Makam* of Zirgüleli/Zengüle Hicaz (Ezgi, 1933a, p. 275; Kutluğ, 2000, p. 185). Heptatonic Mode $_x(2131221)$: *Makam* of Nikriz (Ezgi, 1933a, p. 273; Kutluğ, 2000, p. 208). Heptatonic Mode $_x(2121312)$: *Makam* of Karcıgar (Ezgi, 1933a, p. 273; Kutluğ, 2000, p. 188). Heptatonic Mode $_x(1213131)$: *Makam* of Hüz zam (Ezgi, 1933b, p. 229). These scale patterns are defined with different *makam* names in different tonic centers. Here, it is limited to the *makam* at the A pitch, or *Dügâb* pitch in the *makam* music. Moreover, a $_x(121)$ tetrachord and a $_x(1213)$ pentachord, which are identified in the Piano Concerto, resemble the *Hüz zam* pentachord, and a $_x(2131)$ pentachord resembles the *Nikriz* pentachord (Ezgi, 1933a, p. 41).

Appendix 2. Abstracts of The Prolongational Tree-Diagram Patterns in The Erkin’s Piano Concerto

Table 2 presents a summary of the prolongational tree-diagram patterns for time-span such as sentence(s) and section(s) defined in the this work. While forming the tree-diagram, the structural beginning event and the structural ending event are preferred in the stated T time-spans. The prolongational processes are exhibited in tables in global levels. The signs in the table are as follows:

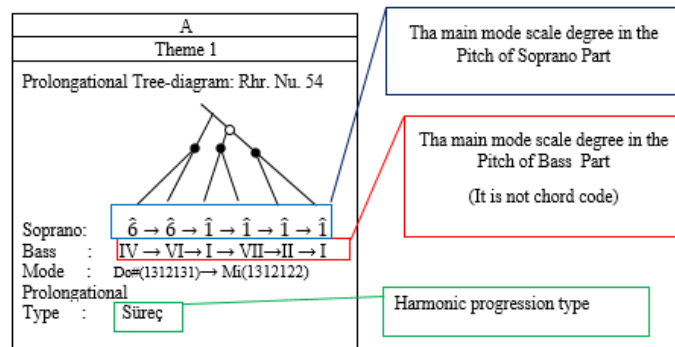


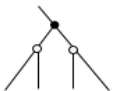
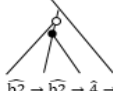
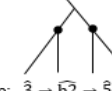

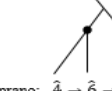

Figure 16. Signs in the Table 2

Table 2. Abstract of the prolongational tree-diagram patterns in the Erkin’s piano concerto



