Decorative Timbre:

Integrating characteristics of Spectral and Dastgah music

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A Thesis submitted in fulfilment

of requirements for the degree of

Doctor of Musical Arts

Sydney Conservatorium of Music

The University of Sydney

2023

Statement of Originality

I, Shervin Mirzeinali, hereby declare that this submission is my own work and that it contains no material previously published or written by another person. This thesis contains no material that has been accepted for the award of a higher degree.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Signed: Date: 05 December 2023

Acknowledgement

I would like to express my sincerest gratitude to:

- My parents for their immense and selfless support. Despite being an only child, they respected my passion and encouraged me to pursue my musical journey and leave home at the age of 14. I would not be a musician without their love and guidance.
- My supervisor Associate Professor Damien Ricketson. My doctorate degree and this thesis would not have been possible without his inspiration and supervision. I will always be indebted to him for having trust in me and providing me with support to make my way to Australia.
- The University of Sydney for the International Student Stipend and Tuition Fee Scholarship. Also, my auxiliary supervisor, Professor Liza Lim, for her deep philosophical and musical conversations.
- The *Panbe Zan* team: Ali Elhami-Manesh, Parisa Mansouri, Mohammad Hamed Janali, Baha Jamali, Maedeh Dezhbod, Fereshteh Mehrnia, Nahid Farsi, Agnes Sarkis, Danial Bozorgi Majid Amani, Ehsan Kachooei, Ali Yarmohammadi, Arman Gouniaei, Maximillian Alduca, Harry Birch, Mehrdad Ziaee Nejad, Sasha Shahrabi and especially the theatre director Marjan Lotfali. The team worked voluntarily with love, passion and trusted my process.
- My partner Chandni Dewan for her unconditional support. She improved my self-confidence, encouraged me to stay on track, and proofread the entire thesis.

Abstract

Decorative Timbre is a portfolio of original compositions and an accompanying written dissertation. In this thesis I propose a new musical language synthesising the expressive elements of Western spectral and Persian *Dastgah* music via the marriage of timbre and ornamentation.

Persian and spectral music are two fundamentally distinct musical approaches derived from different philosophies and traditions, each possessing a particular value and aesthetic. However, in researching mutual characteristics and modalities, I draw connections between the two forms of music under the concept of 'decorative timbre.' I discuss approaches to 'converting a melody to timbre and vice versa' and offer a new compositional technique of 'excessive multilayering' that is inspired by shared commonalities in both traditions.

The portfolio comprises four works that explore the application of excessive multilayering; *Abalfazl, War is Peace, Let me Tune,* and *Beautifully Untuned Mind*. The centrepiece of my creative portfolio, *Panbe Zan* (the cotton beater), is an experimental electroacoustic opera that recreates and recontextualizes the forgotten sounds of an obsolete profession *Panbe Zani* (Cotton Beating). Featuring a redesigned bow-shaped instrument together with live musicians, pre-recorded and manipulated sounds and staging, the work portrays this nostalgic scene in a modern context.

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1 Introduction

As an Iranian-born composer having spent more than a decade abroad studying Western music traditions and evolution of today's new music, I became fascinated by spectral music. I was attracted to this music tradition that focuses on the 'inner structure of sounds' and uses information from spectrum analysis to foreground timbre. At the same time, however, my interest in my home country music increased remarkably, particularly the modal system of Iranian music known as *Dastgah* and its distinct ornamental characteristics. Over time, I found myself incorporating materials from both traditions, and hence I developed an interest in finding the possibility of expressing Persian *Dastgah* music through timbre.

My first exposure to spectral music was via the work *In Vain* composed by Georg Friedrich Haas where I was captivated by the colourful microtonal sonic worlds.[1] Even after becoming acquainted with spectral music more broadly, I found myself returning to Haas as I was attracted to his use of different chords and sonic gestures based not only on overtone spectra but also his incorporation of microtonal concepts from Ivan Wyschnegradsky, Harry Partch, and harmonies based on the second Viennese school such as Anton Webern.[2] This non-dogmatic approach to Spectralism and the freedom of choice in Haas's approach towards different philosophies became an inspiring reference for me to find a hybrid approach to spectral and *Dastgah* music. Moreover, my studies on spectral music increased my fascination towards the mentality behind this tradition rather than the technical aspect or its connection to spectrum analysis. As Tristan Murail, one of the forerunners of spectral music, suggests Spectralism is an attitude towards music.[3] Other scholars like Robert Wannamaker also

[1] Georg Friedrich Haas, "in vain," (Universal Edition, 2000).

[2] Robert Hasegawa, "Clashing Harmonic Systems in Haas's Blumenstück and in vain," *Music Theory Spectrum* 37, no. 2 (2015): 204.

[3] Joshua Fineberg, "Spectral music," *Contemporary Music Review* 19, no. 2 (2000): 2.

consider spectrum analysis only as a point of reference for spectral composers.[4] Therefore, I decided to rely mainly on the characteristics and mindsets of spectral music that can be experimentally applied in dialogue with *Dastgah* music.

In the process of researching the characteristics of both spectral and *Dastgah* music, I discovered mutual mindsets and approaches that enabled the possibility of cross-cultural and artistic interconnection. Although both traditions are characterised by distinct musical languages, by focusing on their conceptual commonalities and synthesising their prominent expressive elements, I hoped to create a timbral music through the rationale of *Dastgah*. Hence, I developed a new musical language, that I term 'decorative timbre', that is crafted from the marriage of the spectral-inspired focus on timbre and the *Dastgah*-inspired focus on embellished phrases.

The core of this thesis is a 90 minute portfolio of original compositions where my theoretical development of the concept of decorative timbre is illustrated in practice. It is crucial to mention that this research is not an extensive study on *Dastgah* or spectral music. Rather, among characteristics of both traditions, I search to find mutual conceptual philosophies as a source of inspiration to shape and substantiate the thought process behind decorative timbre. This newly developed idea has a strong connection to my personal philosophy as an immigrant, which represents the result of the gradual and naturally blended cultural behaviours of both my home country and the countries in which I have lived. A set of behaviours and mentalities arise from my lived experience of both traditions; however, it does not fit into nor is it accepted by each separately.

[4] Robert A. Wannamaker, "The spectral music of James Tenney," *Contemporary Music Review* 27, no. 1 (2008): 91.

Whichever way shall I go? To the wine-tavern or the mosque?

Both are off-limits to poor me.

They do not let me into the mosque, saying, “He’s a knave,”

Nor in the tavern, saying, “He’s too green.”

Between the mosque and the tavern, there is a path.

Find out, O dear ones, which path you are on now.

In the tavern, the Imam is passed-out drunk.

I do not know what to call that idol.

Today, my Mecca is the tavern.

My drinking companion is the Judge, and my cupbearer, the Imam.

Go, ‘Attar, for [only] He knows, who is the leader, and who is bewildered.

(Attar Neyshabouri, 1146 – 1221)[5]

In Chapter 2, I discus the background and literature surrounding spectral and *Dastgah* music separately. I determine the scope of each tradition that I wish to explore to reach an interconnected dialogue. Core concepts such as *Dastgah*, *Radif*, *Avaz*, and the micro-interval structure of Persian music are described. I seek the mutual characteristics of both traditions in their sonic and temporal aspects. Consequently, I introduce three new qualities: 'concentrative perspective', 'contemplative listening' and 'state of presence', as a common ground that features

[5] "Two Mystical Persian Lyrics: ‘Aṭṭār and Paradox," accessed November 10, 2022, https://persianissugar.wordpress.com/2017/03/30/two-mystical-persian-lyrics-aṭṭar-and-paradox/.

in both traditions. In presenting these qualities, I arrive at the concept of decorative timbre by integrating the prominent expressive elements of both traditions while remaining authentic to their mutual characteristics.

In Chapter 3, I seek to actualise the concept of decorative timbre from a practical and technical point of view. Therefore, I delve into commonly used compositional methods in spectral music, Persian art, and philosophy in general as sources of inspiration to create a new compositional tool. As a result, 'excessive multilayering' is my proposed compositional technique inspired by additive synthesis in spectral music and Persian intertwined patterns in tile and carpet art works. In addition, I introduce excessive multilayering to create a connection between timbre and Persian ornamental phrases: a new expressive element that could capture the essence of both timbre and ornamentation. Excessive multilayering enables the conversion of melody to timbre, and vice versa. By superimposing an abundance of embellished phrases that are extracted from the *Dastgah* system, the perception of the melodies converts into a sound mass. The gestures and the melismatic motions of each layer can reshape the timbre of the sound mass through time. Furthermore, I discuss three different applications of excessive multilayering: successively, melodic-centred, pitch-centred, and fluid.

In Chapter 4, I examine excessive multilayering and its suggested applications in four different musical works. Each analysis is divided into two sections of subject and structure. The subject section corresponds to the initial intention of the piece and the structure discusses the technical aspect and the modalities of excessive multilayering. *Abalfazl* is an ensemble piece written and recorded as part of the subject Composer Performer Workshop at the Sydney Conservatorium of Music. I transcribed a monody sung by renowned muezzin[6] Salim Moazenzadeh Ardabili,

[6] An official who calls Muslims to prayer from the minaret of a mosque

which is based on *Shur Dastgah*, one of the most performed *Dastgahs* among Persian musicians. I experimented with layering different pitch series extracted from the monody to partially obscure the perception of the melody and create sound masses. The second work is *War is Peace,* based on George Orwell's 1984 novel for solo flute and electronics. The famous quote from the novel "war is peace, freedom is slavery, ignorance is strength" is broken into various sound components and used as percussive musical materials. The electronic part is created from recordings of extended techniques on setar (Persian traditional lute-type instrument) blended with the live performance of flute in which all layers are superimposed in software and centred around a particular note to create a sense of focal tone similar to *Dastgah* music. The third piece is *Let me Tune* composed for an unconventional ensemble using instruments from different cultural background such as Chinese guzheng and Persian dotar. This piece concentrates on the unique micro-interval structure of *Dastgah* music and tries to create a unique sound quality by capturing and fusing the natural timbre of each instrument. *Beautifully Untuned Mind* is the fourth piece and is based on 9 recorded layers of tar separately. In this piece, I highlight the micro intervallic sonic possibilities of the tar, as well as examine the power of sonic homogeneity and its comparable impact with excessive multilayering.

Chapter 5 is dedicated to an hour-long experimental electroacoustic opera *Panbe Zan*, which is at the core of my portfolio. This opera is about highlighting the sound world that occurred during the forgotten ritual of cotton beating in Iran. The background of this profession is described, as well as the thought process and the rationale behind the production. All suggested applications of excessive multilayering are included among different parts of the opera. The ritual is theatrically divided into seven scenes, and the sound materials that occur in each scene are recorded prior to live performance and used as composition materials in the electronic section. The production consists of fifteen performers including actors, instrumentalists, and the theatre director Marjan Lotfali. In addition to the sonic aspect, I try to revive the generation-

to-generation teaching method in *Dastgah* music, where Iranian performers used to be trained for thousands of years without following a notation score and rely only on their memory from the iteration of their teacher's performance. Therefore, this production occurred during 17 rehearsals over six months where I trained and explained the mindset behind the opera to each performer individually and collectively. Eventually, this opera suggests a new concept of the 'extinct timbre' that provides a creative resource for investigation and imaginative action. Through the use of decorative timbre, each section of the opera carries unique timbres and sonic textures that represent a specific culture and a nostalgic message in a modern context, and evokes forgotten traditions.

2 Methodology

2.1 Overview

In this chapter, I will delve into the rich musical traditions of *Dastgah*, the modal system of Iranian traditional music, and spectral music, a contemporary classical tradition that emerged in France in the 1970s. I will explore their sonic and temporal characteristics to uncover the underlying conceptual and methodological connections between these distinct musical forms. Despite emerging from diverse cultural backgrounds and approaches, both *Dastgah* and spectral music share a common emphasis on the evocative power of sound. *Dastgah* finds its expressive core in embellished motifs, while spectral music places its focus on timbre. My methodology seeks to identify the common ingredients that shape the mindset of both *Dastgah* and spectral composers in their creative processes. By synthesising their prominent elements (embellished motifs and timbre) and retaining their mutual features, a new musical language can be forged with the aim of expressing *Dastgah* music through timbre. I categorise the common characteristics of these traditions in terms of 'concentrative perspective,' 'contemplative listening,' and 'the state of presence,' to arrive at the concept of 'decorative timbre,' which I employ in my portfolio.

2.2 Spectral characteristics

In 1979, an American musicologist Hugues Dufourt coined a new concept of *Musique Spectrale* (spectral music) to define music of ensemble *l'Itinéraire* in Paris that was founded by French composers Tristan Murail and Gerard Grisey. He described that spectra or groups of spectra replace parameters in music – such as harmony, rhythm, and melody – and timbre be elevated to the medium of expression in spectral music. Although the importance of timbre began earlier in the late 19th century by composers such as Debussy, and gradually has been highlighted by others including György Ligeti, Iannis Xenakis, and Giacinto Scelsi. Nevertheless, it was spectral music that foregrounded timbre and defined its fundamentals according to the inner structure of sound.[7]

In the late 1980s and early 1990s, most publications focused primarily on the notion of timbre and its importance as the foremost parameter of music composition. Fred Lerdahl, Kaija Saariaho, and Horacio Aggione were significant composers and researchers who presented new terms such as 'timbral hierarchies', 'timbral interpolations', 'timber as syntax' and, in general, suggested how to foreground timbre in the composition process.[8] In 1996 and 1997, Rose Francios and Viviana Moscovich used the term spectral music in the title of their article 'French Spectral Music: An Introduction.' Moscovich explained the history, evolution, characteristics of spectral music, and importantly, analysed major compositions of Murail and Grisey.[9] However, one of the biggest contributors who has impacted the trend of all publications was

[7] Viviana Moscovich, "French spectral music: An introduction," *Tempo*, no. 200 (1997): 21; Julian Anderson, "A provisional history of spectral music," *Contemporary Music Review* 19, no. 2 (2000): 11-12.

[8] Fred Lerdahl, "Timbral hierarchies," *Contemporary Music Review* 2, no. 1 (1987); Kaija Saariaho, "Timbre and harmony: interpolations of timbral structures," *Contemporary Music Review* 2, no. 1 (1987); Horacio Vaggione, "Timbre as syntax: a spectral modeling approach," *Contemporary Music Review* 10, no. 2 (1994).

[9] François Rose, "Introduction to the pitch organization of French spectral music," *Perspectives of New Music* (1996); Moscovich, "French spectral music: An introduction."

Joshua Fineberg. He is the author and co-author of more than ten articles, which were published by the 'Contemporary Music Review journal' in 2000. The most cited and notable ones are 'Did you say spectral?'[10] and 'Guide to the basic concepts and techniques of spectral music', which clarified the technical facets of spectral thinking in both computer and instrumental music.[11] In parallel to French composers, another approach arose by Romanian composers such as Horațiu Rădulescu and Iancu Dumitrescu. The key difference was that they tried to integrate their traditional music with spectral thinking.[12]

Furthermore, there are many idiosyncratic composers who are influenced by the attitude of spectral music, and scholars have focused on the traces of spectral music in the major works of composers individually. For example, Robert Hasegawa (2015), Martin Suckling (2018), and Mark Hutchinson (2019) wrote about Georg Friedrich Haas's music *In Vain*, *Blumenstück* and Radulescu's works.[13] There have also been published dissertations such as 'Turning sound into music: attitudes of Spectralism' by Christopher Gainey,[14] who researched Gerard Grisey, Tristan Murail, Jonathan Harvey, and Magnus Lindberg. Philip Singleton wrote about Marc-Andre Dalbavie, Kaija Saariaho, with the title 'Spectralism Today: A survey of the consequence for the contemporary composition of the French Spectral school of the 1970s and 1980s.'[15]

[10] Gérard Grisey and Joshua Fineberg, "Did you say spectral?," *Contemporary music review* 19, no. 3 (2000).

[11] Joshua Fineberg, "Guide to the basic concepts and techniques of spectral music," *Contemporary Music Review* 19, no. 2 (2000).

[12] For further information on Romanian Spectral music see: Martin Suckling, "RĂDULESCU: THE OTHER SPECTRALIST," *Tempo* 72, no. 285 (2018).

[13] Mark Hutchinson, "Stairways in the Dark: Sound, Syntax and the Sublime in Haas's in vain," *Tempo* 73, no. 288 (2019).

[14] Christopher Joseph Gainey, *Turning sound into music: Attitudes of spectralism* (The University of Iowa, 2009).

[15] Philip Singleton, *Spectralism today: a survey of the consequences for contemporary composition of the French Spectral School of the 1970s and 1980s* (University of Surrey (United Kingdom), 2016).

By the end of the twentieth century, there were two substantial common points of view that affected trends and understanding of the next generation of spectral discourse. First, scholars regarded spectral music as an attitude and aesthetic rather than a set of techniques.[16] Second, they were all dissatisfied with the term spectral because they believed that this term would narrow the concept into one aspect (sonic) without considering the other crucial features such as temporal and perceptual considerations.[17] Therefore, most of the published works in the 21st century have focused on the rational, philosophical, and perception aspects of spectral music. The most influential ones are 'the revolution of complex sound – Tristan Murail 2005', 'Introduction: Sound for the sake of perceptual insight – Robert Hasegawa 2008', 'The Spectral Legacy - John Croft 2010', and 'Introduction: Spectral Thinking - Jonathan Cross 2018.'[18]

Today there is a diverse range of understanding on the notion of spectral music. However, regardless of the dissimilarity, a well-established understanding is that 'timbre' is the most prominent element and medium of expression for composers, and the 'inner structure of a sound' is considered as the main source of information to craft new music.

[16] Anderson, "A provisional history of spectral music," 16.

[17] Hasegawa, "Clashing Harmonic Systems in Haas's Blumenstück and in vain," 204.

[18] John Croft, "The Spectral Legacy," *Journal of the Royal Musical Association* 135, no. 1 (2010); Jonathan Cross, "Introduction: Spectral Thinking," *Twentieth-Century Music* 15, no. 1 (2018); Robert Hasegawa, "Introduction:‘Sound for the Sake of Perceptual Insight’," *Contemporary Music Review* 27, no. 1 (2008); Tristan Murail, "The revolution of complex sounds," *Contemporary Music Review* 24, no. 2-3 (2005).

2.2.1 Sonic aspect

Sound, as a complex tone, consists of a fundamental frequency and partials (simple sine waves) that can be divided into two main categories: the harmonic and inharmonic series. The harmonics are an integer multiplication of the fundamental tone, and the inharmonics are considered all possible frequencies that are not integer multiplications. The fundamental tone and its overtones (any partial) each have a specific vibration, intensity, and period, which collectively form the whole sound. Through visual depiction of an analysed sound on spectrograms, composers discover a richer perception of constituent components that may benefit them in plotting their compositions.[19]

To describe the sonic aspect of spectral music, Viviana Moscovich characterizes the inherent spirit of Spectralism towards sound:

> Spectral music seeks to exteriorize the inner reality of sound, project its inner dynamic into an acoustic space and time and transmit to the public the reality of sound in all its complexity.[20]

Timothy Bausch also describes:

> The inception of spectral music ultimately cast a spotlight on the phenomenon of sound. By shifting the focus of composition from motive to model, composers of the spectral movement cultivated their musical grammar on physical and synthetic models of sound.[21]

Another description on an abstract level is given by Tristan Murail:

[19] Fineberg, "Guide to the basic concepts and techniques of spectral music," 85-86.

[20] Moscovich, "French spectral music: An introduction," 83.

[21] Timothy Bausch, "Approaching Microtonality in Spectral Music," 1.

> I imagine myself as a sculptor in front of a stone block which conceals a hidden form; a spectrum will thus be able to conceal forms of different dimensions which we can reveal according to certain criteria – and with the help of certain instruments: active filtering, selection of tempered pitches, spectral areas, spectral exploration.[22]

One of the most iconic examples of spectral music is *Partiels (1975),*[23] composed by Gérard Grisey; its orchestration is based on the sound of pedal tone E1 (41.2 Hz) on the trombone. Individual overtones contained within the trombone E are scored across the entire orchestra, which attempts to mimic the nature of the tone E.[24] *Les courants de l'espace*[25] composed by Murail is also another iconic example which begins with a pure sine wave produced on an electronic instrument, ondes martenot, and the rest of the orchestra imitate harmonics of the note.[26]

[22] Tristan Murail, "Questions de Cible," *Entretemps: (Music Contemporaine)* No. 8 (1989): 154.

[23] Gérard Grisey, "Partiels," (Ricordi, 1978), Score.

[24] Rose, "Introduction to the pitch organization of French spectral music," 8.

[25] Tristan Murail, "les courants de l'espace," (Ed. Musicales Transatlantiques, 1979), Score.

[26] Murail, "The revolution of complex sounds," 121.

2.2.2 Temporal aspect

Another unique aspect of spectral music is its temporal structure – the 'gradualness of flow and continuity'. This quality of continuousness enables better absorption of fusions and transition of timbres. Costanet's study of Grisey's *Partiels* shows how Grisey's intention of creating continuous transitions could make listeners concentrate on instruments that unfold their own complex overtones and transcend them into the realm of meditation.[27] Meanwhile, Iuliana Porcos characterizes Spectralism as colours (timbre) gradually evolving in time to produce musical effects.[28] Apart from enhancing the appreciation of evolving timbres, continuousness also emerged from a particular temporal approach which was more conceptual than rhythmical. Since spectral composers modelled their music based on the varying lengths of overtones (represented on the time axis of the Spectrogram), 'durational thinking' offered a more appropriate approach than a beat-oriented setting. Fineberg states that:

> Absolute temporal durations are often an easier way to conceptualize time and rhythm than symbolic subdivisions of musical notation.[29]

He also adds that since the lengths depicted on computers are approximate, and it is also infeasible to expect performers to be durationally meticulous, temporal transformations must be exponential, as it offers a more practical model.[30] In this regard, Jonathan Harvey has also given a description that:

> Spectralism is in essence outside the world of linear time. In music time is articulated by rhythm, in psychology time is articulated by language, which

[27] Pierre-Albert Castanet and Joshua Fineberg, "Gérard Grisey and the foliation of time," *Contemporary Music Review* 19, no. 3 (2000): 31.

[28] Iuliana Porcos, "Spectralism. Spectral composition techniques," *Bulletin of the Transilvania University of Braşov, Series VIII: Performing Arts* 10, no. 2 (2017): 85.

[29] Fineberg, "Guide to the basic concepts and techniques of spectral music," 103.

[30] Fineberg, "Guide to the basic concepts and techniques of spectral music," 105.

> separates us from the primary world and joins us to the symbolic order in which the linear movement of language chops up experience and places it in temporal sequence.[31]

This durational and conceptual approach to the temporal aspect of spectral music has affected the way in which it is notated. Descriptive and proportional notations have become more advantageous for composers to articulate this aesthetic.[32] For instance, graphical curves and figures, which are popular in electronic music, can be more efficient to grasp the expressiveness of the musical gestures.[33] Like time-shifting, stretching, compressing, and also diverse descriptions on the speed level of gradualness. A great example that has been composed based on durational thinking is Grisey's *Transitoires*[34] in which harmonic spectrums gradually move towards inharmonic ones along with their durations that become more compressed.[35]

[31] Jonathan Harvey, "Spectralism," *Contemporary music review* 19, no. 3 (2000): 12.

[32] Harvey, "Spectralism," 12.

[33] Fineberg, "Guide to the basic concepts and techniques of spectral music," 105.

[34] Gérard Grisey, "Transitoires," (Ricordi, 1980), Score.

[35] Rose, "Introduction to the pitch organization of French spectral music," 11-13.

2.3 Dastgah characteristics

The origin of today's Iranian music[36] can be traced back to its first established empire, the Achaemenid dynasty (550 - 330 BCE). The historian Herodotus, in his detailed record of inquiry, mentions the glorious musical and theatrical performances at Persian imperial events of that period. Meanwhile, the most reliable evidence about the evolution of Iranian music comes from the Neo-Persian empire of Sasanian in 224 CE, where music had reached its highest level of appreciation. What is clear between Herodotus and Hormoz Farhat (who has extensively researched Persian music and its history) is the abundance of musical and cultural commonalities between ancient Persia and Greece. The prominent feature is the common number of modes (seven), tuning system (based on Pythagorean theory), and resemblance of traditional songs (due to the cultural and political interchanges in the fifth century BC).[37] Thus, it can be reasonably assumed that the genesis of Iranian music emerged at a time similar to the Achaemenid Dynasty.

Evidence includes paintings of instruments and music performances on artifact objects and the great rock reliefs of Arch of the Garden that reveal the group of women performing *chang* (Persian harp) while the king is hunting. Barbod, living in the Xosro Parvis period (590-628 CE), was a great performer and composer who invented an instrument called 'barbat'. This instrument is the ancestor of most plucked string instruments like Arabian lute, Chinese pipa, guitar, and the current versions of Persian setar and tar. Impressively, he created seven modal

[36] Both Iranian and Persian have been used in this thesis interchangeably. I acknowledge that in today's usage Iranian often refers to nationality (encompassing multiple ethnicities) while Persian is often used to denote a specific history and ethnicity in the region.

[37] Ella Zonis, "Classical Persian Music," in *Classical Persian Music* (Harvard University Press, 2013), 29; Hormoz Farhat, *The dastgah concept in Persian music* (Cambridge University Press, 2004), 3.

systems with 30 subcategories and 360 fixed melodies, each corresponding to the number of days within one year suitable to the feeling of different seasons.[38]

The Muslim conquest of Persia (633 – 651 CE) marks a significant cultural transformation in Iran, where Islam has impacted the philosophy, aesthetic, and, more importantly, the viewpoint of people towards music to this day. The integration of Islamic and ancient Persian cultures through history became the basis of most Middle Eastern countries which are following a similar theory. Theories that had been developed by notable scholars such as Al Kindi (874), Al Farabi (950), Ibn Sina (1037), and Safi Al Din Al Urmawi (1294) who focused on the various tuning systems using advanced mathematical calculations.[39]

During the Qajar dynasty (1785 – 1925), traditional Iranian music was removed from other Middle Eastern countries and solidified its identity with unique characteristics different from the Arabian and Turkish Maqam systems. The formation of a distinct tuning system, the reshaping of various instruments with the new fretting system, and the symbolizing of a specific rhythmical pattern were consequences of these changes. The growth of cultural interactions with Western countries in this period also influenced the direction of Persian music. The establishment of a military music school and orchestra, adapting a western notation system for new composition and the idea of collecting and preserving traditional songs and melodies, came from these connections.[40]

Music in Iran today is based on the interpretations of several musicians who theorized their own understanding of what they had learned from their masters in the past century. Therefore,

[38] Zonis, "Classical Persian Music," 30; Farhat, *The dastgah concept in Persian music*, 3.

[39] Farhat, *The dastgah concept in Persian music*, 4-5.

[40] Zonis, "Classical Persian Music," 25-26.

apart from the basic commonalities, there are differences in the structure of this aesthetic in which its understanding is fluid. However, in 1968, The Centre for Preservation and Propagation of Iranian Music was formed with the contribution of Dariush Safvat and Nur'ali Boroumand as an institution to solidify a more unified direction for Iranian music. Subsequently, Persian music has been recognized to be based on a particular concept known as '*Dastgah'*, which resembles systems like Arabian *Maqam* or Indian *Raga*, with its own distinct characteristics.[41]

As mentioned above, there are varied interpretations and research of *Dastgah* music by masters and scholars including Hormoz Farhat, Dariush Talai, Nur'ali Boroumand, Jean During, Bruno Nettl, and Ella Zonis, whose viewpoint on the number of modes, pitch series, and patterns vary slightly; however, the core concept is similar among all musicians. Therefore, to be consistent in the thesis, I mainly rely on Dariush Talai since the most recent and creditable publications are written by him. Specifically, 'The musical language elements of Persian musical language: modes, rhythm, and syntax' published by Kimiya-ye-Honar in 2014. Talai describes the structure of Persian music as the way the performer inherently speaks their language.[42] What I perceive from this phrase and from my experience playing Persian instruments is that the performer structures the nuances and dynamics of the melodies to imitate the way they talk. Musical phrases and motifs, sounds and silences, ascending and descending contours resemble the way performers express themselves through their mother language.

[41] Ella Zonis, "Contemporary art music in Persia," *Musical Quarterly* 51, no. 4 (1965): 638.

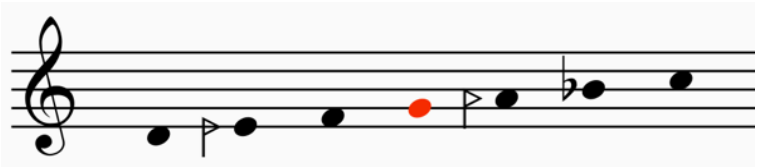
[42] Dariush Talai, "The musical language Elements of Persian musical language- modes, rhythm and syntax," *Kimiya-ye-Honar* 3, no. 11 (2014): 5.

Dastgah is a modal system that includes 'flexible melodies' (the term borrowed from Talai), and it is the main framework to which performers refer in their improvisations and compositions. The principle of this modal system follows a hierarchical structure where the flexible melodies are formed within a tetrachord revolving around a 'focal tone' (Talai and Farhat refer to as centre tone) known as *Shahed*, similar to the tonic. The melodies start with a simpler structure in the lower range of the mode and gradually ascend to the peak of the range and develop more complexity with richer ornamentation. The musical phrases (flexible melodies), known as *'Gusheh'*, are collected in a specific order by different masters within a repertoire named *'Radif'* (the most famous collection is by Mirza Abdollah). The principles and pitch series of *Gushehs* are derived from the modal *Dastgah* system and are interpreted within twelve categories; seven are recognized as instrumental modes and five are dedicated as singing modes called *'Avaz'*.[43]

The twelve modes of *Dastgah* music:[44]

: koron

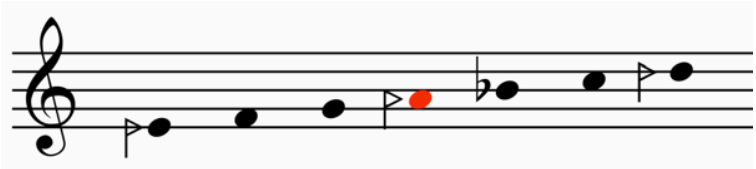
Dastgah-e Shur



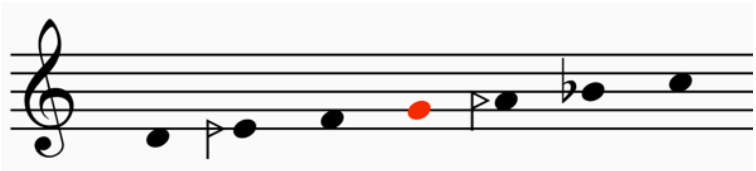
[43] Zonis, "Classical Persian Music," 47; Dariush Talai, *A New Approach to the Theory of Persian Art Music: The Radīf and the Modal System.*, 6 vols., vol. Garland Encyclopedia of World Music - The Middle East, ed. Virginia Danielson, Scott Marcus, and Dwight Reynolds (Routledge, 2001), 865; Farhat, *The dastgah concept in Persian music*, 2.; For further information on *Avaz* check: Bruno Nettl, "Aspects of Form in the Instrumental Performance of the Persian "Avaz"," *Ethnomusicology* 18, no. 3 (1974).

[44] The notes in red are the focal tone of each *Dastgah's Daramad* (the first *gusheh* and tetrachord of each Dastgah) known as *Shahed*, which will be discussed in the next section. Depending on the *gushehs* the pitch series may vary slightly. The written notes show the range used on tar and setar. For further information refer to Darius Talai's 'A new approach to the theory of Persian art music' published by Mahur in 1993.

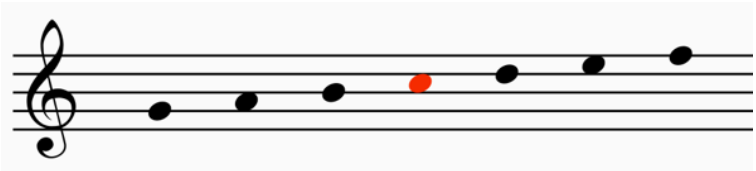
Dastgah-e Segah



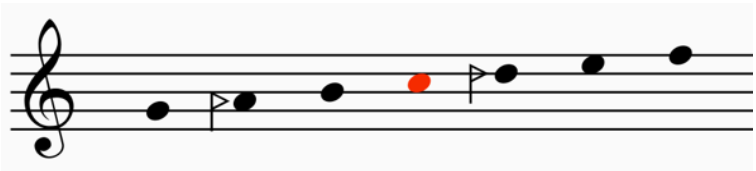
Dastgah-e Nava



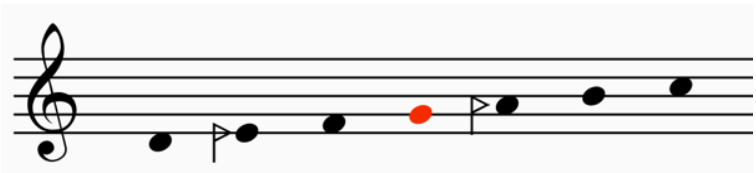
Dastgah-e Mahur



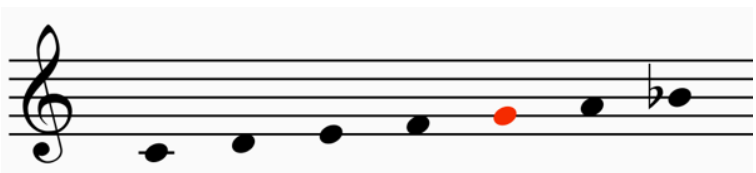
Dastgah-e Chahargah



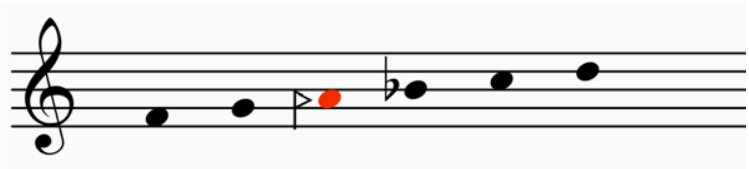
Dastgah-e Homayun



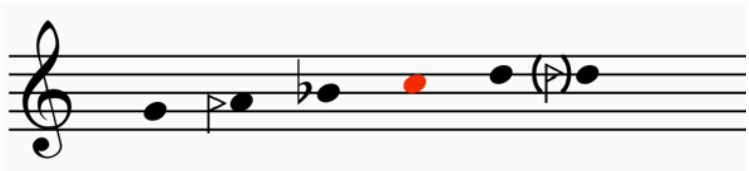
Dastgah-e Rast-panjgah



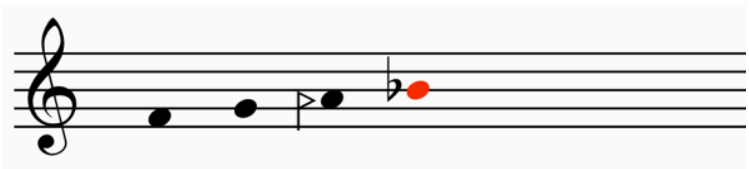
Avaz-e Abu A'ta



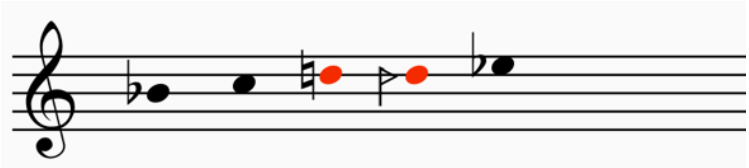
Avaz-e Afshari



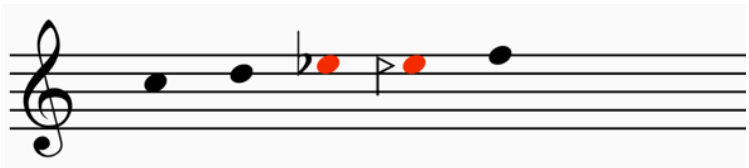
Avaz-e Bayate Tork



Avaz-e Dashti



Avaz-e Bayate Kord



The structure of the *Gushehs* is based on tetrachords and occasionally pentachords. The whole concept of scale varies when compared to Western music in the sense that scale is used conceptually, and is also metaphorically known as the 'ladder'. The available notes move in a stepwise fashion to the highest melodic degree to create climax. In *Dastgah*, the patterns do not occur with the frame of an octave. And more importantly, the role of the tonic, which in the classical Western music theory is the fundamental resolution tone fixed on the first degree,

is fluid in *Dastgah* with a climbing flow towards the higher degrees of the mode.[45] Therefore, despite the intervallic structure of the melodies, which is the essence of this music, it is important to avoid interpreting these frameworks as equivalent to a scale in Western music.

Dastgah comprises a very distinct intervallic structure, specifically within the second and third intervals. Equal to Western classical music theory, it includes major/minor seconds and thirds. However, it practices two additional seconds designated as 'neutral – 3/4 tone', 'augmented - 5/4 tone', and an additional third defined as 'neutral - 1 + 3/4 tone.' These varieties of seconds and thirds are the most common intervals in which the performers shape the melodies and ornamentations around the focal tone of a *Gusheh.* However, in practice, the neutral and augmented intervals are known as '*koron*' and '*sori*' accidentals. These accidentals, specifically *koron*, are the most iconic characteristics of *Dastgah* music that are included and used in most instrumental and singing modes. Theoretically, the accidentals of *koron* and *sori* are based on the quarter-tone scales modelled from Western music theories; however, the authentic and traditional sounding of the intervals in practice are based on one sixth of a tone (30 – 35 cents) which makes *koron* around 65 cents lower than a tuned pitch in 12 tone temperament, and *sori* 65 cents higher. For example, G to A *koron* is ~ 135 cents and G to A *sori* is ~ 265 cents.[46] The abundant use of smaller and micro intervals, the concept of focal tone with its strong energy of gravitation, and improvisations within the confined series of a tetrachord creates a strong sense of melismatic movement that gives birth to an immense range of embellishments. It is this ornamentation that has been a focus of improvisation and has become the most prominent characteristic of *Dastgah* and its medium of expression.

[45] Talai, *A New Approach to the Theory of Persian Art Music: The Radīf and the Modal System.*, Garland Encyclopedia of World Music - The Middle East, 865.

[46] Talai, "The musical language Elements of Persian musical language- modes, rhythm and syntax," 9-10.

2.3.1 Sonic aspect

Persian musicians structure their melodies in a specific way that Hormoz Farhat terms a 'central nuclear melody'. The term refers to micro movements and, unlike spectral music, does not pertain to the overtone series of an individual tone, but rather the incremental movement around the focal tone. Known as *Shahed* (literal translation: one who bears witness), the focal tone is considered the most echoed, highlighted, and sits at the centre of a phrase around which melodic movement revolves. In this context other notes feel like an embellishment emerging from *Shahed's* resonance. In another way, more similar to spectral music – in which partials emerge from a single fundamental note – *Shahed* can be considered the single tone into which all other tones dissolve.[47] Like many spectral composers, Persian performers also 'concentrate on one tone at a time'. The focal tone gradually shifts towards the higher pitch, after each tone is thoroughly stated.

In *Dastgah* music, the trajectory of the tones is a relatively pre-set flow that varies depending on the type of the *Dastgah*. A performance begins from a focal tone and ascends gradually towards a certain peak.[48] However, the length, intensity, and variability of the embellishments that are elaborated around the focal tone are the key point of creativity. Contrasting spectral music in which the expressivity depends on the modality of the components shaping timbre, in *Dastgah* music, the expressivity is based on the modality of the embellishments shaping a motif. Nonetheless, *Dastgah*, like spectral music, emerged from a common perspective that is deeply rooted in exceptional attention to detail and focus on one tone at a time.

[47] Talai, "The musical language Elements of Persian musical language- modes, rhythm and syntax," 11; Farhat, *The dastgah concept in Persian music*, 24.

[48] Talai, "The musical language Elements of Persian musical language- modes, rhythm and syntax," 6.

Another characteristic among Iranian musicians is the strong integration of mysticism in their work throughout history. For a long period of time, musical instruments have been used as a tool of worship. However, dissimilar to the Western tradition wherein music has been performed in churches collectively, in Iranian culture, it has been an individualistic performance. Musicians played their instrument in solitude, exploring their inner emotions and the performance was an echo of their praise.[49] As such, *Dastgah* can be considered a highly contemplative musical practice that enables musicians to embark on a voyage of self-discovery.[50] Margaret Caton describes that:

> The performance of Dastgah can transport the performer and listener outside the realm of ordinary consciousness.[51]

[49] Margaret Caton, "Introduction to Traditional Iranian Dastgāh Music," *Review of Middle East Studies* 28, no. 1 (1994): 31.

[50] Zonis, "Classical Persian Music," 212.

[51] Caton, "Introduction to Traditional Iranian Dastgāh Music," 31.

2.3.2 Temporal aspect

Excluding dance and the composed metric forms, *Dastgah* is largely free from the concepts of time and meter with almost no sense of regular pulse. Since the early 20th century, when Iranians adopted the Western staff notation, there was no transcribing system for documenting *Dastgah*. Music was taught orally and passed from generation to generation. Nowadays, even though the staff notation has become a recognized practice, a great number of musicians are being traditionally educated by repeating and emulating their instructor. Surprisingly, before the Iranian revolution, surveys showed that some conservative musicians believed that the notation system degraded the fundamental uncertainty and personal conceptualization that was the basis of *Dastgah* music. Evidently, an identical performance every time is depreciated, whereas a personalized version of a tradition is appreciated.[52] Basically, listeners criticize musicians if they emulate their instructor unerringly without rendering phrases from their own personal insight, and likewise, perform with no alterations in different occasions. It is important to mention that the personalized version merely revolves around the variety of embellishments that are being elaborated around the principal structure. Otherwise, subjective changes in the actual organisation of *Gushehs* are also depreciated. For example, in *Daramad of Shur* (the first *Gusheh of Shur-Dastgah*), the beginning must start from the note F and move towards G. However, the manner of embellishments around the notes, dynamic, velocity, and rhythm depend on the artist's skill and desire.

In *Radif,* which is a repertoire of *Dastgahs* in a specific order, the majority of notated *Gushehs* are unmeasured with no indication of tempo and time signature. Still, performers grasp the timing and phrasing by relying on their own memory and the performances of their instructor. The rhythmic figures written in the *Radif* are relative and can alter subject to the performer's

[52] Bruno Nettl, "Musical Values and Social Values: Symbols in Iran," *Asian Music* 12, no. 1 (1980): 136-37.

desire and mood. For instance, a crotchet is not necessarily a precise doubling of a quaver. The function of rhythmic durations is more exponential in the sense that, for example, a quaver should sound relatively shorter than a crotchet and longer than a semiquaver. Furthermore, conventionally, *Dastgah* was largely accompanied by poetry and its rhythm was extracted principally from the prosody of the poem. Even some forms that are considered to have a steadier rhythm could appear comparatively fluid due to the singer's impression or subjective interpretation of the poem.[53]

This procedure of learning by rote and the absence of exact rhythmical notation within a certain time and measure, promotes great freedom for performers to render any phrase with their own 'personal sense of timing'. Particularly, one of the fundamental characteristics of *Dastgah* music is freedom that does not confine the performer to follow any specific timeframe.[54] Bruno Nettle, a well-known American ethnomusicologist who extensively researched Iranian music, describes:

> One can really perform well only if one plays whatever one wants to when one feels like it.[55]

[53] Talai, "The musical language Elements of Persian musical language- modes, rhythm and syntax," 18.

[54] Hormoz Farhat, "Form and Style in Persian Music," *The World of Music* 20, no. 2 (1978): 111.

[55] Bruno Nettl, "Attitudes towards Persian Music in Tehran, 1969," *The Musical Quarterly* 56, no. 2 (1970): 194.

2.4 Conceptual commonalities

The methodology underlying this research is based on the conceptual pursuit of shared characteristics between Iranian *Dastgah* and spectral music. This conceptual emphasis is crucial as I am not merely seeking technical parallels between the two traditions. Instead, I examine the creative processes that shape the musical expression in both realms. By examining the sonic and temporal elements of both traditions in the previous sections of this chapter, I have uncovered underlying characteristics that reflect the perspectives of composers, as well as the manner in which sound should be perceived by audiences for its deepest appreciation. I have categorised these characteristics into three groups: 'concentrative perspective,' 'contemplative listening,' and ‘the state of presence.' These designations serve to highlight the shared qualities that I have identified in both traditions. Throughout my creative process, I attempt to embody and emphasise these specific characteristics while composing music that prioritises timbre and incorporates ornamentations rooted in the *Dastgah* system.

2.4.1 Concentrative perspective

At the heart of both spectral and *Dastgah* music lies a shared characteristic that transcends their stylistic distinctions: a meticulous attention to detail, a deep-seated fascination with the intricate complexities of sound, and a commitment to reveal the inner beauty that lies within a single tone. This shared characteristic, which I term ‘concentrative perspective,’ forms a basis in both musical traditions, shaping their creative processes and influencing the listener's experience.

Spectral composers are renowned for their intense focus on the infinite complexity of a simple sound, meticulously analysing its harmonic and timbral nuances. They approach each sound with a microscope lens, scrutinizing its details, revealing the hidden depths and subtle

variations that lie within. This ideological fascination with 'the inner structure' of specific sounds emphasizes miniscule detail and prioritizes micro-movements of its component parts.

In *Dastgah* music, the emphasis on concentrative perspective manifests in the meticulous attention to the intricacies of melodies and embellishments. Iranian musicians structure melodies around a 'central nuclear melody,' emphasising micro movements around the focal tone. Similar to spectral music, the performers concentrate on one tone at a time, exploring its nuances and dynamics with utmost precision. Every ornament, every nuance, and every inflection are carefully explored, contributing to the overall perception of the music.

2.4.2 Contemplative listening

In both spectral and *Dastgah* traditions, the concept of 'contemplative listening' emerges as a common thread, inviting listeners into a deep realm of contemplation and introspection. Both forms of music transcend the boundaries of time and immerse the listener in a sonic realm, fostering an enhanced state of awareness and self-discovery.

Spectral music achieves this contemplative state through graduality, pulselessness, and continuity, to create an immersive, non-metric, and timeless soundscape. In contrast, *Dastgah* employs the absence of a regular pulse, an emphasis on temporal heterogeneity, and the encouragement of personal conceptualisation.

Both traditions share a shift from traditional rhythmic structures to durational thinking, with temporal transformations taking place in an exponential fashion. The departure from conventional rhythmic frameworks in the creative process engages listeners on a personal level, allowing their own interpretations and emotions to emerge. Drawing upon Moscovich's analogy that "Spectral music seeks to exteriorize the inner reality of sound," a slight

modification can be applied to *Dastgah* music. *Dastgah* music, in its pursuit of exteriorizing the inner reality of 'self,' positions contemplative listening as an essential gateway to understanding and appreciating its intricate nuances.

2.4.3 The state of presence

The state of presence, borrowed from Mohammad Reza Lotfi (a famous Iranian musician),56 precedes and facilitates contemplative listening. A mode of engagement that extends beyond mere auditory reception to connect performers and listeners in a new time zone. It involves a deep immersion in the music, a willingness to let go of analytical thoughts and allow the music to wash over the listener. It is a state of openness and receptivity, where the listener becomes an active participant in the musical experience.

Both traditions emphasise spontaneity and fluidity, departing from rigid musical frameworks that restrict the performers' freedom. In spectral music, the gradual unfolding of sonic textures and the absence of a pulse allow listeners to detach from the conventional perception of time, creating a sense of stillness and tranquillity. A condition that unravels both listeners and performers from the passage of time and captivates them into a stillness and a personalised perception of time. Similarly, the lack of a global sense of regularity in *Dastgah* and its emphasis on ephemeral transformations of time and personal expression create an environment that fosters the present-moment consciousness. In this state, both performers and listeners are given significant freedom to interpret and express the music in their own way, adding their own unique imagination to have a personal sense of timing.

[56] Mohammad Reza Lotfi, *Understaning Iranian Dastgah Music from perspectve of Mohammad Reza Lotfi* [شناخت موسیقی دستگاهی ایران به روایت محمدرضا لطفی] (Tehran: Naroun, 2021), 54.

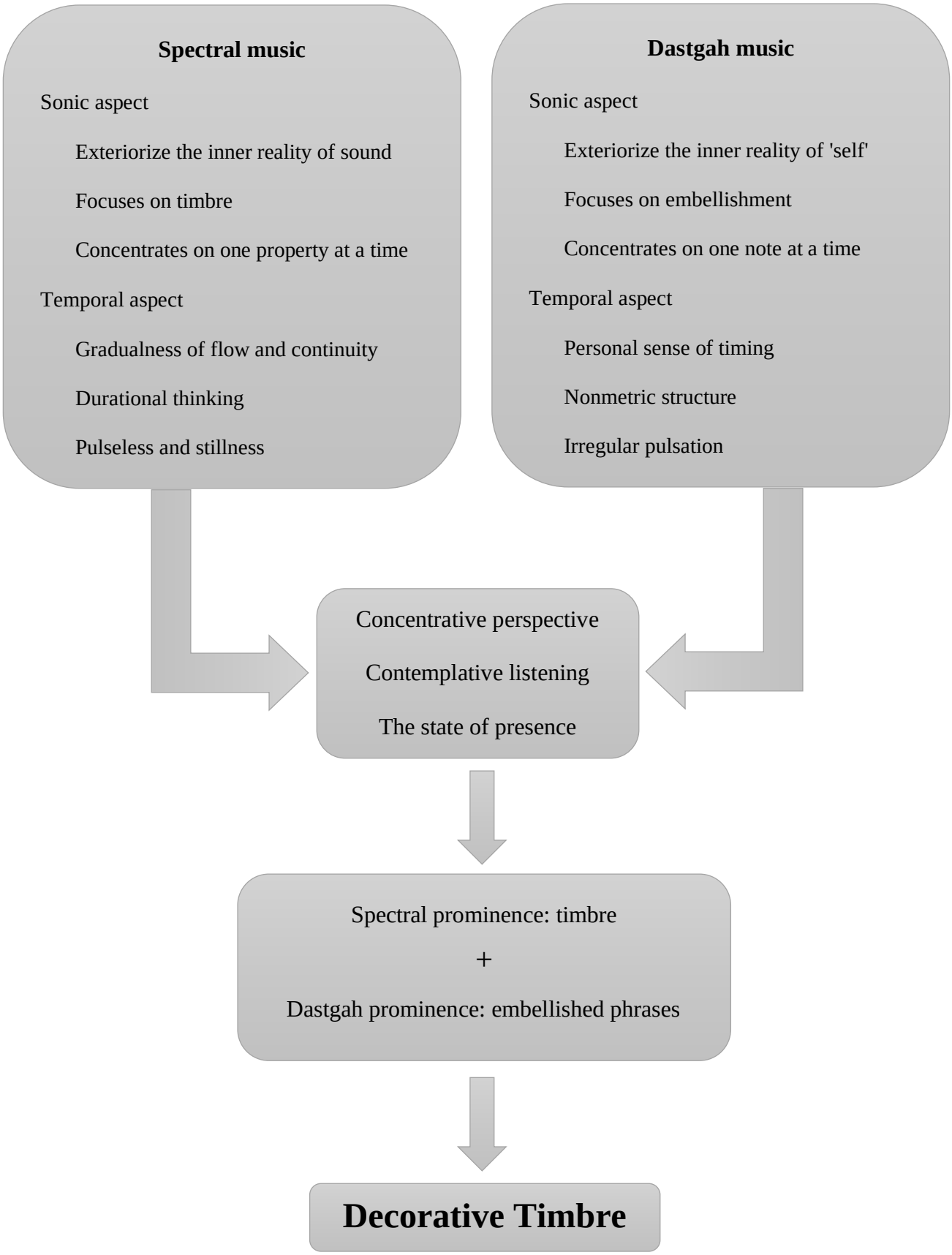


Figure 2.1 Charting the Intersection of mutual characteristics in Dastgah and spectral Traditions: Tracing the Conceptual Pathway to Decorative Timbre

2.5 Findings

Spectral and *Dastgah* music have many obvious differences in their essence. Dissimilarities are evident from the first exposure. However, at the more conceptual level, they share some commonalities that enable the possibility of interaction. The most mutual features appear within aspects of the sonic and temporal domains. As a result, both aesthetics aims to explore an inner reality of their wished for spirit, which necessitates a 'concentrative perspective', and encourage their listener to embrace 'contemplative listening'. They also possess a pulseless flow that draws the perception into a 'state of presence'. However, these three named mutual features are used with different intentions in each tradition. In spectral music they enable a higher perception of sonic fusions that foreground timbre, whereas in *Dastgah* they facilitate a higher variety of embellishments around melodic phrases.

By focusing on the resemblances, it is possible to develop a context for an engagement with both traditions: an engagement that can function as a standalone language and recognize itself within the space of each aesthetic. However, apart from the declared similarities, the most prominent distinction among these two traditions is how each is expressed. spectral music is conveyed through timbre and *Dastgah* through embellished motifs. Hence, by adhering to the common features and adopting their most prominent distinctions, a new medium of expression can be crafted which I call 'decorative timbre.'

3 Decorative timbre

3.1 Overview

The third chapter focuses on proposing a new technique, ‘excessive multilayering,’ to facilitate the concept of decorative timbre, featuring 'concentrative perspective', 'contemplative listening' and 'the state of presence', as defined in the previous chapter. The proposed technique of excessive multilayering incorporates dual perspectives of 'converting a melody to a timbre and vice versa,' as a means to interchange prominent elements of the spectral and *Dastgah* traditions. In this manner, the perception of monophonic melody may appear as a timbre of a complex sound mass, and, contrarily, the perception of a complex sound mass may appear as a monophonic melody. I consider this alteration of perception an opportunity to express Iranian *Dastgah* music through timbre.

In the following text, I will discuss my sources of inspiration from both spectral and *Dastgah* music that drive me to reach the technique of excessive multilayering. I also offer three types of application of excessive multilayering, including 'melodic-centred', 'pitch-centred', and 'fluid'.

3.2 Spectral music as a source of inspiration

The first source is the commonly used spectral technique of instrumental additive synthesis. To reiterate, in spectral music the basic elements are based on the inner reality of sound which is modelled from the overtone series of a fundamental tone. The composer can design the basic draft of the music vertically, so that the harmony adopts the relationships of the harmonic series or the spectra of the generative sonic object. Thus, the line between harmony and timbre becomes indistinct. Grisey suggests the term 'liminal' since both interpretations of harmony and timbre become intertwined, and Jonathan Harvey also describes it as in spectral music "harmony is timbre and timbre is harmony."[57]

Additionally, in the realm of electroacoustic music, digital audio workstations (application software used for producing audio files and music composition) enhanced the possibilities of creating sound objects for composers. Such digital tools enabled them to manipulate the timbre of acoustic sound in various forms such as pitch shifting, time stretching, compressing, distorting, and many other alterations that expanded the horizon of compositional manipulations.[58] The technique of layering enables the composer to superimpose multiple materials to design the desired texture. The most practical technique that constitutes timbre is the designation of each instrument to a particular harmonic partial. Hence, in orchestral music, multilayers of instruments produce a texture which is perceived as a sound mass. A large palette of colour made up of a synthesis of diverse sound objects. The timbre of each instrument loses its character and fuses into a global sonic aura to reinvent a new persona.[59]

[57] Anderson, "A provisional history of spectral music," 8; Harvey, "Spectralism," 12.

[58] Fineberg, "Guide to the basic concepts and techniques of spectral music," 112-13.

[59] Anderson, "A provisional history of spectral music," 12; Fineberg, "Spectral music," 1; Claudy Malherbe, Joshua Fineberg, and Berry Hayward, "Seeing light as color; hearing sound as timbre," *Contemporary Music Review* 19, no. 3 (2000): 17.

A notable example is *Kinetics* composed by Magnus Lindberg,[60] a well-known Finnish composer, in which a chain of ten chords forms the whole harmonic layer of the work. Each chord is dedicated to a different instrument and is devised from a harmonic partial. The music begins with a simpler orchestration, and gradually the layers morph into a complex sound. Julian Anderson describes *Kinetics* as "dense harmonic clouds that sound more timbral than harmonic."[61] The density level of the synthetic-monolayered-texture determines the dynamic level, the complexion of timbre, and influences the character of the sonority. Perceptibly, with the number of layers amassed, the composer can control the intensity and create dynamic gestures that are known as 'spectral envelops'.[62] Correspondingly, by adding, subtracting, and combining different instruments, they can manipulate the scheme of the timbre, so it is worth indicating that the assignment of orchestration, and the purpose of allocating and combining multiple instruments, ultimately pursues the notion of fashioning timbre.[63]

Joshua Fineberg explains additive synthesis as:

> building up complex sounds through the combination of a large number of elementary ones (sine waves). The great and enduring advantage of this technique is conceptual. It provides the clearest, most intuitive way for us to conceive of hearing and creating sounds. By listening closely to any sound, it becomes possible to hear the separate components, and, by adding

[60] Magnus Lindberg, "Kinetics," (Wilhelm Hansen, 1988-89), Score.

[61] Julian Anderson, "The spectral sounds of Magnus Lindberg," *Musical Times* 133, no. 1797 (1992): 566.

[62] Agostino Di Scipio, "Micro-time sonic design and timbre formation," *Contemporary Music Review* 10, no. 2 (1994): 138; Fineberg, "Guide to the basic concepts and techniques of spectral music," 89.

[63] Hutchinson, "Stairways in the Dark: Sound, Syntax and the Sublime in Haas's in vain," 75; Malherbe, Fineberg, and Hayward, "Seeing light as color; hearing sound as timbre," 17; Rose, "Introduction to the pitch organization of French spectral music," 36.

> sounds together it is easy to hear the global sound colour, or timbre emerge and evolve.[64]

Hermann von Helmholtz, a German physicist in 19th century, noticed a type of listening which appears relevant. He called this a 'synthetical mode' in which listeners tie into a holistic manner of perceiving a mass as single sound entity.[65] This holistic perception of sound mass can suggest a homogeneous sound movement. All the micro-polyphonic layers can be imagined as one compact monophonic layer that embodies a great complexity on a microscopic level. A thick multilayered texture that reshapes gradually as time passes.[66]

Joshua Fineberg articulates:

> In orchestral fusions, individual voices are subsumed in the richness of the overall texture and colour; that the basic sonic image is often sonorous and resonant giving the music a sort of acoustic glow that comes from the coherence of the different constituent pitches.[67]

George Friedrich Haas describes his imagination of his orchestral piece *Joshua tree*:[68]

> the watcher of the night sky inevitably looks at groups of stars, and these create pictures in the viewer's imagination. However, when looking at the same area through a telescope, the sheer number of light spots makes it

[64] Fineberg, "Guide to the basic concepts and techniques of spectral music," 85.

[65] Peter Schneider and Martina Wengenroth, "The neural basis of individual holistic and spectral sound perception," *Contemporary music review* 28, no. 3 (2009): 316; Hermann L. F. Helmholtz, *On the Sensations of Tone as a Physiological Basis for the Theory of Music* (Cambridge University Press, 2009), 723.

[66] Jason Noble and Stephen McAdams, "Sound mass, auditory perception, and 'post-tone'music," *Journal of New Music Research* 49, no. 3 (2020): 234.

[67] Fineberg, "Spectral music," 3.

[68] Georg Friedrich Haas, "Joshua Tree," (Ricordi, 2020), Score.

> impossible to recognize structures. Everything revolves around density and imperceptible motion.[69]

My interpretation of the above mentioned scholars is that one of the main intentions of spectral composers is to manipulate the perception of sound with the technique of instrumental layering. Fashioning timbre in spectral music requires a relatively large number of sound objects to enable the possibility of timbre fusions. Additionally, depending on the perspective of the audience and number of sound layers, the perception of each individual layer may become unrecognizable. Hence, the idea of 'layering' became a strong inspiration to turn melody into mass.

[69] "Joshua Tree by Haas: WP at Musica Strasbourg," Ricordi, 2020, accessed 25 August 2022, https://www.ricordi.com/en-US/News/2020/08/Georg-Friedrich-Haas-Joshua-Tree-WP.aspx.

3.3 Dastgah music as a source of inspiration

The second source of inspiration is the importance of 'density' in *Dastgah'*s orchestration and its heterophonic texture in which it seeks to create timbral fusions by fluctuating the number of instruments in orchestras.[70] Traditionally, *Dastgah* is perceived as an individual endeavour, and if a voice is involved, then the instrument would mimic the melody line to comfort the singer. However, with the influence of Western music in the last century, some Persian musicians moved towards realizing *Dastgah* in larger forms like orchestras, and recomposing melodies for ensembles with the principles of traditional European harmony and occasional polyphony. Nevertheless, these textures do not reflect the main characteristics of *Dastgah*. Because the *Gushehs* are fundamentally structured within a tetrachord, and it lacks capacity for harmonic principles to function.[71] Most traditional ensembles adopted heterophonic textures, which has the capacity of imitating the monophonic characteristics of *Dastgah*. Ensembles consisting of Persian instruments such as kamancheh, lute, tar, setar, and santour perform a determined phrase collectively. The layers would mainly double by octaves, or particular notes would be more accentuated by increasing the number of instruments.[72]

Technically, in the heterophonic texture, the number of layers varies throughout the music that corresponds directly with the dynamic and intensity aspects. The density of layers can control and create dynamic gestures, and basically the stacking layers of different instruments, can be perceived as a thick monophonic layer that replicates *Dastgah* phrases. Also, in a heterophonic texture, the combination of instruments becomes important.[73] Since the phrases are almost based on fixed melodies in *Dastgah*, the composer can concentrate on the novelties that lie within timbre fusions rather than composing new phrases for each layer. With the alteration of

[70] Zonis, "Classical Persian Music," 14; Nettl, "Attitudes towards Persian Music in Tehran, 1969," 6.

[71] Farhat, *The dastgah concept in Persian music*, 8.

[72] Nettl, "Attitudes towards Persian Music in Tehran, 1969," 6.

[73] Caton, "Introduction to Traditional Iranian Dastgāh Music," 32.

timbre through time and density, features such as contrast, brightness, and fullness can be designed.

A similar concept of instrumental sound fusion through heterophonic texture exists in other forms of Iranian art such as carpets, tile design, mosque domes, and calligraphy.[74] The abundance of ornamentation and the crowdedness of materials and patterns creates colour fusions. For example, the design of the Nasir al-Mulk Mosque in Shiraz, Iran, includes a diverse range of colours on the carpets, windows, and thousands of rose patterns and figures on the tiles used on the ceiling and walls of the mosque. After sunlight passes through the colourful windows and shines on the carpets and the tiles, the fusion of colours recreates endless shades of new colours (figures 3.1, 3.2, and 3.3). At first glance, the 'crowdedness of patterns' and abundance of materials may imply a sign of disorder and turbulence. However, the aftereffect is a peaceful and meditative state. The level of density, diversity of patterns, ornaments, and the distance of the multilayered tile from our eyes influence the perception of the shade of the colours. From a far distance, it looks like a different shade of pink, and from a closer distance, multiple colours and detailed patterns become noticeable. The detailed ornaments are varied slightly from each other to create various types of colour shades when observed from a distance. However, there are over a thousand delicately layered ornaments to form a holistic view of a specific colour.[75]

[74] Jean During, "Music, Poetry and the Visual Arts in Persia," *The World of Music* 24, no. 1 (1982): 77; Zonis, "Contemporary art music in Persia," 643.

[75] Azin Ehteshami and Mehdi Soltaninejad, "An Introduction to Architecture of Nasir Al-Mulk Mosque," *World Journal of Engineering and Technology* 7, no. 04 (2019): 660.

Figure 3.1: the middle opening of Western harem, Nasir al-Mulk Mosque in Shiraz, Iran[76]

Figure 3.2: the winter prayer hall, Nasir al-Mulk Mosque in Shiraz, Iran[77]

[76] "Iran's Stunning 'Pink Mosque' Is Illuminated with a Kaleidoscope of Colors," My Modern met, 2019, accessed 14 November, 2022, https://mymodernmet.com/nasir-al-mulk-mosque/.

[77] Ibid.

Figure 3.3: ceilings of the winter prayers hall, Nasir al-Mulk Mosque in Shiraz, Iran[78]

Metaphorically, these intertwined patterns and different colours in Persian art works remind me of timbral fusion and additive synthesis in spectral music. Similarly, Joshua Fineberg refers to additive synthesis as "building up complex sounds through the combination of a large number of elementary materials", I sense these complex figures being built up through the combination of a large number of simple patterns and coloured lines. The idea of overwhelmingly layering multiple different materials to create new gestures became a strong inspirational reference for me to develop the technique of 'excessive multilayering'.

[78] Ibid.

3.4 Excessive multilayering

The concept of ‘excessive multilayering’ in music refers to a compositional technique that utilises an abundance of sound layers to create a dense, intricate, and immersive sonic experience. The term ‘excessive’ in this context is not necessarily a quantitative measure of the number of layers. Instead, it is a subjective assessment based on the listener's perception of the sonic density and the degree to which individual layers merge into a cohesive timbral mass. Excessive multilayering aims to influence the perception of a melodic line and disconnect its spirit as an expressive phrase. Through crowdedness and overflow of materials, it seeks to transform a melody into a timbre, where individual notes lose their identity and blend into a unified sonic experience. As Von Helmholtz suggested, the listener may perceive the sonic complexity in a 'synthetical mode' as a single sound entity. The determination of when layering becomes excessive is a complex task, as it depends on various factors such as the composition structure, the timbre of the sounds, and the listener's individual experience.

The notion of ‘excessiveness’ in this research also draws inspiration from Iranian art forms, such as mosque tilework and carpet patterns. These forms of art feature intricate and repetitive patterns that create an illusion of depth and complexity. By drawing inspiration from both *Dastgah* and spectral music, I define excessiveness, not necessarily based on the number of layers, but as any point where the perception of individual layers becomes obscured, similar to how colour layers blend to create visual illusions in Iranian art.

Through experimentation, I propose three subcategories of excessive multilayering which draw inspiration from established techniques in spectral music. However, the primary motivation behind using new terms is to establish connections with Iranian concept of excessiveness found in various art forms. Spectral music focuses on the manipulation and analysis of sound spectra, offering tools to create rich and complex soundscapes. *Dastgah* music emphasises

heterophonic textures, where multiple instruments play variations of the same melody simultaneously, creating a dense and layered sound.

The three applications proposed are as follows:

1. Melodic-centred: This approach focuses on manipulating and transforming a melody through excessive layering, creating a dense and intricate sonic representation of the melodic line.
2. Pitch-centred: This approach emphasises the manipulation of pitch relationships within excessive layering, exploring the interplay of different pitches and their timbral transformations.
3. Fluid: This approach combines the melodic and pitch-centred approaches, allowing for a fluid and dynamic interplay between melody, pitch relationships, and timbral transformations.

3.4.1 The first application – Melodic-centred

The first application has a melodic-centred structure in which the layers include ornamented phrases that are formed into a sound mass. In this application, I concentrate on creating a framework and design the number of layers through time; the number of layered instruments, the timbre of each instrument, limiting performers to a specific series of notes through time, limited number of techniques, and ornamentation. The framework can be replicated with different motifs that are extracted from any *Dastgah* system. For instance, a composition piece may be sketched on *Shur Dastgah*. There are some specific phrases, as the main characteristics of *Shur*, which most Iranian musicians begin their performance with; starting with the note F and ascends, respectively, towards G, A koron, Bb and descends to G. This phrasing can be performed with a slightly different length and number of ornamentations based on the mood and skill of the performers. In this example, since the pitch series is already extracted from

Shur Dastgah, I can focus on the modality, velocity, intensity, and iteration of patterns and gestures in each layer. Overall, by controlling the smaller components in each section over time, the form and pathway of the timbral transformations can be composed. In this method, aside from the composed structure, the overall sense of music is being imbued by the personal sense and mood of each performer who is improvising over the pre-selected materials. Eventually, the produced sound mass includes the accumulation of sound objects representing the multilayers of personal ornamentations. This effect, to an extent, resembles György Ligeti's micropolyphonic texture in which the abundant layers of figures and sound gestures convey a sense of ubiquity, and grasping the place of any specific line is beyond the listener's understanding.[79] Eric Drott describes:

> In micropolyphonic pieces, the circulation of independent voices within a narrow ambitus produces a masking effect, the overlapping of parts interfering with their segregation into distinct streams. Individual threads become difficult to discern and, as a result, merge into a fused fabric. Or, as Ligeti put it, ". . . you cannot actually hear the polyphony, the canon. You hear a kind of impenetrable texture, something like a very densely woven cobweb."[80]

In excessive multilayering, the possibility of perceiving the individual layers may exist by concentrating and listening to the sound mass meticulously. Borrowing from Haas's imagination on the *Joshua tree*, the listener can choose to hear a small group of layers and perceive the structure of the melodies or zoom out and hear everything as a sound mass

[79] Eric Drott, "Lines, Masses, Micropolyphony: Ligeti's Kyrie and the "Crisis of the Figure"," *Perspectives of New Music* 49, no. 1 (2011): 8.

[80] Drott, "Lines, Masses, Micropolyphony: Ligeti's Kyrie and the "Crisis of the Figure"," 7.

(timbre).[81] At the same time, there is a possibility of feeling fluid within both realms of *Dastgah* and spectral music, with the freedom of choosing a zoomed in or zoomed out mode of listening.

3.4.2 The second application – Pitch-centred

The second application has a pitch-centred structure in which all layers in the sound mass focus on a particular pitch for a specific duration through the music. The timeframe, overall form, and the periodic transformation of the sound masses can be drafted based on the pitch series of a specific tetrachord (*Gusheh*) within a *Dastgah*. For instance, in *Shur Dastgah*, the focal tone begins from the note G and gradually shifts towards A koron, Bb, and C. According to this phrase, the sound mass can be constructed from a collection of sound objects that their frequencies are around the note G for a certain period of time intended by the composer, and gradually change their focus and ascends to the note C. In this scenario, all sound objects in different layers can be imagined as ornaments. Here, the conversion of timbre to melody may occur from the perspective of a macro structure and stretched time frame. The general musical form, or sections of a piece, may be based on a short melody that is expressed over a longer period of time by a gradual movement of the sound masses that are focused on one pitch at a time.

This experiment can be imagined as a sound mass made of ornamentation and designed from a group of extended techniques, short and percussive sound objects, concise pitch and unpitched notes with different dynamics, or repetitive notes with diverse articulations. In this approach, the aspects of dynamic, articulation, and sound gestures play an important role. However, in contrast to the first application, the materials within each layer do not deliver a sense of musical phrasing, and the notes are only used for the sake of flavouring. The

[81] News, "Joshua Tree by Haas: WP at Musica Strasbourg."

performers are limited to only a specific note at a time and can only improvise based on the provided range of extended techniques, dynamics, and sound effects. I can decide on the length of each section that needs to be centred around a specific pitch, and the melodic line which forms the macro movements of the sound mass. Performers have more freedom to create sound effects and less control over the organization of the pitches of the piece.

3.4.3 The third application – Fluid

The third application is a combination of previous methods which is more fluid between pitch and melodic-centred approaches, and is perceived similarly to the technique of masking. Here, the aim of superimposing materials is to obscure the perception of an existing melody through time, with the intention of creating tension and release. In a piece of music, a monophonic or heterophonic texture based on any *Dastgah* system may form and, over time, become dense with different layers of sound objects to decrease the level of transparency. With the fluid transformation of sound objects and materials from a pitch-centred to a melodic-centred sound mass, the conversion of a melody to timbre and vice versa may occur within the linear timeframe of the music. Tension may be created gradually by overlaying a number of sound objects to mask a melodic line, and by decreasing the number of materials the tension releases with the clarity of the melodies revealed. In this approach, the performers have much more freedom to improvise on melodies, ornamentation, as well as different techniques. However, the composer controls the length of each layer, its entry points, the number of stacked instruments, and the general musical form of the piece. The selection of extended techniques with appropriate dynamics becomes a significant element in the composition process, as they may produce a different masking potential. Similarly, masking, apart from being used in many spectral techniques, has similarities to the way that Iranian performers, especially tar and setar players, reach the culmination of their improvisation. The upper strings are being played often along with the melodic line when the player performs fast and loud tremolos (known as *Riz* in

Dastgah performance) which creates a sense of crowdedness and obscures the perception of the melody. It is important to avoid creating a musical sense, which will be interruptive to a level, that may sound as two distinct aesthetics have been performed successively. The conversion of melody to timbre and vice versa must be subtle and natural.

3.5 Findings

The aim of all three methods of excessive multilayering is to facilitate the concept of decorative timbre that includes prominent characteristics of both spectral and *Dastgah* music. The core idea of excessive multilayering is to superimpose sound materials to a level that influences the perception of the material to the listener. Similarly, to the philosophy behind *Dastgah* system, I consider excessive multilayering a combination of improvisation and composition, in which I create a specific framework and a periodic scope for the performers to improvise. By limiting performers to different elements of music such as pitch series, patterns, instrumental techniques, dynamic, number of layers, durations, timeframe, and in general, I craft the outline and structure of the music. This framework can be designed with three different perspectives of having a melodic or pitch-centred structure, as well as a fluid mode which is a combination of both mentioned structures that gradually mask the perception of a melodic line through time.

Through the density of information heard in excessive multilayering, a condition of fluidity between the principles of both traditions occurs which may give birth to a new musical language that simultaneously possess the common features of both traditions as well as their most evident disparity. Excessive multilayering enables decorative timbre in practice by creating a sound mass that has been decorated with an abundant number of ornamentations from *Dastgah* music.

4 Portfolio

4.1 Overview

In the fourth chapter I outline my use of excessive multilayering in four of my works, *Abalfazl*, *War is Peace*, *Let me Tune*, and *Beautifully Untuned Mind*. Each piece has contributed to my understanding of the different potentials and practicalities of excessive multilayering and a means to familiarize myself with the characteristics of *Dastgah* and spectral music. I limited myself to use a specific number of characteristics in each piece, to evaluate their aesthetic impact thoroughly, and develop my concept of converting a melody to timbre and vice versa.

Aside from exercising different applications of excessive multilayering, each piece has a separate story as the main motivation and inspiration of its musical form. *Abalfazl* seeks to replicate a similar sonic and ambient structure of a famous lament sung by Salim Moazenzade Ardebili; however, translating into aesthetic that is based on characteristics of spectral and *Dastgah* music. *War is Peace* follows the structure of George Orwell's novel *1984* and tries to paint a similar dark expression using transforming sound textures. *Let me Tune* attempts to create a situation where a dotar player (an ancient Persian instrument with two strings attached, similar to setar) struggles to tune its instrument because of its fine and fragile structure. Lastly, *Beautifully Untuned Mind* explores the sonic possibilities that can emerge from one sixth of a tone (35 cents) tuning structure.

4.2 Abalfazl

4.2.1 Subject

Abalfazl, composed in November 2019, is an ensemble piece for flute, bass clarinet, baritone saxophone, horn, trumpet, cornet, and two pianos, based on the transcription of a lament, *Ey mani avare*, sung by Salim Moazenzadeh Ardabili (1925 – 2005)[82]. This lament is about Prophet Mohammad's grandson Abalfazl, who was executed in the battle of Karbala during the Umayyad dynasty in 680 AD. The battle of Karbala during Muharram (the first month of the Islamic calendar) is one of the most important events for Shi'a Muslims since it signifies the roots of Shi'ism.[83] Iran, as a country with the largest Shi'a population, commemorates this battle annually in a ritualistic way, where a large number of people mourn together led by a singer who narrates the battle of Karbala in a dramatic way. *Ey mani avare* is one of the most well-known lamentations that has been regularly broadcasted from national Iranian television during Muharram, which is based on *Dashti*, one of the singing categories of *Shur Dastgah*.

Listening to Ardabili's unique voice always reminds me of home and my childhood where the whole family would work and cook together to distribute food to people in the neighbourhood. Apart from the personal connection to Ardebili's monody and voice, the original recording has great potential to explore excessive multilayering and examine one of the instances of *Dastgah's* melodies (which is in *Dashti*).

[82] Moazen Ardebili, an Iranian singer born in Ardabil province, Iran (Northwest), is of Iranian origin and speaks Azeri, a language with different pronunciation and spelling conventions than the Azerbaijani spoken in Azerbaijan. His name in Azeri is spelled, Selim Müazzinzade.

[83] Ali J. Hussain, "The mourning of history and the history of mourning: The evolution of ritual commemoration of the Battle of Karbala," *Comparative Studies of South Asia, Africa and the Middle East* 25, no. 1 (2005): 80.

4.2.2 Structure

In *Abalfazl*, I attempt to recreate the original recording of *Ey mani avare* and transcribe the intonations and nuances of Ardabili's voice. In the original recording, the lamentation is followed by the chest-tapping of the crowd, which forms regular beats during the singing. The chest tapping is the most common routine that occurs during all lamentations as a sign of sympathy for the soldiers who suffered in the battle of Karbala. The accompanying beat is one of the prominent elements in the original recording, which the crowd instinctively taps their chest, corresponding to Ardabil's singing. At first glance, it may seem that the chest tapping has a regular beating pulse; however, after a precise analysis, I noticed irregular cycle of measurements (approximate to the time signatures of 4/4, 7/8, 9/8), which I modelled to form the temporal skeleton of the piece. The idea of adding and subtracting a quaver to a regular time signature of 4/4 (which forms 7/8 or 9/8) created the possibility of manoeuvring over the pulsation and a sense of fluidity. Therefore, during the composition process, I had the opportunity to imply the 'personal sense of timing' present in Ardebili's singing style and create a feeling of nonmetric structure that is one of the characteristics of *Dastgah* music (discussed in Chapter 2).

Ardabili sung this monody in two dynamically and expressively different styles that shift consecutively; one with an intense, loud, and dramatic form that mimics a loud wailing. The second style is poetic, fragile, and sorrowful, similar to a situation where someone moans about their loss. The louder section has a steady rhythmic pulse, whereas the quiet part is in free style. These two contrary styles create a contrast, which I try to imply in *Abalfazl*. The first contrast is to form two separate sections of metric and nonmetric flow, in which the metric section mainly follows the time signatures extracted from Ardebili's singing and chest tapping (4/4, 7/8, 9/8). The nonmetric section (*senza misura*) is controlled by the cues of the conductor (alphabetically) and a pause sign with a down arrow. The pause signs are intentionally located

before each cue so that the conductor can control the best timing of moving forward to the next section by sustaining the last notes of each section (e.g., figure 4.1). Hence, the flow of the time becomes dependent on the conductor's personal sense of timing to be able to drag the listeners into the state of presence described in the second chapter.

The second contrast is related to the sonic aspect and the pitch organisation of the piece. The precise transcription of Ardebili's voice (on Spear: an audio analysis application) shows that the main theme has structured out of a pentachord of E, F, G, Ab, and Bb. The most emphasised and recurring notes are Bb and Ab, which I considered as the focal tones of the entire piece. To create tonal embellishments and a wider range of frequencies around each note of the mentioned pentachord, I utilized *Dastgah's* micro interval system; the system is based on one sixth of a tone (30 - 35 cents) wider or narrower interval compared to the equal tempered chromatic scale. In addition, I included adjacent notes of the pentachord to expand sound materials for a wider range of ornamentation.

With this approach, I increase the potential of masking or obscuring the perception of the main theme when layering the neighbouring pitches simultaneously. Here, I attempt to examine the third application of excessive multilayering in fluid mode, where the main theme is being obscured through time. The contrast is between the sections that the perception of the main theme is clear (similar to figure 1) versus the sections that are masked by the adjacent notes or various extended techniques of other instruments (e.g., figure 4.2). Some of the techniques are like multiphonics on the saxophone and clarinet, which depending on their dynamic can produce different levels of masking. Flutter tonguing on trumpet and cornet inside the piano also creates a specific reverberation and blends slightly with the vibration of the string.

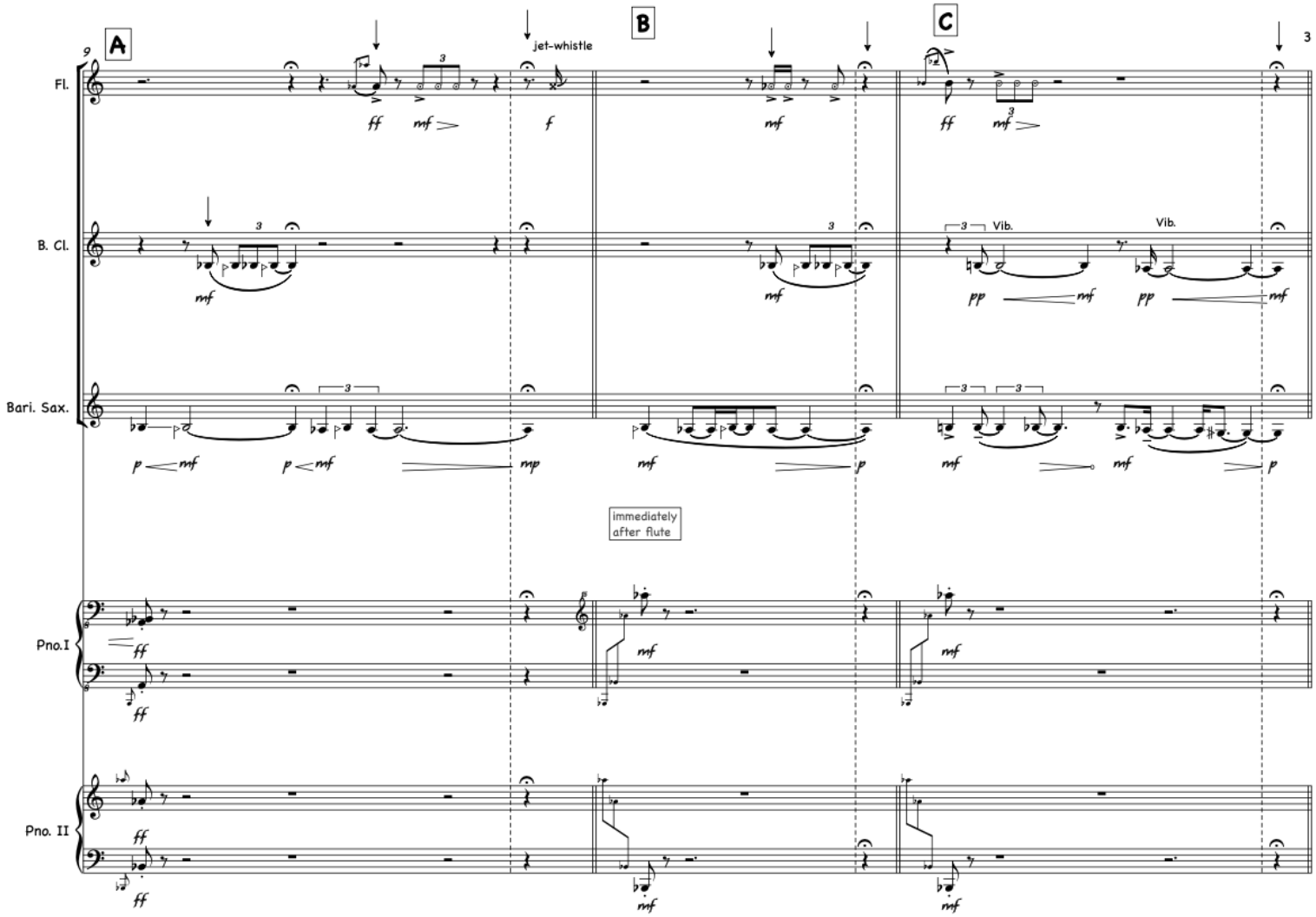


Figure 4.1: bars 9 - 11, page 3, Abalfazl. The conductor can control the flow of the music with his personal sense of timing by cueing instrumentalists.

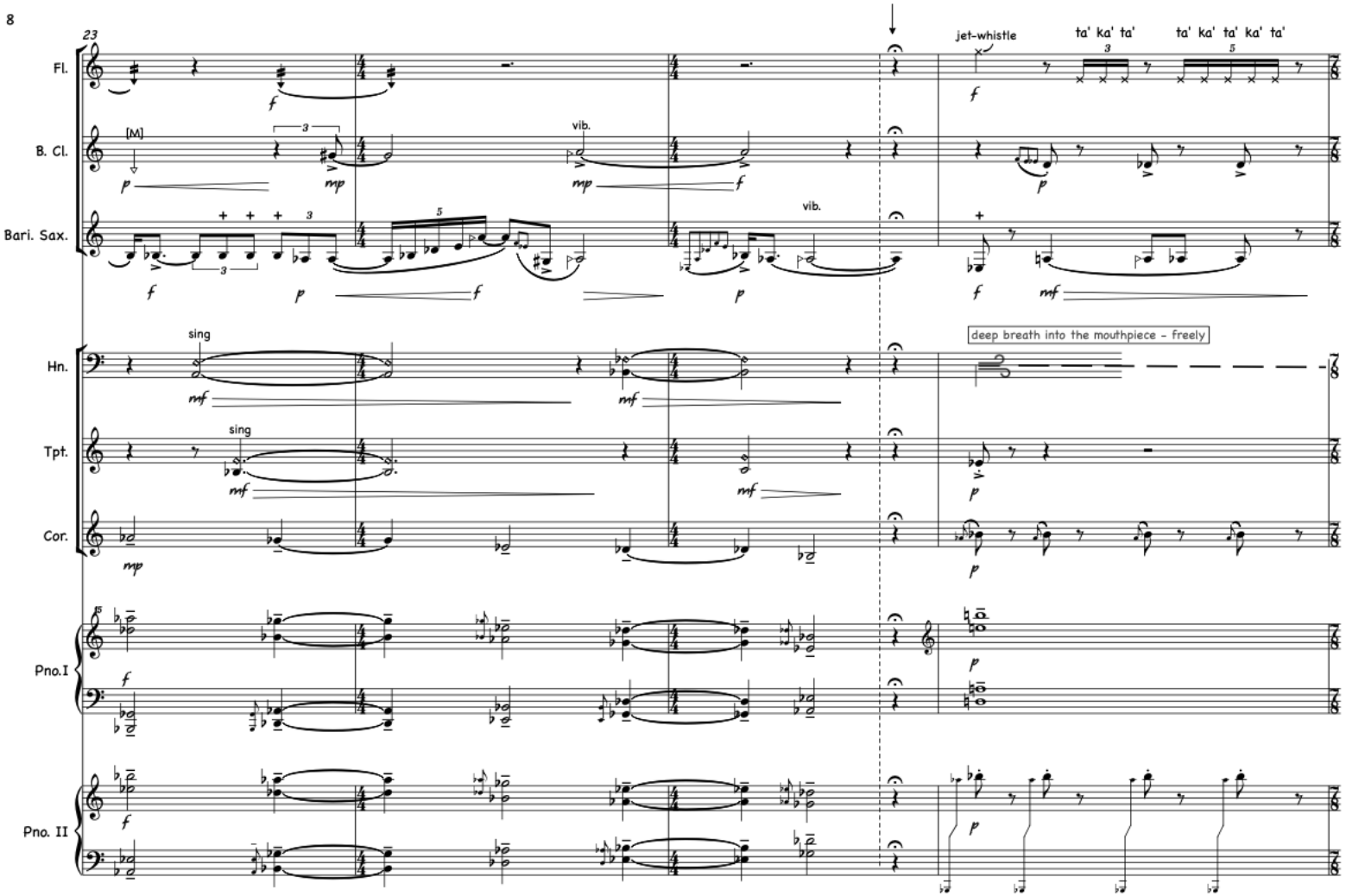


Figure 4.2: bars 23 – 26, page 8, Abalfazl. The multiphonics, as well as singing and playing on the brass instruments, mask the main theme on the saxophone.

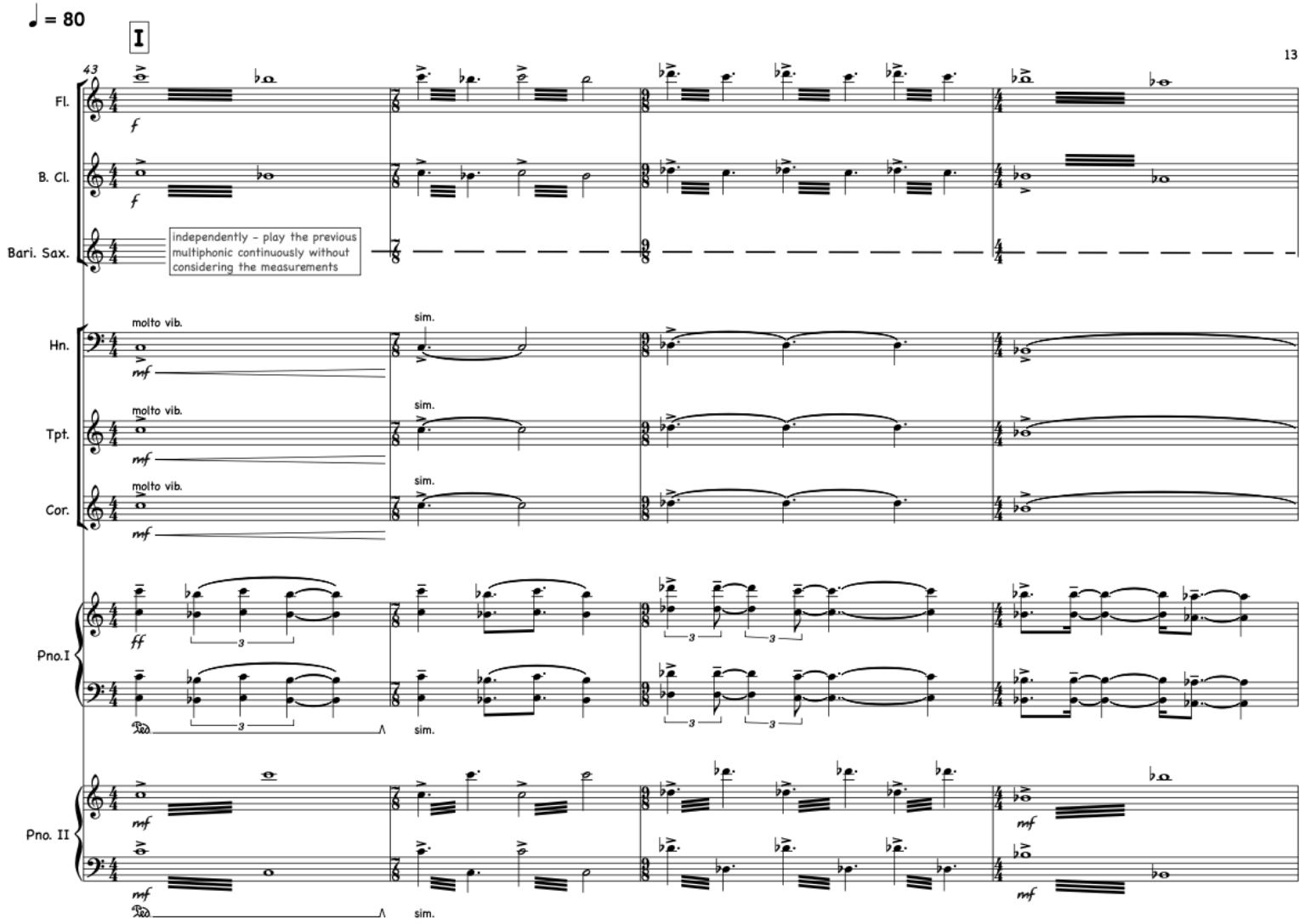


Figure 4.3: bars 43 – 46, page 13, Abalfazl. Piano (I) plays the main theme.

The third contrast is about the tuning perception of different sections. A duality between a theme that sounds as authentic as possible and a theme that is being perceived within the standard tuning system. To imply this contrast, I specifically chose the baritone saxophone along with the bass clarinet to mimic the original theme, where they are more versatile in their middle range to produce microtonal intervals (same as figure 4.1). For the tuned section, pianos were the perfect choice as they produce a more definitive pitch (e.g., figure 4.3 above). Metaphorically, this contrast mimics the original singing styles of Ardabili, one with softer nuances and dynamic that expresses freely, similar to the baritone saxophone and bass clarinet section (e.g., rehearsal marks A and J). The second style is intense and dynamically louder with precise measurements where in the piece the main theme has specifically transposed one tone higher (beginning with C) on the pianos to create more intensity (rehearsal mark I).

In brief, in this work I intend to highlight that the micro interval and tuning system in *Dastgah* music, constitute an irregular sense of pulsation, focus on ornamentations, and the potential of gradually obscuring the melody by increasing the number of ornamentations. In *Abalfazl*, I tried to draw a holistic picture including a theme being present in four different versions: authentic form, partially identifiable, tuned (equal tempered), and unrecognizable by using the technique of layering excessively.

4.3 War is Peace

4.3.1 Subject

War is peace, composed in March 2020 for flute and tape, is inspired by George Orwell's *1984*. The novel summarizes the power mechanisms and apparatuses of a ruling party that has total control over human actions and thoughts. Power is exercised by defining language, palimpsestic rewriting of history, as well as a thorough monitoring-like screen. The form of my composition *War is Peace* corresponds to the three movements of the novel; the states of rebellion (section A), love (Section B), and torture (Section C), plus a short section at the very end where the system fully appropriates the protagonist. The famous quote from George Orwell in *1984* "war is peace, freedom is slavery, ignorance is strength" has a significant role in the piece, which is used as both a spoken and sonic musical element.

This composition follows the second application of excessive multilayering, pitch-centred, by attempting to create a focal tone structure and understand the durational thinking approach in composition discussed in chapter 2; the two elements that are common characteristics of *Dastgah* and spectral music and are crucial for the concept of converting timbre to melody. The tape part is made entirely of manipulations of recorded setar (Persian plucked string instrument) and characterized by the approaches of excessive multilayering and masking. The solo flute is considered a monologue with numerous extended techniques that try to adapt with the tape to be perceived as a whole sound mass despite its different timbre. Additionally, this piece is my first attempt to explore extended techniques on setar beyond its conventional articulations and discover new timbres.

4.3.2 Structure

The piece opens with tape, the sound of tapping on the surface of setar that prepares the audience for the slogan "war is peace, freedom is slavery, ignorance is strength" expressed explicitly by the performer. As such, I directly reference the opening section of the novel where Winston (the main character of 1984) is willing to risk his life with the hope of pursuing truth in the system. The focal tone is on the note E throughout the entire piece with occasional leaps to A and Bb that always descend toward the note E to create the sense of gravity. However, the timbre of the focal tone is varying constantly with diverse dynamics and different extended techniques such as jet whistle, tongue ram, microtonal trills, flutter tongue, multiphonics (with singing), as well as fast-descending arpeggios, all trying to create a sense of pull and ornamentation around the focal tone. The use of extended techniques in both the flute and tape parts is an important facet of this piece whereby, altering the timbre of the same pitch, I am trying to create more layers for the effect of excessive multilayering.

In the first section, rehearsal mark A (0 ~ 4'30"), which is based on the state of rebellion in the novel, most articulations are percussive and repetitive (figure 4.4). The performer interprets each group of pitches that have the same articulation as singular sonic gesture. The duration of each gesture and the rest in between groups are given in the score. Nevertheless, the performer does not need to follow a stopwatch to be precise with the seconds; a personal sense of timing, as well as the influence from the tape, are required to move forward. Here, I am trying to implement the characteristic of durational thinking where the performer will be entangled to the tape and constantly follows the flow of the sonic transformation to feel integrated with the tape. Durational thinking is an important mutual aspect of *Dastgah* and spectral music that allows the performers to play based on their own understanding of durations and follow an instinctive interpretation of the passing of time. For example, the 4 seconds rest in between

gestures compare to 3 seconds rest, does not necessarily imply a precise one-second shorter duration, it indicates that according to the understanding of the performer, it needs to be a relatively shorter rest period. Liberation of the global sense of timing, the sense of timelessness and following a nonmetric structure are the characteristics that I am examining in the temporal aspect of *War is Peace*. Another instance is in section B, the state of love (~ 4'30" – 7'30"), starting from bar 18 a series of multiphonics starts where the performer should sustain each note based on her breathing capacity and change to the next gesture regardless of considering the actual duration of each note (figure 4.5).