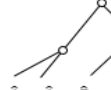

The Prolongational Tree-diagram Patterns of The First Movement				
A ₁		B ₁		A ₂
<p>The Prolongational Tree-diagram: Rhr. Nu. 1-2 (Theme 1)</p> <p>Soprano: 5̂ → 1̂ → 6̂ → 2̂ → 5̂ → 5̂ Bass : V → I → VI → II → 4̂VI → I Mode : D Phry.-Eb Phry.-E Phry.-D tonic The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 4-5 (Theme 2)</p> <p>Soprano: 1̂ → 1̂ → 1̂ → 1̂ Bass : V → V → I → I Tonic : d(1213) The Prolongational Type : Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 6-7 (Theme 3)</p> <p>Soprano: b2̂ → 7̂ → 2̂ → 3̂ Bass : II → III → V → I Mode: f(3121311) → db(3121311) The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 8-9 (Theme 1)</p> <p>Soprano: 4̂ → 4̂ → 1̂ → 7̂ Bass : VI → VI → I → I Mode : (G Phrygian)-D Phrygian The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 11-12 (Theme 2 ve 4)</p> <p>Soprano: 4̂ → 2̂ → 1̂ → 1̂ Bass : IV → V → I → I Mode: c(1312131) → G Mixolydian. The Prolongational Type: Progression</p>
Development				
C	Cadence			
<p>The Prolongational Tree-diagram: Rhr. Nu. 15-16</p> <p>Spr: 5̂ → 1̂ → 5̂ → 1̂ → 5̂ → 1̂ → 3̂ Bass: V → I → III → VI → III → VI → I Mode : F#(121) The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Theme 2</p> <p>Soprano: 3̂ → 3̂ → 3̂ → 3̂ Bass : I → II → 4̂I → I Tonic : F# Pitch The Prolongational Type : Strong Prolongation</p>	<p>The Prolongational Tree-diagram: Cadence</p> <p>Soprano: 4̂ → 7̂ → 4̂ → 4̂ → 5̂ → 7̂ Bass : VII → VII → V → bV → IV → I Tonic : Eb Pitch The Prolongational Type : Progression</p>	<p>The Prolongational Tree-diagram: Theme 2</p> <p>Soprano: 6̂ → 6̂ → 1̂ → 1̂ Bass : VII → VI → II → I Tonic : F# Pitch The Prolongational Type : Progression</p>	<p>The Prolongational Tree-diagram: Cadence</p> <p>Soprano: 5̂ → 5̂ → 5̂ → 5̂ Bass : V → VI → II → I Tonic : E Pitch The Prolongational Type: Weak Prolongation</p>
Recapulation				
A ₁	B ₂	A ₂ and Coda		
<p>The Prolongational Tree-diagram: Rhr. Nu. 17-20 (Theme 1)</p> <p>Soprano: 5̂ → 4̂ → 6̂ → 2̂ → 5̂ → 5̂ Bass : VI → I → VI → II → 4̂VI → I Mode : D Phry.-Eb Phry.-E Phry.-D The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 22-23 (Theme 3)</p> <p>Soprano: 6̂ → 5̂ → 3̂ → 3̂ Bass : VII → I → IV → V Mode: (gb3121311) → d(3121311) The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 24-26 (Theme 1 ve 2)</p> <p>Soprano: 1̂ → 1̂ → 1̂ → 1̂ Bass : V → V → I → I Mode : D Phrygian The Prolongational Type: Weak Prolongation</p>		

Table 2. (Continuation)






The Prolongational Tree-diagram Patterns of The Second Movement



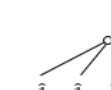
A		B		C	A (Koda)
Theme 1	Geçiş Köprüsü	Theme 2	Theme 2	Theme 3	Theme 1
<p>The Prolongational Tree-diagram: Rhr. Nu. 26-27</p>  <p>Soprano: $\hat{5} \rightarrow \hat{5} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow I \rightarrow I$ Mode : $c\#(1213131)$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 28</p>  <p>Soprano: $\hat{b}\hat{2} \rightarrow \hat{b}\hat{2} \rightarrow \hat{4} \rightarrow \hat{1}$ Bass : $bII \rightarrow bII \rightarrow bII \rightarrow I$ Mode : $c\#(1213131) \rightarrow c(1312211)$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 29</p>  <p>Soprano: $\hat{3} \rightarrow \hat{b}\hat{2} \rightarrow \hat{5} \rightarrow \hat{1}$ Bass : $III \rightarrow III \rightarrow I \rightarrow I$ Mode : $c(1312131) \rightarrow eb(1312131)$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 30</p>  <p>Soprano: $\hat{2} \rightarrow \hat{4} \rightarrow \hat{5} \rightarrow \hat{5}$ Bass : $II \rightarrow II \rightarrow VI \rightarrow I$ Mode : $eb(1312131) \rightarrow d(1312131)$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 32</p>  <p>Soprano: $\hat{4} \rightarrow \hat{6} \rightarrow \hat{5} \rightarrow \hat{5}$ Bass : $IV \rightarrow IV \rightarrow V \rightarrow I$ Mode : $G\# Aeolian \rightarrow d(2131)$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 33-34</p>  <p>Soprano: $\hat{5} \rightarrow \hat{5} \rightarrow \hat{5} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow I \rightarrow I$ Mode : $c\#(1213131)$ The Prolongational Type: Weak Prolongation</p>