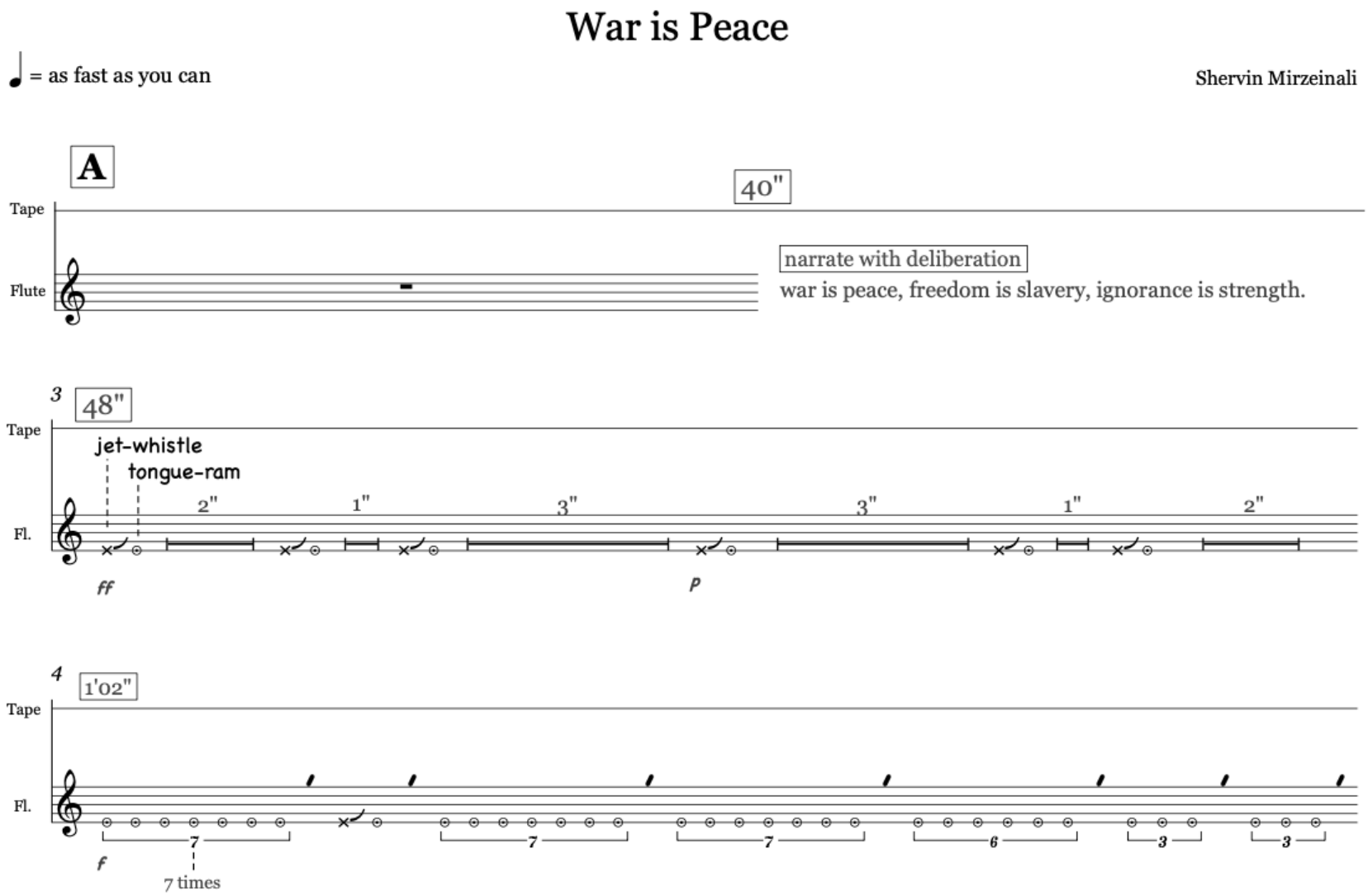


Figure 4.4: bars 1 – 4, page 1, Section A, War is Peace.

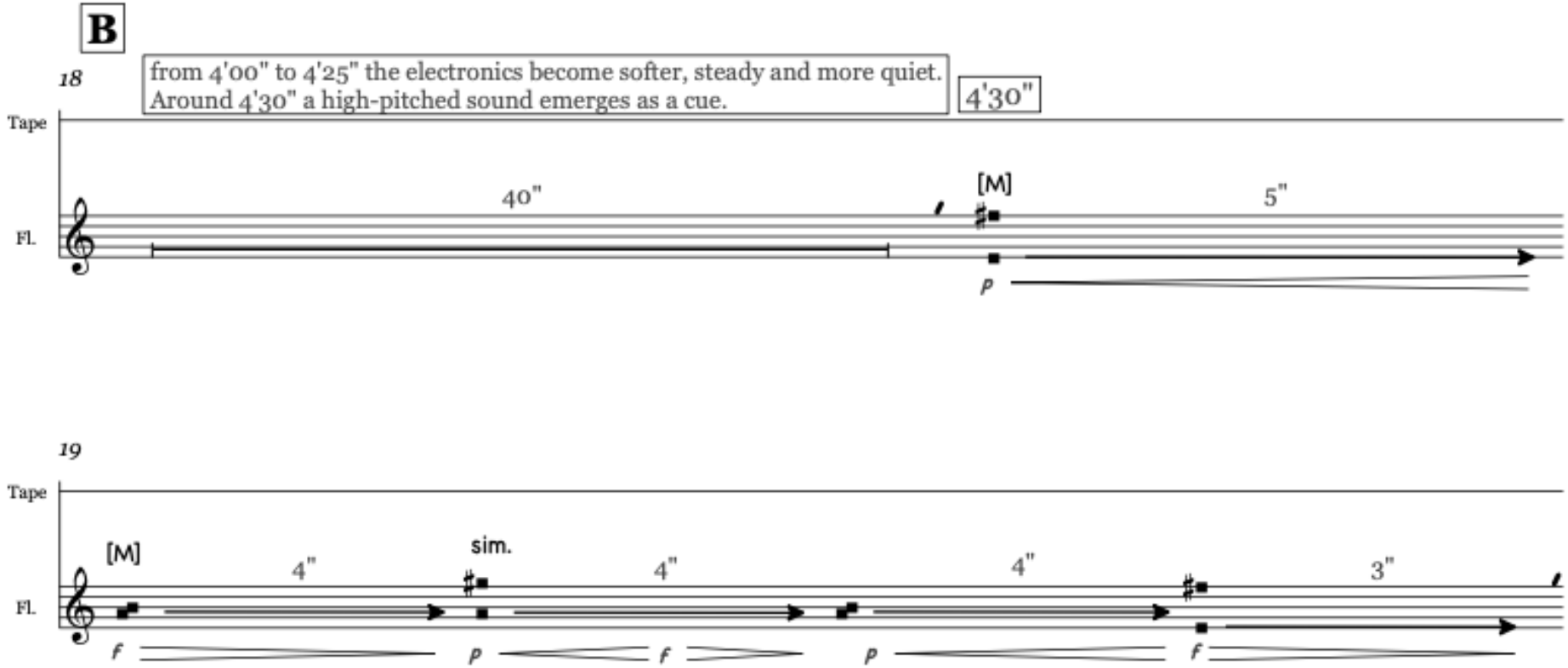


Figure 4.5: bars 18 & 19, page 6, Section B, War is Peace. The beginning of multiphonics.

In the tape part, all sound objects have been produced from manipulations of setar and its extended techniques. Exploring different articulations on setar was my first experiment in which I modelled techniques from guitar and the bowed string family such as playing *sul tasto* and *sul ponticello*, playing behind the bridge, harmonic glissandos, Bartok pizzicatos, tapping the body, striking the strings, and other techniques that influence the harmonic resonance and produce a diverse range of timbres. My second approach was to limit myself to only durational manipulation tools in DAW software and superimposing materials, to grasp and practice the effect of excessive multilayering and understand the control of durational thinking approach. Therefore, all electronics are made from the superimposition of stretched or compressed forms of recorded audio files of different extended techniques on setar.

Another important practice of excessive multilayering occurs at 7 minutes in section B, corresponding to Orwell's state of love, where a melody played by setar appears on the tape and continues for about a minute. My intention was for it to sound surprising and refreshing, as it is the first time a melodic line emerges. I consider it as a representation of Winston falling in love with Julia in the novel where he believes that she is his only ally in the struggle against Big Brother (representing the totalitarian government in the novel). In this section, layers of sound objects gradually rise to such a level that the perception of the existing melody fades away. Each note of the melody is perceived as a part of a sound mass whose timbre is being transformed through time. However, because the melody emerges prior to section C where the cascade of sound objects strikes, a listener may be able to follow the melodic line even though it has been concealed under the abundance of sound layers. My assumption from this practice is that, hypothetically, if the melody had not appeared prior to the mass section to create a clue, one may not have realized that there is a melodic line buried beneath the sound mass.

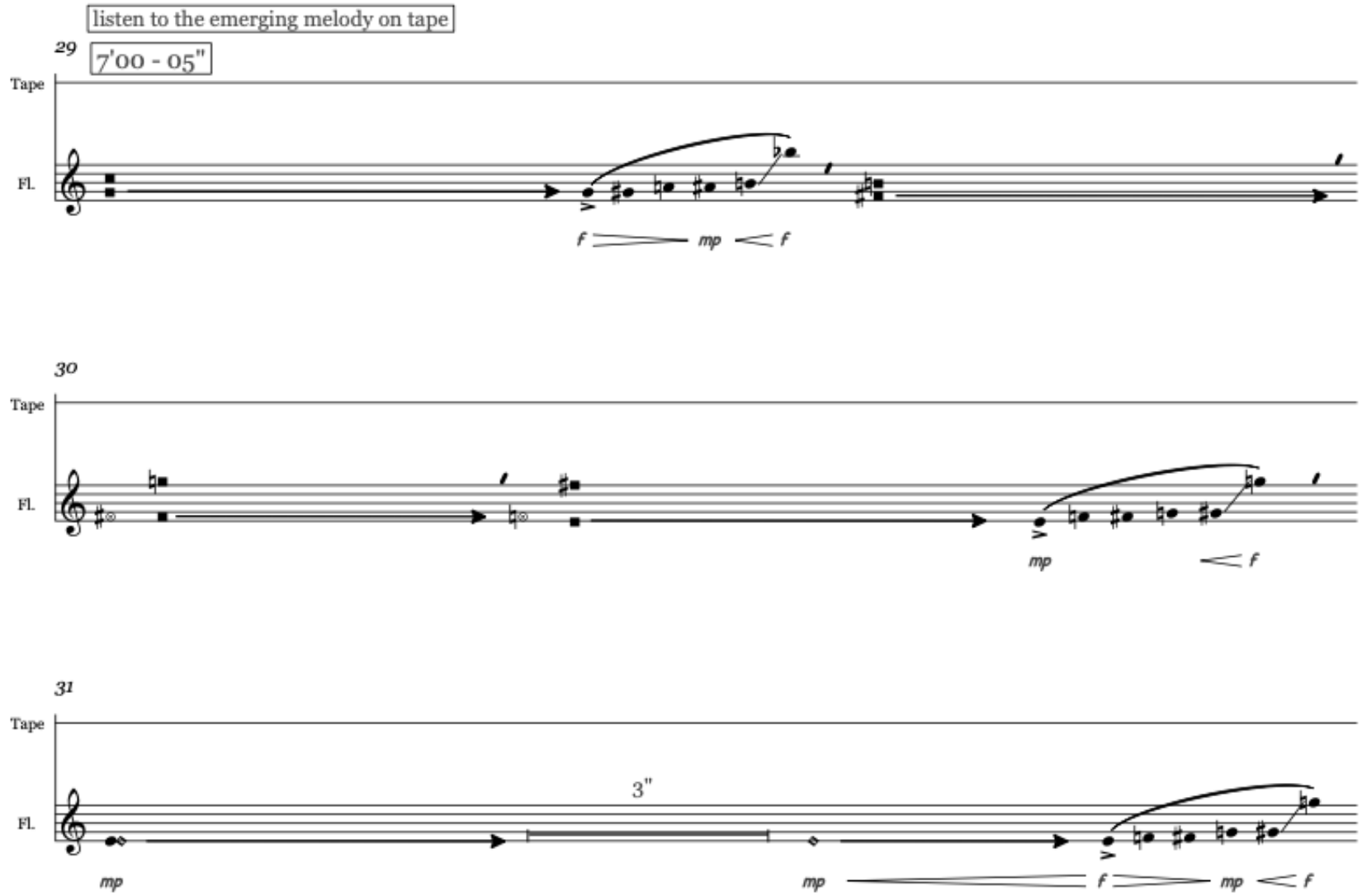


Figure 4.6: bars 29 – 31, page 10, War is Peace. Minute 7, at the time when the flute player needs to listen to the emerging melody on tape.

In general, *War is Peace* seeks to create a sound mass whose layers are constructed from various articulations of the same pitch in a form in which the layers are perceived as embellishments of the centre pitch. It also attempts to create a flow in which the timbre transformations are achieved only by shifting the number of layers during each section. More importantly, creating a transparent melodical cue can contribute to follow a melodic line even if it is covered by an abundant number of sound objects.

4.4 Let me Tune

4.4.1 Subject

Let me Tune, composed in November 2020, for clarinet, tenor saxophone, guzheng, dotar, violin, and viola. This piece arises from my fascination with exploring the abilities of an ancient Iranian instrument, the dotar, a long-necked lute type, with only two strings attached. There are considerable differences between dotar and other commonly used Iranian instruments such as tar and setar in their tuning and fretting structure, as well as right-hand strumming techniques. The fretting system of dotar varies between 5 to 14 frets depending on the traditional and modern-day version; however, in all versions it only has one fret at the top of the fretboard, which allows the notes of A koron on low string and D koron on high string (low string tuned on G3 and high string tuned on C4). Also, the commonly used right-hand strumming is similar to a reverse style of *rasqueado* technique in Flamenco guitar, which enables a continuous strum and blends all the notes together.

My first exposure to dotar made me realize its fragile body structure and its ritualistic sonic influence despite the fact that it has only two strings attached. It seemed like someone had cut a part of a tree branch and attached two strings from both sides. The performer took a long time to tune the dotar as it had small unstable wooden tuning pegs that were inserted into the wooden head neck. Eventually, the performer Majid Amani tuned the instrument approximately relying on his own ear and said that the perfect tuning does not suit dotar; "*let me tune"* until it feels right. Another noticeable component in *Let me Tune* is its instrumentation, which I try to examine as the timbre fusion of instruments with different cultural background. The usage of guzheng (Chinese plucked zither with 21 stings) and dotar along with commonly used Western instruments introduced a new palette of sound colour for me. Therefore, in this piece, I

concentrate on timbre, gradual flow, continuity, and the micro interval possibilities that are modelled from koron accidentals of dotar.

4.4.2 Structure

Let me Tune concentrates on creating a range of sound masses that is structured from the fusion of layers including micro-intervals that are based on combinations of the notes A (natural, flat, and koron) and D (natural, flat, and koron); since these two notes are the only koron accidentals available on dotar. On guzheng (sounding range D2 – D6), the notes D3, A3, D4, A4 and D5 are tuned 60 – 65 cents lower to allow the koron accidental. The micro intervals that are slightly lower or higher than the perfect fourth, fifth, and octaves, as well as the blend of Western and Eastern instruments, create an unfamiliar and eccentric timbre that imitates a situation where the dotar player is trying to tune his instrument.

In contrast to the previous pieces, like *Abalfazl*, where I tried to use excessive multilayering with layers focused on ornamentations, in *Let me Tune*, I am trying to superimpose layers that are centred on micro intervals and related to the tuning system of *Dastgah* music. I increase and decrease the size of massed layers gradually and continuously to enhance the absorption of created timbre and highlight the effects that emerge from the micro interval system. Here, I am trying to reach the contemplative listening mode which is one of the main characteristics of both spectral and *Dastgah* music. To enable a continuation of the sound gesture, the paired timbres of violin and viola as well as clarinet and saxophone were chosen to pass notes to one another to create an intertwined texture (e.g., figure 4.7). With the help of dynamic envelopes, the intensity of sound flow gradually shifts to emphasise different partials and harmonic components of the sound.

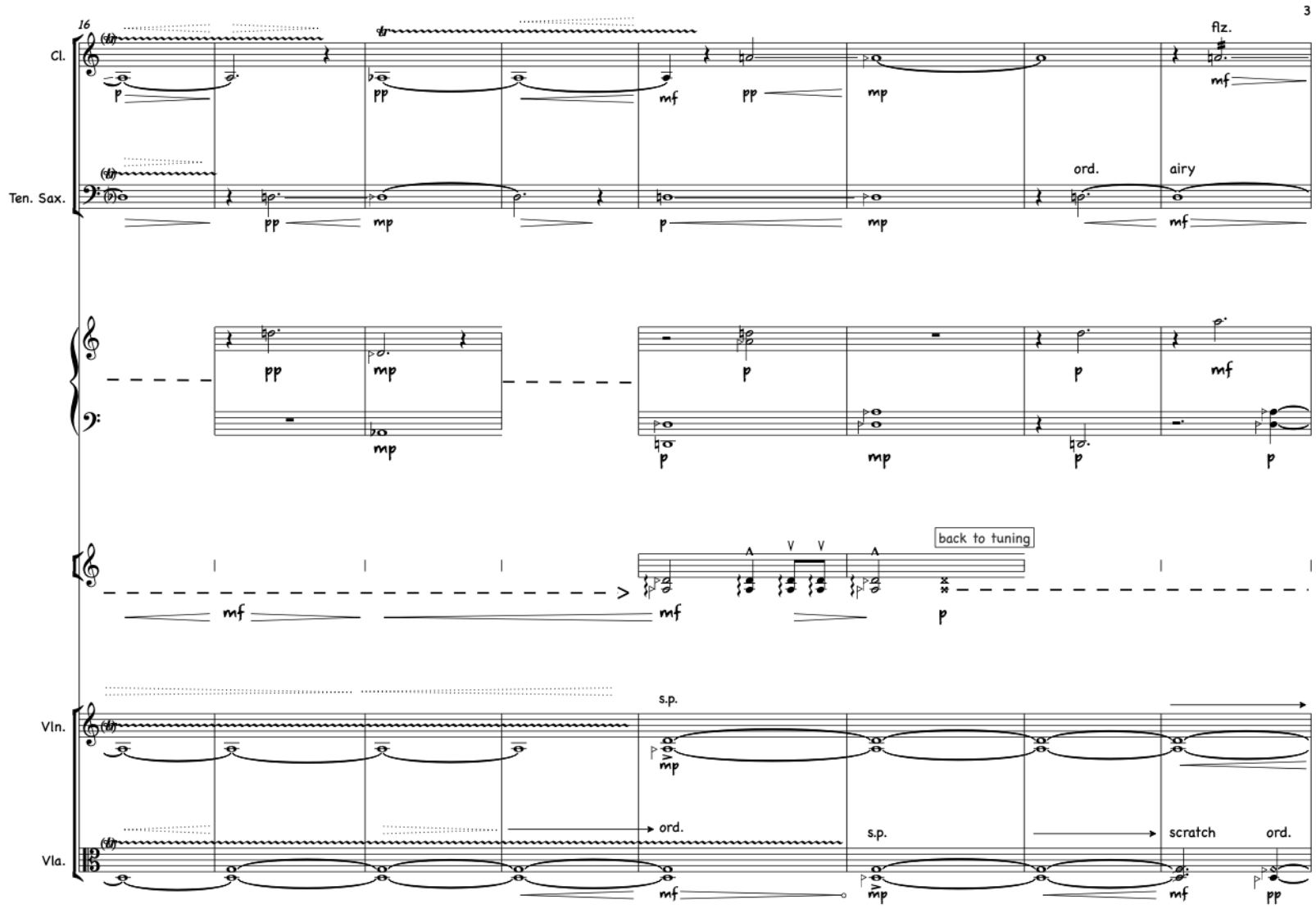


Figure 4.7: bars 16 – 23, page 3, Let me Tune.

At the same time, dotar and guzheng are adding layers of plucked and strummed intervals that accentuate the harmonics with their different form of sound attack.

In this instance, excessive multilayering is being examined in a progressive manner based on a specific articulation that deals directly with the sound resonance such as micro-interval trills and tremolos, multiphonics, position of bowing (*sul tasto* and *sul ponticello*), and harmonic glissandos. The progression of sound mass occurs by a gradual accumulation of layers to a peak, which mainly guzheng tries to consolidate the core resonance of the micro interval with an intense pluck. For instance, after rehearsal mark B, a flow of sound objects is being triggered by the strings, bar 34, and it reaches a temporary peak at bar 41 with a sudden strike of guzheng. This trend of accumulating sound objects continues until the end, bar 73, where it reaches the ultimate culmination of the piece by constant glissandos of guzheng, saxophone multiphonics, and viola harmonic glissandos. Bar 76 dotar emerges by playing a short phrase representing the player who has finally been able to tune the instrument (figure 4.8).

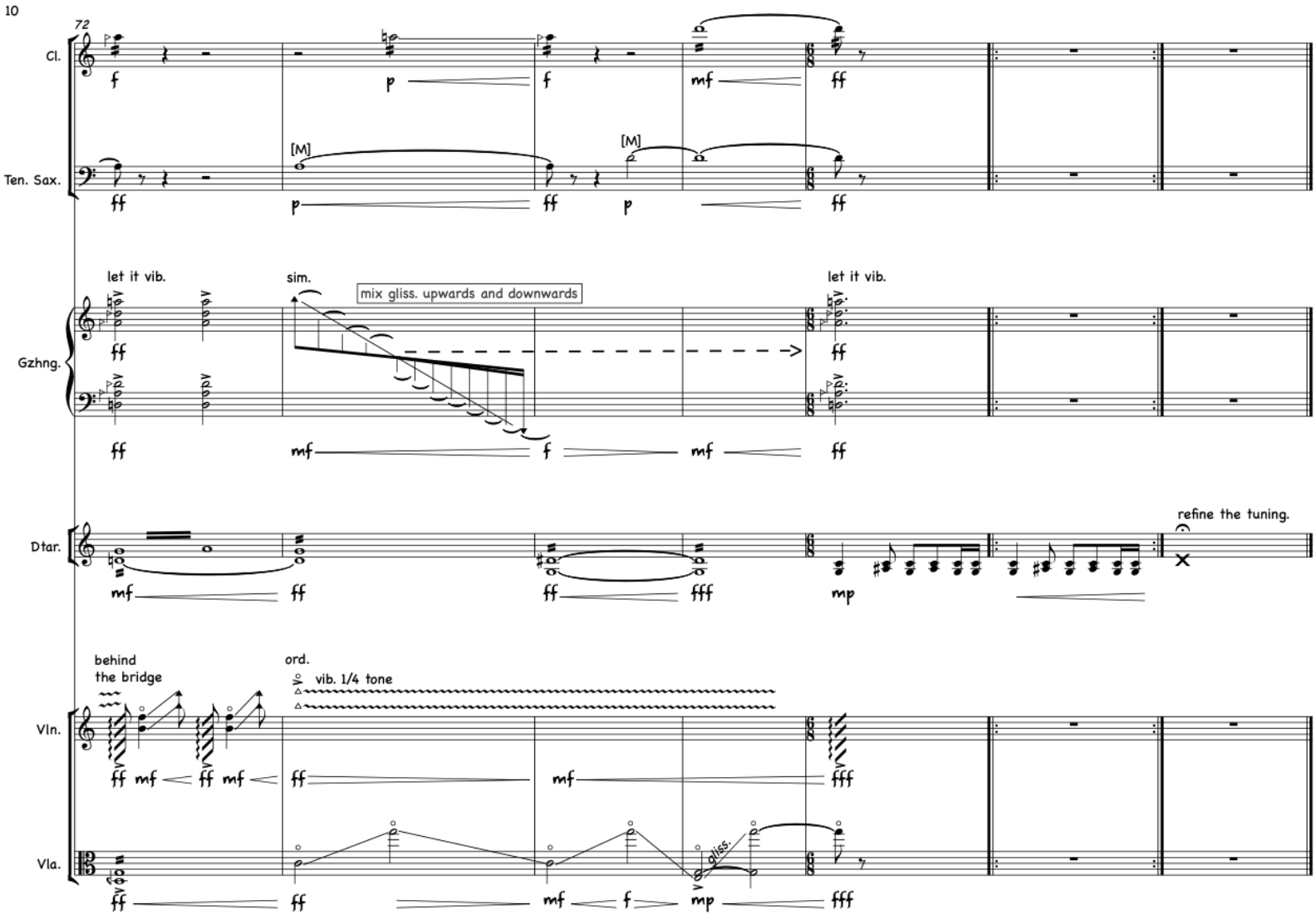


Figure 4.8: bars 71 – end, page 10, Let me Tune.

Let me Tune shadows characteristics of spectral music such as creating a pulseless and still quality, as well as concentrating on one property at a time (discussed in Chapter 2), to highlight the micro-interval system of *Dastgah* music. Here, the features of *Dastgah* and the use of embellished layers are less evident; however, the context and core drive of the piece arises from a Persian player's perspective of being imprecise in tuning the instrument. I learned a particular approach from this piece, even though the majority of characteristics are similar to spectral music, if the frame of mind or spirit of a music piece will be based and initiate from a Persian way of thinking, the outcome may uphold some of the Persian features unintentionally and naturally. With this fact in mind, the aesthetic is centred around timbre instead of embellished motifs.

4.5 Beautifully Untuned Mind

4.5.1 Subject

Beautifully Untuned Mind is composed for 9 tars (Persian long-necked lute type) in February 2021 and is inspired by Horaţiu Rădulescu's *Credo* 1969,[84] which is composed for a homogeneous ensemble including 9 cellos. Rădulescu wrote the entire piece based on the first 45 harmonics of the low C on the cello. The first time I listened to *Credo,* I felt like I was lost in time, 55 minutes of music did not feel like a long time. I was absorbed in the moment and trying to understand the relationships and interactions of the harmonics that unfold using different bowing techniques. A continuous high pitched scratchy-like tone is present for almost the entire piece that acts as a connecting layer on which are superimposed harmonics. The homogeneity of the layers created a condition that I could not recognize the number of sounding layers and the thickness of the texture. In *Beautifully Untuned Mind* I am trying to create a similar impact that I had from listening to *Credo*; however, I substituted cellos with tars, and instead of outlining the harmonics of a specific fundamental note, I experiment with intervals based on *Dastgah's* tuning system of one sixth of a tone (30 – 35 cents) as well as some of the untuned micro intervals that existed on the fret positioning of my own tar.

Of the nine parts for tar, eight of them are scored and one is considered an improvisation layer. Due to the lack of tar players in Sydney, I recorded all the written parts myself, and at the end, I improvised the last layer while listening to the created sound mass. In the improvisation section, I limited myself to ornamentations and articulations that are relevant in each section of the scored part, and I tried to elaborate on motifs and melodies that could accentuate the

[84] Horaţiu Rădulescu, "Credo," (Paris: Daillens : Lucero Print, 1969), Score.

harmonics and pitch series of each section, as well as delivering a sense of melodic line in contrast to the existing sound mass.

4.5.2 Structure

Exploring extended techniques on tar and familiarizing myself with the full sonic capacity of the instrument became one of the main intentions of this piece. I was specifically looking for articulations that could produce similar sound effects as I heard in *Credo;* many techniques arise from bowing technique and positioning. Therefore, I focused mostly on right-hand articulation where the player performs with a brass plectrum on three courses of double strings (paired in unison, except the bass course, which is paired an octave lower). A soft and slow hit of the brass plectrum on the steel string produces a distinctly bright sound that is full of harmonics. The timbre is rich and clear and feels like the components of the harmony are obvious and recognizable. Amplifying this sound quality and rich harmonics encompasses the first three minutes of the piece, section A; techniques that include the combination of upstroke and downstroke, the intensity and velocity of striking and placing the plectrum on the string, as well as positioning the plectrum (figure 4.9). I consider this group as trinket sound objects; their aim is to create an ambience and highlight the timbre that arises from the components of the instrument that mainly involve right-hand techniques.

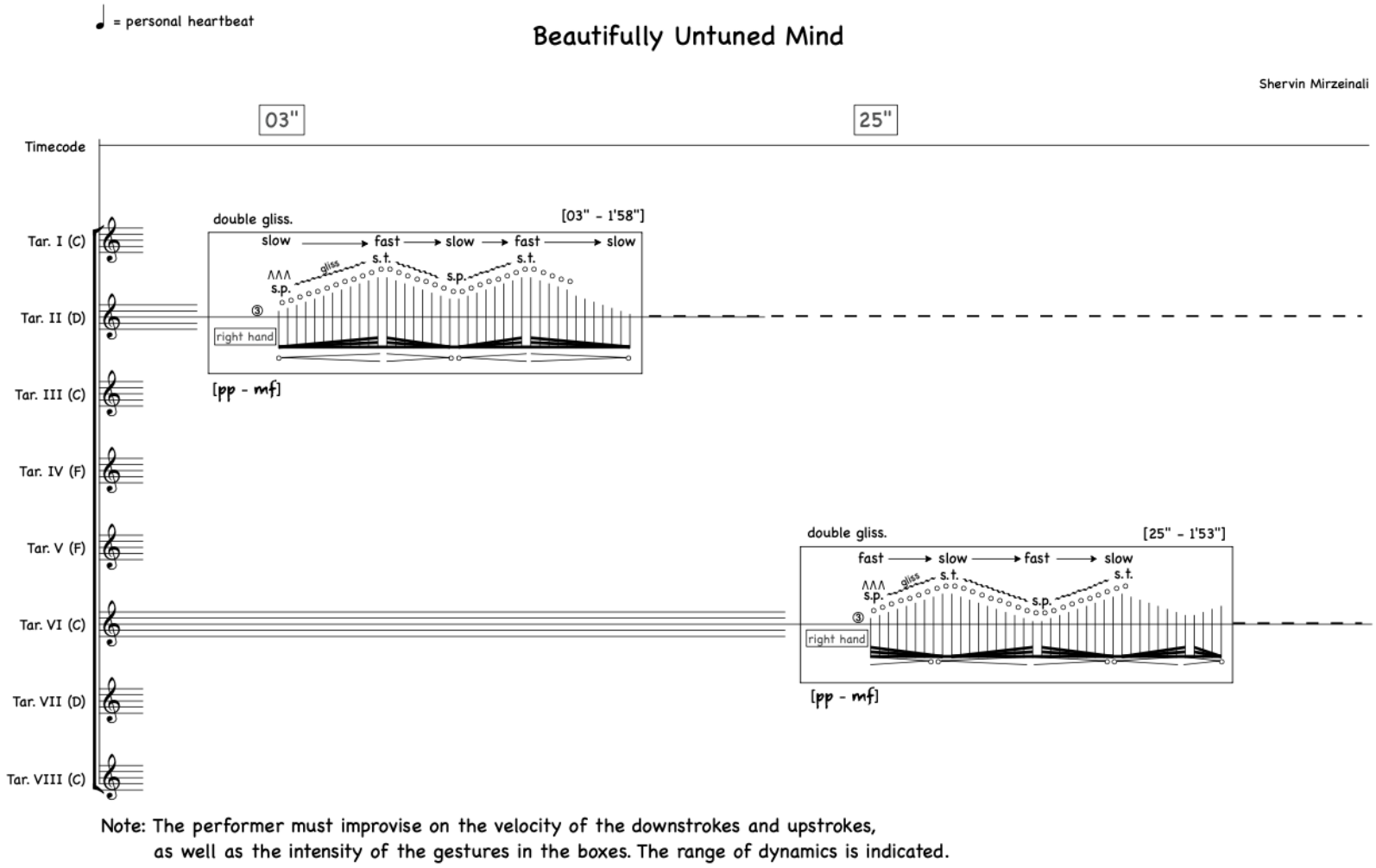


Figure 4.9: page 1, Beautifully Untuned Mind.

Section B is the confluence point, where all layers meet with a strong strike (figure 4.10). In this section, the left-hand techniques become more evident by touching and sliding on the fingerboard side, especially like harmonic glissandos and sporadic harmonic strikes; however, the focus is still on the intensity and variety of the right-hand striking techniques. For example, in string instruments, *au talon, martele,* and *punta d'arco* are bowing techniques in which the performer first places the bow on the string and then moves with different levels of pressure. I applied a similar approach to the plectrum on tar that triggered different harmonic components by applying different amounts of pressure. Here, the sporadic harmonic sounds are slightly out of tune for two main reasons that relate to the mechanism of the instrument. First, the tar fingerboard includes adjustable gut frets that can be moved at any time and work as a tuning structure. Second, the tuning pegs on tar have still preserved their traditional form and are crafted conically from wood, making tuning the strings a time-consuming and somewhat inaccurate task. Therefore, playing on paired unison strings, as well as timbre trills and tremolos (same pitch on two different strings) may sometimes sound around 10 cents different from each other. This vaguely out-of-tune sound quality of the tar, which is due to its structure, was a strength to create an impression of more layers than the actual number of the sound mass.

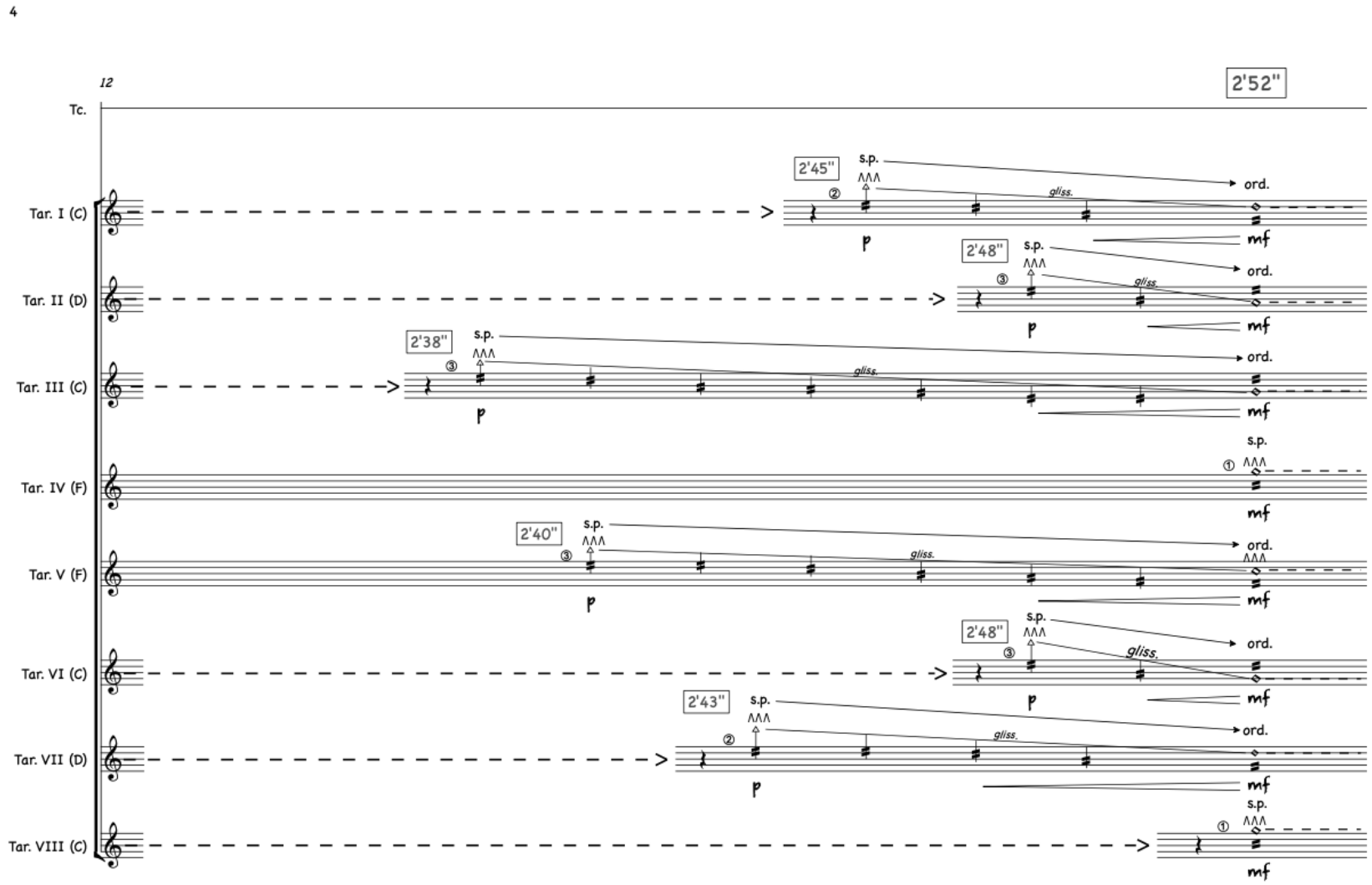


Figure 4.10: page 4, minute 2'52", Beautifully Untuned Mind. The confluence points.

Excessive multilayering, as the name suggests, is a technique that requires abundant layers to be effective. However, with limited instrumental resources it may be easier to create the effect of a sound mass when working with homogenous timbres. In *Beautifully Untuned Mind* I sought to attain a similar effect through the use of nine tars to create a sense of sound mass where the number of layers is not recognizable due to the intertwined texture of analogous timbre. Furthermore, using effects such as micro-tuning and alternative tuning, I sought to achieve a sense of greater sonic exaggeration and depth. For instance, altering timbre gradually through *scordatura* tuning and retuning strings to intervals as small as 20 to 30 cents to make an out-of-tuned feeling may obscure the perception of the actual size of the sound mass. Section C is the first time the actual sound of tar is revealed when the left-hand fingers press the notes. Alternative timbre trills and tremolos highlight the out-of-tune feeling, and the upstroke and downstroke techniques create a polyrhythmic and polytimbral sound mass that facilitates the condition of excessive multilayering. At 4 minutes and 16 seconds, two tars play a continual alternative picking and gradually other layers overlay by different picking pace and ornamentation to create a sense of depth and sonic excessiveness (figure 4.11).

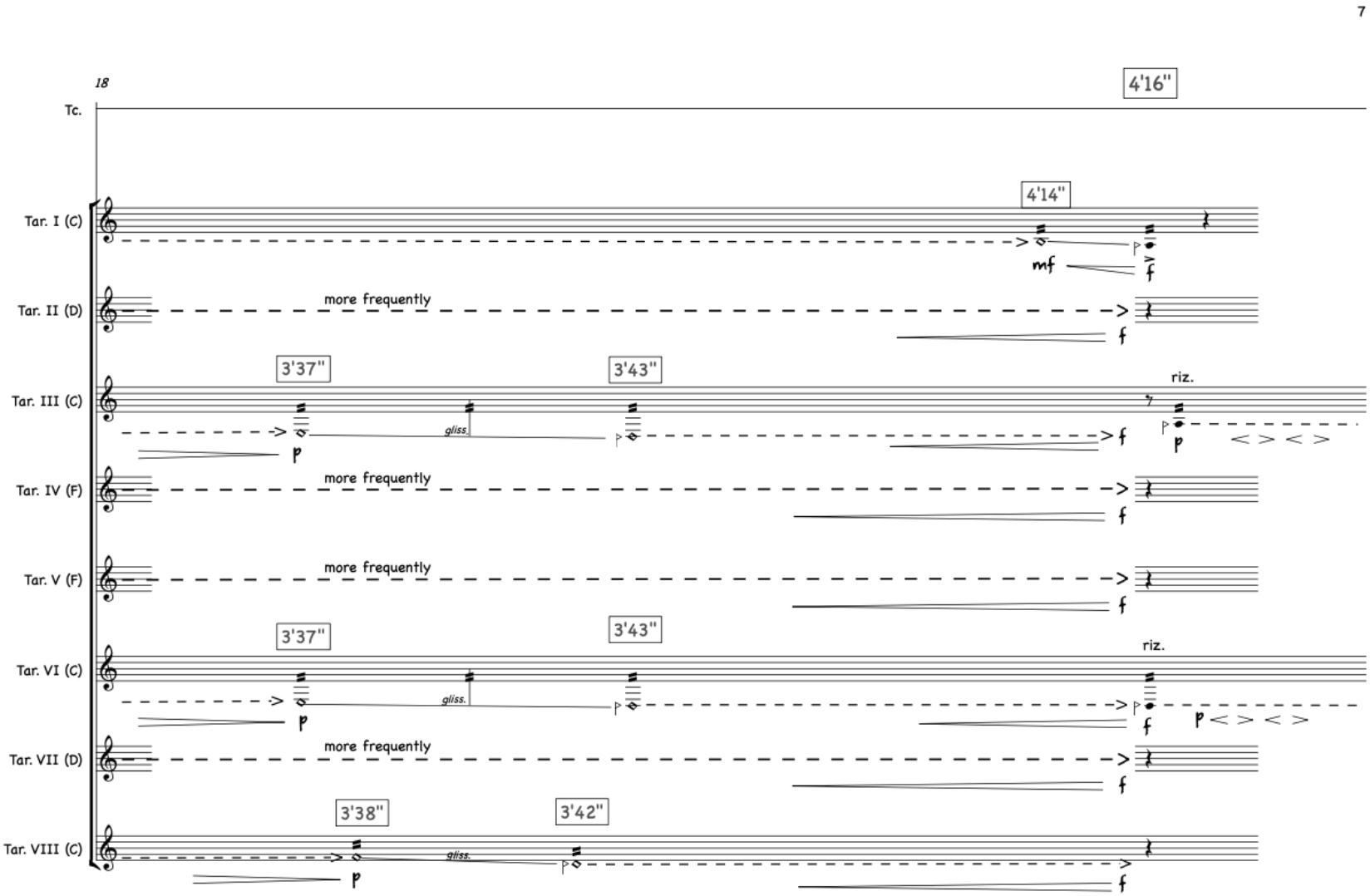


Figure 4.11: page 7, Minute 4'16", Beautifully Untuned Mind.

Another important aspect is that the notation system is based on the logic of *Dastgah* music (discussed in Chapter 2), in which the figures and symbols are approximate and used mainly to help the performer remember the sound gestures and the flow of the music. The notation only includes the range of articulation, pitch, and dynamic, and is exponential depending on the momentary interpretation and feeling of the performer. Similarly, in *Beautifully Untuned Mind*, I improvised on the gestures in the provided time frame while listening to the other layers. In the recording process, the approach of recording and responding to the sound objects of the other layers (except the first layer) was an effective practice that could suggest the characteristics of improvisation in *Dastgah* music with excessive multilayering.

Consequently, *Beautifully Untuned Mind* was an effective experiment to include the logic of Iranian improvisation within my approach to excessive multilayering and examine a homogenous ensemble and its offering effects such as alternative tuning and polytimbral structure. A piece that arose from my fascination with the mechanism of tar and the beautifully untuned sonic possibilities that its structure offers as a traditional instrument.

4.6 Findings

Through the composition of four different musical works, I could experiment with the approach of excessive multilayering to design a form of music that embraces mutual characteristics of *Dastgah* and spectral music discussed in the second chapter. For example, *Abalfazl* seeks to explore embellishments with an irregular sense of pulsation, *War is Peace* tries to obscure the perception of a melody with abundant layers of sound objects, and is focal-tone-oriented music that captures the feature of durational thinking. *Let me Tune* is pulseless music with a gradual transformation of timbre; and eventually, *Beautifully Untune Mind* concentrates on micro intervals and micro-tuning techniques that arise from a homogenous sonic texture.

These experiments led to two main outcomes; first, a highly timbral approach to music can be created with sound materials that are extracted from *Dastgah* system instead of the harmonic series and spectral analysis of a particular tone. The key point being that the mindset of the composer needs to foreground timbre. Second, by exploiting different applications of excessive multilayering, such as limiting performers to certain elements of music and pitch series, I could embody attributes of Iranian improvision into the structure of my music. The same philosophy of composition combined with improvisation behind *Dastgah* music, in which *Dastgah* is only considered as a framework for performers to improvise, is modelled in my technique of excessive multilayering; however, my aim is to drive the music drama through timbre instead of ornamental phrases.

5 Panbe Zan

5.1 Overview

Panbe Zan is an experimental electroacoustic opera that stands at the heart of this research. The theme of the opera revolves around an obsolete profession of cotton beating (*Panbe Zani* in Farsi) in Iran. The musical structure incorporates different applications of excessive multilayering, as well as mutual characteristics found in *Dastgah* and spectral music. The hour-long work comprises seven scenes that mirror the cotton beating ritual. The live aspect of the work includes a mixture of Iranian and Western instruments that replicate the ambience of each phase of the ritual. Seven traditional cotton beating bows have been replicated in different sizes and tuned differently, and are performed as musical instruments. The performers include seven individual actors as well as an ensemble of dotar, setar, two tars, tombak, two double basses, soprano, and baritone singer. In addition to the live performers, the work also includes electronic sections comprising of the recording of sounds that are produced from all activities that occur during each phase of the cotton beating ritual.

The seven scenes are as follows:

1. *Laaf doziye* (English translation; it is quilting time)
2. Fluffing up
3. Tea break
4. Assembly
5. Tailor
6. Slumber
7. Dance of Cotton

The premiere of *Panbe Zan* under the theatrical direction of Marjan Lotfali took place at the Sydney Conservatorium of Music on 19 March 2022 and featured the following performers and roles:

The main actor: the cotton beater, Ali Elhami-Manesh (tested positive for COVID-19, replaced by the third actor, Mohammad Hamed Janali)

Actor 1: musician on bicycle, Parisa Mansouri

Actor 2: musician on bicycle, Mohammad Hamed Janali

Actor 3: dancer, Baha Jamali

Actor 4: dancer, Maedeh Dezhbod

Actor 5: the hostess, Fereshteh Mehrnia

Actor 6: the tailor, Nahid Farsi

Soprano singer: Agnes Sarkis

Tenor singer: Danial Bozorgi

Dotar, Majid Amani

Setar, Ehsan Kachooei

Tar 1, Ali Yarmohammadi

Tar 2 / Tombak/ Daf, Arman Gouniaei

Double bass 1, Maximillian Alduca

Double bass 2, Harry Birch

In this chapter I will first discuss the background of cotton beating in Iran, followed by my own imagination and nostalgia for this profession. Second, I will explain the process, sociological, and symbolic concepts of the work as the key initiative of the opera. Third, a holistic musical structure of the piece and the impacts of spectral and *Dastgah* music are analysed. Fourth, the compositional technique and structures of each scene are discussed in depth. Finally, I propose a new concept of the 'extinct timbre' raised from *Panbe Zan*, including its future potential.

5.2 The profession of Panbe Zani

Panbe Zani (cotton beating) was part of a traditional quilting process in Iran that faded with the advent of machinery. A bow-shaped instrument (figure 5.1) uses the vibrations of a string to decompress cotton and make it fluffy to be stuffed in the futon. This profession had a special ritual and was more widespread when the Persian New Year (Norouz) was approaching. The cotton beater (*Panbe Zan*) was an itinerant professional on a bicycle riding throughout the city and shouting tunefully to announce his presence in the neighbourhood (in a peculiar style that was known to everyone).[85] After a request, he would enter the house and start the process.

Figure 5.1: the cotton beating bow and its hammer

[85] Abdul Samad Soleimani, "The documentary of Panbe Zan," (Marvdasht, Iran, 2014). https://www.dalfak.com/w/2nhc2/مستند-کوتاه-پنبه-زن.

Figure 5.2: the cotton beater[86]

The phases of cotton beating are as follows:

1. Removing new cotton from a bag and spreading with a narrow stick to prepare them for the fluffing action.
2. Striking the string with a wooden hammer (in Farsi *Moshteh*) to create vibrations that would cause the flattened cotton to become fluffy.
3. Stuff the futon covers with fluffed cotton and flatten the futon by striking on different parts of it with a long stick.
4. Stitch the futon with a design to fasten the cotton in the futon.

[86] The community of strivers of Farah'an, (The community of strivers of Farah'an). http://talashgranfarahan.ir/بررسی-هنر-لحاف-دوزی-به-عنوان-یک-هنر-قدیم/.

This process used to occur in a certain cultural ritual that may be viewed in a nostalgic fashion. The sound of the whacking string was well-known and pleasant for the household and nearby neighbours. Along with the striking of the tuned string, the cotton beater used to sing, and the children were dancing cheerfully in the backyard. The neighbours would help each other clean and renew their home for the coming new year. The hostess would welcome them with tea and sweets. The cotton beating ritual was a sign of 'togetherness, renewal, and warmth' in the area.

I imagine the following in setting the scene for the opera:
As the new year approaches, a kind-looking man – who could be anyone's grandfather – rides his vintage bike through the neighbourhood, singing words in a trance to let people know that they have the opportunity to soften their bedding for the coming year. A grey bearded man with wrinkles on his forehead, the cotton beater looks like a knowledgeable elder that brings warmth to your house. The first step is to tune the instrument. The more in tune, the more joyful the process for both the cotton beater and the hostess. The dance of the cotton in the backyard, the rhythmical strikes on the string, and the melodious voice of the cotton beater creates the mood for the new year.

5.3 Process

There are two concepts that drove me to curate the *Panbe Zan* project. The first is the notion of instinct and its effect on the quality and modality of the music. My interpretation of *Dastgah* music, specifically in *Radif*, is that one of the main characteristics is that the performers express themselves freely within a particular framework. *Radif* only works as guidance for the performers and specifies the pitch series and patterns. Instinct plays an important role in the form of music. Ambience, mood, level of understanding and interpretation, time, and the mindset of the performer can influence the performance despite the fact that the patterns has

been notated in the *Radif*. The performers react instinctively in the moment and play according to the flow of their emotional state. I perceive *Dastgah* as a collection of short stories or narrations; similar to a bedtime story that a grandmother may tell the children. The storyteller may only remember the subject and moral point, while the order of sentences, structure, and grammar may vary each time she expresses the story according to the mood and reaction of the children. The freedom and fluidity of her voice make the story a resonating and authentic artwork. A story that, despite its affective moral codes, encompasses the spirit and character of the teller that arises from her instinct. Therefore, the role of instinct became one of the most important concepts that I attempt to highlight in this project and take advantage of its characteristics.

The second concept arose to facilitate and highlight the nature of instinct. I began with the concept of 'home', a place where in most cultures it stands as a sense of comfort, peace, family, identity, and belonging. A place where the possibility of acting instinctively may be higher than anywhere else. Therefore, I described the concept of home for all actors and performers before giving them any direction. Everyone should imagine themselves in their living room. There is no sense of venue and audience, there is no beginning or end. The first actor, along with the electronics, starts 15 minutes before the first audience enters the venue, and the hostess/tailor (the seventh actor) leaves the venue after the last audience leaves. Home is where you act and react freely and move confidently. The performers should not interpret this project as an opera or a music concert; they should consider that they are genuinely recreating the ritual of cotton beating and remaking a futon for the hostess to have relaxed sleep.

I consider this project as a live 'documentary' (like a film documentary) in which the composer controls the sound world and highlights the sound objects that occur during the ritual process. I specifically chose to collaborate with performers who are less experienced in the field of new

music and concert performance. The actors did not have any knowledge of music, and the musicians were self-learned performers who were more experienced in *Dastgah* music rather than spectral or experimental music. This choice improved the character of *Panbe Zan*, since the performers relied mainly on their instinct rather than their previous experiences or knowledge. The impulsiveness and identity of the performers were naturally embodied in their actions and movements. However, the selection of performers was a two-year process. In June 2020, I founded a non-for-profit association called CozyStage in Sydney with the purpose of developing classical and folk Persian music, as well as attracting music enthusiasts who have knowledge in *Dastgah* music. More than 40 members joined, of which I formed a music group from those who were more committed. I purposely taught them the basics of Western music theory and introduced them only to the philosophy and concepts of spectral music; a music that has a continuous and gradual flow, is pulseless, and concentrates on the quality of timbre. I taught them to patiently listen to examples of spectral music and to focus on the transformations of timbre through time. I tried to work with performers who are familiar with the technical and improvisation aspect of *Dastgah* music and gradually develop a mindset of spectral music. A set of performers who are keen to instinctively foreground timbre with their improvisational skill in *Dastgah* music.

One of the main characteristics of *Dastgah* music is its learning method which is transferred from generation to generation and students learn by repeating their master's performance until they reach a level to improvise based on their own personal interpretation of *Dastgah*. To be inspired by this unique characteristic, I designed 17 progressive rehearsals for four months to prepare the performers, including actors and musicians most of whom had no experience performing in a modern opera. Actors who mainly performed dramas on stage in the form of theatre without any background in music, and amongst musicians, only double bass players, soprano singer, and dotar player graduated with music degrees (with no experience in new

music performance), the rest were self-trained players in *Dastgah* music. In this regard, I needed to familiarize all performers with the notion of timbre and generally what it means to express a drama through timbre and transformation of sound colours through time. A series of timbral music and a diverse range of new music works by different artists were introduced to all performers including Georg Friedrich Haas's *In Vain, String Quartet No.2* and *No.3, limited approximation,* Damien Ricketson's *The Howling Girls,* Liza Lim's *Atlas of the Sky,* Helmut Lachenmann's *Pression,* Vinko Globokar's *Corporel,* and Mark Applebaum *Aphasia* (specifically for actors).[87] I deliberately chose pieces that incorporate theatrical actions, body movements, unconventional singing techniques, and timbral fusions for performers to broaden their boundaries and inspire them to search in their instruments for new sounds, and also for actors, to interpret their actions and body as sound making instruments.

The initial rehearsals were designed to develop and grasp three practices of 'personal sense of timing and durational thinking', 'transformation of timbre through time', and 'gradual transformation of intensity and velocity through a specific period' all of which are inspired by the mutual characteristics of *Dastgah* and spectral music. First, the performers could freely produce sounds in any form within a defined period of three minutes. They could use any strategy, such as remembering the number of sound patterns, activities, or any other techniques based on their own personal experience to get a sense of three minutes of time. After this experiment, without providing them with the actual timing, I asked them to start the activity and sound-making process and stop at the time when they feel that the three-minute period has

[87]Mark Applebaum, "Aphasia," (Nicholas Isherwood and the Stockhausen-Isherwood, 2009); Vinko Globokar, "Corporel," (Henry Litolff's Verlag / C. F. Peters, 1985); Georg Friedrich Haas, "String Quartet no. 2," (Universal Edition, 1998); Haas, "in vain."; Georg Friedrich Haas, „In iij. Noct.“ - String Quartet no. 3," (Universal Edition, 2001); Georg Friedrich Haas, "Limited approximations," (Universal Edition, 2010); Helmut Lachenmann, "Pression," (Breitkopf & Härtel, 1969); Liza Lim, "Atlas of the Sky," (2018); Damien Ricketson, "The Howling Girls," (Sydney Chamber Opera, 2018).

ended. This practice continued with periods of five and ten minutes until most performers reached a collective sense of timing which was not precisely accurate; however, close enough to the actual defined periods that encompasses both features of personal sense of timing, as well as moderately functional timing to plan an approximate form and timeframe for the opera. Second, in a dark space (to increase the concentration on auditory sense) and in a defined period of time, I asked all performers to produce any sounds with any objects around them, with their body, or different types of singing to their knowledge, and try to continuously change the sound to another form which is the closest transition of sound colour and quality from their perspective. Third, within a defined period of time, the performers were required to produce sound gestures with certain gaps, and progressively decrease the period of gaps to grasp the idea of gradual transformation of starting from an infrequent action to frequent and continuous sound producing. At the end, all the mentioned practices were combined to allow the performers to understand the core characteristics that are required to be represented in *Panbe Zan*. It is important to mention that I have imagined and scored all parts and scenes of the opera; however, I consider the notated score as suggested materials to the performers which I rehearse with them individually and collectively within the 17 designed rehearsals until they reach a state that they will be free to improvise based on the suggested resources similar to the whole concept of *Dastgah* as a framework for Iranian musicians.

5.4 Structure

The sonic structure and pitch series of the whole opera is based on the *Dastgah* of *Shur*. The focal tone and note patterns of each scene changes according to the 5 *Avaz-es* that are included in the *Shur* and ascends stepwise from scene one to seven.

The ascending flow of focal tones (the focal tone is bolded):

*Scene 1, Laaf Doziye: G – **A koron** – Bb – C (Avaz-e Abu A'ta)*

*Scene 2, Fluffing up: F – G – A koron – **Bb** (Avaz-e Bayate Turk)*

*Scene 3, Tea break: G – A koron – Bb – **C** – D/D koron (Avaz-e Afshari)*

Scene 4, Assembly: electronics, focal tone C

*Scene 5, Tailor: Bb – C – **D/D koron** – Eb (Avaz-e Dashti)*

*Scene 6, Slumber: C – D – **Eb/E koron** - F (Avaz-e Bayate Kord)*

Scene 7, Dance of Cotton: The whole pitch series included in Dastgah of Shur

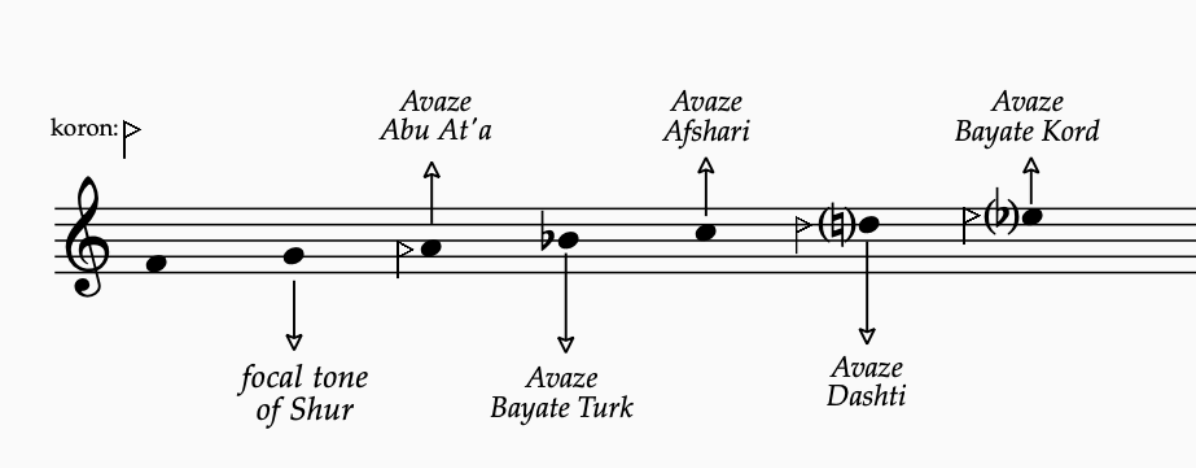


Figure 5.3: Dastgah-e Shur and focal tones of its Avaz-es

The overall structure of all scenes (except the fourth scene *Assembly*) follows the philosophy behind *Dastgah* music (discussed in Chapter 2) which includes flexible melodies (replaced by sound objects and gestures in the opera), and it is the main framework to which performers refer in their improvisations. The principle of this modal system follows a hierarchical

structure, where a focal tone starts with a simple melody in the lower range of the mode and gradually ascends to the peak of the range and develops a more complex structure with richer ornamentation. As I defined excessive multilayering (in Chapter 3) as a framework similar to *Dastgah* system with three different pitch and melodic-centred applications along with fluid treatment of mode, I decided to imitate the same hierarchical characteristic of *Dastgah* with excessive multilayering to be more authentic to the Iranian way of creating musical cohesion. Therefore, I implemented the following strategy: The performers are limited to the pitch series in each scene that are included in the mentioned tetrachord and can only highlight the focal tone. The other notes within the tetrachord need to be used in an ornamentation form, as all gravitate towards the focal tone. It is specifically asked that performers not form a sense of melody and instead interpret a group of notes as patterns and gestures (unless it is stated that it needs to be melodic). All other aspects of performance, such as dynamic, articulations, and rhythm, have a gradual ascending flow that reaches a temporary culmination and falls shortly to prepare the mood for the next scene. For example, at the beginning of each scene, the gestures are soft and shimmering with an occasional forte on the focal tone, the articulations and techniques are chosen to produce vague and indefinite pitch, and gradually moves towards louder sounds that have a more distinctive pitch. Durational thinking is an important aspect of this opera in which each performer plays based on their own sense of timing. The flow is a combination of sound gestures and silences, and the performer has control over the duration of the gaps between each gesture. It starts with larger gaps and gradually moves towards a chaotic and condensed form.

The actors are considered as moving sound objects. Every movement of each performer, including simple actions such as walking and sitting, produces a sound gesture that can influence the flow of music. For example, in the scene *Laaf doziye* the instrumentalists are specifically asked to walk and sit next to the bicycle quietly to not attract any attention,

contrarily, in the scene *Tea break* the actors are free to change their sitting position in a way that would add more layers of noises into the overall sound mass. As part of the creative process, the concept of excessive multilayering was explained to everyone, and the performers are conscious about their action in order to add a new layer of sound object with the same approach as the instrumentalists have; that is, they begin each scene less active and gradually become mobile to increase the overall sense of sonic excessiveness at the culmination of each section. The suggested score is descriptive with a cueing system and performers improvise based on the concepts that are described and are influenced by the intensity of the sound layers in the electronics. The denser and more chaotic the electronics are, the more active and louder the performers become.

All three applications of excessive multilayering are examined in this piece, each at a different scene, which will be discussed in depth later. The electronic parts maintain the flow, connect the scenes together to create the feeling of a singular whole. The sound-source of the electronic parts are always based on the same sounds that occur in the live performance. The materials were recorded separately in the studio and altered and manipulated with software tools such as filtering and pitch-shifting to emphasise the relevant focal tone for each section. Sound object with indefinite pitch, such as teacups, percussive bicycle sounds, strikes of the stick on the futon, were also designed to gravitate towards the focal tone. Recorded sound objects such as bicycle tyres and chains, boiling water in the kettle, the sound of the bow on tar and kamancheh, were also recorded with multiple microphone placements with different distances from the sound sources to capture the same sound with variations of timbre. Furthermore, variation is also achieved via digital processing including the equalizer in the DAW software. The resulting multiple versions of similar sounds are deployed to increase the number of sonic layers. As such, the use of electronics greatly helps the approach of excessive multilayering. For instance, in the last scene, the *Dance of Cotton*, 161 layers of sound objects have been used in the

electronic section that merges with the sounds that are produced from the live improvisations (gradually starts after one hour in the video recording to the end).

The stage is divided into two sections A and B, with the audience sitting in the middle of the stage on the ground to experience spatial and omnidirectional sound from the speakers placed in their surroundings. This choice imitates a condition in the ritual of cotton beating as the neighbours and children join the hostess while the cotton beater is singing and striking the bow as a symbol of togetherness. The staging includes the audience and their movements as part of the fabric of the live performance, and potentially adding another layer of sound objects to the experience. The surround speakers mimic the sense of being in the backyard of the house, where sounds can be perceived from any direction and distance. Concentrative perspective, contemplative listening, and the state of presence (the mutual characteristic of *Dastgah* and spectral music discussed in Chapter 2) are practiced in all aspects of the opera, not only to the sonic structure, but in the staging, acting, story, and placement of audience. With the electronics, to use Moscovich's description of spectral music, I aspire to exteriorise the inner reality of the recorded sounds. And to refer back to my description of *Dastgah* aesthetics in Chapter 2, I see the performers exteriorizing the inner reality of 'themselves'. The actors move on the basis of their personal sense of timing with gradual and continuous flow. The instrumentalists are focusing on creating embellishments, while all sound objects are superimposed excessively and being perceived as a sound mass (timbre). The rational is based on an Iranian ritual and the aesthetic is timbral; however, the sonic structure has been inspired by the information that is extracted from *Dastgah* music instead of spectrum analysis of a sound.

	0. The beginning	1. Laaf Doziye	2. Fluffing up	3. Tea break	4. Assembly	5. Tailoring	6. Slumber	7. DoC
Duration	15 min.	9 min.	8 min.	7 min.	6 min.	9 min.	11 min.	
Timing	- 15:00 ~ 00:00	00:00 ~ 09:15	09:15 ~ 17:30	17:30 ~ 24:50	24:50 ~ 30:50	30:50 ~ 39:50	39:50 to 50:00	
Mode		G – **Ad** – Bb – C	F – G – Ad – **Bb**	G – Ad – Bb – **C** – D/Dd		Bb – C – **D**/Dd – Eb- F	C – D – E/**Ed**- F	all
Objects		Bicycle plastic stone wood paper cotton's bag the bow	The bow cotton cotton's bag narrow stick	Small Rug 1 tray cups teapot sugar container fruits *Poshti (cushion)*	Stick futon	Small rug 2 Futon needle thread the bows string bows	Futon blanket pillow cushion	The bows big rug cotton's bag
Electronics	✓	✓		✓	✓	✓	✓	✓
C.B.		Murmuring	Bowing	✓	✓			✓
P1	On bicycle	On bicycle		Drinking/murmuring		Bowing /plucking		Fluffing and singing
P2		On bicycle with mic.		Drinking/murmuring		Bowing /plucking		Fluffing and singing
P3			**Throwing cotton**	Drinking/murmuring		Bowing /plucking		Fluffing and singing
P4			**Throwing cotton**	Drinking/murmuring		Bowing /plucking		Fluffing and singing
P5				Serving tea/the host		Bowing /plucking		Fluffing and singing
P6						Bowing /plucking		Fluffing and singing
Sop						✓		✓
Bari.							✓	✓
Dotar							✓	✓
Setar				✓				✓
Tar 1		✓				✓		✓
Tar 2/ Tombak/ Daf		✓						
			✓					
								✓
D.B. 1			✓			✓		✓
D.B. 2			✓			✓		✓
Tailor						✓		
Sleeper							✓	✓
Num. P.	1	5	6	7	1	1	3	16

Figure 5.4: timeframe of Panbe Zan

5.5 Scenes

5.5.1 Laaf doziye

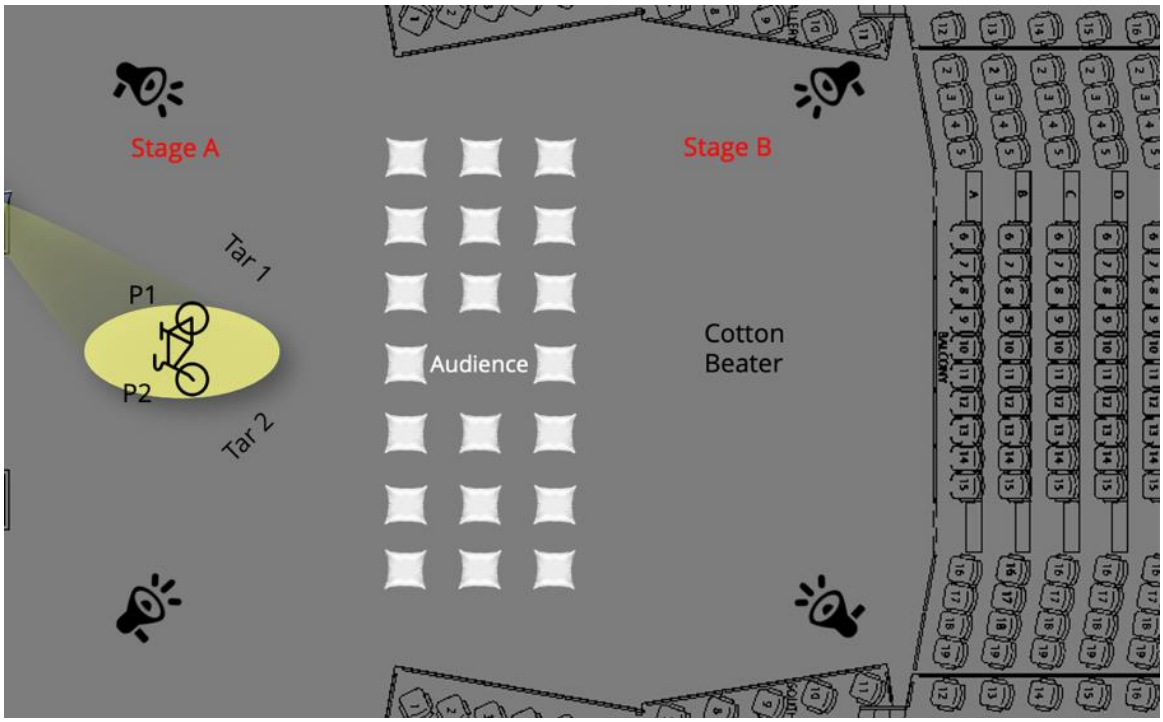


Figure 5.5: stage setting of Laaf doziye at the Music Workshop

Figure 5.6: the Laaf doziye scene, live performance at the Music Workshop, Actor 1 and 2 on the bicycle and tar players

For the opening of the opera, I choose to investigate distinctive sounds such as the call of the cotton beater and the sound of his vintage bicycle, the outdoor noises in the backyard, and the entrance of the cotton beater to the neighbourhood. I announce the presence of the cotton beater as though from different distances and introduce his voice in an ambiguous fashion so that the intonation is familiar, but the words *Laaf doziye* only become clear on entering the house. An opening of the home, the initiation of a process and sense of happiness for the host.

Fifteen minutes before the actual show time, when no audience has entered the venue, the first actor lies down next to an upside-down bicycle (stage A) and calmly spins the wheel occasionally. At the same time, the recorded sound of striking on the cotton beating bow plays from different surrounding speakers and gradually progresses to a temporary chaos. Simultaneously, the first actor (P1) slowly changes from a sleeping position to a sitting position. The noise of the audience is also increasing as the start of the show approaches, which is considered an extra layer of sound objects. A loud sound of door slam played from the speakers indicate the start of the opera; scene 1, *Laaf doziye*, the spotlight phases in on stage A cuing the second actor (P2) to join the stage. The meaning of the word *Laaf doziye* in English is that it is quilting time. This is a phrase shouted by the cotton beater while riding the bicycle through the neighbourhood with a specific song-like intonation known to all Iranians. Traditionally, the stress was on the vowel a, which remains longer, and, in contrast, the last part of the word *doziye* is pronounced vaguely fast and sharp. Therefore, from the distance, it seemed that the cotton beater is just shouting the vowel a with a slow crescendo and a sudden decrescendo. This quality of highlighting a specific vowel or consonant in a phrase with a phase-in and out dynamic became a main approach in the first scene in which different forms of pronunciation were pre-recorded and played in the electronic part, as well as spoken and sung recitative by the cotton beater on the stage.

Tar 1 joins one minute after the second actor and after the first sound of the instrument, tar 2 joins followed by the cotton beater who sits on the opposite side on stage B. The flow of sound objects produced by instrumentalist and electronic parts, the transformation of timbre, the movements of actors, and the spoken and mumbling words by the cotton beater occur gradually and progressively. The actors possess materials such as plastic, paper, metal, and stone to use on different parts of the bicycle. They change materials through time depending on the roughness of sounds produced, and they become active as the music approaches the second scene aligned with the increase of sound layers in the electronics. Similarly, the tar players improvise on the first tetrachord of *Avaz-e Abu A'ta;* G, A koron, Bb, and C, which emphasizes the A koron as its focal tone. They first manoeuvre on articulations such as harmonic glissandos, playing behind the bridge and damping strings with the left hand and follow the suggested score that includes short iconic motifs included in *Abu A'ta*.

Eventually, the instrumentalists move towards a clear sounding pitch of A koron with continuous up and downstrokes on the tar to add extra layers of tension. All performers follow a descriptive score that includes various levels of velocity and intensity. They move from infrequent actions towards frequent and continuous actions together with varied levels of softness and roughness. It is important that they interpret these varying concepts of velocity and intensity based on their own perspective and understanding of the terms. For example, if the first actor makes a noise on the bicycle every ten seconds and considers it an infrequent act, the second actor may prefer to have a larger gap of twenty seconds to be considered infrequent. However, both must act and react to the surrounding sounds to fit the context and be aligned with the flow of music and electronics.

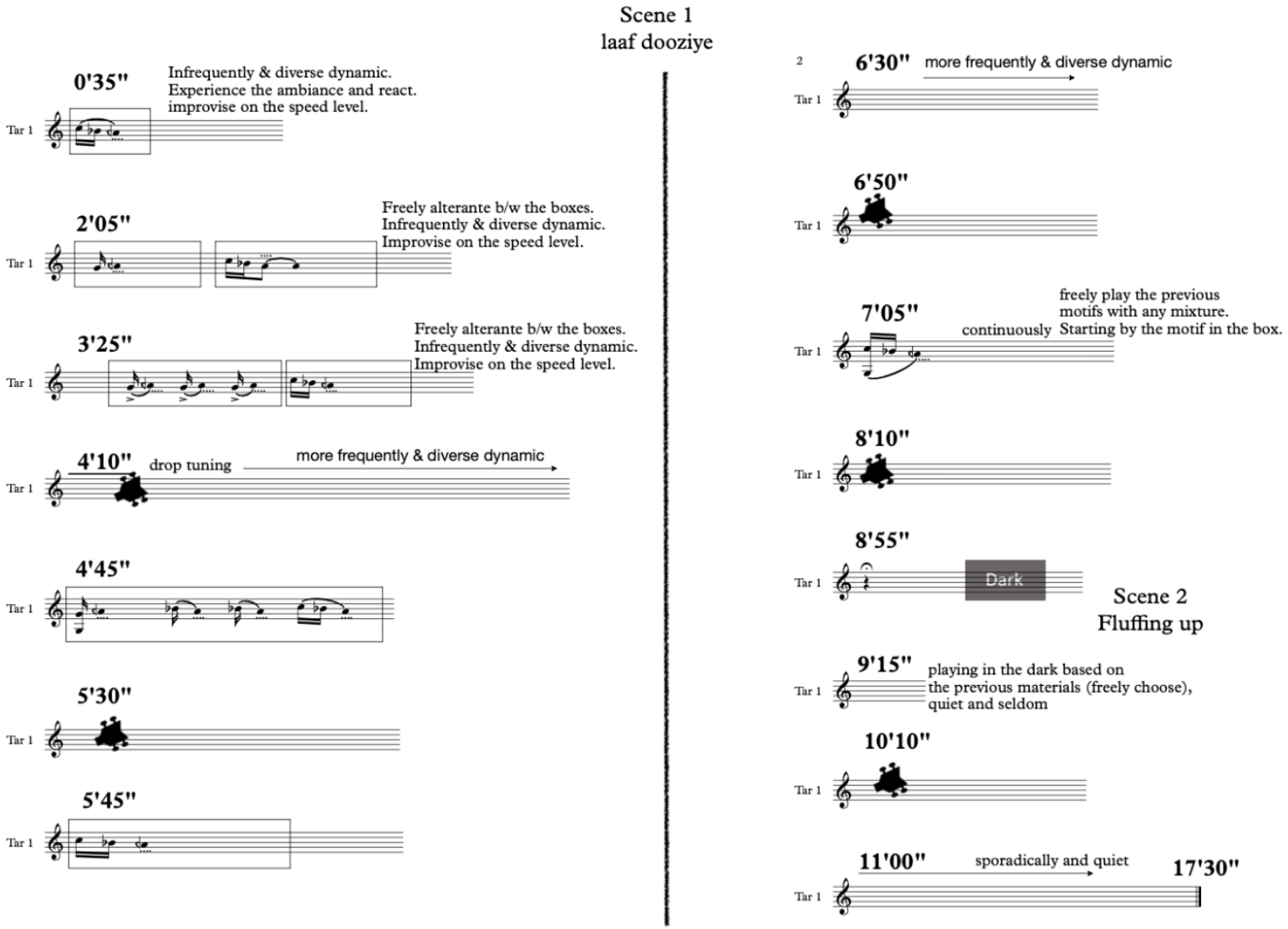


Figure 5.7: the notated part for tar 1 (suggestion).

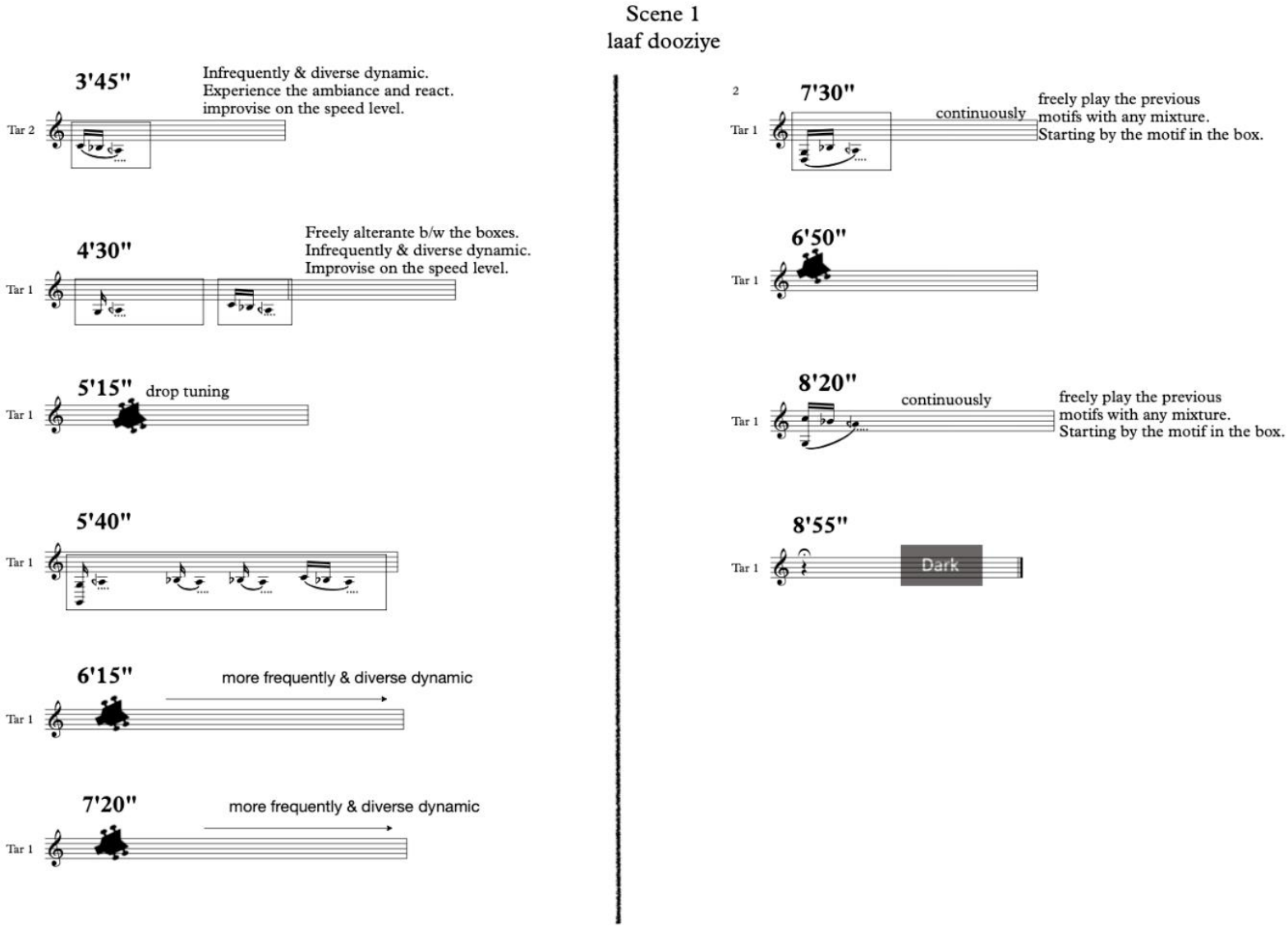


Figure 5.8: the notated part for tar 2 (suggestion).

In this section, the second application of excessive multilayering, which is pitch-centred, is examined. There is no melodic line played by the instrumentalists or in the electronic part. All sound objects are focused on the note A koron and the other notes gravitate towards the same pitch. The noises from the bicycle are arbitrary as a result of actions by the actors without any sense of phrasing that add layers of loudness and roughness to the dominated pitch. The same mindset is applied on the opposite side on stage B, where the cotton beater progressively attempts to pronounce the whole phrase; however, each time different parts of the vowels and consonant are highlighted. This approach creates different qualities and timbres that are extracted from the same phrase when sung and spoken with altered intonation, and moreover, embellishes the focal tone. After about 10 minutes, at the peak of the chaos, the spotlight switches off after which all performers immediately become soft and the cotton beater pronounces the phrase *Laaf doziye* normally and explicitly cuing the end of the first scene.

5.5.2 Fluffing up

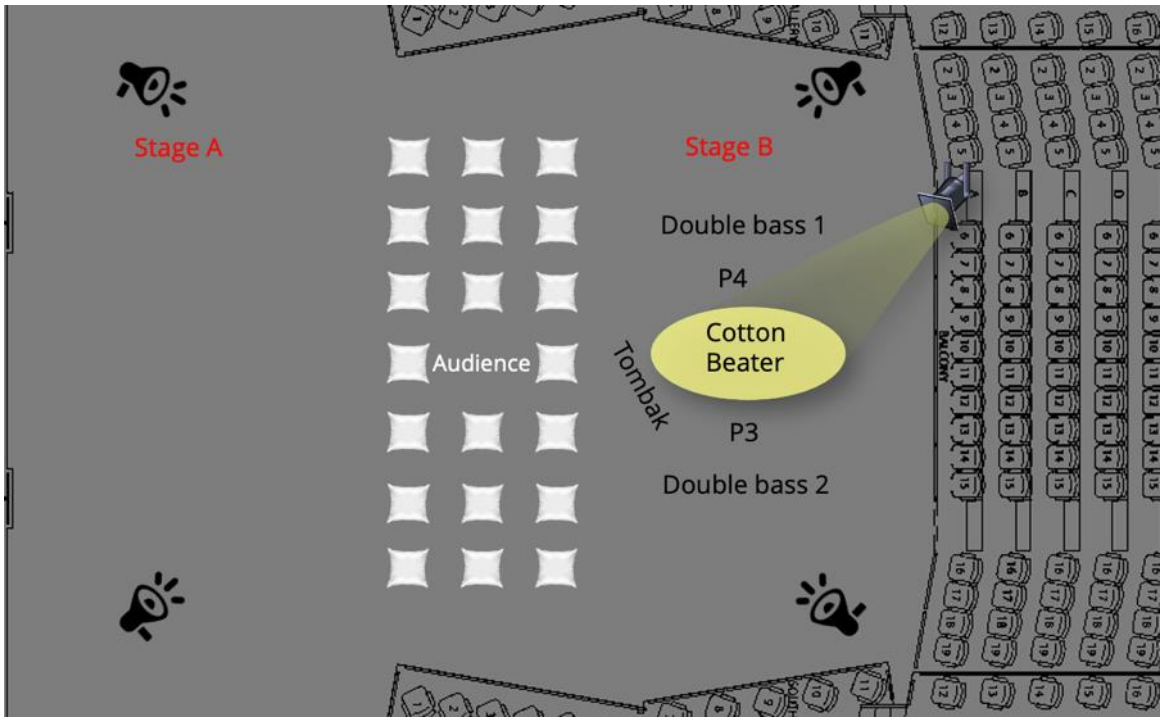


Figure 5.9: stage setting of Fluffing up at the Music Workshop

Figure 5.10: the Fluffing up scene, live performance at the Music Workshop, Panbe Zan, actor 3 and 4, two double basses and tombak player

Fluffing up is the second scene in which the actual tradition of cotton beating is presented. Immediately after the cotton beater pronounces the phrase of *Laaf doziye* in full, the lighting switches to stage B, revealing the first appearance of *Panbe Zan*. The visual theatrical aspect of the cotton beater pulling the cotton out of the bag and preparing the fluffing process sets the scene for the introduction of the forgotten sound of the bow being struck by a hammer. It is this unique and near-extinct sound that for older generations may evoke nostalgic memories and for younger generations a curiosity for past rituals and culture. There are no electronic parts in this section, as I am focusing on the character of the sound produced by the cotton beating bow; a plucked type of sound lasting less than a second similar to the Bartok pizzicato with the difference of not bouncing back to the fingerboard. I gradually introduce two double basses and tombak (Iranian goblet drum) to create a variety of percussive and sharp timbres by matching a diverse range of pizzicatos together with various fingering techniques on the tombak to provide a rhythmic accentuation of the patterns presented by the double basses and cotton beater. The double bass to me seemed like the modern version of the bow that has evolved over time. A single string attached to a simple bow evolved to four different tuning strings attached to a more complex resonant body. The double bass players were instructed to play their instrument as they imagine they are striking the bow with the hammer. Plucking with different strength in the form of tossing their arm away from the instrument and physically conveying a tough and arduous task rather than playing a musical instrument. They are in fact considered as two extra cotton beaters who have the ability of creating a larger range of timbre by striking on their double basses.

The focal tone in this section is Bb, and the tetrachord is based on *Avaz-e Bayate Turk*; F, G, A koron, and Bb. The double basses are the only instruments that have the possibility of creating sound movements and patterns with the use of the mentioned tetrachord and gravitate

all the pitches towards Bb. The pitch series, order of patterns, and articulations are scored for the double bass players; however, they have a large section of improvisation based on the suggested materials and within the written time frame show in the below two figures. The techniques are based on different types of plucking to produce a wide range of timbres. Various intensities from the softest to the harshest, and pizzicatos on different spots on the string from behind the bridge to the top of the fingerboard. Aside from the quality of sound and timbre, the body movement of the instrumentalist from bending down to pluck behind the bridge to the neck influences the theatrical aspect of the performance to express the struggle and physical agility of cotton beaters.

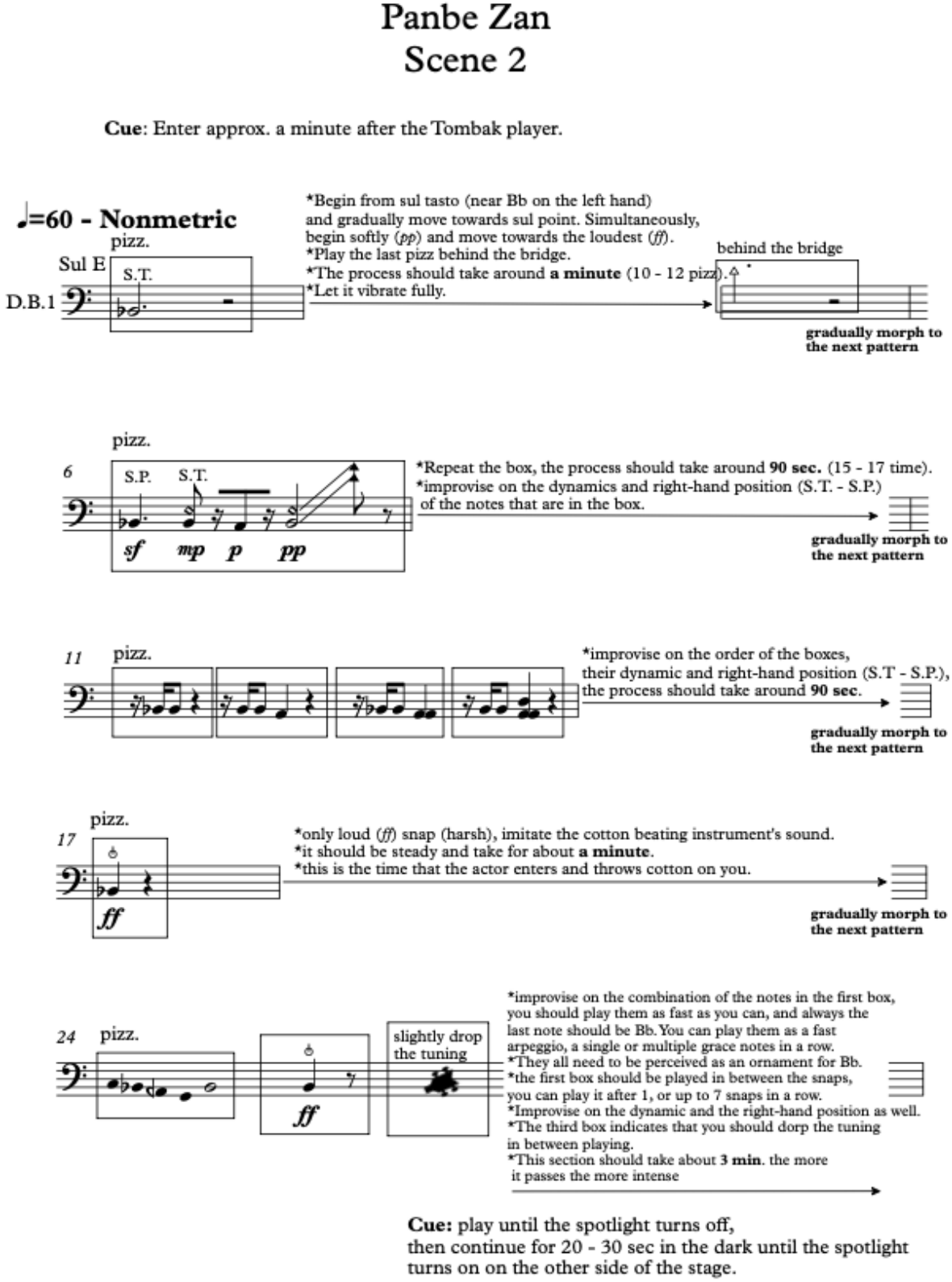


Figure 5.11: the notated part for double bass 1 (suggestion).

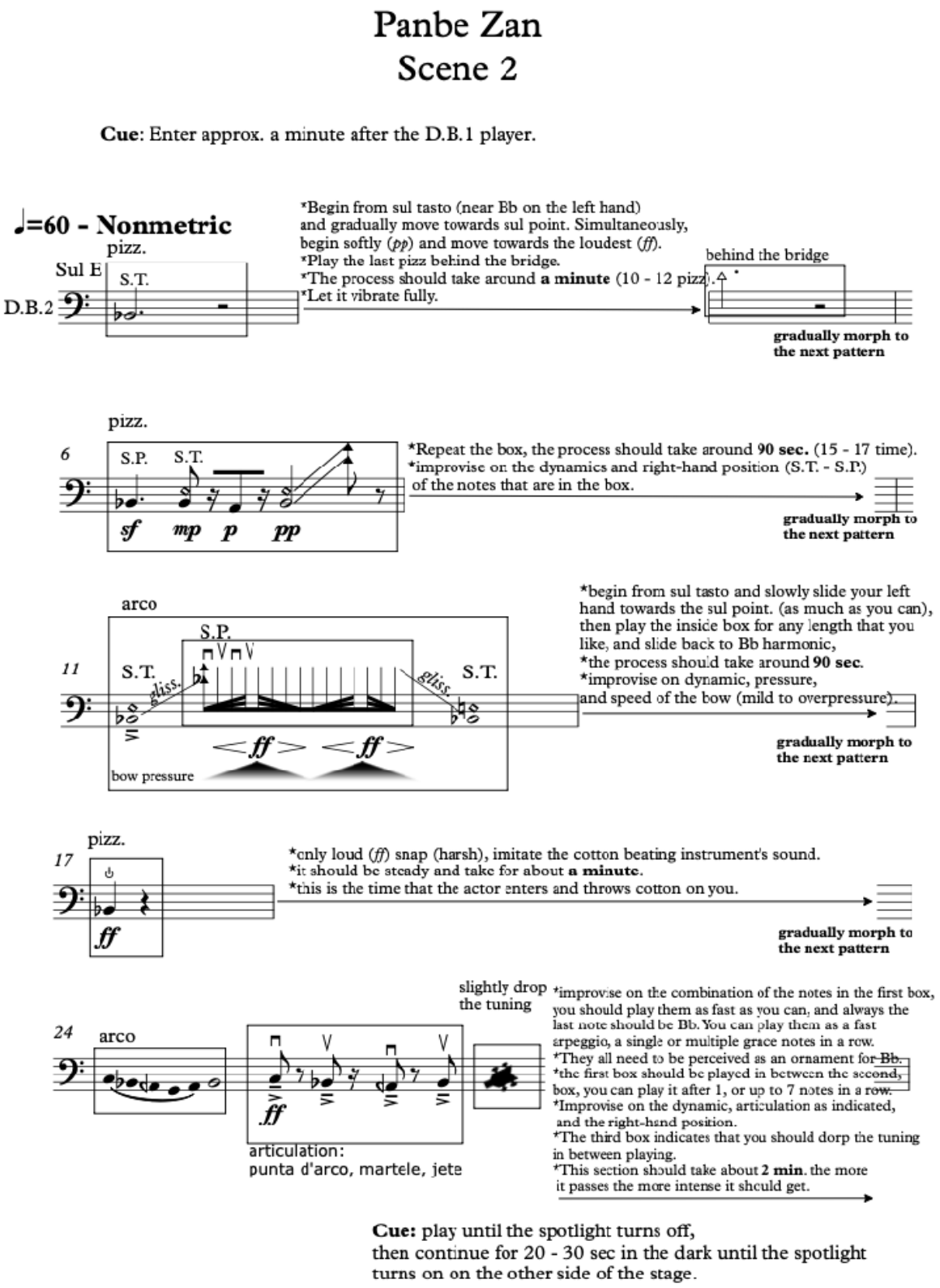


Figure 5.12: the notated part for double bass 2 (suggestion).

The cotton beater with the bow naturally engages in the ritual process, and the sounds and striking produced are driven instinctively for the purpose of fluffing cotton. The sound of the strike has a regular flow and changes based on the level of exhaustion of the cotton beater. The time gap in between the regular strikes occurs when different amounts of cotton fibres knot around the string and move with each strike that acts similarly to a harmonic glissandos and produces varying timbre.

Figure 5.13: cotton knots around the string of cotton beating bow, at the Music Workshop

Comparably, the double bass players have their own sense of regular beat focused on Bb with different forms of plucking each time. The result is irregular beats that naturally create a polyrhythmic, polytemporal, and polytimbral chaos, which are all different timbres of the pitch Bb. The tombak adds another layer of irregularity into the mass of percussive notes that interconnects the chaotic sound droplets. Aligned with the flow of the tombak, the third (P3) and fourth actor (P4) dance around the double basses imitating the behaviour of the fluffed up cotton that are suspended in the air. The dancers body movement follow the process of the behaviour of the cotton. Initially, the cotton is still and piled up in a mass on the ground. Gradually, they are picked up and separated by the cotton beater, and the striking part begins slowly to remove the bigger clumps of cotton, and then they will be thrown into the air with the slap of the vibrating string and float in the air. The movements of the dancers and progression of rhythms on the tombak are all modelled from the gradual behavioural changes of the cotton. Excessive multilayering is also pitch-centred in this section; however, this is different from the first scene, where the sustained sound layers are superimposed on each other. In the second scene, the sound mass is created from the abundance of sound droplets with altered timbres and is conceptually reinforced by the visual aspect of the performance.

5.5.3 Tea break

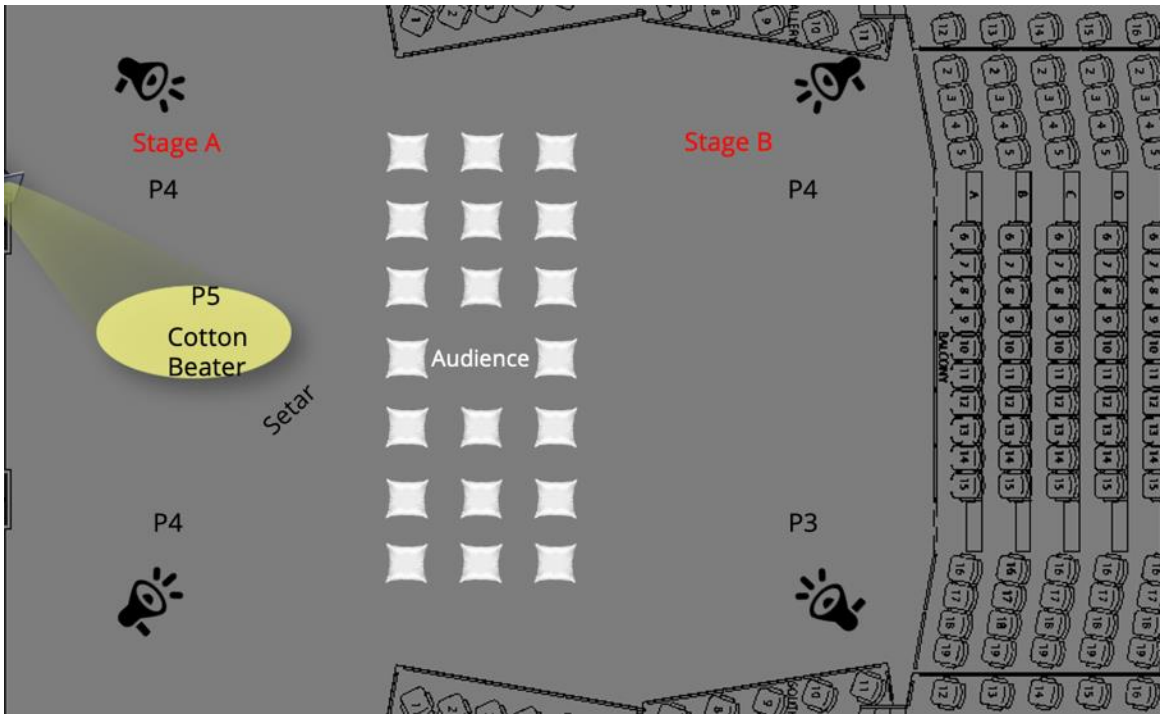


Figure 5.14: stage setting of Tea break at the Music Workshop

Figure 5.15: the Tea break scene, live performance in the Music Workshop, Panbe Zan, actor 5 the hostess

Iranians predominantly have a tea culture with a specific formal reception by the host in which the guest must always be offered freshly brewed tea with sugar cubes. Tea used to be served in hourglass-shaped cups with a saucer, and the guest would pour the tea into the saucer to drink. However, before drinking, the sugar cube needed to first be slightly dipped into the tea and then held between the lips so that the tea goes through the sugar cube while drinking. All these actions are performed live and the sounds produced from this ritual, including the sound of drinking, clinking cups with the saucer, pouring the tea and melting sounds of sugar cubes in the mouth, are recorded, and altered in the electronics. It is also important in this section to demonstrate that the cotton beater is considered a guest to the hostess rather than a labourer.

At the culmination of the second scene, the spotlight fades out, cuing the transitioning period to the *Tea break* scene. The cotton beater moves calmly to stage A and sits in a resting position. The spotlight fades in where the hostess enters with a tea tray to thank the cotton beater for his toil. The setting is accompanied by setar and four other actors (P1, 2, 3, 4) who are sitting around the audience in the middle with their own cup and saucer to use as a musical instrument. The flow of the scene remains the same as the previous scenes in which the overall sound layers increase gradually to a chaotic peak and transition smoothly to the next section. Therefore, each actor with the tea setting creates sound objects starting with longer intervals and progressively increase the intensity and velocity of their activities to create more sound layers.