The Prolongational Tree-diagram Patterns of The Third Movement

A	B		A' ve Koda
Theme 1	Theme 2 ve 3	Solo	Theme 1
<p>The Prolongational Tree-diagram: Rhr. Nu. 35-39</p>  <p>Soprano: $\hat{1} \rightarrow \hat{7} \rightarrow \hat{2} \rightarrow \#7 \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $II \rightarrow \#VII \rightarrow bVII \rightarrow bV \rightarrow bV \rightarrow \#VI$ Mode : $G\# Phrygian \rightarrow G\# Dorian$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 40-41</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $V \rightarrow V \rightarrow I \rightarrow I$ Mode : $G\# Dorian$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 42-45</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{7} \rightarrow \hat{4} \rightarrow \hat{5} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow I \rightarrow I \rightarrow I \rightarrow I$ Mode : $G\# Phry. \rightarrow G\# Min. \rightarrow G\#(1312131)$ The Prolongational Type: Strong Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 46-48</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{7} \rightarrow \hat{7} \rightarrow \hat{1} \rightarrow \hat{3}$ Bass : $II \rightarrow I \rightarrow \#VII \rightarrow \#VII \rightarrow II \rightarrow II$ Mode : $G\# Phry. \rightarrow F\# Phry. \rightarrow G\# Phry.$ The Prolongational Type: Strong Prolongation</p>

The Prolongational Tree-diagram Patterns of The Fourth Movement

Prelude	A ₁		B	A ₂
	Theme 1	Theme 1	Theme 2- Theme 3	Theme 1
<p>The Prolongational Tree-diagram: Rhr. Nu. 48</p>  <p>Soprano: $\hat{3} \rightarrow \hat{2} \rightarrow \hat{5} \rightarrow \hat{5} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $VI \rightarrow II \rightarrow V \rightarrow V \rightarrow I \rightarrow I$ Mode : $g(1312122) \rightarrow C\# Loc. \rightarrow F\# Loc.$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 49</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $II \rightarrow I \rightarrow IV \rightarrow I$ Mode : $\#(1312122)$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 50</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow IV \rightarrow I$ Mode : $a(1312122)$ The Prolongational Type: Strong Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 52-53</p>  <p>Soprano: $\hat{3} \rightarrow \hat{3} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $III \rightarrow III \rightarrow I \rightarrow I$ Mode : $eb(2131221) \rightarrow C\# Macar Min.$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 54</p>  <p>Soprano: $\hat{6} \rightarrow \hat{6} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $IV \rightarrow VI \rightarrow I \rightarrow VII \rightarrow II \rightarrow I$ Mode : $c\#(1312131) \rightarrow e(1312122)$ The Prolongational Type: Strong Prolongation</p>

C ₁	A ₃	
Theme 4	Theme 1	Theme 5
<p>The Prolongational Tree-diagram: Rhr. Nu. 55</p>  <p>Soprano: $\hat{4} \rightarrow \hat{1} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $IV \rightarrow VI \rightarrow II \rightarrow II$ Mode : $B Aeolian$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 57</p>  <p>Soprano: $\hat{5} \rightarrow \hat{5} \rightarrow \hat{3} \rightarrow \hat{1}$ Bass : $I \rightarrow IV \rightarrow II \rightarrow I$ Mode : $g(1312131)$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 58-59</p>  <p>Soprano: $\hat{1} \rightarrow \hat{1} \rightarrow \hat{4} \rightarrow \hat{1} \rightarrow \hat{2} \rightarrow \hat{2} \rightarrow \hat{2} \rightarrow \hat{1}$ Bass : $VI \rightarrow VI \rightarrow VI \rightarrow I \rightarrow VI \rightarrow VI \rightarrow VI \rightarrow I$ Mode : $g(1312131) \rightarrow G Macar Min.$ The Prolongational Type: Strong Prolongation</p>

C ₂		A ₄	
Theme 4	Theme 4	Theme 1	Theme 1
<p>The Prolongational Tree-diagram: Rhr. Nu. 59 (221-237. ölç.)</p>  <p>Soprano: $\hat{5} \rightarrow \hat{1} \rightarrow \hat{7} \rightarrow \hat{7}$ Bass : $V \rightarrow I \rightarrow VII \rightarrow I$ Mode : $G Macar Min. \rightarrow c(1312131)$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 60-61</p>  <p>Soprano: $\hat{2} \rightarrow \hat{6} \rightarrow \hat{1} \rightarrow \hat{1}$ Bass : $II \rightarrow VI \rightarrow IV \rightarrow IV$ Mode : $E Aeolian \rightarrow g(1312131)$ The Prolongational Type: Progression</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 62</p>  <p>Soprano: $\hat{5} \rightarrow \hat{5} \rightarrow \hat{5} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow I \rightarrow I$ Mode : $b(1312131)$ The Prolongational Type: Weak Prolongation</p>	<p>The Prolongational Tree-diagram: Rhr. Nu. 63</p>  <p>Soprano: $\hat{5} \rightarrow \hat{5} \rightarrow \hat{3} \rightarrow \hat{1}$ Bass : $I \rightarrow I \rightarrow I \rightarrow I$ Mode : $d(1312131)$ The Prolongational Type: Weak Prolongation</p>



Performance Article

Improvisation of blues rock with electro-fretted violin

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Abstract

This research has been prepared as a performance article and a research article. Blues music and Blues guitarist and composer B.B. King, who has an unforgettable place in the history of music, performed improvisation with electro and draped violin. During the performance, the infrastructure of the "Chuss Music" Youtube channel titled "E Minor Blues Guitar Backing Track BB King Style" was used. 12 gauge blues chord patterns were used. With the improvisation performance of blues rock with Kesendere, electro pitch violin, He was awarded the "Western Music-String Instruments" award by the International Rast Music Congress and Music Awards. It is very difficult to find orchestras and groups for music performed in groups such as rock music, jazz music and pop music in some cases and regions. Unfortunately, the economic costs of the established orchestras make it difficult for these orchestras to have a long life. It is recommended to use computer-accompanied music infrastructure in the face of such difficulties.

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Introduction

Many types of music have emerged in the history of music. Some of these genres have lost their popularity, while others have reached larger audiences. One of these important music genres is the Blues. B.B. King is one of the leading composers and guitarists of blues music and one of the many names who have written his name in the literature with his unique style.

B.B. King

Riley B. King "B. B. King" is an American blues guitarist and composer. B.B. jewelry means "Blues Boy King" and finally B. Abbreviated as B. King. The famous musician opened his eyes to life in Mississippi on September 6, 1925 and died in Las Vegas, Nevada on May 14, 2015 (Danchin, 1998).

It is known that B.B. King had a difficult childhood and was employed by his family as an agricultural worker. His talent for music changed his destiny. King began playing guitar at an early age and first performed at local churches in Mississippi. As his love for music grew over time, King's career took off in the late 1940s and early 1950s, as he began chasing opportunities to play on larger stages. With the rising popularity of the electric guitar, King is known for his often used slide technique when playing his guitar. The slide technique has become very much identified with King and has become an important element that constitutes the characteristic sound of his guitar (Richardson, 1987).

His works such as "The Thrill Is Gone", "Live at the Regal", "Blues Boys Tune" and "Lucille" have gained great acclaim and success. B.B. King has received numerous awards for his contributions to blues music. The title "King of the Blues"

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is a tribute to his influence and contribution to his music. Today, B.B. King songs and techniques continue to be played by music lovers of all ages, all countries, and all levels (Jatmiko, 2010; Visé, 2023).