The excessive multilayering is fluid, swapping seven times between two modes of melodic and pitched-centred excessive multilayering. The melodic-centred section includes embellished phrases and patterns scored for setar in *Avaz-e Afshari* with the focal tone of C, along with the short and percussive sound components extracted from the word *panbe* (cotton) vocalised by the accompanying actors. The word *panbe* is divided into 4 parts of vowels and consonant of

pa, n, b, e, which the actors improvise on intensity and form of pronunciation to highlight and produce varying layers of timbres. This mode symbolically echoes the conversation between the cotton beater and the hostess, which has transformed into the melodic line that is accentuated with different components of the word cotton *(panbe)*. The section that is pitch-centred includes setar trills (known as *riz* in Farsi) with the order of G, D koron, A koron, D natural, A natural, and F in each turn that are the common pitches used in *Afshari*. At the same time, the electronic part plays the altered and multilayered sound objects that occur during the brewing of tea. Successively, the sound of boiling water in the kettle, pouring the tea into the cups, serving on the tray, picking up the saucer and the cup by the guests, and drinking with the sugar cubes. In the live section, the surrounding actors produce similar sounds that merge with the manipulated sounds of the electronics.

In the end, in order to highlight the culture of tea drinking and the connection of the hostess and the cotton beater, metaphorically, the cotton beater expresses his feeling by reciting a poem to the host. The group actors sing the same poem heterophonically mimicking the phase that the cotton beaters used to sing while fluffing the cotton. The poem is by Mohammad Ali Dashti which is extracted from a documentary on the ritual of cotton beating in Iran created by Abdul Samad Soleimani.[88]

عزیزم یادته ای دوست یادته ای دوست آی نمیری تا نبینم داغت ای دوست

The poem loosely translates to 'my darling I remember our good times, I wish you a long life so I don't feel your absence'.

[88] Soleimani, "The documentary of Panbe Zan."

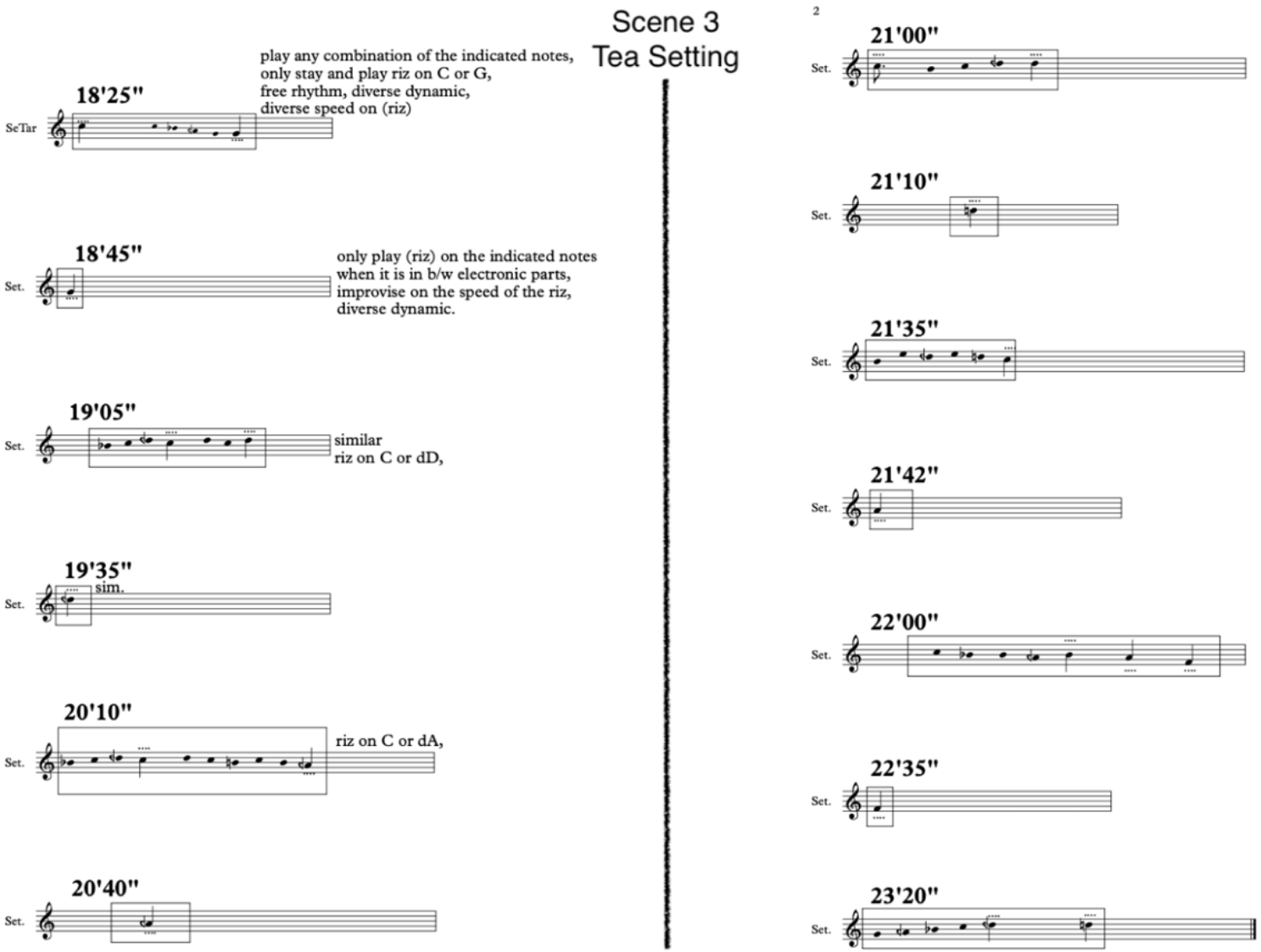


Figure 5.16: the notated part for setar (suggestion)

5.5.4 Assembly

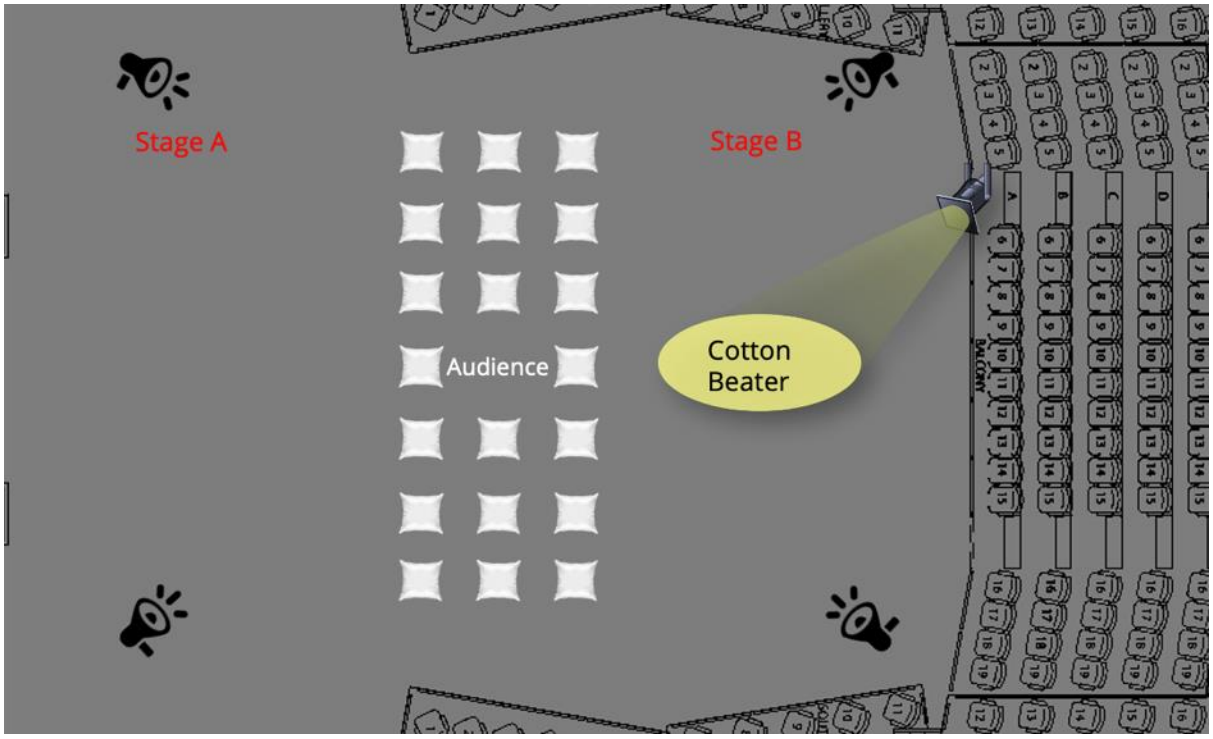


Figure 5.17: stage setting of Assembly at the Music Workshop

Figure 5.18: the Assembly scene, live performance at the Music Workshop, Panbe Zan

After the poem, the lighting returns the focus to stage B, with a mass of fluffed cotton scattered around the stage. It is time for the cotton beater to gather and stuff the cotton into the futon cover and prepare it for the stitching process. Traditionally, after the filling, the cotton beater would strike the stuffed futon with a long narrow stick to distribute the cotton evenly. The fast drive of the stick through the air creates a whooshing noise, and the collision of the stick with the futon creates an intense kick that attracts attention, as well as masks any surrounding noises. The strikes produce arbitrary rhythmic patterns that are caused naturally by the action of the cotton beater trying to balance the cotton in the futon. Patterns occur periodically, with gaps that depend on the energy of the cotton beater striking repeatedly in one turn. He also taps the futon with his hands, creating another form of striking noise that is altered by the different intensity of the slapping and density of the cotton in the futon.

Along with the live actions, the electronics play the pre-recorded sounds that are produced from the strikes of a violin bow on the strings of the tar. In the studio, I positioned the tar on the floor and assumed it to be a futon. The same manner of strikes, including wide-ranging intensities and velocities, occur along the whole length of the strings of the tar from the bridge to the top of the finger board, producing different qualities of sound. Multiple recordings with different microphone positioning were captured including far, close to the fingerboard, close to the sound holes (there are two sound holes that are covered by skin), and one inside the sound hole after removing the skin, which produces different layers of reverberation. In the mixing process, they were all distributed among the surrounding speakers and were altering from one speaker to another to create a sense of ubiquitous sound movement that mimics the ambience of the backyard of a house.

On top of the chaos of polyrhythm that is created by different layers of strikes in the electronic and live sections, I improvised a melodic line that centres on the note C played from all speakers. The note series are based on *Shur Dastgah*; however, the melodic patterns are not designed to imitate any *Avaz-es* dissimilar to the other scenes. The first course of paired string on tar is commonly tuned in C, nonetheless, because the tuning system of *Dastgah* is based on $1/6^{th}$ of a tone (the accidental of koron is based on the similar theory); therefore, I intentionally tuned the lower string 35 cents lower and the higher string 35 cents higher than the note C for improvisation to evoke an untuned feeling of melody that increased the number of combined layers.

The form of the music is different compared to the rest of the scenes and does not follow the philosophy of *Dastgah,* which begins with infrequent and inactive patterns and gradually ascends to the peak with a chaotic structure. In this section, in contrast to the other scenes, the overall drive is steady and still, and except the multilayering of rhythmical patterns, the sonic multilayering does not occur extensively, which makes the perception of the untuned melodic improvision clearer. This scene is considered the transitioning scene that connects the fluffing process of the cotton beating to the stitching process. Therefore, the melodic pattern and form of the music varies to create a sense of diversity and newness.

5.5.5 Tailor

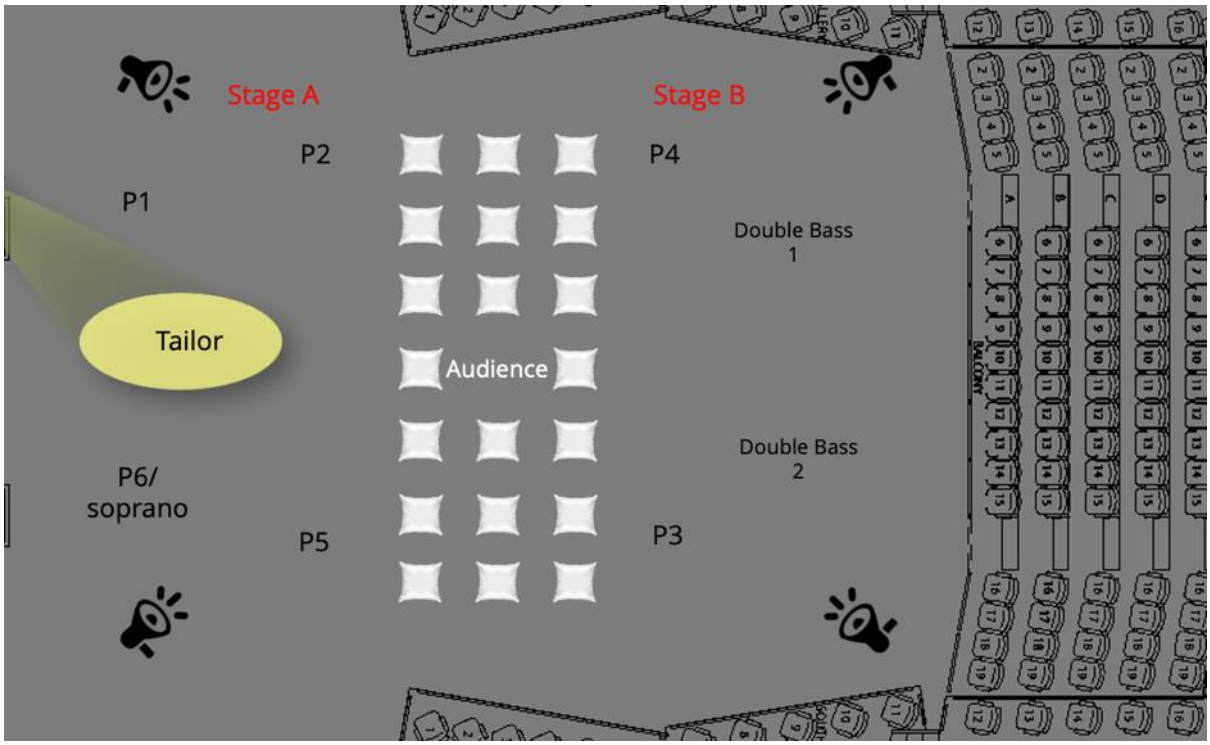


Figure 5.19: stage setting of Tailor at the Music Workshop

Figure 5.20: the Tailor scene, live performance at the Music Workshop, tailor

Figure 5.21: the traditional stitching is square shaped

The tailor is the fifth scene in which the cotton beater delivers the filled futon to the hostess to stitch it in a square shape designed (figure 5.21) that would hold the cotton inside the cover. It is typically customary for the cotton beater to stitch the futon; however, occasionally the hostess would stitch it herself (as shown in the opera) and the cotton beater would finish his work at the end of the assembly process. The hostess was predominantly a housewife who would do the chores and it was common for them to sing while working to make the time more pleasant. A humming-type singing that was audible only to her. I tried to draw this picture of a diligent housewife who hums and stitches on stage and amplify the types of sounds that are produced from this action. For example, the sound of the needle piercing into the futon, the sound of the thread drawing in and out of the futon, and the voice of the tailor, which fluctuates as the action of stitching naturally influences her breathing and alters the dynamic of the voice. The words of the lyrics fluctuate between loud and soft and between vague to clear. This whole sound world that existed around the tailor became the basis of the sound mass created in the fifth scene.

The light fades from stage B and fades in on stage A exposing a grey haired woman next to the futon singing softly to herself while stitching. In this scene, 6 actors gradually join one by one, each bearing a cotton beating bow, and position themselves surrounding the audience. To emulate the sound of the thread sticking in and out from the futon, I decided to use violin bows on the string of the bow of the cotton beater. As mentioned in the overview section, I replicated the cotton beating bow in seven different sizes from short to long (the actual size) to be able to tune each string differently (the main reason and tuning will be explained in the *Dance of Cotton* section). The actors were trained to bow the string and vary the timbre by shifting the position of bowing from the top of the bow (cotton beating) to the bottom. They were instructed to imagine the movement of thread on the futon and create a dynamic envelope of continuing crescendo and decrescendo with the same velocity that the needle sticks in slowly and emerges with a faster pace. Moreover, they should bear in mind that the more the tailor stitches, the shorter the length of the thread becomes; therefore, a similar action needs to be imitated to start with a longer and slower pace bowing to a faster and shorter bow movement, which causes a similar effect as a slow tremolo technique on string instruments.

While bowing on the cotton beating bow, the actors sing in a similar manner as the tailor sings to herself. Soft and fluctuating, clear and unclear with altering the stress on different syllables and components of the words. The lyric is a different poem extracted from the same documentary mentioned in the third scene *Tea break*, which is based on *Avaz-e Dashti*.[89]

آی لحاف دوزی پنبه زنی قربون اون گلخون نازت بیا بشین روصندلی قربون اون قد درازت

The poem loosely translates as 'Cotton beater, cotton beater, I love your handy work, come and sit next to us, O charming cotton beater'.

[89] Soleimani, "The documentary of Panbe Zan."

The tetrachord is Bb, C, D/D koron, and Eb, with the focal tone switching between the D natural and D koron. The vocal lines are loosely based on the actual singing found in the documentary about the cotton beater. However, after training the actors to emulate the song, I then encouraged them to freely alter the accentuation, dynamic envelope, pronunciation, and also insert gaps between the flow of words according to their own feeling in the space and understanding of the poem. With this strategy, I am trying to increase the role of instinct and the individual sense of timing, which is one of the main characteristics of the opera. Another layer added to the singing and bowing actions of the actors is the soprano singer who follows a pitch series extracted from *Dashti* tetrachord that toggles between D natural and D koron to highlight the characteristic of altering focal tone in *Dashti.* The same manner of bowing applies to the soprano singer, in which she gradually hums the notated pitches from a soft dynamic to a loud moment that she emphasizes over the existing sound mass and gradually returns to the soft dynamic. The timings suggested above the notes is a guidance for the singer to understand for how long I have imagined, as the composer, a pitch to last during the show; however, the indicated numbers are approximate and she can apply gaps in between pitches for breathing and also her own sense of reaction to the sound mass.

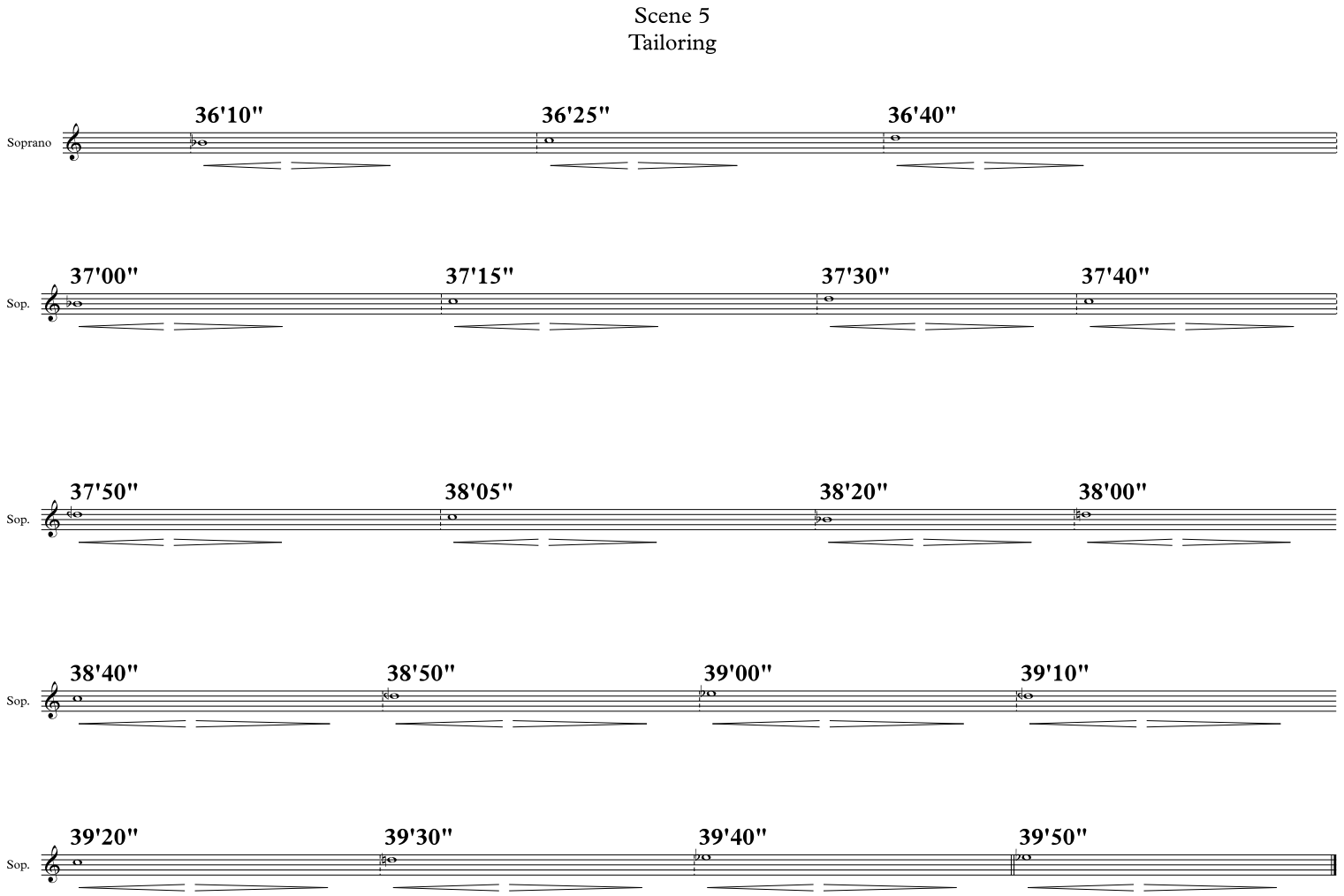


Figure 5.22: the notated part for soprano (suggestion)

The same approach that inspired the interpretation of stitching into bow actions was used in the studio where I chose to work with an Iranian bowing instrument, the kamancheh. In addition, the tar and setar were also recorded with the same bowing technique. Each instrument was focused on one note of the tetrachord starting from Bb ascending to Eb, and they were superimposed in the software without any alteration. This decision was made with the mindset that all layers of recorded instruments would be considered as separate lines performed by separate performers, similar to the live situation where each line of melody is controlled by a different individual. The outcome of layering multiple lines with various fluctuation of pitches from soft to loud, including varying sustain and time gaps, was several incidental melodic lines in total that were limited to the tetrachord. In addition to the electronics, two double basses perform harmonic glissandos, the first player on D natural, and the second player tunes D string 35 cent lower to be able to produce D koron and plays the glissando to sustain the focal tones throughout the whole scene. They both are also free to play different pitches of the *Dashti* tetrachord according to the pitches that they can capture from the sounds played in electronic part.

The flow of the music returned to the main approach of starting with infrequent movements and gradually increasing to continuous sound gestures. As the scene approaches the end, actors can add another sound layer by plucking the string to accentuate certain components or syllables of the sung words to alter the timbre and accent of the lyrics. Excessive multilayering is used with its first application which is melodic-centred. The various forms of intonations and melodic phrases sung by the actors, the incidental melodic line produced in electronic, the random pitches of double basses, the fluctuating line of soprano singer, and the voice of the tailor are all embellished layers that can deliver a sense of phrasing and are stacked into a thicker layer perceived as a sound mass. The audience in the middle, according to their distance

to each actor, speaker, or instrument in their surroundings, can have a holistic listening experience and perceive everything as a universal timbre; and in the meantime, they can also zoom in and concentrate on an individual layer to perceive how different performers are forming their phrases.

5.5.6 Slumber

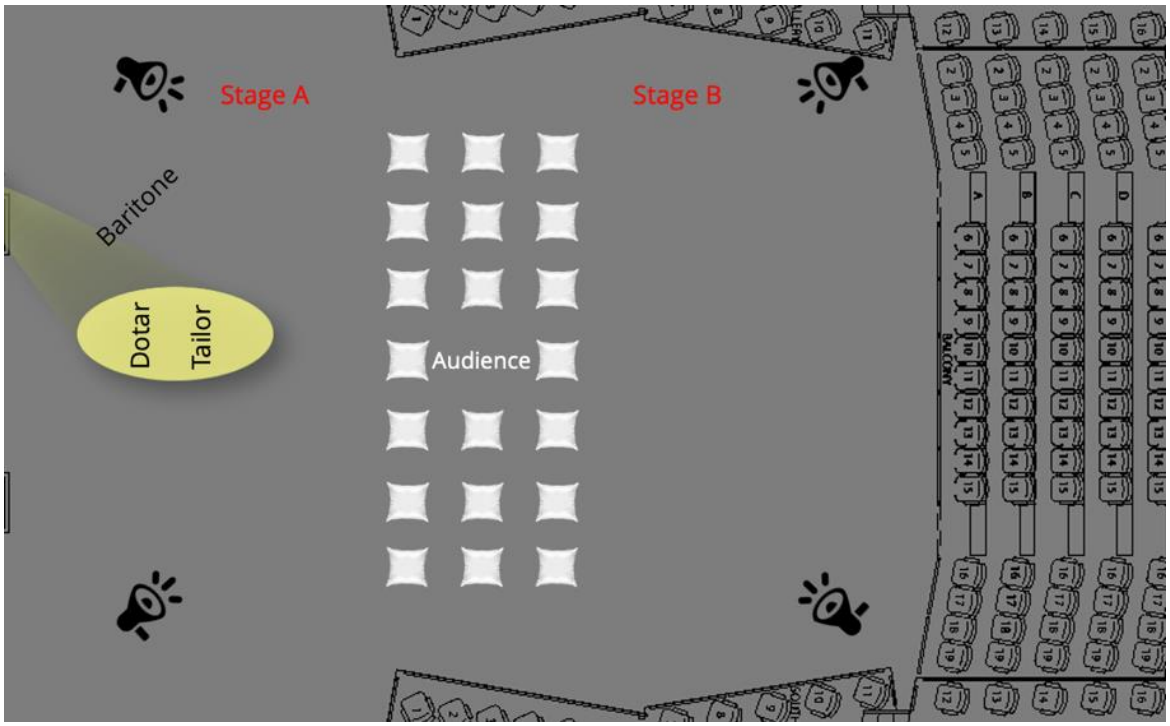


Figure 5.23: stage setting of Slumber at the Music Workshop

Figure 5.24:the Slumber scene, live performance at the Music Workshop. The tailor (changing her role to the hostess), and dotar player

By the end of the *Tailor* scene, all the phases of cotton beating that used to occur traditionally are portrayed. The *Slumber* and *Dance of Cotton* scenes are based on my own imagination that the hostess would relax on the freshly made futon to have pleasant sleep. After the stitching

process, the hostess lies on the futon and the dotar player joins the scene sitting next to the futon to perform a traditional tune called *Shakhtaie*, from Kurmanji which is a northern dialect of the Kurdish language in northeast Iran. This tune was suggested by the dotar player Majid Amani as I was specifically looking for an authentic old soothing folk tune in the *Avaz-e Bayate kord* to be considered as a melodious lullaby for the sleeper. In this section of the opera, I am trying to draw on the pure traditional music of Iran in its simplest expression with one of the oldest instruments, the dotar. Musically and structurally, it is in complete contrast to the sound world that was performed in the previous sections. The main purpose is to clear the ears of the audience from complex timbre transformations and sonic excessiveness, and instead to refresh the ambience by representing authentic melodious and ornamental phrases in *Dastgah* music. The listener is exposed to a resource of embellished phrases and arbitrarily compares it to a multilayered sound mass, as I intend to portray the ending as a traditional and modern experience in one scene.

As mentioned in the fourth chapter, the dotar only includes two koron frets at the top of the fingerboard that enables the D koron and the A koron; however, the last *Avaz* in *Shur Dastgah* is *Bayate kord* with the tetrachord starting from C, D, Eb/ E koron, and F that the focal tone is on the E koron. Therefore, the dotar needs to be tuned to a tone higher to be able to produce an E koron. The performance of the dotar player is completely improvised based on the *Bayate kord* in four minutes. About a minute after the dotar, the tenor singer joins outside of the spotlight and only hums with the mouth closed trying to follow the similar melody performed by dotar with alterations in vocal ornamentations. This part is the most freely structured section, where both performers improvise based on their own mood and reaction from each other, in which I only limit the pitch series and timeframe of their performance. I consider this section as a transitioning scene between the *Tailor* and the *Dance of Cotton*, and its aim is to portray an authentic form and mood of Iranian music.

5.5.7 Dance of Cotton

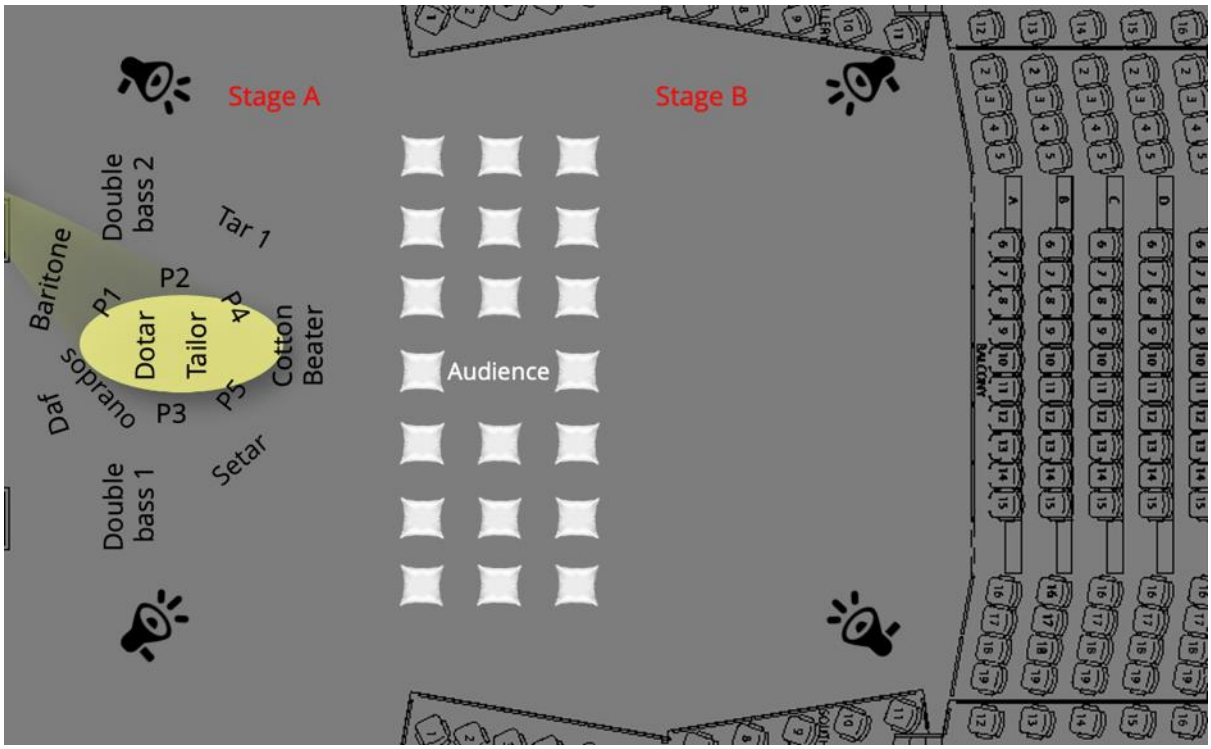


Figure 5.25: stage setting of dance of Cotton at the Music Workshop

Figure 5.26: the Dance of Cotton scene, live performance at the Music Workshop. Includes all the performers

Dance of Cotton is the last and longest part that occurs in continuation of the *Slumber* scene. The duo of dotar player and baritone singer is ongoing while actors join the scene one by one with a bag of cotton on their shoulders and a cotton beating bow in their hands, sitting in a circle around the sleeping hostess. After all the six actors are gathered around the sleeper, they all start to strike their bow with the hammer continuously for about a minute. I imagined this section as a dream experienced by the sleeper as she observes the whole process and efforts of the cotton beater that produced a soft and pleasant bedding for her sleep. After a pluck from the correct sized cotton-beating bow is heard through the speakers, the process of excessive multilayers returns once again with an ecstatic build to the final climax of the work: A union for all performers, timbres and sound possibilities drawn from all sections of the opera. The excessive multilayering idea is rivalled in the visual aspect of the opera, where the audience observe various visual layers, notably the cotton dancing through the air as it is beaten as well as the dancing of actors, instrumentalists, and singers.

The instrumentalists along with baritone singer perform their own material presented in previous sections. For example, the tar plays music based on *Abu A'ta,* the setar plays *Afshari,* the double basses play *Dashti,* the dotar, and the tenor continue their performance in *Bayate kord.* This section follows the pitch series in *Shur Dastgah* which is considered as the mother scale for all *Avaz-es* used in all scenes and encompasses the whole common notes in all *Avaz-es.* The seven bows in different sizes are all tuned according to the *Shur Dastgah* in the third octave starting from G, A koron, Bb, C, D, Eb, and F. The soprano singer changes her pitch series to the whole series of *Shur Dastgah* starting from G. As she reaches the last two notes, she alternates between Eb and F to increase tension in the culmination, and emphasises the main rationale of *Dastgah* music. Meanwhile the musicians always start from low pitches and ascend to the high pitches with expansion in level of ornamentations. In the live section, all sonic layers and sound objects are belongings of *Shur Dastgah* with each concentrating on

different tetrachord and focal tone (according to their own *Avaz*). Each layer is held by a performer who acts independently and is limited to a specific trajectory while reacting to the overall sound mass as they perceive it. The electronic section also includes all the sound materials that have occurred in the previous scenes. The sound world around the bicycle section, the banging of the cotton beating bow, the tea setting part, the assembly, and the stitching process.

While all live sounds are based on *Shur Dastgah*, all electronic sounds are based on the overtone content of a single strike on the cotton beating bow. In order to be authentic to the actual sound of the cotton beating bow, I analysed the strike sound that was extracted from the same documentary mentioned in the *Tea break* section with the duration of 0.65 seconds. All sound layers used in the electronics were multiplied by pitch shifting software and superimposed according to the harmonic series of the analysed sound with the spectrum analysis software 'Spear'.

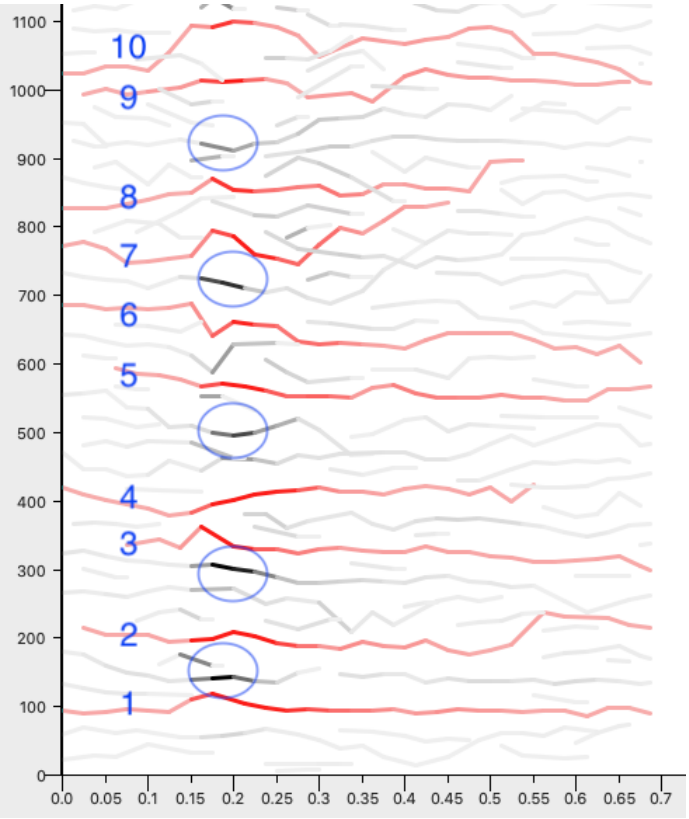


Figure 5.27: harmonic 1 to 10 of cotton beating bow strike analysed in Spear

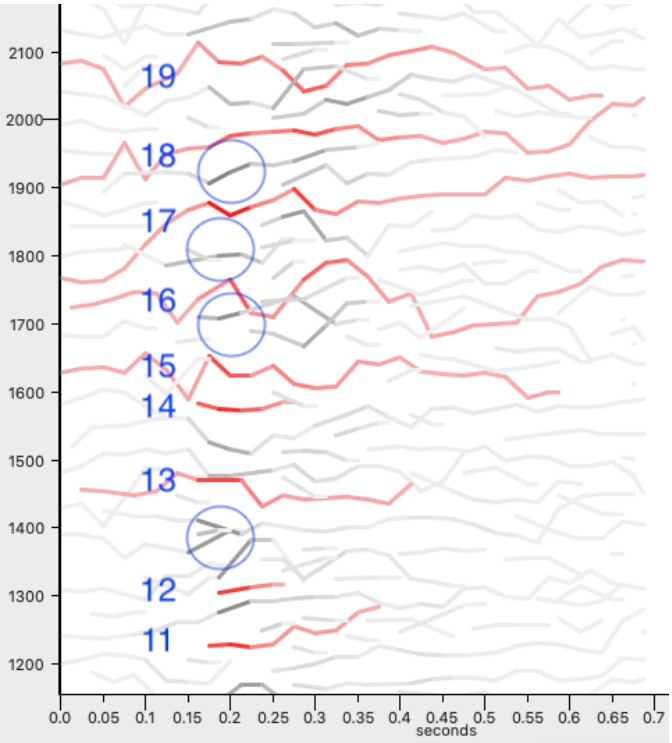


Figure 5.28: harmonic 11 to 19 of cotton beating bow strike analysed in Spear

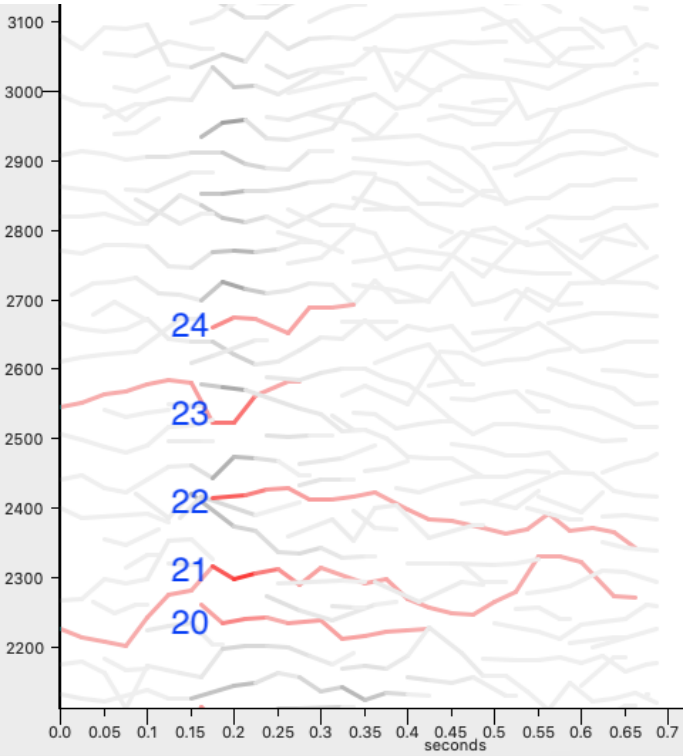


Figure 5.29: harmonic 20 to 24 of cotton beating bow strike analysed in Spear

The above figures indicate the first 24 harmonic series analysis of cotton beating bow strike in Spear that all sound layers in electronic sections were tuned accordingly. The fundamental tone of the strike in the documentary was 40 cents higher than A2. The red lines indicate the integer multiplications of the fundamental tone (the harmonics), and the black lines with blue circles are considered as the inharmonics which are any non-integer multiplication.

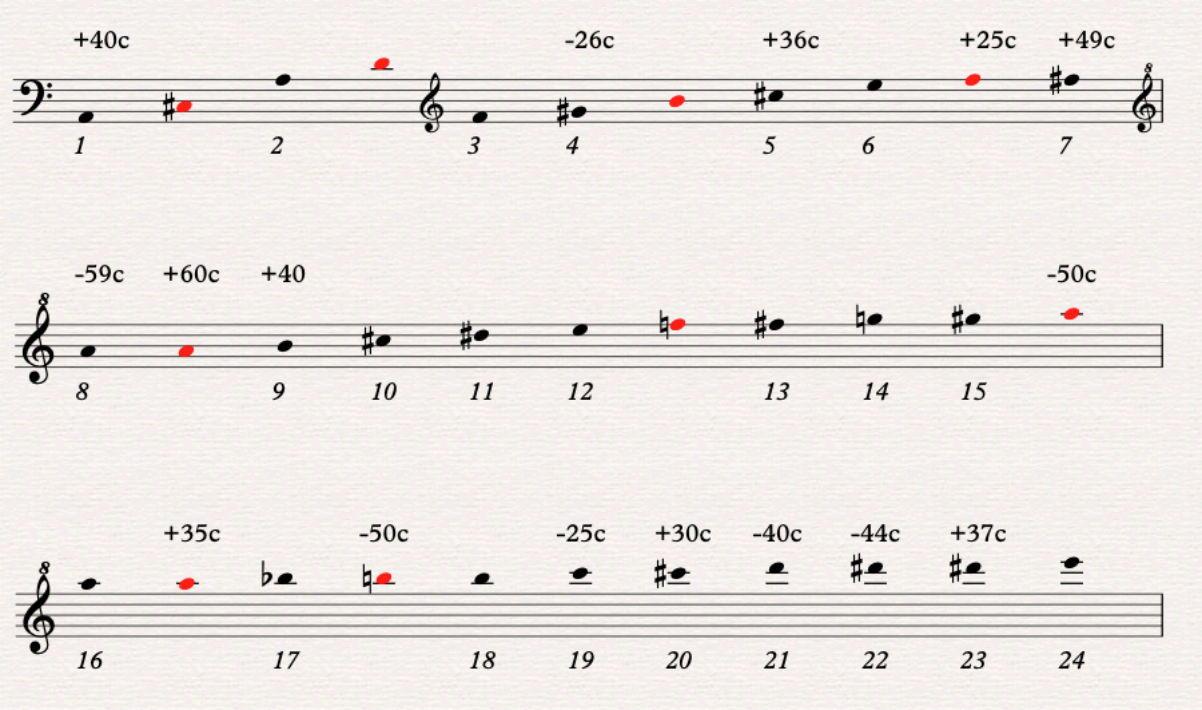


Figure 5.30: the pitch series extracted from the analysis; the red notes indicate the inharmonics

After finding out the harmonic and inharmonic series, I distributed the sound layers recorded from all scenes accordingly which in total became 161 layers of sound objects. A chaotic sound world of polyrhythmic, polytimbral, polytemporal, and polyphonic sound gestures that start with the fundamental tone along with the chorus of six cotton beating bow strikes and gradually accumulate through the music to the culmination of excessive sonic texture when both live and electronic sound worlds fuse together.

Excessive multilayering is both pitch and melodic-centred accompanied by visual crowdedness that contributes to the intensity of the final passage of the work. The audience is bombarded with an abundance of sonic and visual layers of melodies performed by the musicians on the stage and sound objects played in the surrounding speakers. There is multiple coexistence of layers that are different in their nature; the confluence of tenor singer in Persian ornamental style of singing and soprano singer in Western operatic style, the *Shur Dastgah* pitch series along with the harmonic and inharmonic series of the cotton beating bow strike fundamental tone in the electronic part, the live improvisation of embellished phrases by different performers along with the pre-recorded sound gestures. These are all occurrences that the audience may sonically and visually concentrate on one event at a time or zoom out and perceive everything as an intertwined spectacle.

Theatrically, after the first sound strike of electronic (the fundamental tone), the actors followed by musicians gradually transform to the role of being cotton filaments (metaphorically). As I mentioned in the *Fluffing up* section, each actor analyses the behaviour of suspended cotton in the air and the process of being fluffed by the vibration of a string to design a movement and a unique dance for themselves. Each performer has a different understanding and imagination of being dispersed by a vibration and suspended in the air. The action process was discussed and experimented during 17 rehearsals with each of the performers under the supervision of the theatre director and me. The first phase is realization; as the actors are striking with the hammer and fluffing the cotton, they realize that they are merging into the fluffed cotton, and this gradual transformation continues until they fully turn into cotton fibres dancing in the air. My picture from this section is that there are an abundant number of cotton fibres suspended in the air (metaphorically dancing in the air) similar to the floating snow as the hostess is dreaming about the scene.

As mentioned in the section on the cotton beating profession, traditionally, this job was done before Persian New Year (21 March, the first day of spring) when people needed to renew and clean their household appliances. Therefore, I deliberately scheduled the premiere two days before the Persian New Year on 19 March 2022 to increase the feeling and mood of the audience, which included many from the Iranian diaspora in Sydney. So, in the middle of the scene, the daf player joins and adds another layer of exhilaration which was customary to be played during the New Year. The performers are continuing to dance until they hear the Persian New Year tune; the famous tune composed by Aliakbar Mehdipour Dehkordi known as *the song of Nowruz* played by the sorna (an ancient Persian woodwind similar to the oboe). Similarly, on international New Year's Eve, where fireworks are a sign of the New Year and happiness, *the song of Nowruz* accompanied by a Persian dohol drum is the time when everyone in the family hugs and wishes each other. At the end of the opera, the sound of the sorna is played from the speakers, all the performers freeze and shortly after they embrace each other for New Year wishes and leave the stage. The final image of the opera is the hostess still in deep sleep covered with fluffed cotton. She remains in this state until the audience leaves the venue. Just as the work began before the audience entered, so too does it continue after they leave, emphasising the site of performance as the place of 'home'.

5.6 Findings

In making *Panbe Zan*, I gained new perspectives of the way sound is inscribed with culture. By systematically investigating the timbres that occurred during different phases of the cotton beating ritual, I was able to breathe new life into near-forgotten timbres and with it historical and cultural associations. A sound as short and simple as a strike on the string of an old instrument carries a memorable picture with distinctive moral codes. Sounds such as 0.65 seconds of a strike on a cotton beating bow, a tuneful shout with a unique intonation of a phrase (*Laaf doziye*), a clinking of a cup and a saucer, the whooshing sound of banging a stick on a futon, the piercing of a needle and a thread into a futon, and a sound of a dream (referring to the last scene metaphorically). While the sounds may be considered mundane and part of everyday life, they have the power to be transferred into a dream world, tell stories, and evoke nostalgia. These are the timbres that I believe have been buried under the notion of modernity and have been neglected for their artistic potential. I consider these story-telling timbres as the 'extinct timbres' which, in addition to their sonic abilities, can portray and revive forgotten rituals.

Through technological developments and the ability to analyse and create new timbres, extinct timbre may present new pathways for music composers to study forgotten rituals and cultures. Such techniques bring the opportunity to investigate timbre as both an acoustic and cultural object subject to creative manipulation; sounds that have already been influential in the evolution of a culture and were aesthetically sustainable in a collective memory. The overall form, rationale, and outline of timbral transformations in music can be driven by the ritual process arising from forgotten sounds, while the composer is occupied with the variability and refinement of the extinct timbre. The rituals that can be refreshed by a new generational mindset and translated into a modern context without diluting their symbolic and moral expressions.

Kiri Zakinthinos, writer, producer, and general manager at Urban Theatre Projects, Bankstown, Australia, who attended the premiere, reviewed *Panbe Zan* on her personal publication Cultural Omnivore:

> As ritual, cotton beating centres the home…The sonic intimacy of the sections titled Tea Break and Slumber, combined with the dramatic ritualization of these ordinary, everyday acts, were the highlights of the opera for me. As were the moments in the electronic track where the spatialization of sound drew me in immediately and deeper into the work… the symbolism in Slumber of the toiling matriarch character in her action of darning the quilt, and her placement at the centre of the stage while the cotton beaters and other characters encircled her in the final section, Dance of Cotton, was moving and evocative…the unimposing subject matter of domesticity is quietly and satisfyingly subversive of the form of contemporary opera itself.[90]

The main learning from *Panbe Zan*, was using collaborative creative processes involving performers outside of Western Classical music but exploiting its contextual framework to arrive at something new. The compositional process of this work, far from expressing ideas in notated form, required me to activate a community of Iranian diaspora in Sydney, none of whom had a background in modern Western performance, and train them to draw upon their individual skills and experience through my philosophy and perspective of 'imagining the musical and sonic drama through the prism of timbre.' The instrumentalists were encouraged to draw their techniques in *Dastgah* improvisation to foreground timbre, and the actors drew

[90] "Panbe Zan – A new Australian Opera," Cultural Omnivore - Kiri Zakinthinos, 2022, accessed 25 November, 2022, https://culturalomnivore.blog/2022/03/20/panbe-zan-a-new-australian-opera/.

from their dance and drama skills. Both groups absorbed the context through repetition of actions, patterns, and memorization, as well as freeing themselves from a strict notated framework to be instinctively present. I believe that my achievement through all rehearsals was being able to implement the true Iranian musicianship of being free in the space, acting instinctively, and fuelling the drive of the opera with the unique spirit of each performer. As mentioned in Chapter 2, borrowing the phrase from Moscovich's "exteriorizing the inner reality of sound" about spectral music, *Panbe Zan* exteriorizes the inner reality of 'self'.

While there is a score for *Panbe Zan*, and much of the sound-worlds inscribed into the fixed electroacoustic media diffused through the speakers, the work is written into the bodies of the performers via months of carefully crafted physical and philosophical training and rigorous rehearsal. At an hour before the premiere, I expressed myself to the group that "*Panbe Zan* is not my creative work anymore, it is your sonic experience and ritual to be lived in your home."

6 Conclusion

Throughout this thesis, I explored characteristics that are conceptually compatible across both spectral and *Dastgah* music. I deliberately avoided having a fundamentalist approach to either tradition, rather I chose to delve into the nature of each aesthetic and consider them as a source of inspiration. As a result, I termed three qualities: 'concentrative perspective' – the meticulous attention to detail and having an intense focus on infinite complexity within one property or a single note, 'contemplative listening' – a manner that disengages the listeners from a global sense of timing into a mode of timelessness that requires contemplation to be absorbed, and 'the state of presence' – the state of perceiving temporal heterogeneity that emphasises the ephemeral transformations of time and draws the listener into the present moment. These qualities became a point of cross-reference for both traditions to comfortably integrate expressive elements such as complex timbre and ornamental phrases, which I coined as 'decorative timbre'. To enable this new medium of expression, decorative timbre, I offered the compositional approach of 'excessive multilayering' to convert the perception of a melody to timbre by superimposing ornamental phrases exceedingly to create sound masses. Subsequently, I developed three different applications of excessive multilayering: melodic-centred, pitch-centred, and fluid. I then deployed these approaches systematically over the 90-minute portfolio including *Abalfazl, War is Peace, Let me Tune, Beautifully untuned Mind,* and finally, as the centre work, *Panbe Zan*.

In addition to experimenting with decorative timbre, different supplementary experiments arose as the works progressed, such as reforming a vocal monody transcribed in *Abalfazl* and exploring the vocal embellishments that occur in Persian *Avaz*. Modelling a music form from George Orwell's 1984 novel in *War is Peace* and blending it with the concept of focal tone in *Dastgah* music. Using instruments from different cultural backgrounds in *Let me Tune* and

working on their timbral fusion based on the *Dastgah* tuning system. In *Beautifully Untuned Mind* I focused on a homogeneous ensemble and examined its impact on the perceived number of sound layers. In *Panbe Zan,* I revived a forgotten tradition and worked with timbres that were offered among the process. In addition, I could embody the characteristics of improvision in *Dastgah* music, as well as the philosophy of conceiving a practice from generation to generation among Iranian musicians to further enrich my approach to decorative timbre.

In the 21st century, many musicians and composers from diverse cultural backgrounds are fascinated by the impact of foregrounding timbre. Delving into conceptual commonalities between two different traditions of decorative timbre (regardless of their technical differences) can be a novel methodology for cross-cultural experiments, opening up new pathways to new palettes of sound colours by weaving different cultural aesthetics and philosophies through the lens of timbre. In adopting this approach, I have been struck by the power not only to make connections between melody and timbre but modernity and tradition, Eastern and Western, forgotten rituals and new technologies, and to enable perception of a holistic sound mass along with a clear and poetic line.

Additionally, one of the most interesting outcomes of my exploration of decorative timbre is the poetic revival of extinct timbres. Looking at future directions, unlocking the symbolic heritage embedded within forgotten and nearly forgotten timbres offers rich potential for broadening cultural and sonic horizons.

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8 Appendices

8.1 Appendix A – Panbe Zan script

Note: all the performers including instrumentalists, will perform everything throughout the whole opera according to their own sense of timing along with the influences they get from each other. They should perceive their part as a solo performance that will look like a group performance from the perspective of the audience.

Scene 0 – The beginning ~ 15 min. (-15:00 ~ 00:00)

- Dimmed lighting.
- Before any audience enter the venue, P1 is sitting next to an upside-down bicycle and wondering about the sound world that could be produced on the bicycle.
- Different objects such as wooden stick, metal, plastic, paper, stone, cloth… will be used on the body, wheel, chains… of the bicycle.
- The sound sporadically evolves through time. Starting with low intensity and less frequent towards a more constant and chaotic situation.
- Simultaneously, the sound of the Bow (the Cotton Beater's instrument) will be played out of speakers. Very randomly and irregularly.
- After 10 -12 minutes a constant electronic sound starts to evolve through the speakers. It grows until its climax which will be shot down with a sudden and harsh sound of a door slam.
- The door slam is a sign of the beginning of the opera.

In scene 0, a condition needs to be created that the audience would imagine that the piece has already been started and they have missed the beginning. No one should know when the opera has begun.

Scene 1 – *Laaf doziye* ~ 9 min. (00:00 ~ 09:15)

After the door slam… The Spotlight fades in on the bicycle.

- **00" -** P1 is wondering about the potential sounds of the bicycle like the beginning of the scene 0. Less frequent, quiet, and sporadically.
  After about 10 to 15 seconds P2 joins with a microphone in hand. At first, he starts to amplify sounds that are being produced by P1. He can amplify any part of the bicycle at any distance (as he wishes).
- **~ 20" to 25" -** Tar1 joins in and Sits on the edge of the spotlight (half-dark, half-light). He starts to settle and tune his Tar.
- **~ 40" -** He begins quietly and continuously the first three notes of *Abu A'ta*.
- **~ 2'30" -** The Cotton Beater joins. He comes in with a bag of cotton on his shoulder and the bow in his hand and sits peacefully (meditating) on the dark side of the stage, not with the bicycle group.
- **~ 2'40" -** Tar2 comes in. Like Tar1, he sits on the edge of the spotlight, tunes the Tar, and waits patiently.
- **~ 3'45" -** He begins his line, quietly and continuously the first three notes of *Abu A'ta*.
- **~ 4'05" -** The CB (Cotton Beater) starts to pronounce the word *Laaf doziye,* quietly, like murmur. He starts by pronouncing it letter by letter and different combination of the letters (long/short) with different dynamic (as he wishes). The goal is that at the end of scene 1, he will be able to pronaunce the word correctly and explicitly. Therefore, there needs to be a gradual evolution of incomprehensible sounds to a comprehensible word.
- **~ 4'12" -** Couple of seconds after the first murmur of the CB, the electronic parts are played. An interaction path begins between electronic part and the CB that evolves through the first scene until the last complete word of *Laaf doziye.*
- **~ 8'55" -** The Spotlight turns off at once right after the CB pronounces the word *Laaf Doziye*. However, all the performers continue to climax freely in the dark until the second scene.

Scene 2 – Fluffing up ~ 8 min. (09:15 ~ 17:30)

The Climax of the first scene happens in the dark, as it moves to scene 2, all the performers will gradually will cool down and become extremely quiet, and play seldom, and less frequently. The performers in scene 1 remain will in the background creating soft sounds…

- **~ 9'30" -** The spotlight turns on instantly on the CB. He stands up, puts his bag down and brings the cotton out. The traditional scene needs to be drawn. Such as scattering the cotton with a narrow stick, preparing cotton for the fluffing process… (resembling the documentary).
- **~ 9"40" -** After the spotlight, Tar2 leaves his position quietly, grabs the Tombak, and sits on the edge of the spotlight around the CB.
- **~ 10'12" -** The Double Bass1 comes in. He positions himself somewhere around the CB.
- **~ 11'10"** - The Double Bass2 joins. A dialogue like line would continue between the DB1 and DB2'. Mostly plucked string which would resemble the sound of the bow of the CB. (Scale of Bayate Turk). Alike first scene all instrumentalists will start quietly and less frequent, and as the scene progresses, they become more active and chaotic.
- ~ **15'20" -** P2, and with a short interval (30"), P3 join the scene. They both grab some of the cotton that has been fluffed up by CB, and with some pre-designed movements (as they dance with the rhythm of the plucked strings) rub/throw on the Double Bass players. Both on them as the player and their instruments.
- **~ 16'45" -** The spotlight fades out and same as the first scene the climax will occur in the dark until the next scene. The earlier performers of the first scene will fade out, and instead, the second scene's performs will remain in the background with softer sound. They continue their patterns quietly, seldomly, and infrequently.

~ 17'20" - As the climax of scene 2 is happening, Setar comes in somewhere in the dark, the place that the third scene needs to occur. Meanwhile, the CB will move from the second scene and prepares himself for the next scene …

Scene 3 – Tea Break ~ 7 min. (17:30 ~ 24:50)

- **~ 17'30" -** The Setar player starts to settle down, tunes his instrument and starts the first couple of notes of the scale Afshari. Quiet and less frequent.
- **~ 17'50" -** The spotlight fades in on the CB showing him resting and waiting (on the rug) for the host as he is going to be served tea. In the meantime, the quiet sounds of the other performers in the dark are in the background. P5 joins as the host. He is holding a tray with small cups, a teapot, and a sugar container on it. He Sits on the rug, pours tea from the teapot in all cups and serves the CB with sugar (traditional way). Then, he goes around and serves everyone (the performers) on the stage tea. After he serves everyone, he sits on the rug next to the CB and makes random conversations.
- **~ 18'22" -** The electronic parts will be played from the speakers. The parts of the live performance have a direct interaction with the electronic parts. Each time the electronic part is played, everyone should stop (freeze) their act (does not need to be instant). And after the electronic parts, they continue as they were before. The third scene is calm with less intensity. It focuses on the solo part of the Setar with background sounds of the others in the dark side.
- **~ 24'30" -** The Spotlight fades out**,** the electronic and the Setar continue in dark.

The electronic sound and Setar continue for more than a minute in the dark the spotlight fades in on the CB…

Scene 4 – Assembly ~ 6 min. (24:50 ~ 30:50)

- **25'50" -** The spotlight fades in on the CB. This section is predominantly an electronic part. The Setar will be in background, quiet and seldom. Right after the spotlight, the CB starts to put the fluffed-up cotton into a doona cover and beats it with a stick to even the cotton out in the cover (same as the documentary).
- **~ 30'15" -** The tailor comes in and takes the futon from the CB, so that she can place it in the next scene. She thanks the CB for the job he has done.
- **~ 30'45" -** P6 comes in and distributes the bows to the performers. The Spotlight fades out after the futon is being traded. The electronics fade out in the meantime.

Scene 5 – Tailoring ~ 9 min. (30:50 ~ 39:50)

As the spotlight fades out in the earlier scene, it fades in into the scene 5 on the tailor… The Tailor is sitting and stitching the futon conventionally, with a relatively long needle and a thick thread. The sounds arounds her should be soft, so the sound of the stitching could be heard initially…

- **~ 30'50" -** The two Double bass players start the scale Dashti in the dark side.
- **~ 31"00 -** P6 starts bowing, after 30 to 40 seconds,
- **~ 13'30 -** P5 joins the bowing part in the same position as he was before.
- **~ 32'10" -** P4 joins with the bowing sound.
- **~ 32'30" -** The Tailor starts to sing quietly (murmuring).
- **~ 32'55" -** P3 starts bowing.
- **~ 33'30" -** P2 and about 20 seconds later P1 join the bowing part.
- **~ 34'00" -** The electronic sounds that are similar to the sounds of live part are played. A bit after the electronic sound, Tar1 bows his instrument.
  Note: The Tar1 should have left the stage earlier to tune the instrument according to the scale Dashti.
- **~ 34'50" -** All the performers who have a bow, can bow various parts of their bow-instrument as they wish.
- **~ 35'55** - one by one all the performers start to sing (murmuring) same as the tailor. Between each there should be at least 10 to 15 seconds of gap.
- **~ 36'20"-** Mezzo Soprano starts singing, the sound she makes resembles the long and linear sound of the bowings.
- **~ 39'25" -** the tailor positions the futon in the middle of the rug and prepares it for the next scene.
- **~ 39'40" -** the spotlight fades out and simultaneously other performers along with electronic sound will fade out except the Bass players.

Except the Tailor everyone plays in the dark. The sound mood of this section is static and linear.

Scene 6 & 7 – Slumber to the Cotton Dance ~ 11 min. (39:50 to 50:00)

As the spotlight fades out, couple of seconds after, it fades in on the rug in the middle of the stage. The lone futon with a spooky sound of the double basses… The sleeper comes in after the audience absorb the scene of the lone futon,

- **~ 40'30"** - and sleeps peacefully on the futon and pulls up the blanket (the blanket needs be brought by someone before the light fades in).
- **~ 40'55"** - The DoTar player comes in. He sits next to the sleeper as he plays a lullaby for him. After around a minute, the Baritone starts to double the sound of the Dotar sporadically and quietly (murmuring).
- **~ 14'15" -** all the performers in the dark side will join the scene creating a semi-circle shape around the sleeper and the Dotar player, one by one and in a random timing. Each of the performers (P1 – P6) should carry a bag of cotton which they will fluff up collectively. As the performers position themselves around the sleeper, they will do the whole tradition as the CB was doing in the second scene. They pull out the cotton and start to fluff it up. While they are fluffing, they will sing quietly too, with their own sense of timing. The instrumentalist will perform exactly the part that each played in their earlier part. Double Bass players will re-do the scend scene (Bayate Turk). Tar1 Plays its first scene part (Abu A'ta). Setar plays Afshari as he played in the 3rd scene.
- **~ 43'40" -** The Soprano comes to stage.
- **~ 44'20" -** The electronic sounds start adding a bit of tension.
- **~ 44'40"** - The CB comes in as the master of the Cotton beaters and does the same fluffing.
- **~ 45'10"** - Baritone joins the Soprano on the stage and after some time the Daf comes in to accompany the Baritone singer. As the music progresses, some of the performers begin a pre-designed dance with the fluffed-up cotton. As they gradually move to the climax, they dance with the cotton and throw them on themselves and each other.
- **~ 46'00"** - This scene is called COTTON DANCE, A the scene progresses, the intensity of the sounds increases.
- **~ 48'00"** - The Cotton Dance section loops until the new year tune is played, The electronic parts continue along with the tune and all the performers stop their performance, they hug each other and wish each other happy new year. They will wish some members of the audience and leave the venue together. The sleeper stays on the futon until the last person in the audience leaves, indicating that the opera had no beginning and no end.

Scenes	Number of performers
0. Beginning ~ **15 min. (-15:00 ~ 00:00)**	P1 - electronic
1. *Laaf Doziye* ~ **9 min. (00:00 ~ 09:15)**	CB - P1 – P2 - Tar1 - Tar2
2. Fluffing up ~ **8 min. (09:15 ~ 17:30)**	CB – Tombak - DB1 - DB2 – P3 – P4
3. Tea break ~ **7 min. (17:30 ~ 24:50)**	CB - Setar - P5 - electronic
4. Assembly ~ **6 min. (24:50 ~ 30:50)**	CB - electronic
5. Tailoring ~ **9 min. (30:50 ~ 39:50)**	Tailor - Tar1 - DB1 - DB2 - all P - MS
6. Slumber, 7. Dance of Cotton ~ **11 min. (39:50 to 50:00)**	Sleeper - Dotar - Bari, Everyone (Daf)
8. The End	Sleeper only

Performers	Roles
P1	S0 & S1 – on bicycle S5 – bowing S7 – fluffing and singing
P2	S1 – on bicycle with mic S5 – bowing S7 – fluffing and singing
P3 & P4	S2 – throwing cotton on DB (dance) S5 – bowing S7 – fluffing and singing
P5	S3 – serving tea, the host S5 – bowing S7 – fluffing and singing
P6	S5 – distributing the bows S5 – bowing S7 – fluffing and singing

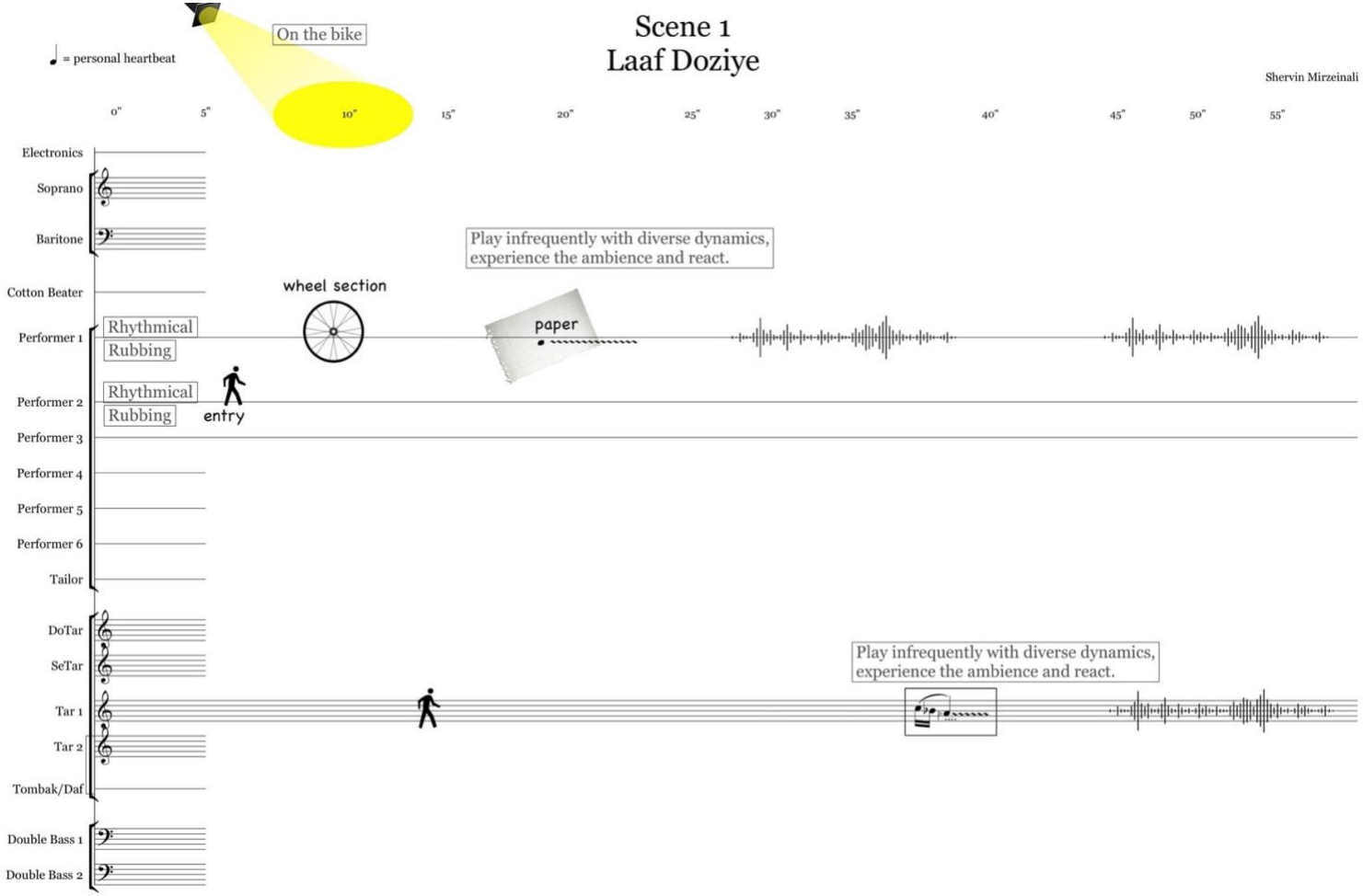
8.2 Appendix B – Photographs of the rehearsals and process of Panbe Zan

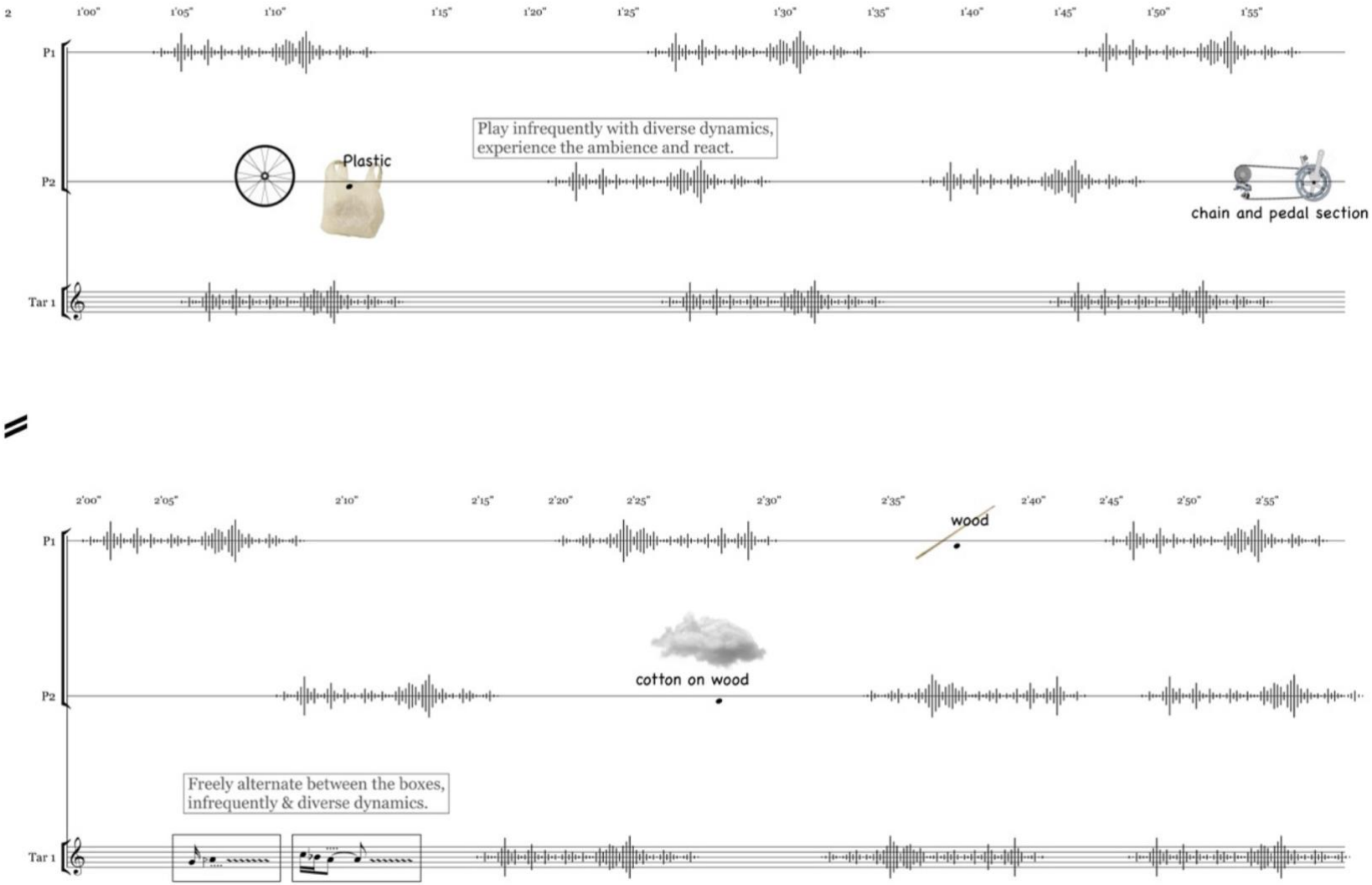
Photos by Sasha Shahrabi and Mehrdad Ziaee Nejad

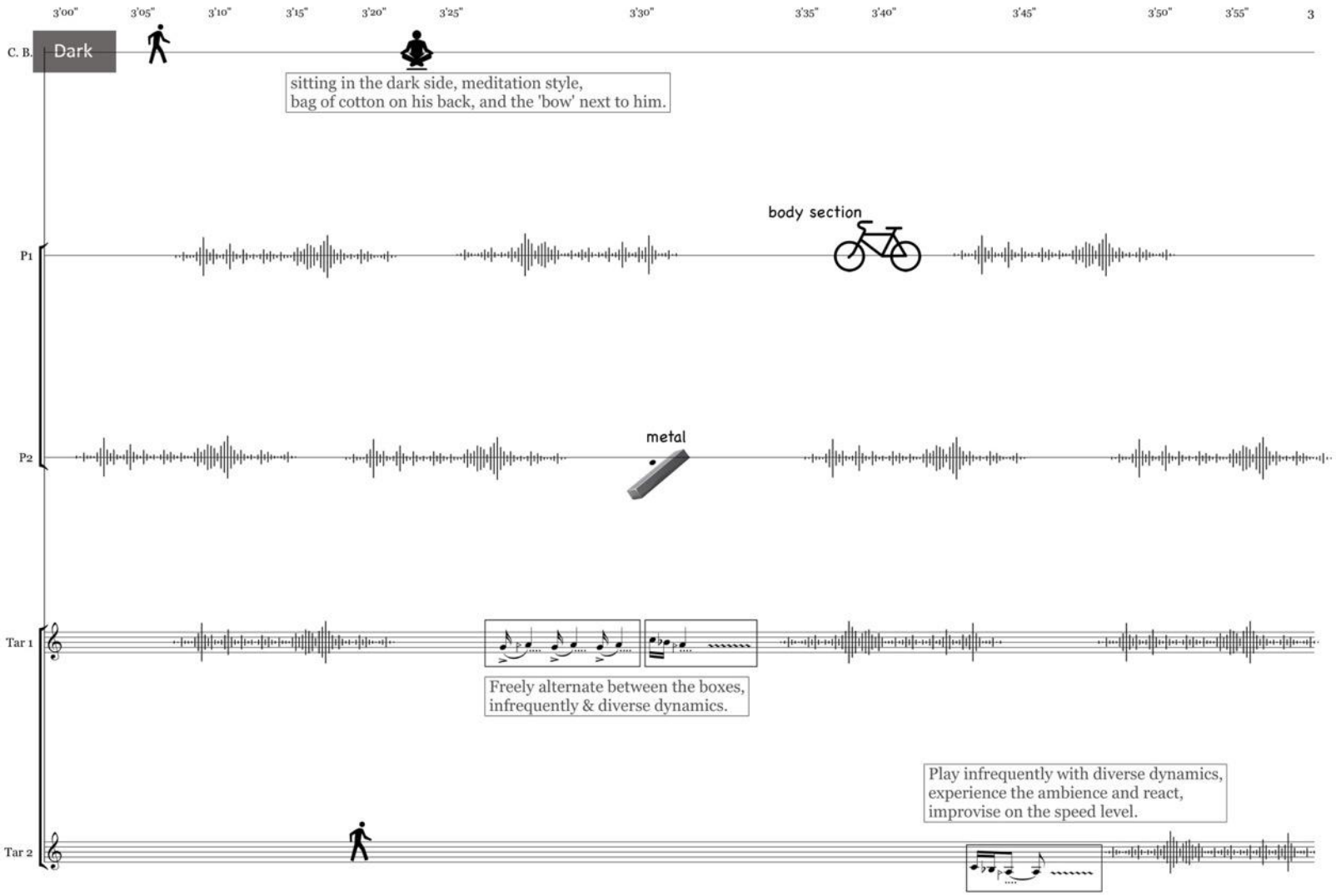

© Mehrdad Ziaee Nejad

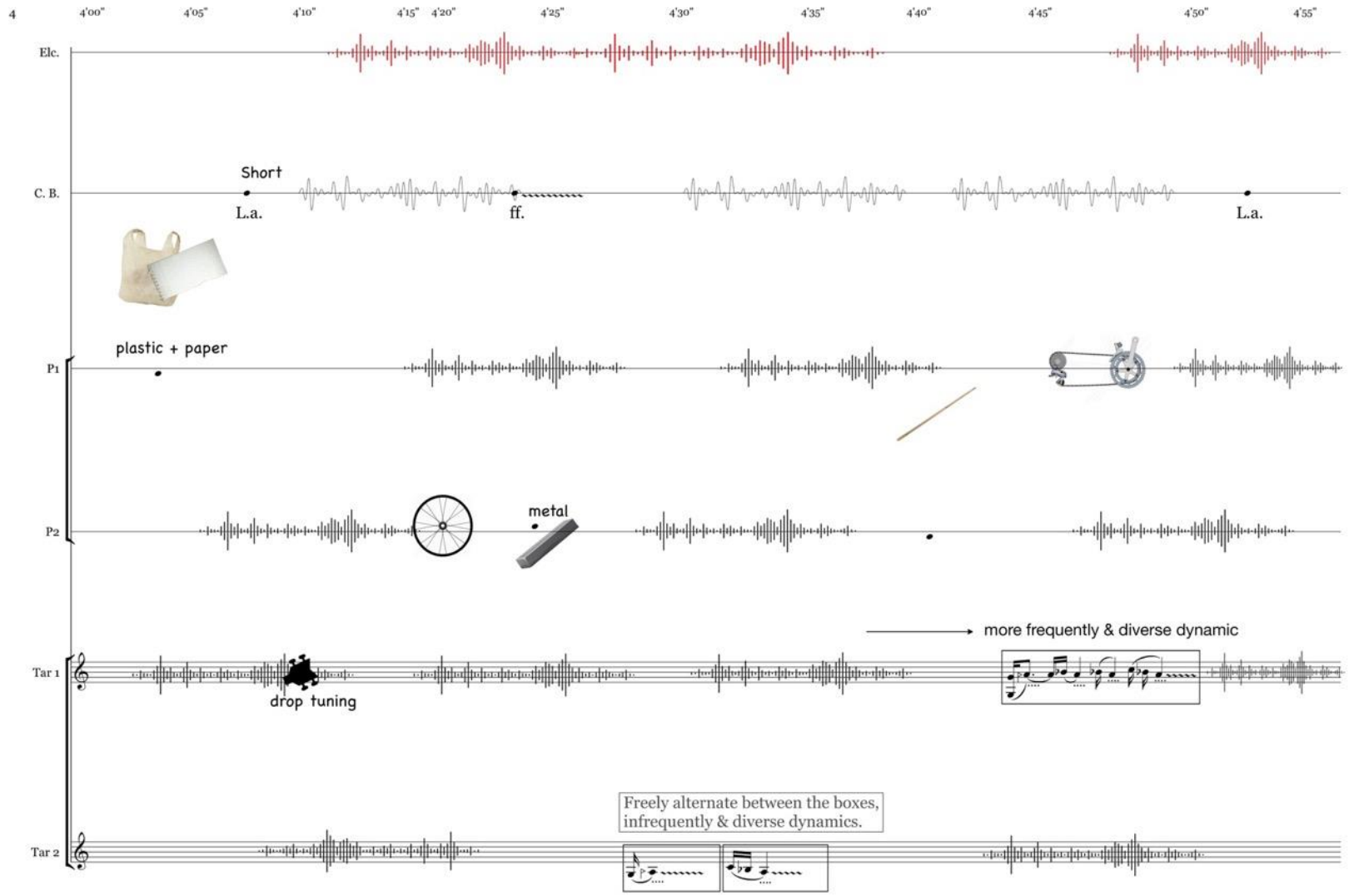
8.3 Appendix C – Working score of Panbe Zan

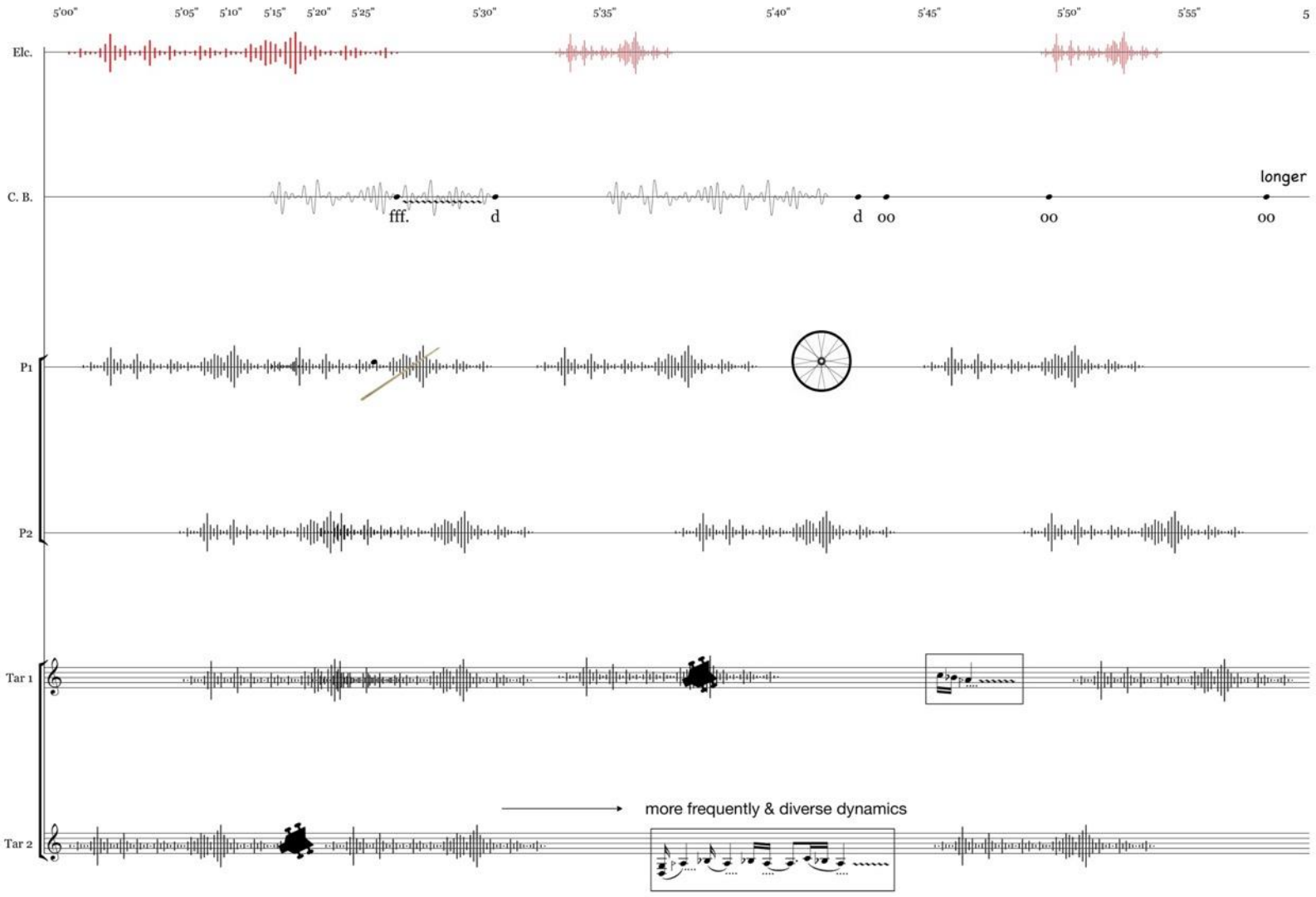
The following score is the working score in which I initially imagined the overall form of the music, as well as a framework for the performers to develop their improvisation.

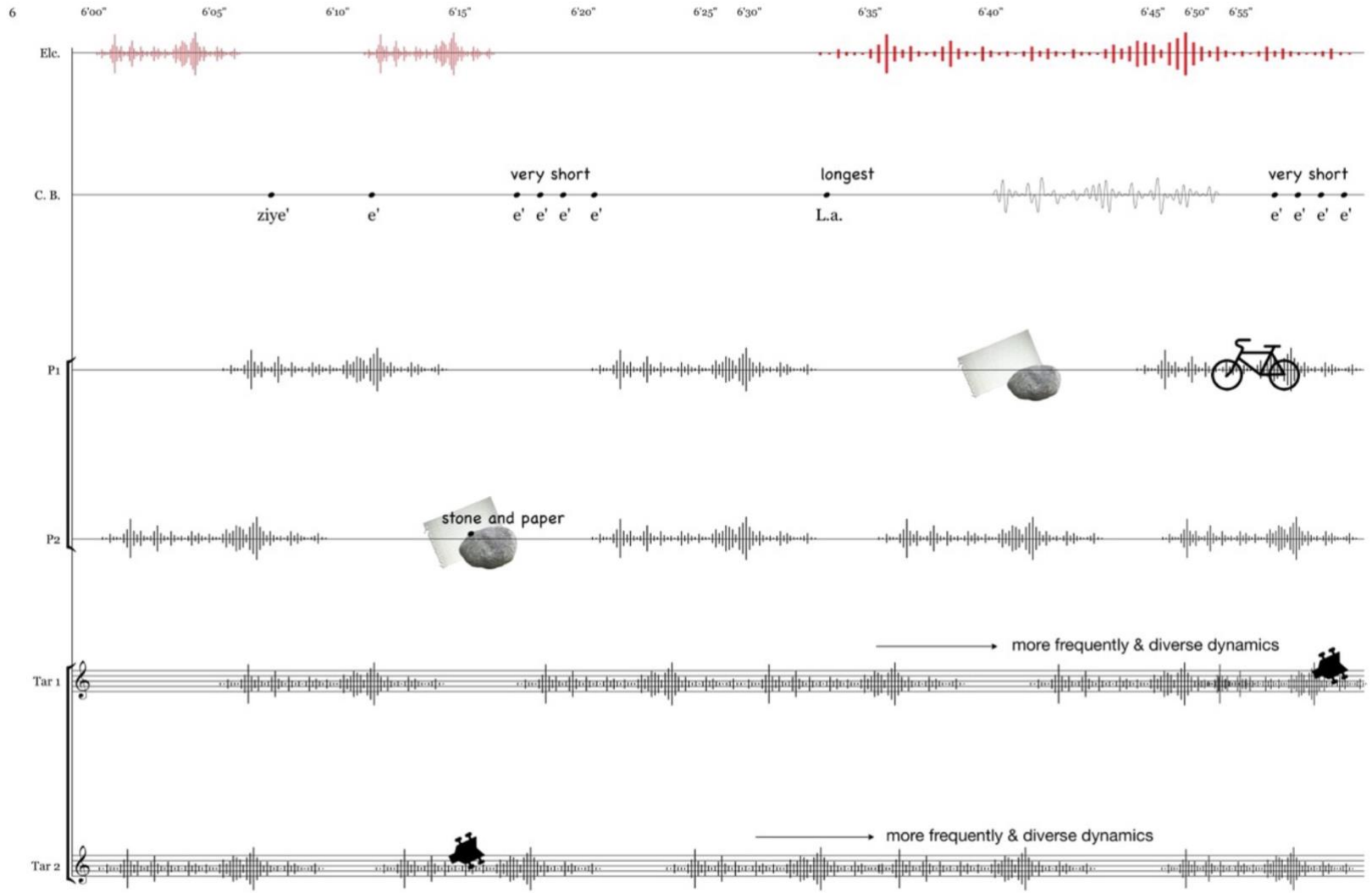


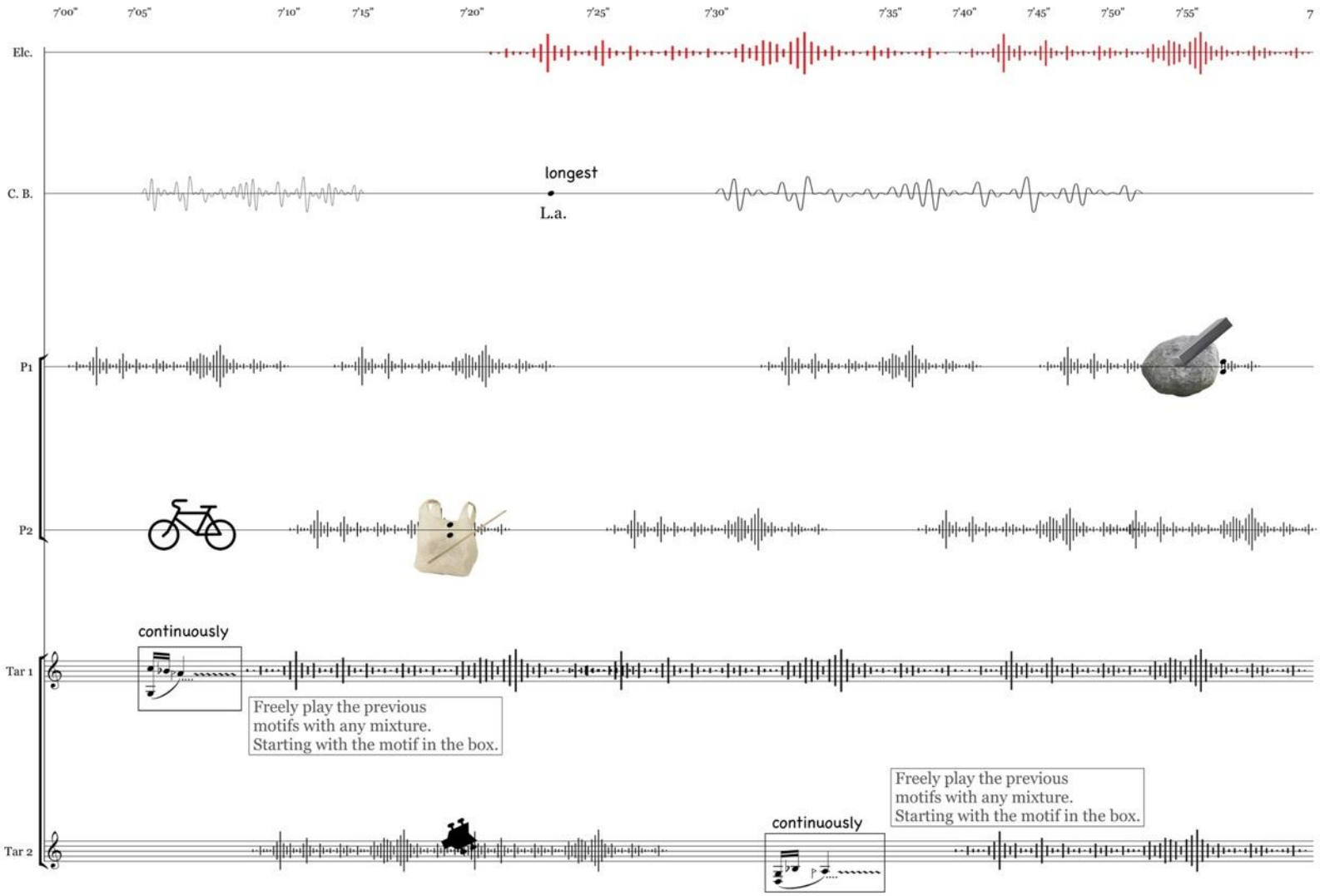

2
1'00"
1'05"
1'10"
1'15"
1'20"
1'25"
1'30"
1'35"
1'40"
1'45"
1'50"
1'55"
P1
P2
Tar 1
Play infrequently with diverse dynamics, experience the ambience and react.
Plastic
chain and pedal section
2'00"
2'05"
2'10"
2'15"
2'20"
2'25"
2'30"
2'35"
2'40"
2'45"
2'50"
2'55"
wood
cotton on wood
Freely alternate between the boxes, infrequently & diverse dynamics.