Blues Music

It is a musical genre that emerged in the mid-19th century to tell the difficult life stories of African-Americans, black slaves brought from Africa in the south of America. A new genre emerged as a result of the combination of rhythms of African culture with traditional melodies in America. It usually has 6/8 gauge number and 12 gauge chord structures. Pentatonic or blues range is frequently used in solo structure (Bennett & Dawe, 2020; Hoffmann, 2005; Steinfeld, 2016). Names such as Robert Johnson, Muddy Waters, B.B. King, Howlin' Wolf, Son House, Lead Belly, Asım Can Gündüz, Yavuz Çetin, Ferruh Sayın are examples of names who have achieved significant success and left great traces on blues music in history. When we look at the orchestras of these artists, electric guitar, bass guitar, drum are the most frequently used instruments. In addition, piano, keyboard, brass winds instruments were also frequently used. Blues music has influenced many types of musicians, instrumentalists and artists with its expanding audience of appreciation and has continued to be played with different musical instruments (Oliver, 1997).

12 Bars Blues Chord Structure

In blues chord structures, "1, 4, 5 (I, IV, V)" full cadence structure is frequently used. It belongs to the one-part song form. Musicians perform improvisational performances while repeating 12 measures. In Table 1, you can see the blues music chord structure with a major structure and in Table 2, you can see the blues music chord structure with a minor structure (Eck & Schmidhuber, 2002; Lewis, 2012; MisagiMusic, 2023).

Table 1. 12 Bars Blues Major Chord Structure

1.Bar	2.Bar	3.Bar	4.Bar	5.Bar	6.Bar	7.Bar	8.Bar	9.Bar	10.Bar	11.Bar	12.Bar
A7	A7	A7	A7	D7	D7	A7	A7	E7	D7	A7	E7

As can be seen in Table 1, although the tone is *La Major*, all of the chord structures are in the *Dominant 7* state. Instead of the *Amaj7* chord, which is the 1st degree of the first 4 measures scale, there is *A7* chord, instead of the *Dmaj7* chord, which is the 4th degree of the scale in the 5th and 6th measures, there is *D7* chord, which is the 1st degree chord again in the 7th and 8th measures, *E7* chord, which is the 5th degree in the natural state of the scale in the 9th measure, *D7*, which is the 4th degree in the 10th measure, *A7*, which is the 1st degree in the 11th measure, and *E7*, which is the 5th degree in the last measure.

Table 2. 12 Bars Blues Minor Chord Structure

1.M	2.M	3.M	4.M	5.M	6.M	7.M	8.M	9.M	10.M	11.M	12.M
Em	Em	Em	Em	Am	Am	Em	Em	Bm7	Am	Em	Bm7

M: Measure

Table 2 shows the Blues chord structure of the *Mi minor* tone. *Em* chord, which is the 1st degree of the scale in the first 4 scales, *Am* chord, which is the 4th degree in the 5th and 6th scales, *Em* chord, which is the 1st degree in the measure, *Bm7* chord of natural minor scale in the 9th measure, *Am* chord, which is the 4th degree in the 10th measure, 1st degree *Em* chord in the 11th measure, and *Bm7* chord, which is the 5th degree in the natural minor scale in the 12th measure. When the major and minor chord structures are examined, it is seen that the first 4 measures have the same ranking as the 1st degree chord, the 4th degree chord of the 5th and 6th measures, the 1st degree chord of the 7th and 8th measures, the 5th degree chord of the 9th measure, the 4th degree chord of the 10th measure, the 1st degree chord of the 11th measure, and the 5th degree chord of the 12th measure. There is no change in chord order as major or minor. However, due to the flexible and free structure of music, composers can use their own creativity to use new structures and change the course of the chord.

Pentatonic Scale

After the researches, it was determined that for the formation of the pentatonic scale, the "IV and VII" sounds in the major scale were made, and the "II and VI" sounds of the natural minor scale were made (Bennett & Dawe, 2020; Kesendere, 2022; Ricker, 1976; Zweifel, 1996).