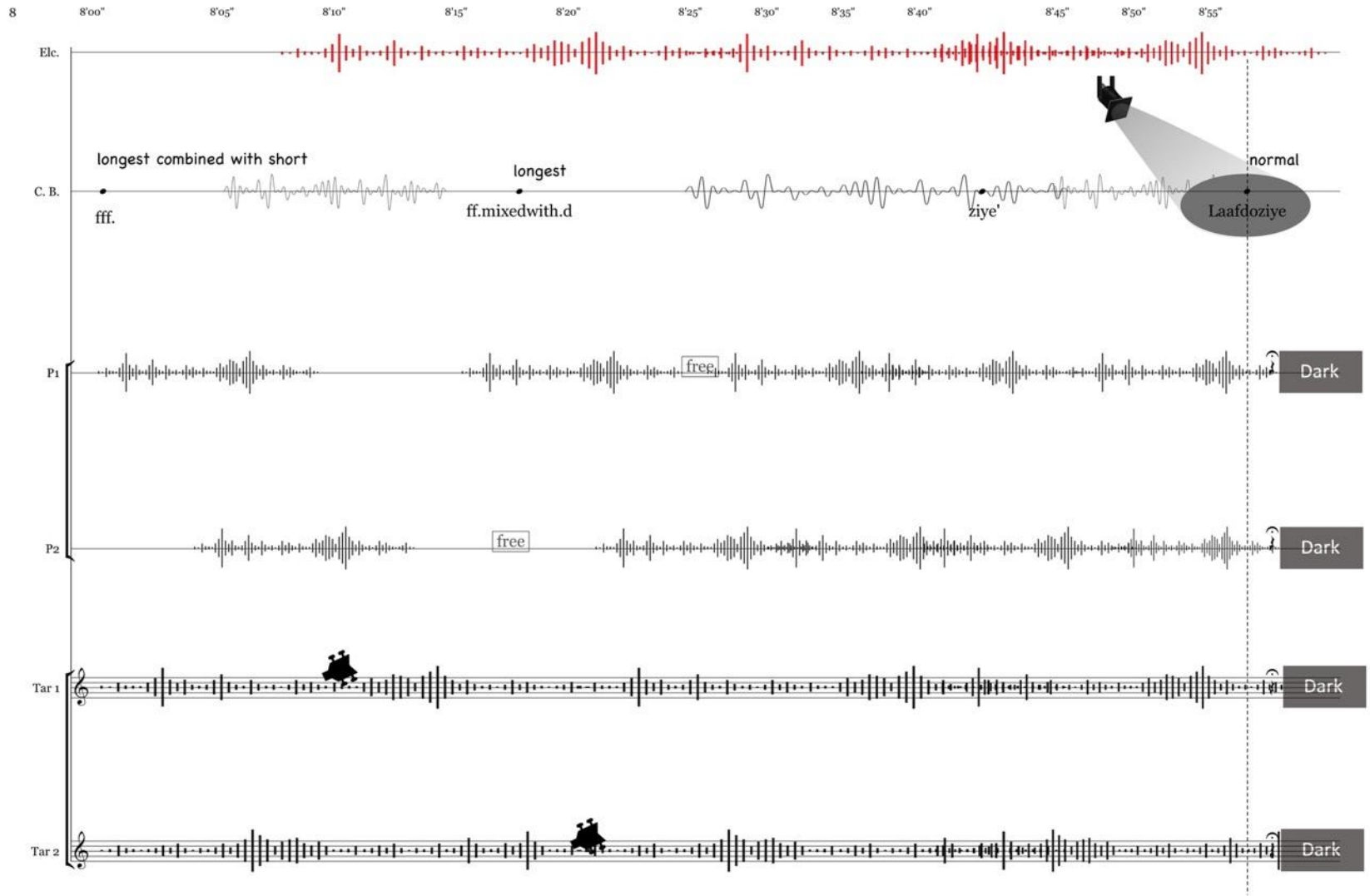

3'00"
3'05"
3'10"
3'15"
3'20"
3'25"
3'30"
3'35"
3'40"
3'45"
3'50"
3'55"
3
C. B.
Dark
sitting in the dark side, meditation style,
bag of cotton on his back, and the 'bow' next to him.
P1
body section
P2
metal
Tar 1
Freely alternate between the boxes,
infrequently & diverse dynamics.
Play infrequently with diverse dynamics,
experience the ambience and react,
improvise on the speed level.
Tar 2

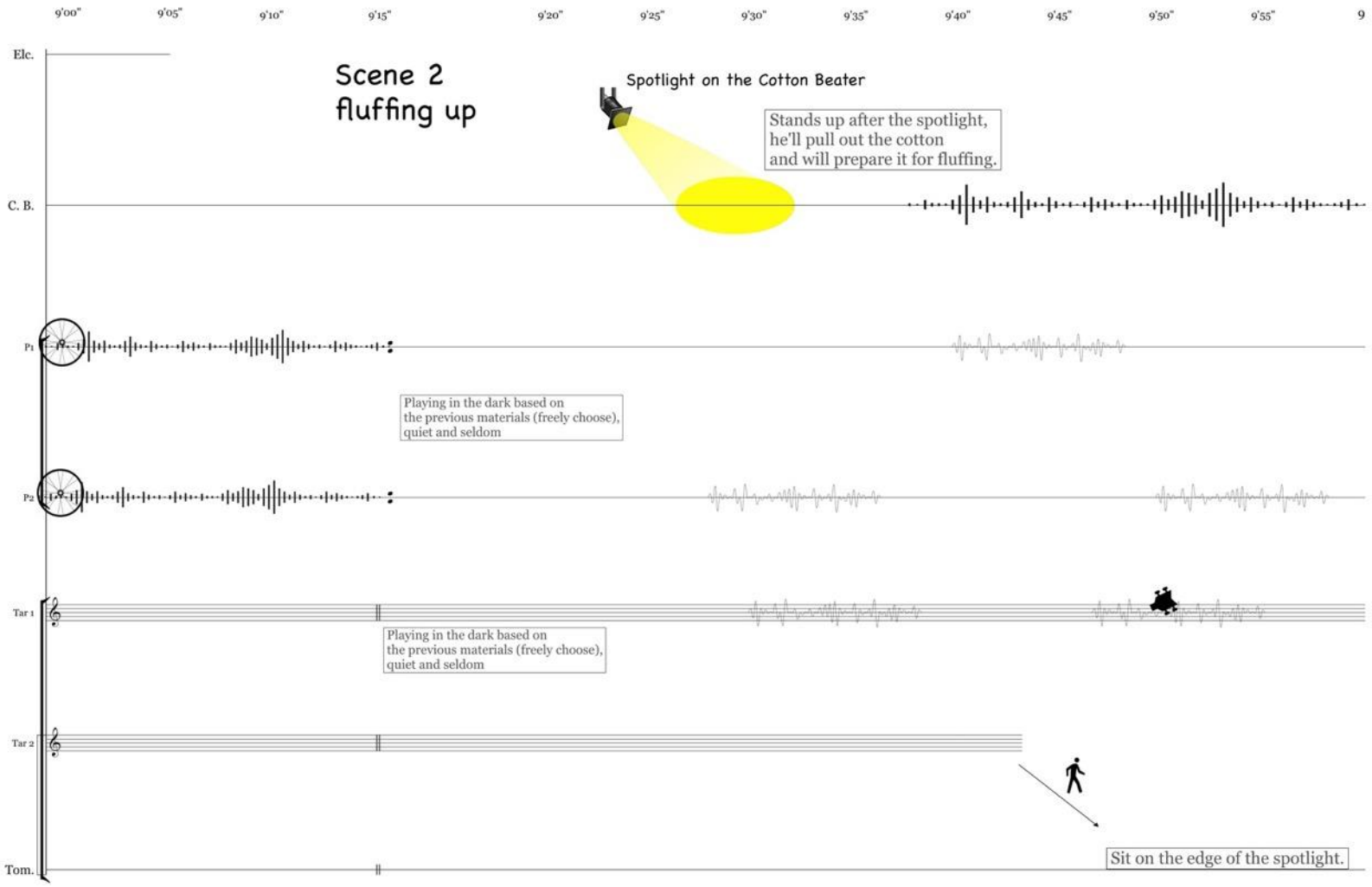

4
4'00"
4'05"
4'10"
4'15"
4'20"
4'25"
4'30"
4'35"
4'40"
4'45"
4'50"
4'55"
Elc.
C. B.
Short
L.a.
ff.
L.a.
plastic + paper
P1
P2
metal
more frequently & diverse dynamic
Tar 1
drop tuning
Freely alternate between the boxes,
infrequently & diverse dynamics.
Tar 2

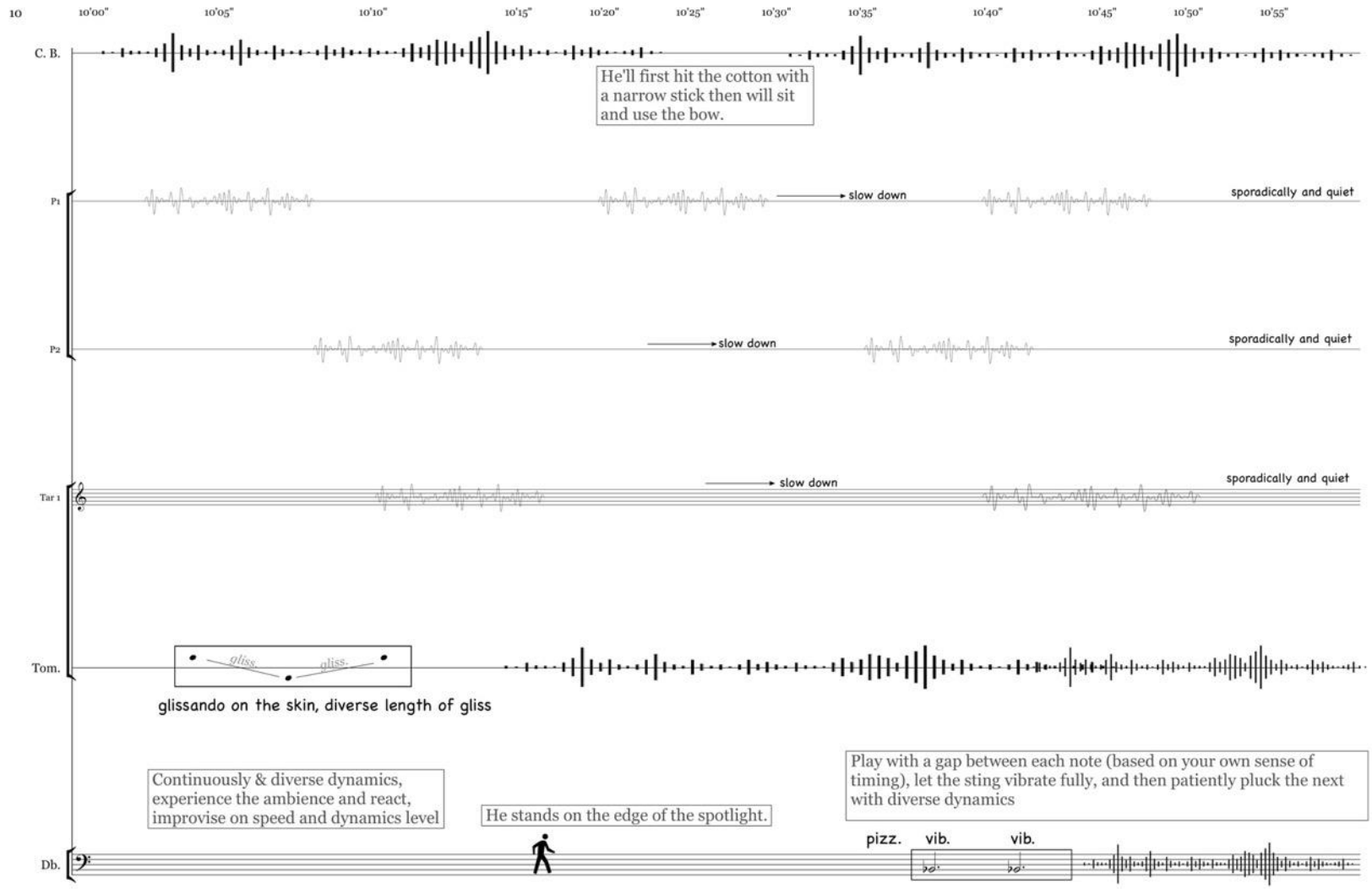

5'00"
5'05"
5'10"
5'15"
5'20"
5'25"
5'30"
5'35"
5'40"
5'45"
5'50"
5'55"
5
Elc.
C. B.
fff.
d
d
oo
oo
oo
longer
P1
P2
Tar 1
Tar 2
more frequently & diverse dynamics

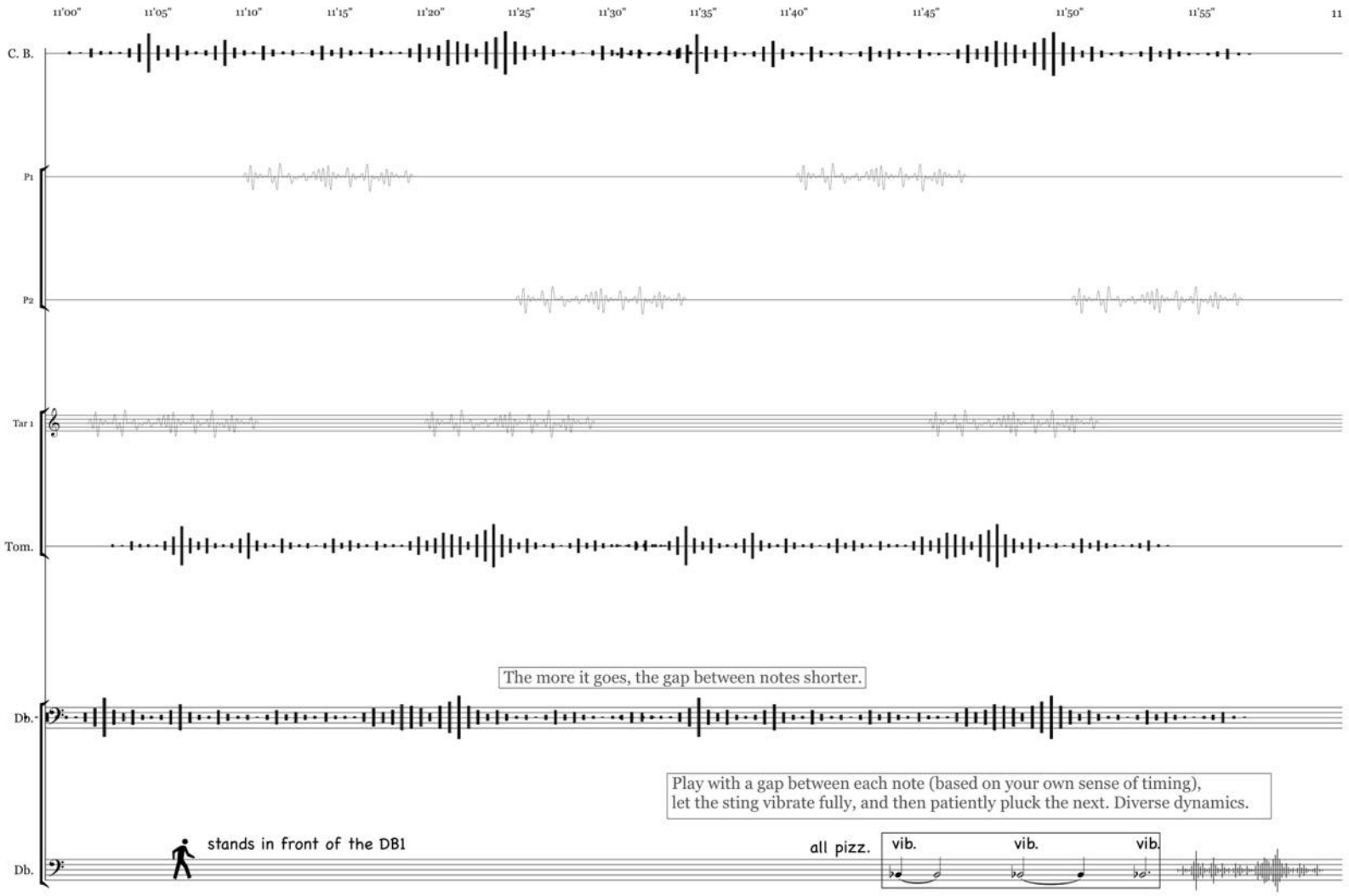

6
6'00"
6'05"
6'10"
6'15"
6'20"
6'25"
6'30"
6'35"
6'40"
6'45"
6'50"
6'55"
Elc.
C. B.
very short
longest
very short
ziye'
e'
e' e' e' e'
L.a.
e' e' e' e'
P1
P2
stone and paper
more frequently & diverse dynamics
Tar 1
more frequently & diverse dynamics
Tar 2

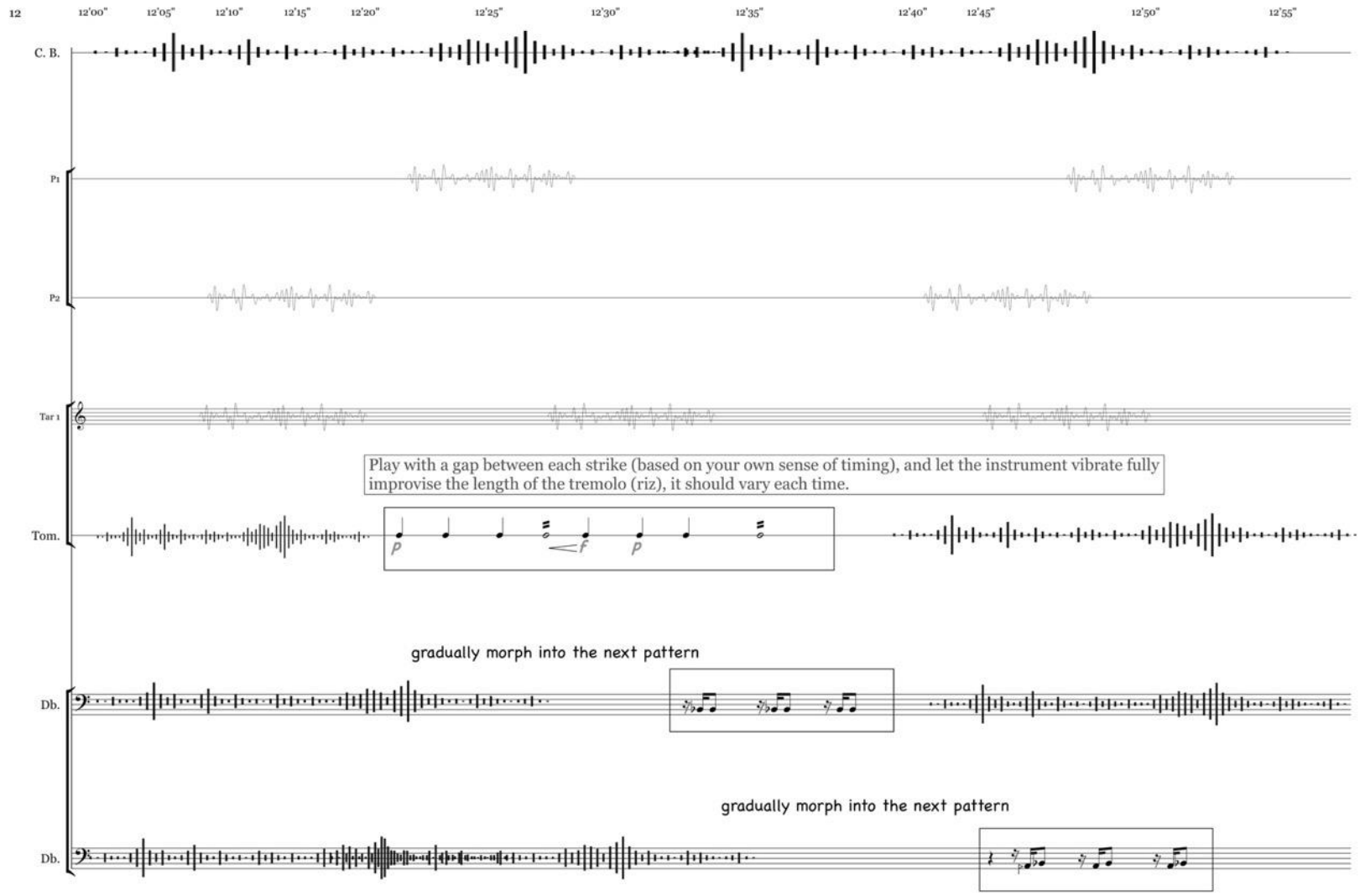

7'00"
7'05"
7'10"
7'15"
7'20"
7'25"
7'30"
7'35"
7'40"
7'45"
7'50"
7'55"
7
Elc.
C. B.
longest
L.a.
P1
P2
Tar 1
continuously
Freely play the previous
motifs with any mixture.
Starting with the motif in the box.
Tar 2
continuously
Freely play the previous
motifs with any mixture.
Starting with the motif in the box.

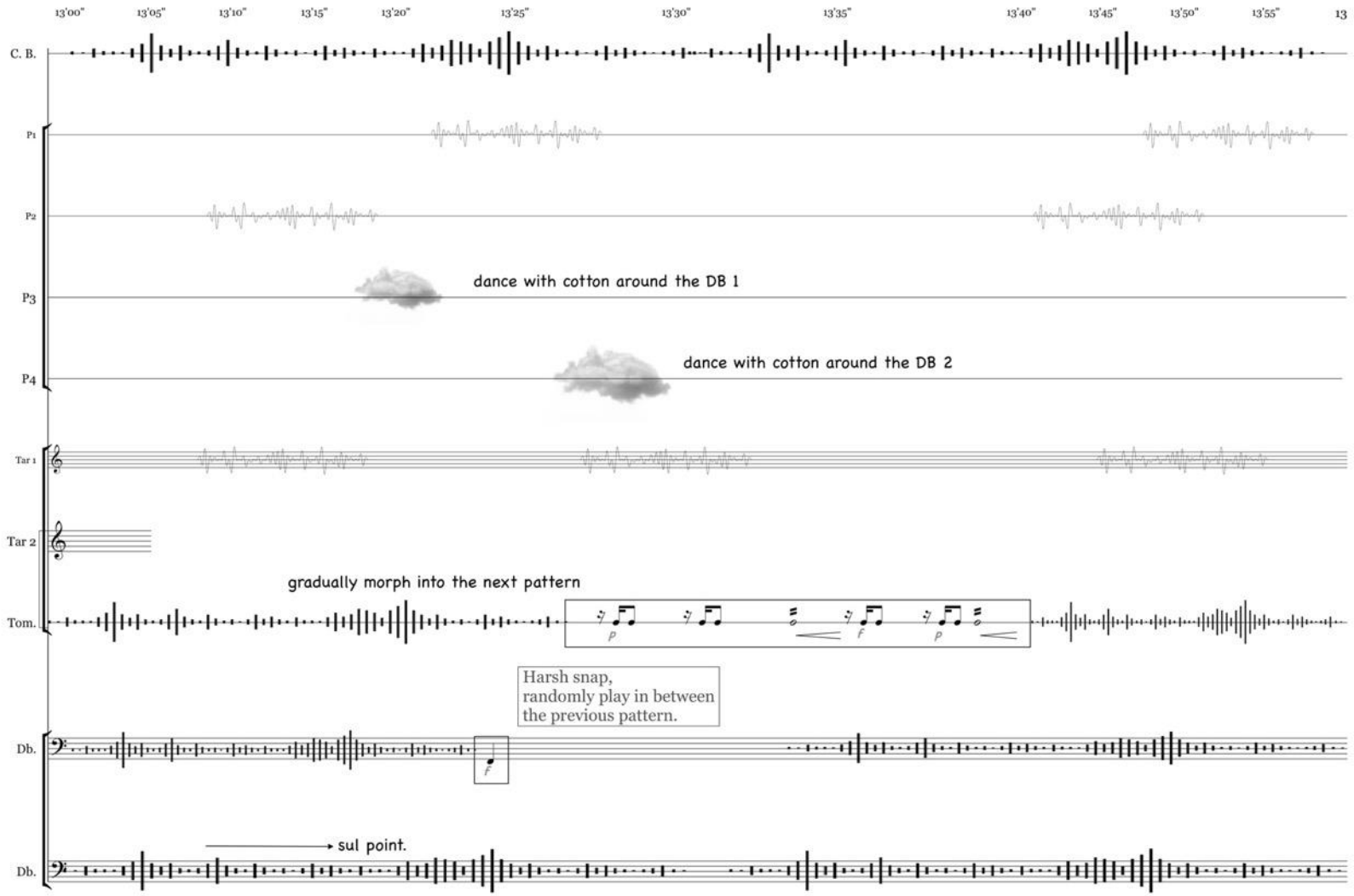

8
8'00"
8'05"
8'10"
8'15"
8'20"
8'25"
8'30"
8'35"
8'40"
8'45"
8'50"
8'55"
Elc.
C. B.
longest combined with short
fff.
longest
ff.mixedwith.d
ziye'
normal
Laafdoziye
P1
free
Dark
P2
free
Dark
Tar 1
Dark
Tar 2
Dark

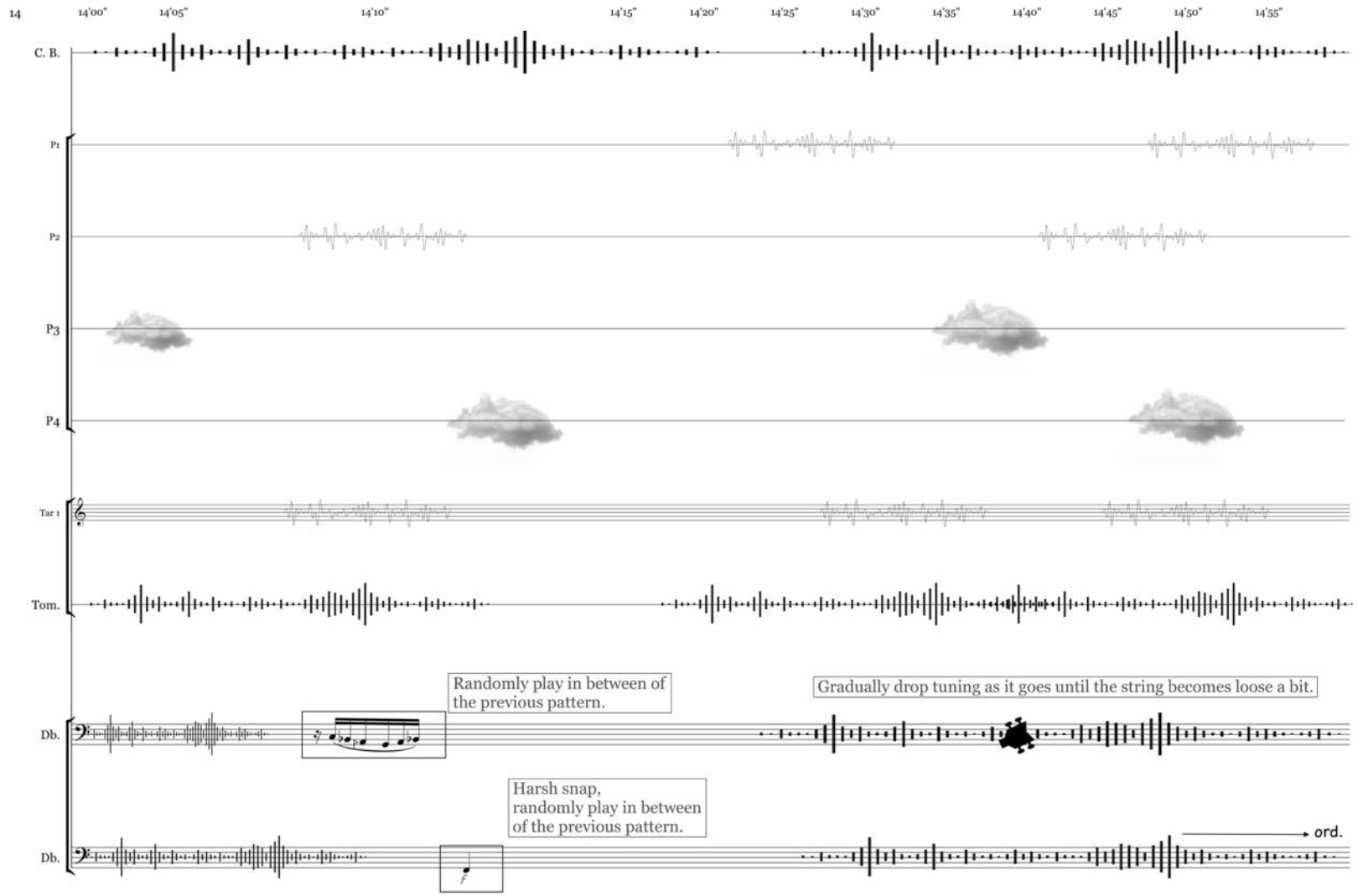

9'00"
9'05"
9'10"
9'15"
9'20"
9'25"
9'30"
9'35"
9'40"
9'45"
9'50"
9'55"
9
Elc.
Scene 2
fluffing up
Spotlight on the Cotton Beater
Stands up after the spotlight,
he'll pull out the cotton
and will prepare it for fluffing.
C. B.
P1
Playing in the dark based on
the previous materials (freely choose),
quiet and seldom
P2
Tar 1
Playing in the dark based on
the previous materials (freely choose),
quiet and seldom
Tar 2
Sit on the edge of the spotlight.
Tom.

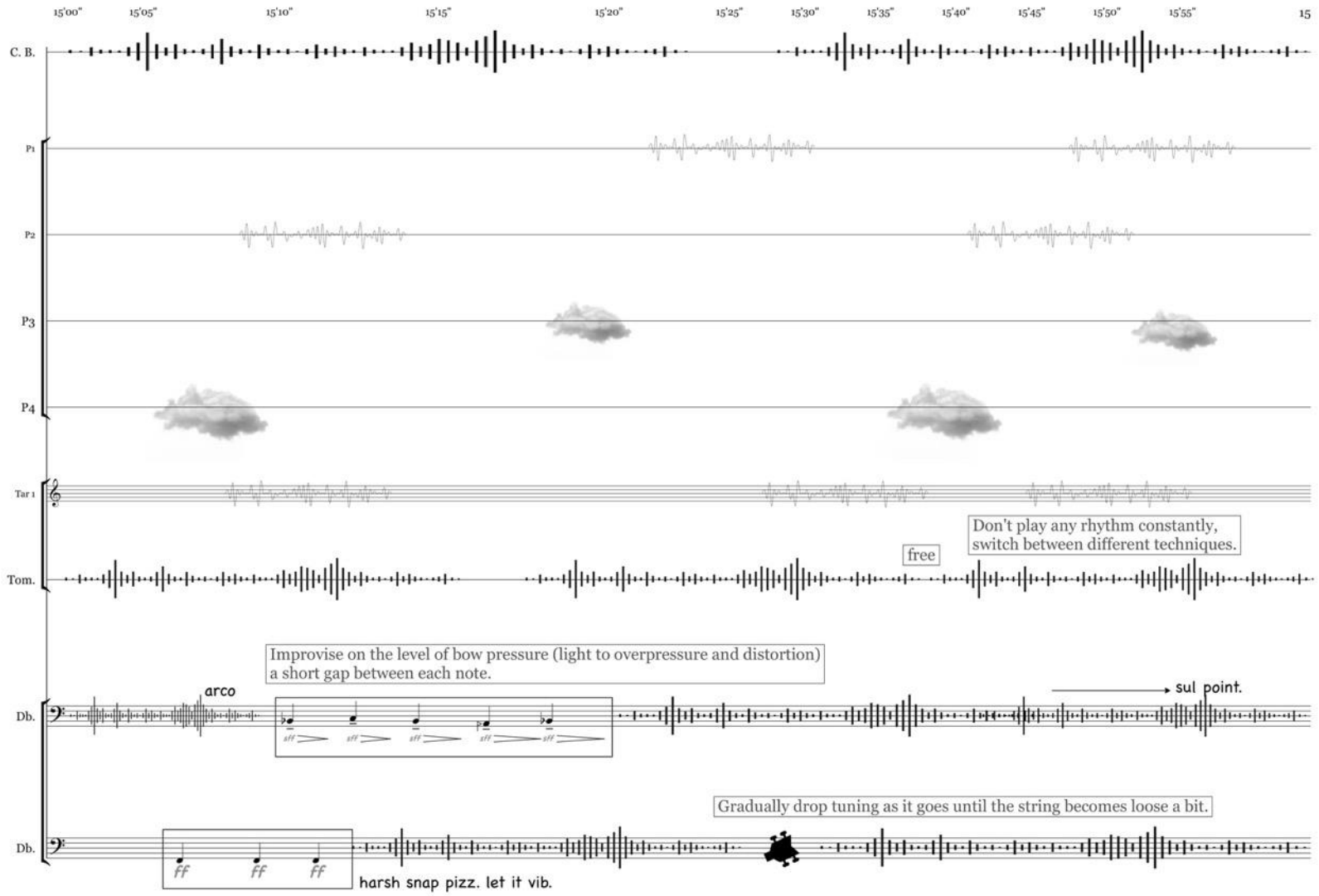

10
10'00"
10'05"
10'10"
10'15"
10'20"
10'25"
10'30"
10'35"
10'40"
10'45"
10'50"
10'55"
C. B.
He'll first hit the cotton with a narrow stick then will sit and use the bow.
P1
slow down
sporadically and quiet
P2
slow down
sporadically and quiet
Tar 1
slow down
sporadically and quiet
Tom.
gliss.
gliss.
glissando on the skin, diverse length of gliss
Continuously & diverse dynamics, experience the ambience and react, improvise on speed and dynamics level
He stands on the edge of the spotlight.
Play with a gap between each note (based on your own sense of timing), let the sting vibrate fully, and then patiently pluck the next with diverse dynamics
Db.
pizz.
vib.
vib.

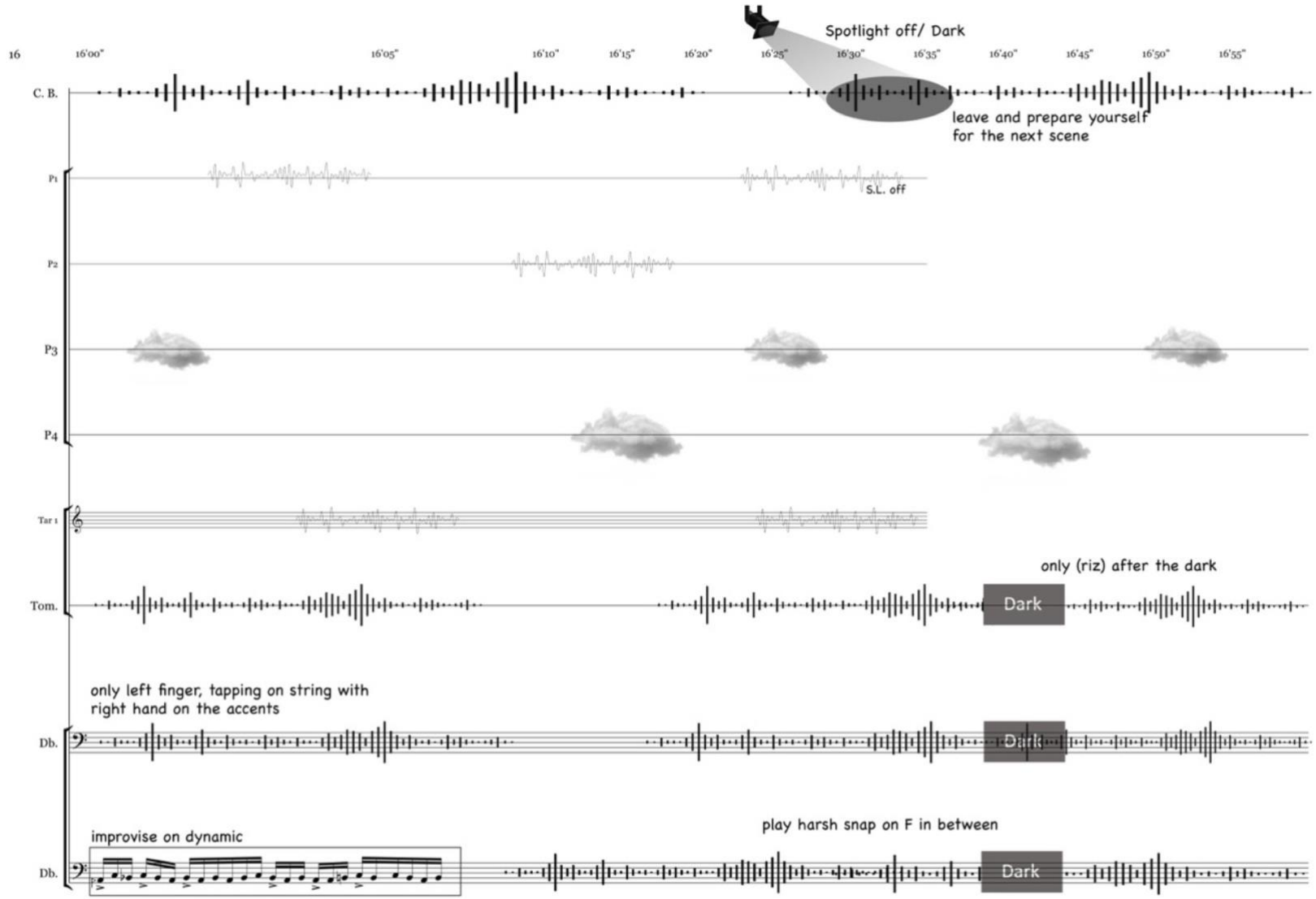

11'00"
11'05"
11'10"
11'15"
11'20"
11'25"
11'30"
11'35"
11'40"
11'45"
11'50"
11'55"
11
C. B.
P1
P2
Tar 1
Tom.
The more it goes, the gap between notes shorter.
Db.
Play with a gap between each note (based on your own sense of timing),
let the sting vibrate fully, and then patiently pluck the next. Diverse dynamics.
stands in front of the DB1
all pizz.
vib.
vib.
vib.
Db.

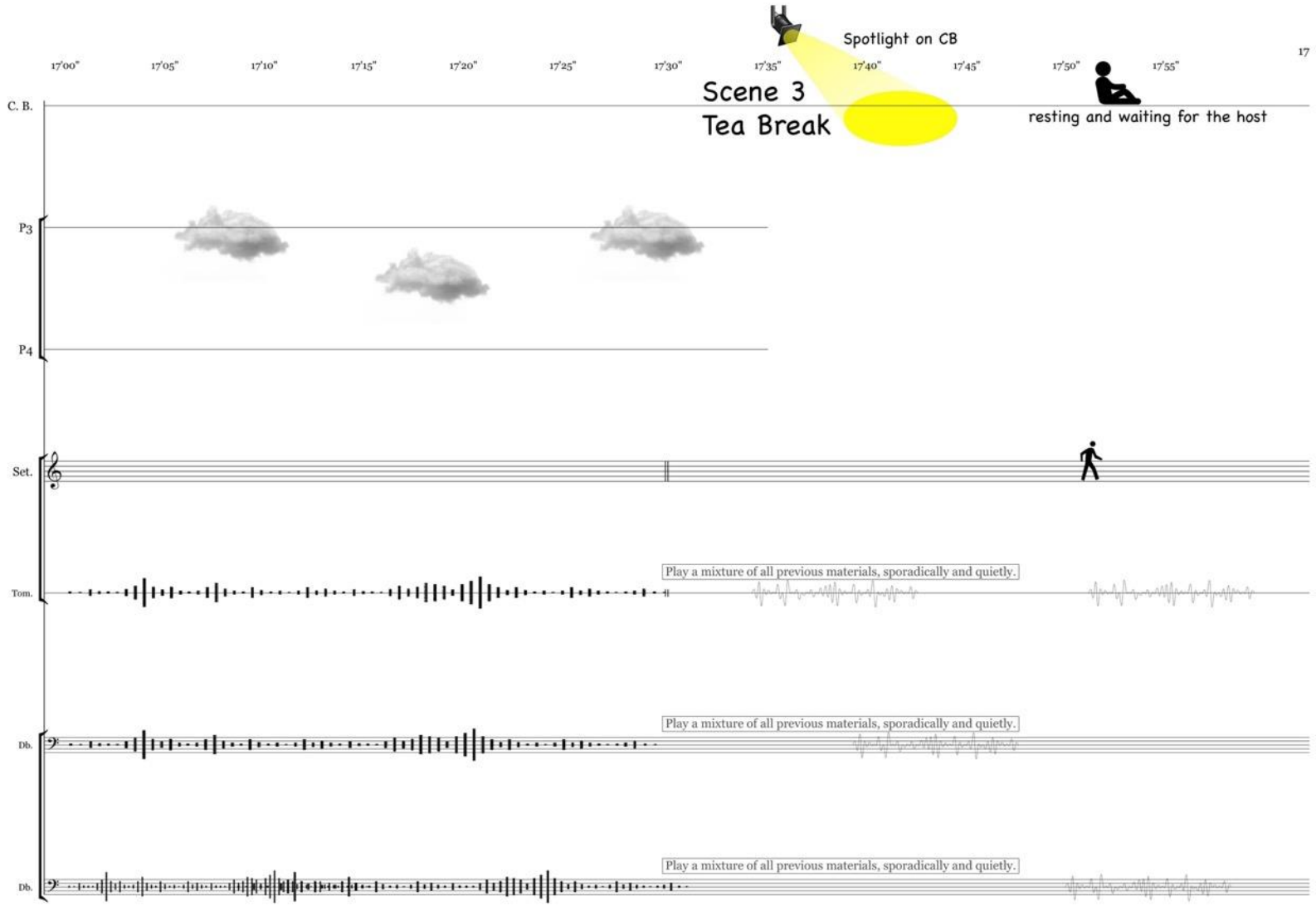

12
12'00"
12'05"
12'10"
12'15"
12'20"
12'25"
12'30"
12'35"
12'40"
12'45"
12'50"
12'55"
C. B.
P1
P2
Tar 1
Play with a gap between each strike (based on your own sense of timing), and let the instrument vibrate fully improvise the length of the tremolo (riz), it should vary each time.
Tom.
p
f
p
gradually morph into the next pattern
Db.
gradually morph into the next pattern
Db.

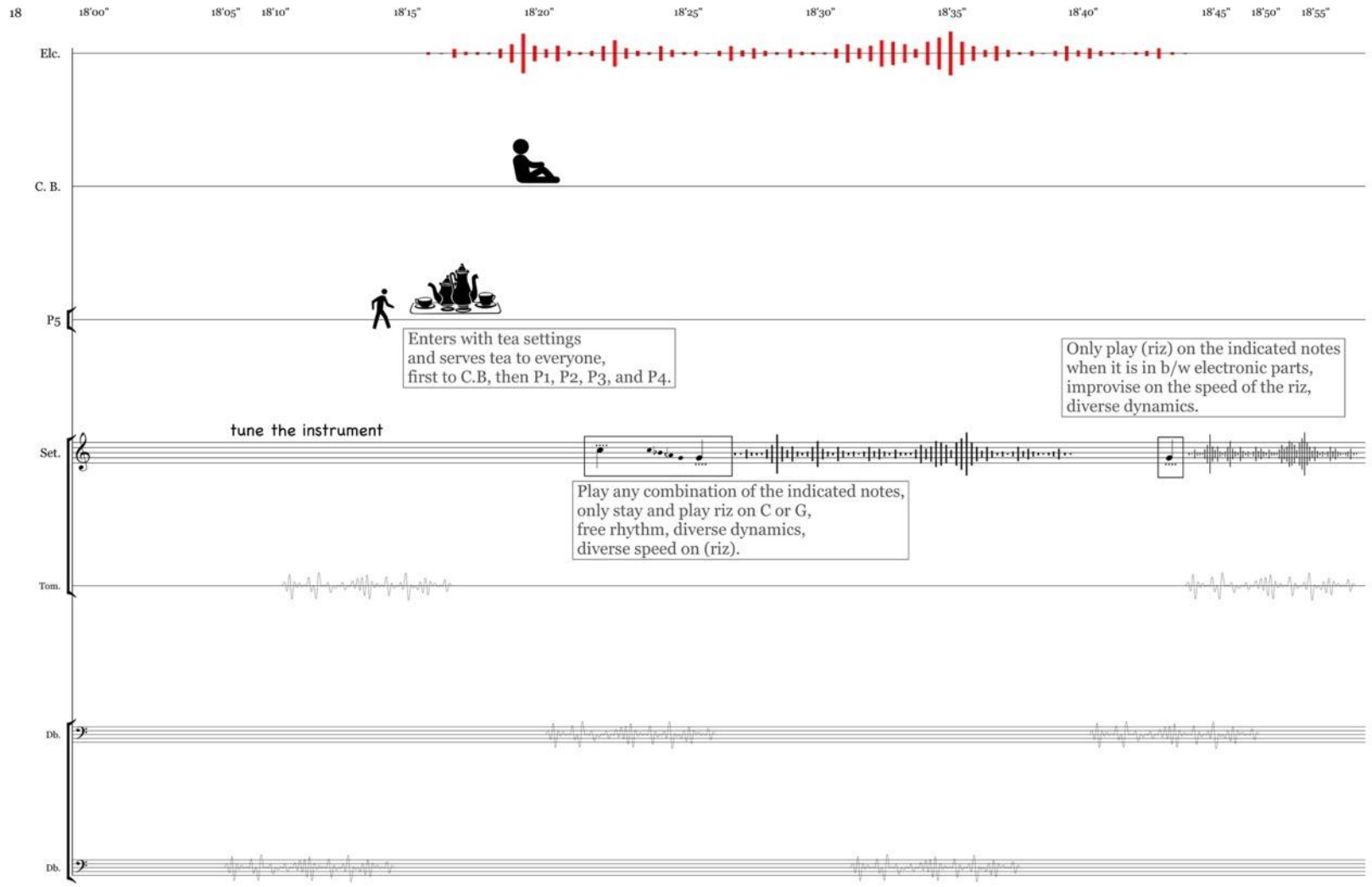

13'00"
13'05"
13'10"
13'15"
13'20"
13'25"
13'30"
13'35"
13'40"
13'45"
13'50"
13'55"
13
C. B.
P1
P2
P3
dance with cotton around the DB 1
P4
dance with cotton around the DB 2
Tar 1
Tar 2
gradually morph into the next pattern
Tom.
Harsh snap,
randomly play in between
the previous pattern.
Db.
sul point.
Db.

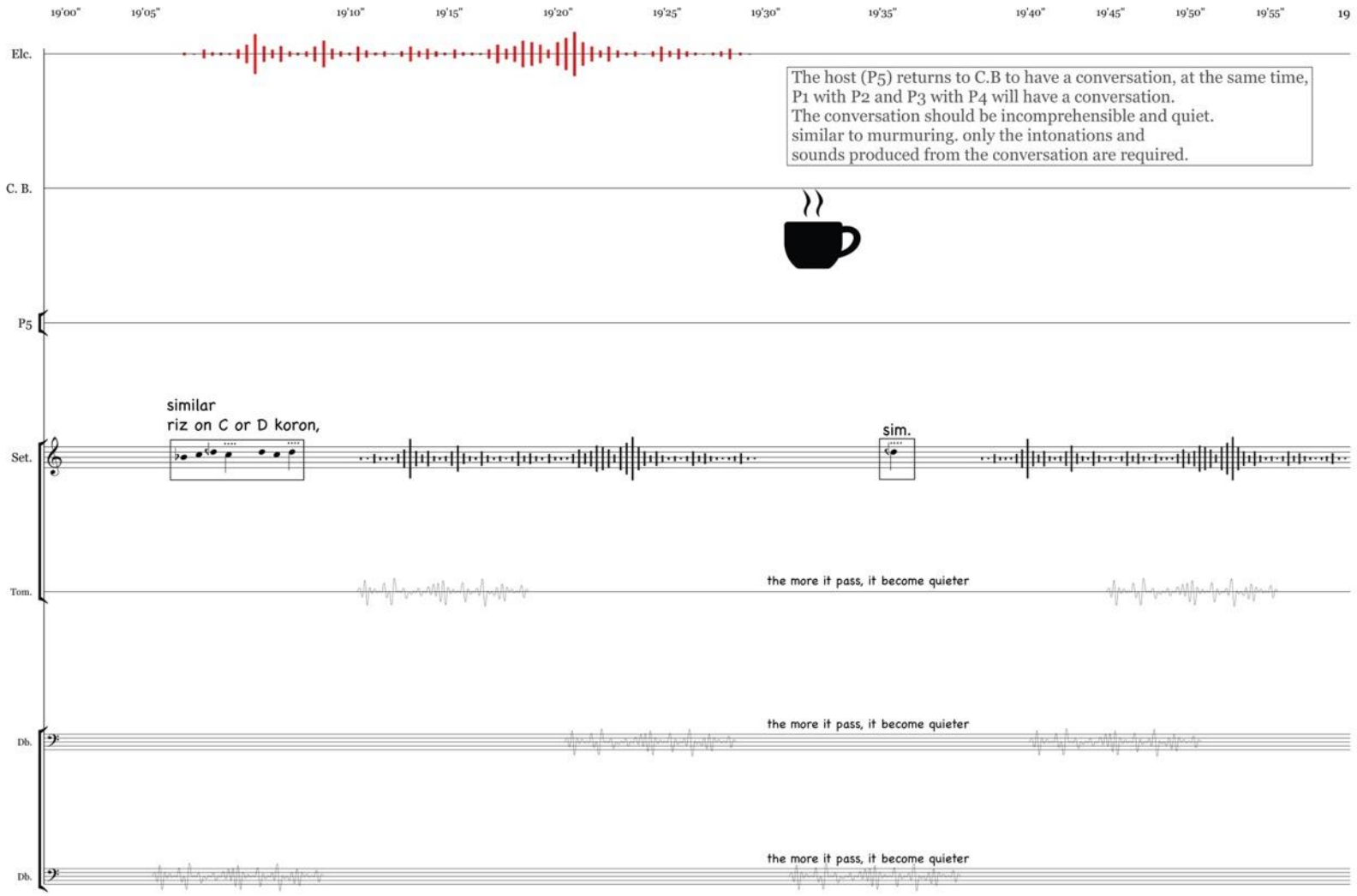

14
14'00"
14'05"
14'10"
14'15"
14'20"
14'25"
14'30"
14'35"
14'40"
14'45"
14'50"
14'55"
C. B.
P1
P2
P3
P4
Tar 1
Tom.
Randomly play in between of the previous pattern.
Gradually drop tuning as it goes until the string becomes loose a bit.
Db.
Harsh snap, randomly play in between of the previous pattern.
Db.
ord.

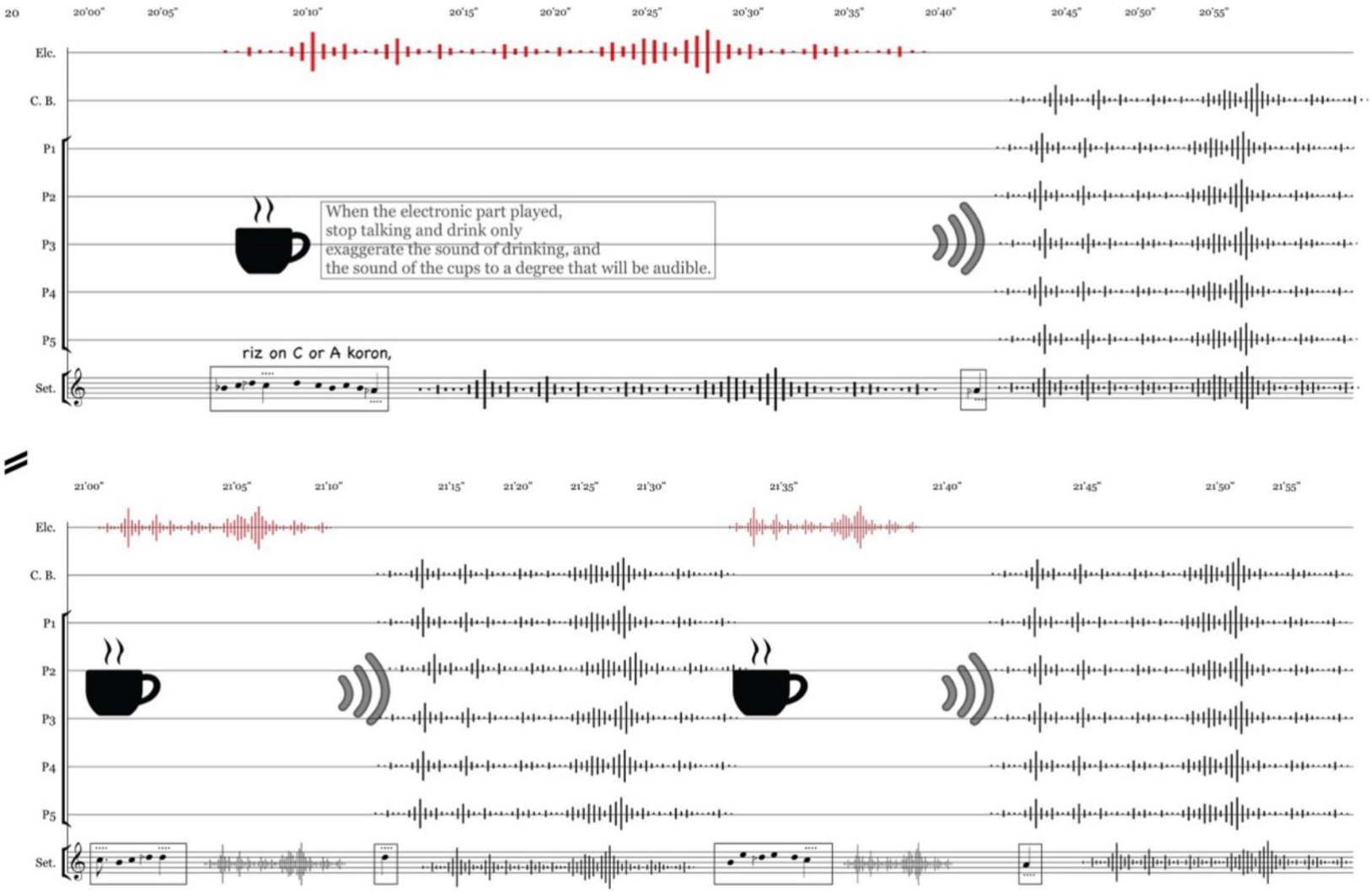

15'00"
15'05"
15'10"
15'15"
15'20"
15'25"
15'30"
15'35"
15'40"
15'45"
15'50"
15'55"
15
C. B.
P1
P2
P3
P4
Tar 1
Tom.
Don't play any rhythm constantly, switch between different techniques.
free
Improvise on the level of bow pressure (light to overpressure and distortion) a short gap between each note.
arco
sul point.
Db.
Gradually drop tuning as it goes until the string becomes loose a bit.
Db.
ff
ff
ff
harsh snap pizz. let it vib.