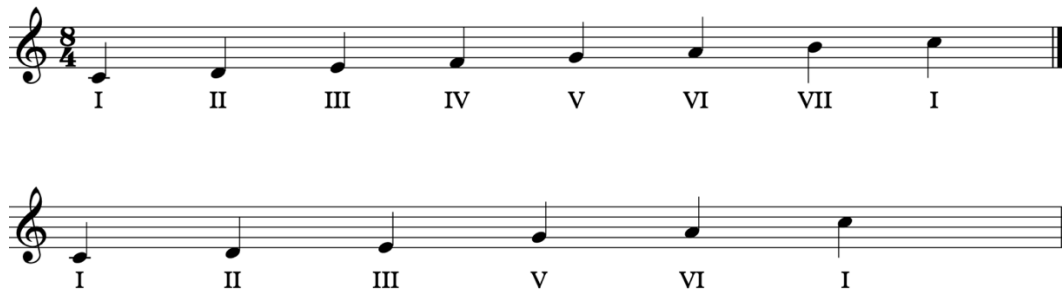


Figure 1. Major scale and major pentatonic scale

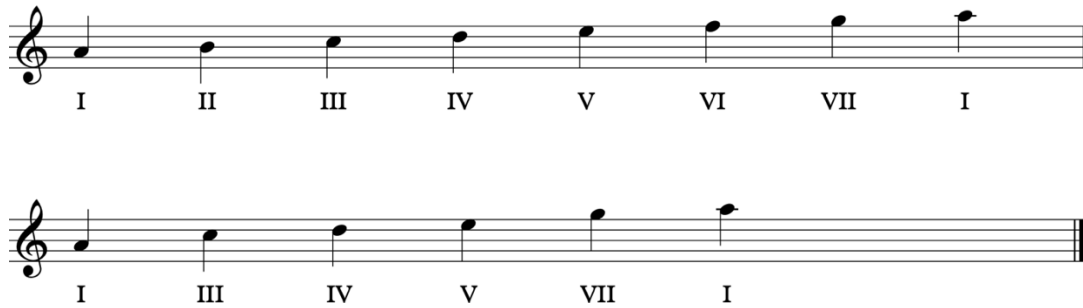


Figure 2. Natural minor scale and minor pentatonic scale

Blues Scale

After the researches, it was determined that the "II. and V." sounds in the pentatonic scale were half-pitched for the formation of the blues scale, and the "IV. and VII." sounds of the natural minor scale were half-pitched (Curry, 2015; Tallmadge, 1984; Witt, 2021).

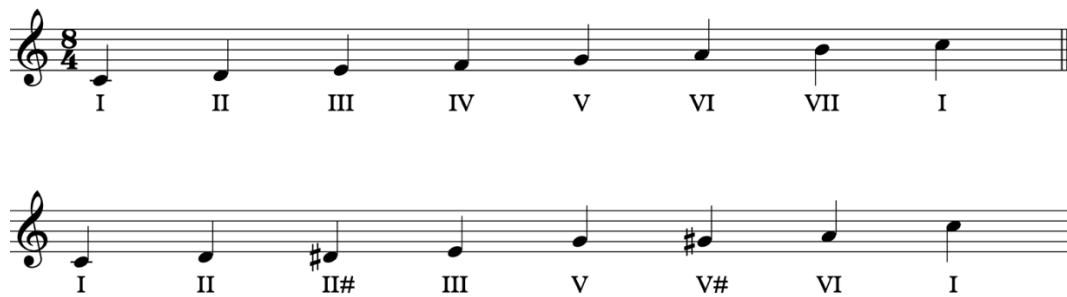


Figure 3. Major scale and major blues scale

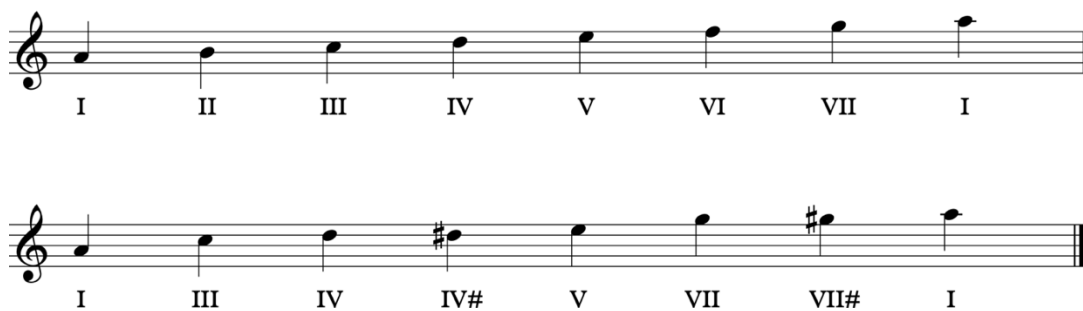


Figure 4. Natural minor scale and minor blues scale

Electro/Electric Violin

Electro violins, which have become widespread with great interest in recent years, can have very different designs and features. These varieties can be grouped under three main headings: semi-acoustic-electronic violin, electronic (silent)

violin, midi violin. Along with this, fretted, fretless, 4-wire, 5-wire models have become widespread (Asano, 2023; Shop, 2022).

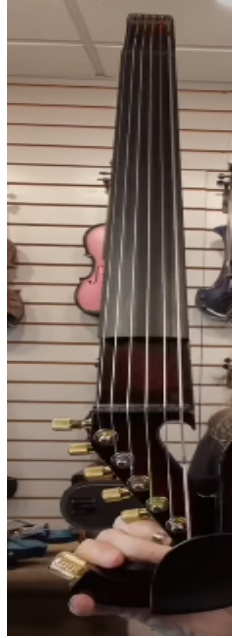


Figure 5. Fretless, 6-strings electro violin (URL 1)



Figure 6. 6-Strings electro violin with frets (URL 2)

"Alexander Markov, Mia Asano, Lyndsey Stirling, Mark Wood" are examples of musicians who use the famous electric violin. Examples of famous violin makers are "Mark Wood, Yamaha, Cantini, Viper Violins". The violin used during the performance is a handmade, special violin built by Yiğitcan Kesendere in 2012. The model of the violin was determined as "YCV5WF" by Kesendere. The letters "YC" in the model represent the words "Yiğitcan", the letter "V" represents "Violin", the number 5 represents 5-wire, the letter "W" represents "White", and the letter "F" represents "Fretted". The body of the violin is made of 20-year-old linden tree and the keyboard is made of ebony tree. "Artec" brand piezzo subthreshold magnetic is used in the violin. The body design of the violin was inspired by the "Ibanez Jem7V-WH" guitar used by the famous guitarist Steve Vai. "YCV5-WF" model violin was signed by Steve Vai at the 2023 Istanbul concert.



Figure 7. Ibanez “Jem7V-WH” model guitar (URL 3)



Figure 8. “YCV5WF” model electro violin (Personal Archive)

Effect pedal-processor pedals

Although the processor pedals (effect pedals), which were first produced and used for electric guitars, were used to change, shape and expand the guitar sound, they have started to be tested in many different instruments over time. Especially with the spread of electric violin users, interest in these pedals has increased. Pedals that provide users with a variety of tonal effects, modulations, echoes, and other sound effects and manipulations allow users to achieve a wide range of sounds. Some of the features of these pedals can be shown as "Distortion, Overdrive, Fuzz, Chorus, flanger, phaser, Delay, Reverb, Wah-Wah, Looper" (Yazar, 2022).

"Nux" brand "MG30" model pedal was used by Kesendere during the performance.

Performance Analysis and Originality

During the performance, the infrastructure of the "Chuss Music" Youtube channel titled "E Minor Blues Guitar Backing Track BB King Style" was used. 12 gauge blues chord patterns were used.

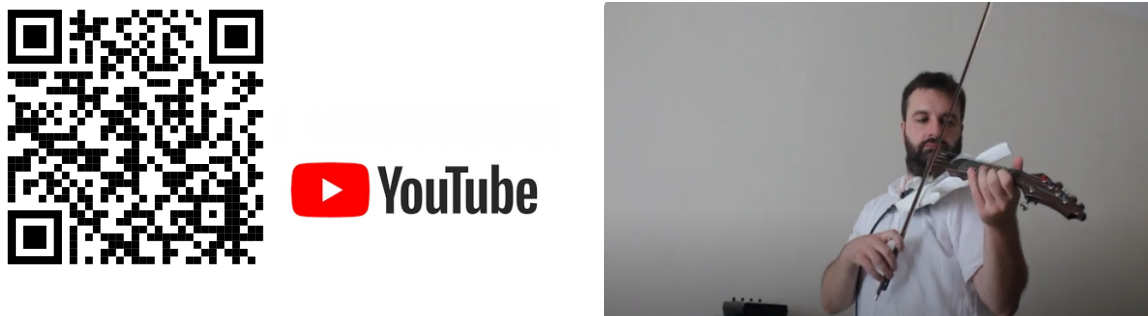


Figure 9. Yiğitcan Kesendere “3rd International Rast Music Congress – Blues” performance video

Two different tone options, overdrive and clean tone, were used by Kesendere by connecting the electro violin to the Nux brand Mg-30 effector pedal. Due to the constant bottom noise and chirping due to grounding, the researcher undertook the task of grounding by touching the pedal during the performance. During the performance, the “vertical vibrato” technique, where the use of electric guitarists on the violin resembling the “bend” technique, and the “feed back” technique with a bow, and the slide/glissando technique frequently used by B.B. King were used on the violin. During the performance, chromatic, pentatonic, blues, rapid passages from natural minor scales and shred technique were used by Kesendere. The entire performance consisted of improvisation, no written or determined notes or melodies were created before the performance.

Conclusion and Discussion

With the improvisation performance of blues rock with Kesendere, electro pitch violin, He was awarded the “Western Music-String Instruments” award by the 3rd Rast Music Awards.

It has been determined that the development of electro violins continues day by day, the use of fret violin, 5-string, 6-string violin has become widespread, electro violins have been tried with different pedals, and the use of electro violin in rock/blues/jazz music has increased.

Mark Wood (2018) used pentatonic scales, fretted electro violin and overdrive effect in his improvised performance video on Youtube. As a difference with Kesendere’s performance, it was determined that Wood gave a short performance for the promotion of the violin and played it without any infrastructure.

It was determined that Mia Asano and Lyndsey Stirling accompanied the pop music infrastructure instead of blues music in their electro violin performances. It can be said that they gave a much more spectacular performance than Kesendere’s performance as stage shows. While Kesendere performs a completely improvised performance on the B.B. King infrastructure for Blues music, it can be said that Asano and Stirling perform a more notational performance and accordingly have a high energy in terms of “Groove”.

Recommendations

It is very difficult to find orchestras and groups for music performed in groups such as rock music, jazz music and pop music in some cases and regions. Unfortunately, the economic costs of the established orchestras make it difficult for these orchestras to have a long life. In such cases, computer programs such as “Jjazzlab, ChordPulse, Band in a Box” or ready-made infrastructure videos on Youtube can be used. Considering that the grounding problem is frequently encountered in our country, unfortunately, a solution is sought with the conductivity of the human body as an economic and short-term solution. In these cases, a person tries to prevent bottom noise by touching the pedal.

Biodata of Author



Dr. **Yiğitcan Kesendere** was born in 1990 in Bursa. He made his violin studies with names such as Bayazit Akhundov, Seda Gürtel, Alexander Markov, Cihat Aşkın, Gilles Apap. 2017-New York Jazz Competition “Solo Category 1.”, 2023-X.Stockholm International Music Competition “Composition”, 2023-International 3.Rast Music Congress and Music Awards “Western Music-String Instruments”, “Article-Most cited Article ”awards.

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Web Sites

URL 1. <https://www.youtube.com/shorts/I17a2MAwHKw>)

URL 2. https://www.youtube.com/shorts/2aMqK5Vp_ks)

URL 3. <https://www.mydukk.com/ibanez-jem7v-wh-white-elektro-gitar>

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