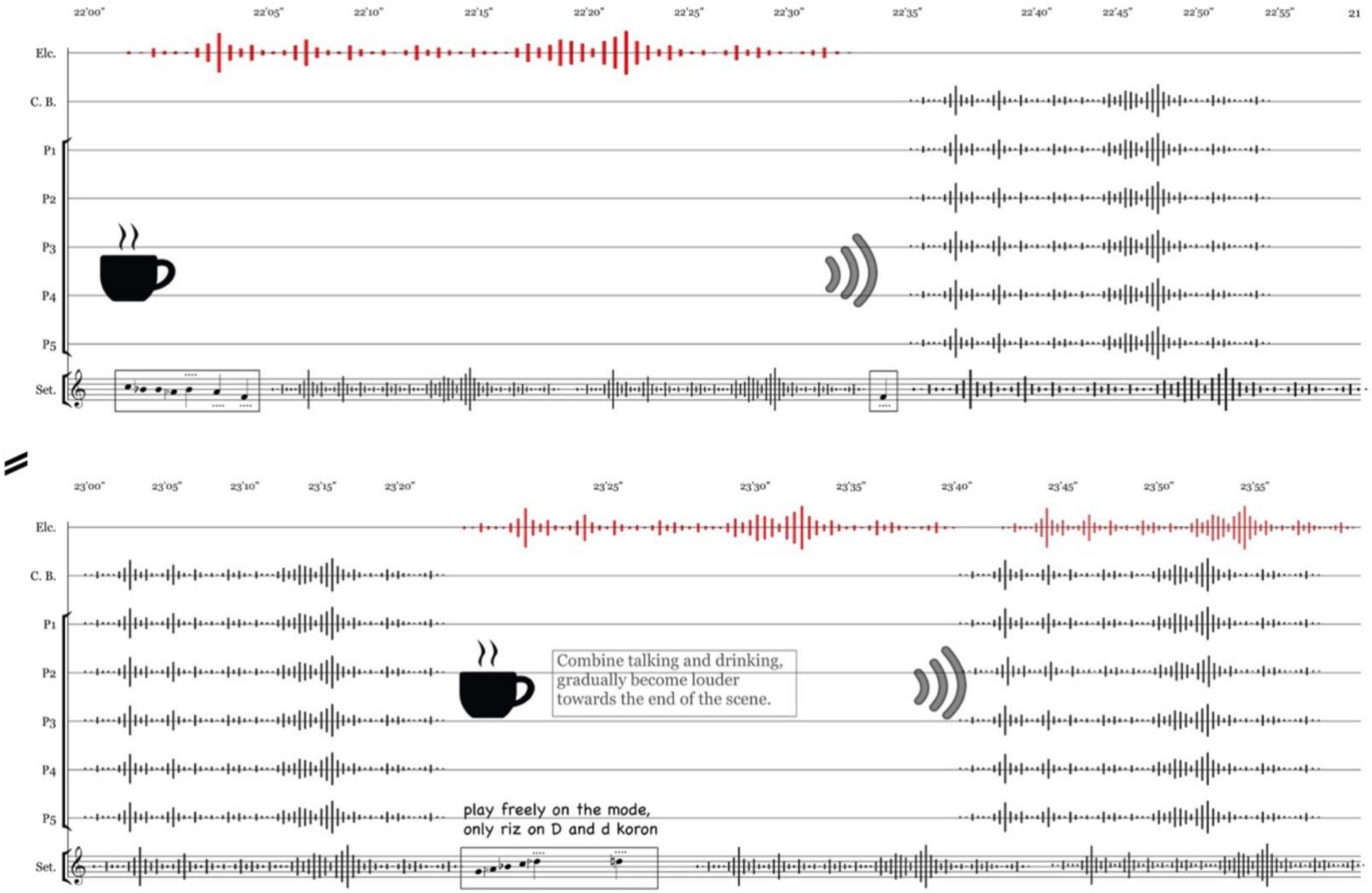

Spotlight off/ Dark
16
16'00"
16'05"
16'10"
16'15"
16'20"
16'25"
16'30"
16'35"
16'40"
16'45"
16'50"
16'55"
C. B.
leave and prepare yourself
for the next scene
P1
S.L. off
P2
P3
P4
Tar 1
only (riz) after the dark
Tom.
Dark
only left finger, tapping on string with
right hand on the accents
Db.
Dark
improvise on dynamic
play harsh snap on F in between
Db.
Dark

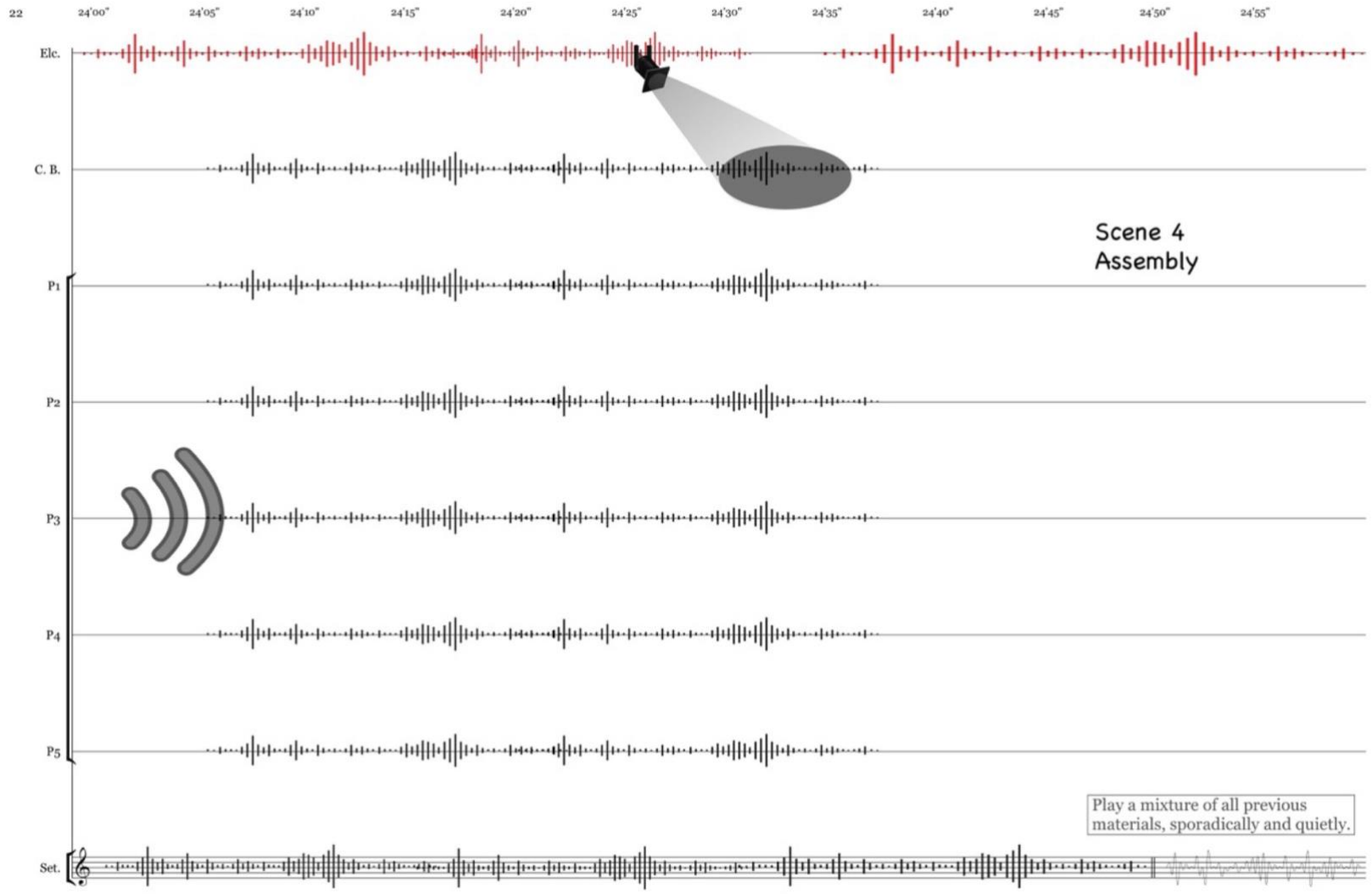

Spotlight on CB
17'00"
17'05"
17'10"
17'15"
17'20"
17'25"
17'30"
17'35"
17'40"
17'45"
17'50"
17'55"
17
Scene 3
Tea Break
resting and waiting for the host
C. B.
P3
P4
Set.
Tom.
Play a mixture of all previous materials, sporadically and quietly.
Db.
Play a mixture of all previous materials, sporadically and quietly.
Db.
Play a mixture of all previous materials, sporadically and quietly.

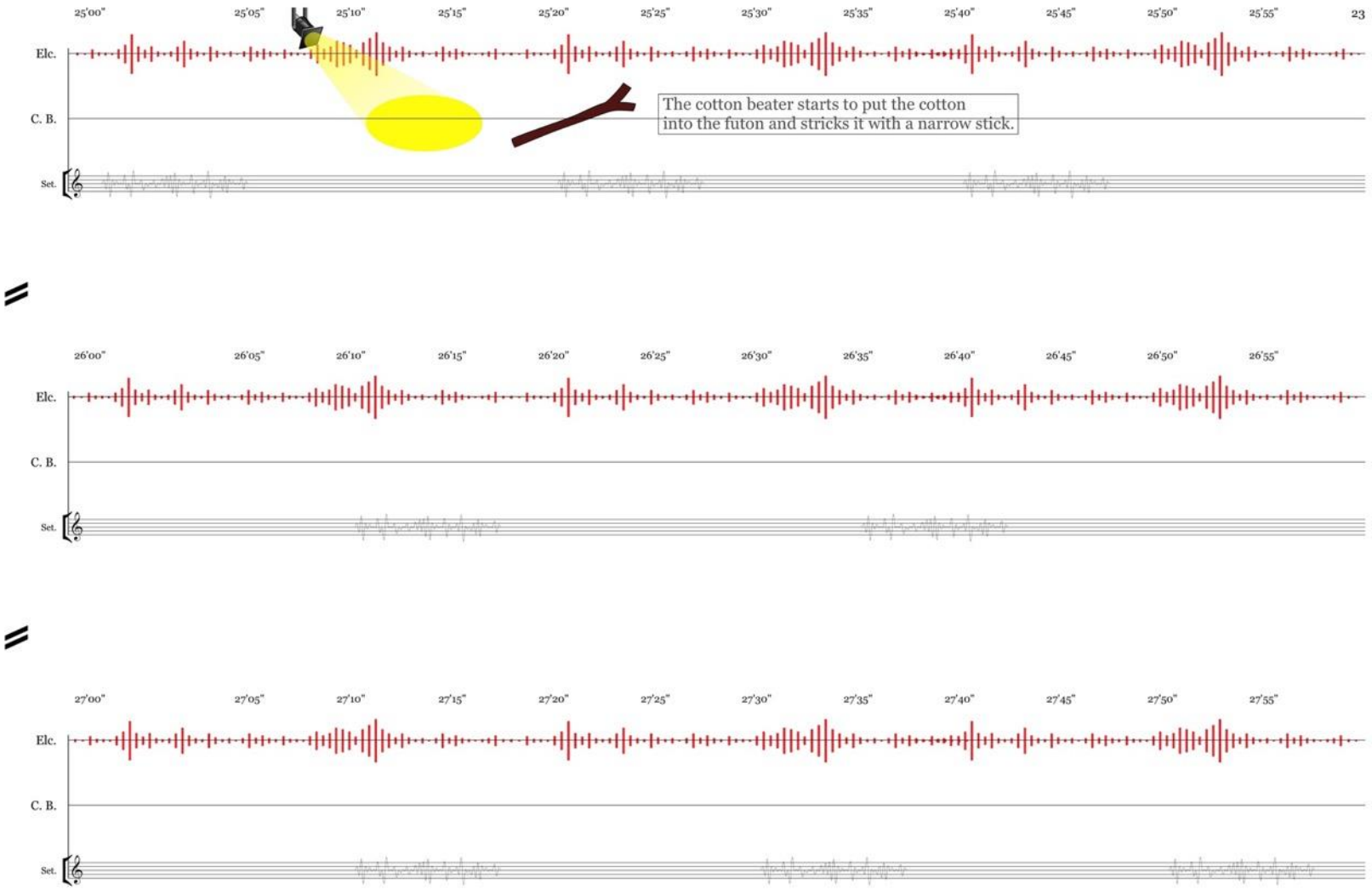

18
18'00"
18'05"
18'10"
18'15"
18'20"
18'25"
18'30"
18'35"
18'40"
18'45"
18'50"
18'55"
Elc.
C. B.
P5
Enters with tea settings
and serves tea to everyone,
first to C.B, then P1, P2, P3, and P4.
Only play (riz) on the indicated notes
when it is in b/w electronic parts,
improvise on the speed of the riz,
diverse dynamics.
tune the instrument
Set.
Play any combination of the indicated notes,
only stay and play riz on C or G,
free rhythm, diverse dynamics,
diverse speed on (riz).
Tom.
Db.
Db.

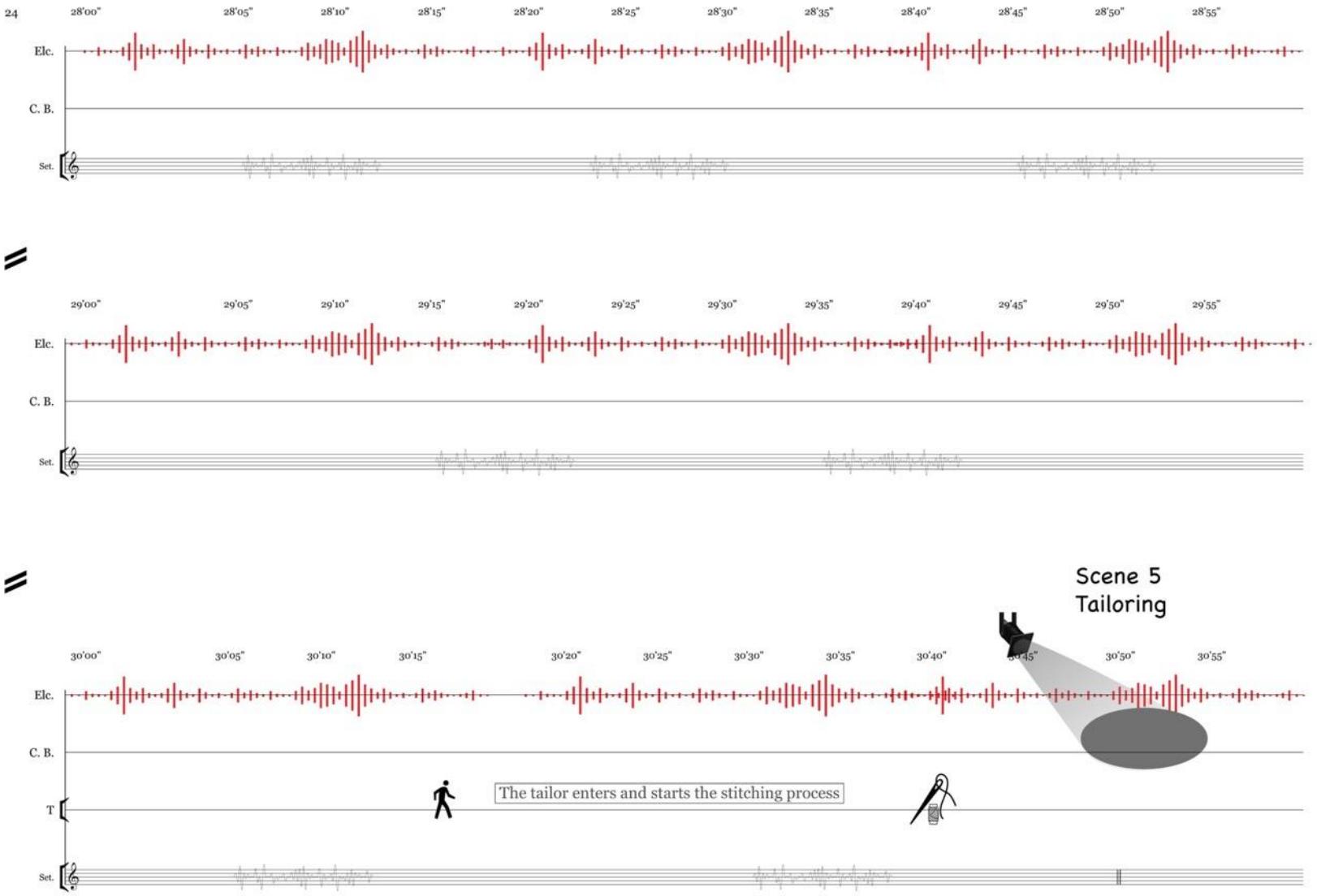

19'00"
19'05"
19'10"
19'15"
19'20"
19'25"
19'30"
19'35"
19'40"
19'45"
19'50"
19'55"
19
Elc.
The host (P5) returns to C.B to have a conversation, at the same time,
P1 with P2 and P3 with P4 will have a conversation.
The conversation should be incomprehensible and quiet.
similar to murmuring. only the intonations and
sounds produced from the conversation are required.
C. B.
P5
similar
riz on C or D koron,
Set.
sim.
Tom.
the more it pass, it become quieter
Db.
the more it pass, it become quieter
Db.
the more it pass, it become quieter


20
20'00"
20'05"
20'10"
20'15"
20'20"
20'25"
20'30"
20'35"
20'40"
20'45"
20'50"
20'55"
Elc.
C. B.
P1
P2
P3
P4
P5
Set.
When the electronic part played,
stop talking and drink only
exaggerate the sound of drinking, and
the sound of the cups to a degree that will be audible.
riz on C or A koron,
21'00"
21'05"
21'10"
21'15"
21'20"
21'25"
21'30"
21'35"
21'40"
21'45"
21'50"
21'55"
Elc.
C. B.
P1
P2
P3
P4
P5
Set.

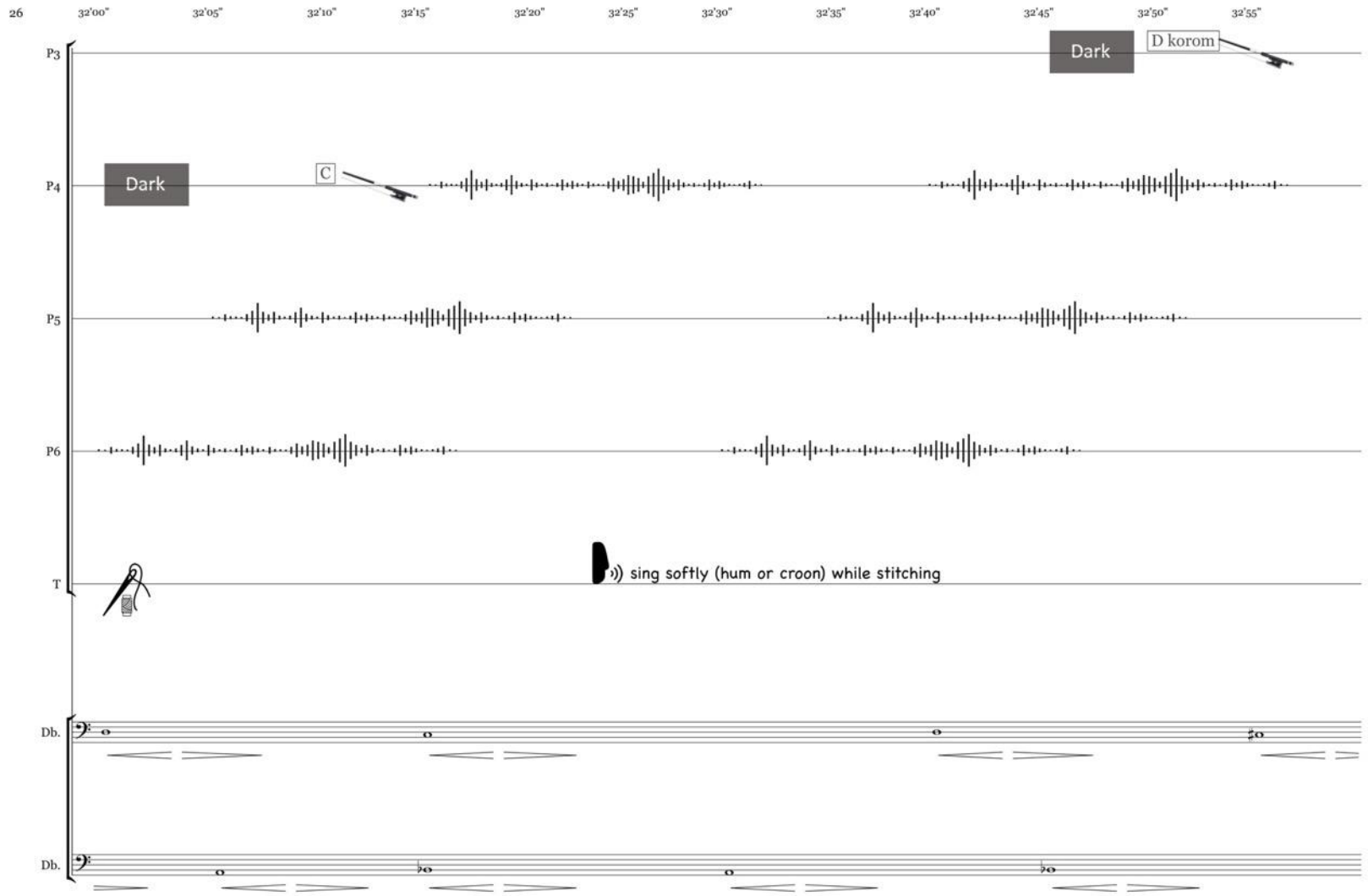

22'00"
22'05"
22'10"
22'15"
22'20"
22'25"
22'30"
22'35"
22'40"
22'45"
22'50"
22'55"
21
Elc.
C. B.
P1
P2
P3
P4
P5
Set.
23'00"
23'05"
23'10"
23'15"
23'20"
23'25"
23'30"
23'35"
23'40"
23'45"
23'50"
23'55"
Elc.
C. B.
P1
P2
P3
P4
P5
Set.
Combine talking and drinking,
gradually become louder
towards the end of the scene.
play freely on the mode,
only riz on D and d koron

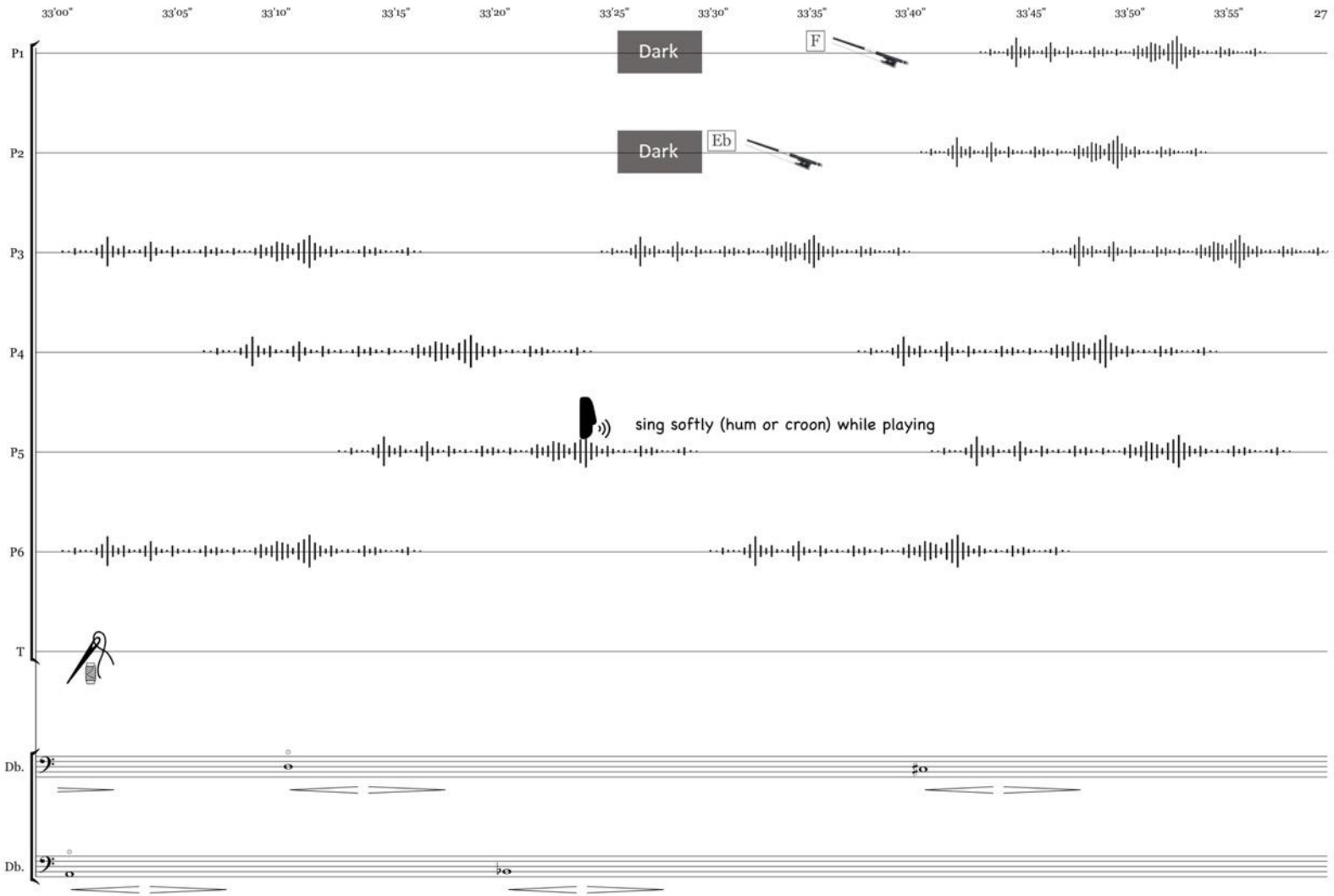

22
24'00"
24'05"
24'10"
24'15"
24'20"
24'25"
24'30"
24'35"
24'40"
24'45"
24'50"
24'55"
Elc.
C. B.
Scene 4
Assembly
P1
P2
P3
P4
P5
Play a mixture of all previous materials, sporadically and quietly.
Set.

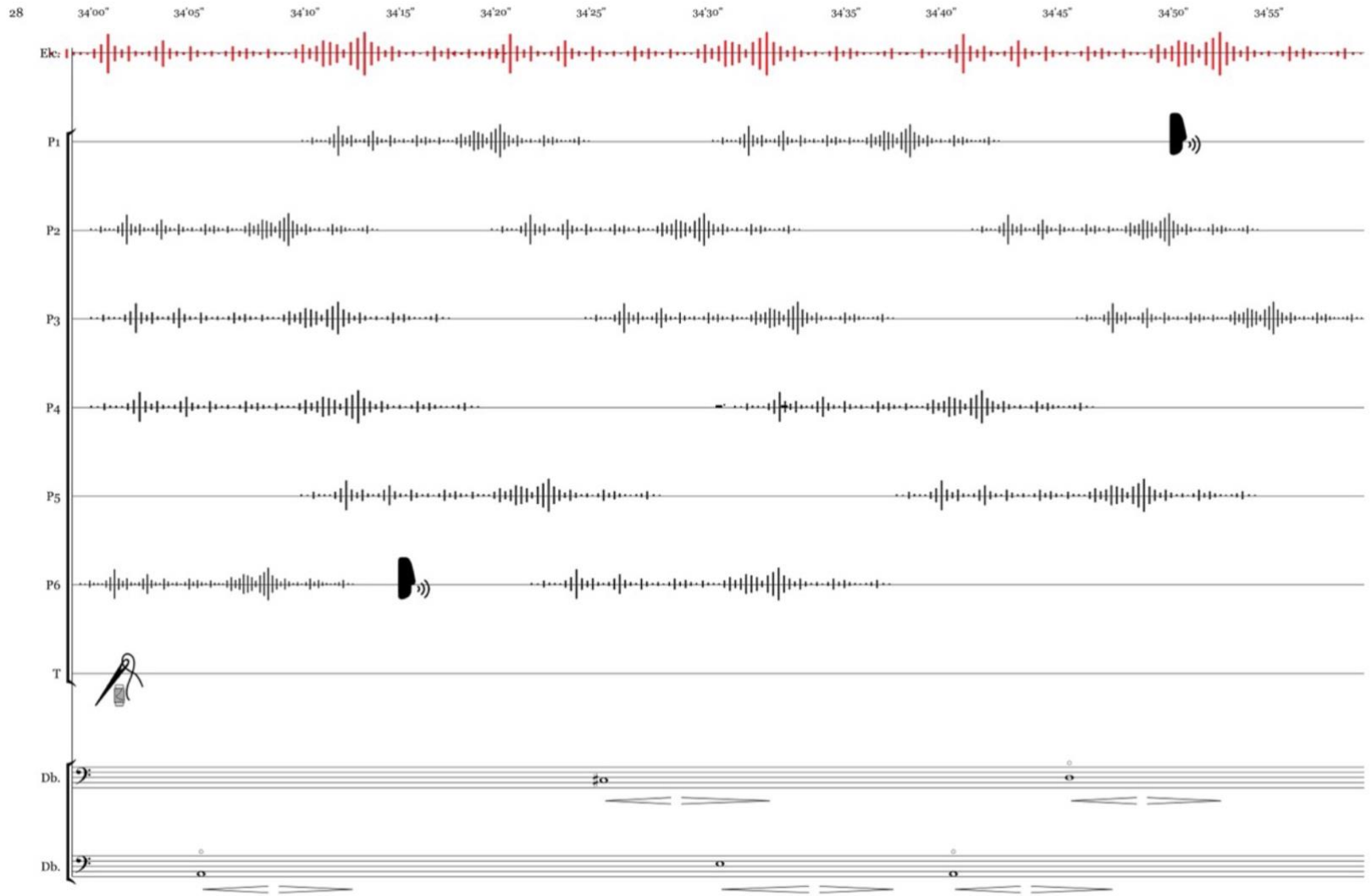

25'00"
25'05"
25'10"
25'15"
25'20"
25'25"
25'30"
25'35"
25'40"
25'45"
25'50"
25'55"
23
Elc.
C. B.
Set.
The cotton beater starts to put the cotton into the futon and stricks it with a narrow stick.
26'00"
26'05"
26'10"
26'15"
26'20"
26'25"
26'30"
26'35"
26'40"
26'45"
26'50"
26'55"
Elc.
C. B.
Set.
27'00"
27'05"
27'10"
27'15"
27'20"
27'25"
27'30"
27'35"
27'40"
27'45"
27'50"
27'55"
Elc.
C. B.
Set.

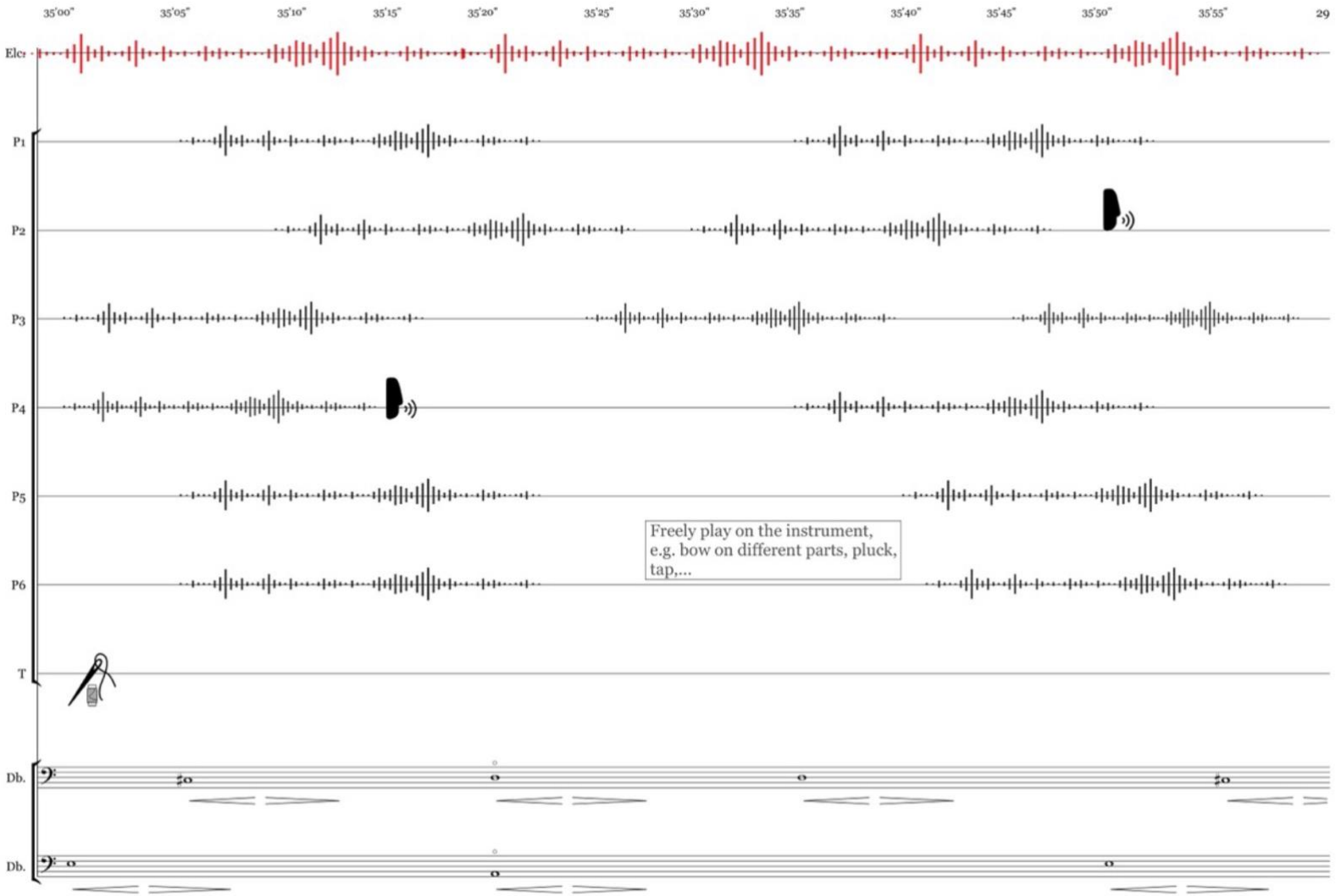

24
28'00"
28'05"
28'10"
28'15"
28'20"
28'25"
28'30"
28'35"
28'40"
28'45"
28'50"
28'55"
Elc.
C. B.
Set.
29'00"
29'05"
29'10"
29'15"
29'20"
29'25"
29'30"
29'35"
29'40"
29'45"
29'50"
29'55"
Elc.
C. B.
Set.
Scene 5
Tailoring
30'00"
30'05"
30'10"
30'15"
30'20"
30'25"
30'30"
30'35"
30'40"
30'45"
30'50"
30'55"
Elc.
C. B.
T
The tailor enters and starts the stitching process
Set.


31'00"
31'05"
31'10"
31'15"
31'20"
31'25"
31'30"
31'35"
31'40"
31'45"
31'50"
31'55"
25
Elc.
Improvise on dynamic, position of the bow
(sul tasto - sul point), and pressure of the bow.
Play with your own individual sense of timing.
A short gap between each note.
P5
Dark
Bb
P6
Dark
A koron
T
Improvise on dynamic, position of the bow
(sul tasto - sul point), and pressure of the bow.
Play with your own individual sense of timing.
A short gap between each note.
Db.
Dark
Db.
Dark

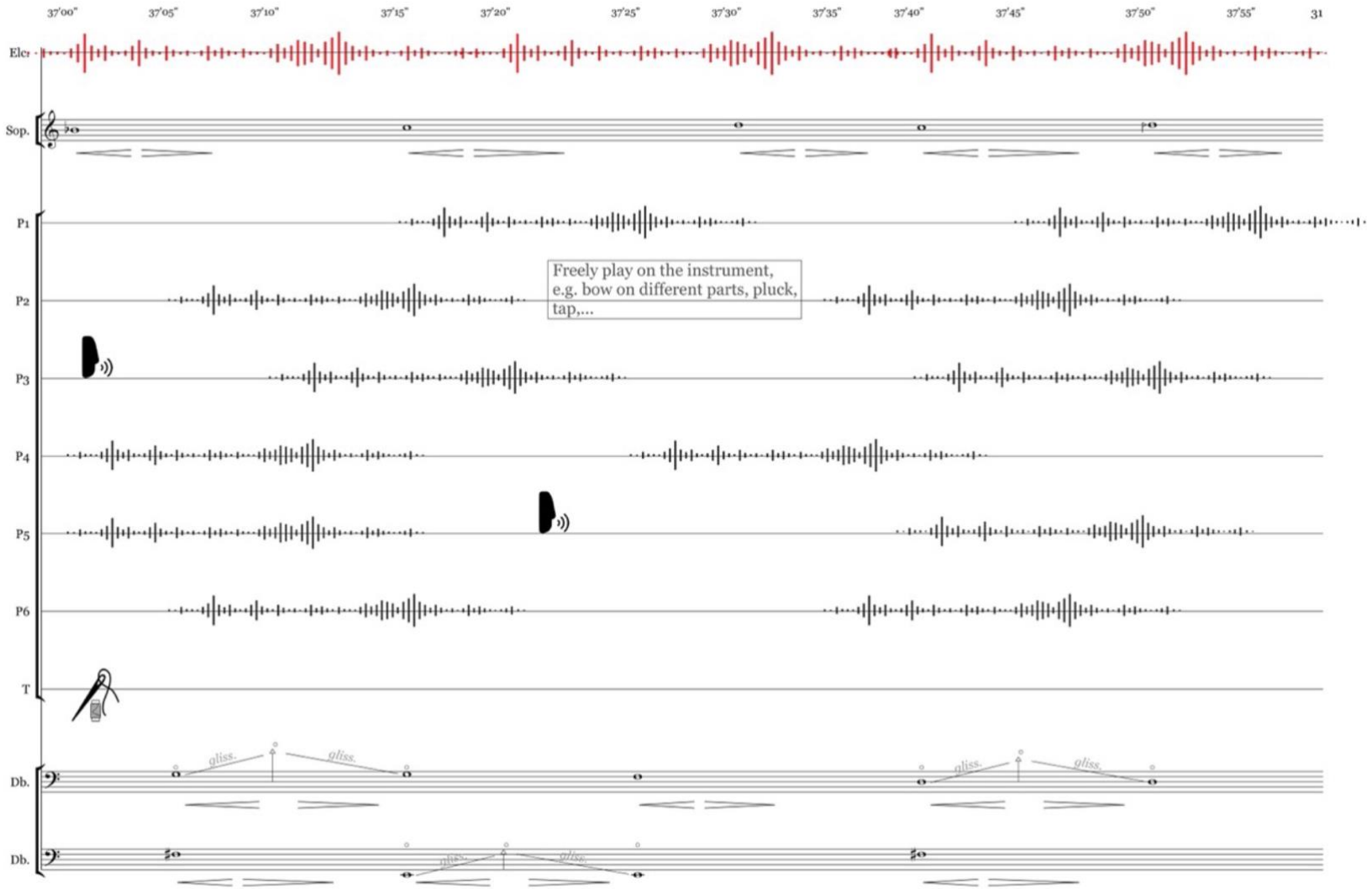

26
32'00"
32'05"
32'10"
32'15"
32'20"
32'25"
32'30"
32'35"
32'40"
32'45"
32'50"
32'55"
P3
Dark
D korom
P4
Dark
C
P5
P6
T
sing softly (hum or croon) while stitching
Db.
Db.

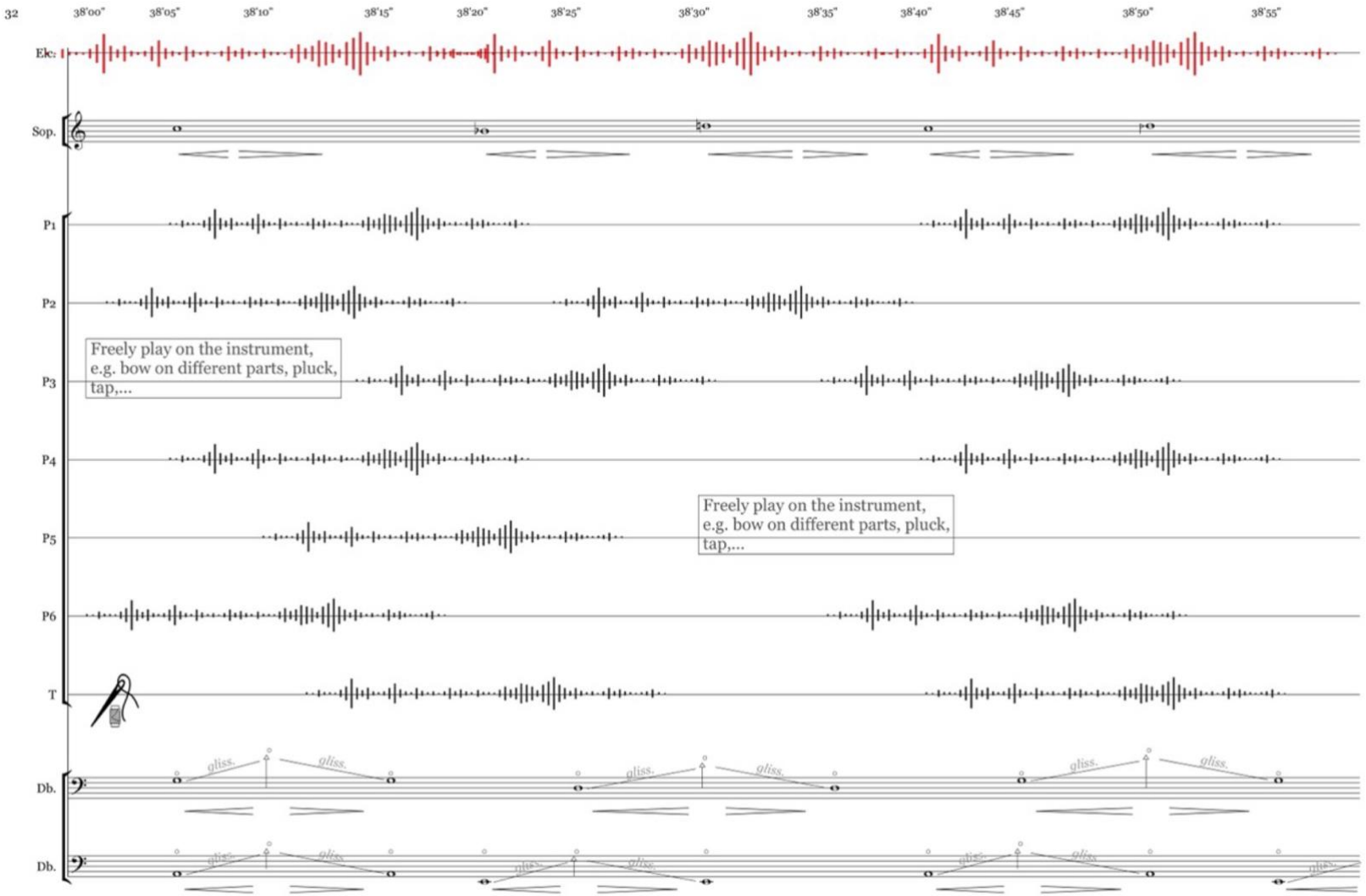

33'00"
33'05"
33'10"
33'15"
33'20"
33'25"
33'30"
33'35"
33'40"
33'45"
33'50"
33'55"
27
P1
Dark
F
P2
Dark
Eb
P3
P4
P5
sing softly (hum or croon) while playing
P6
T
Db.
Db.

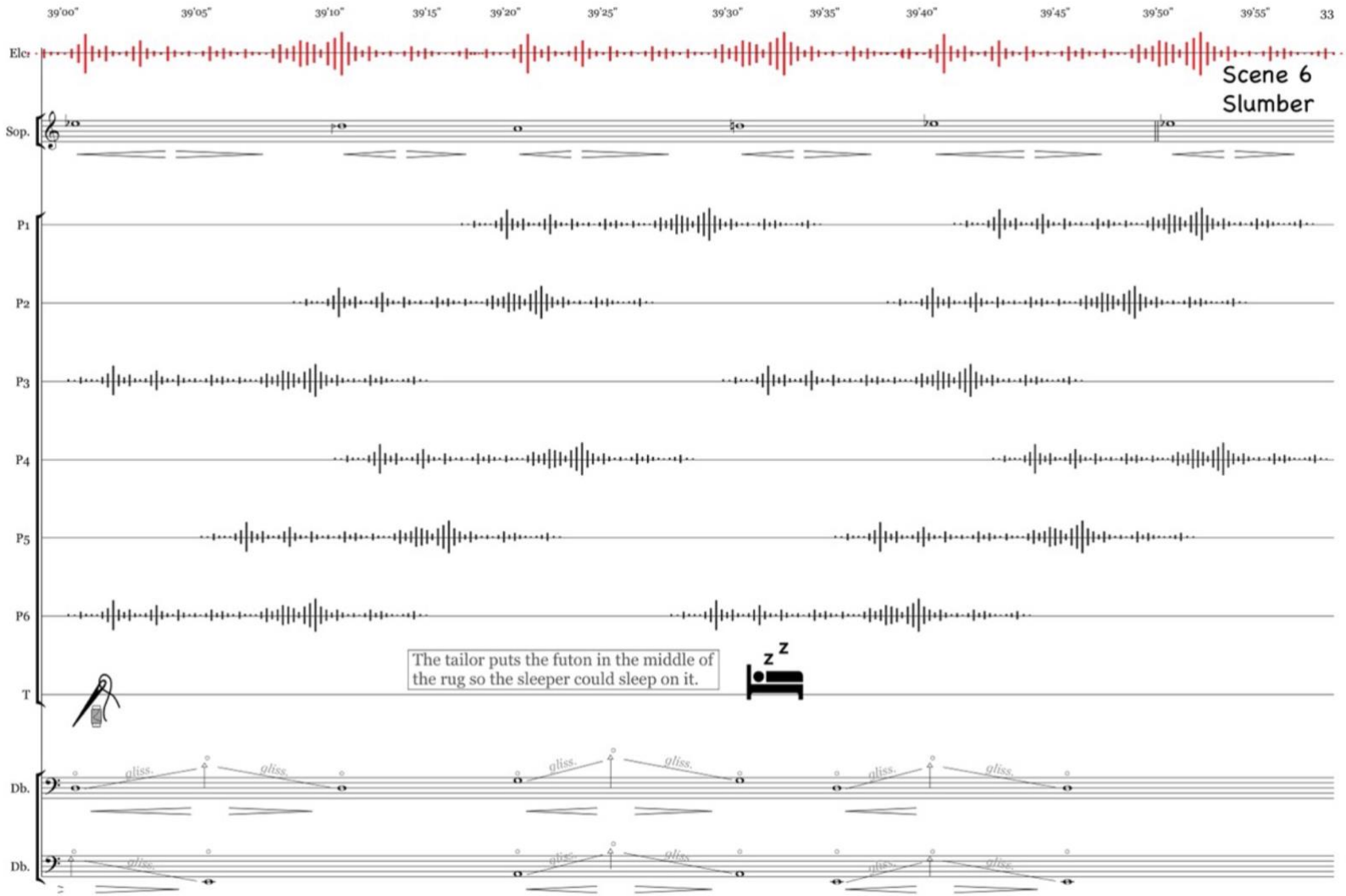

28
34'00"
34'05"
34'10"
34'15"
34'20"
34'25"
34'30"
34'35"
34'40"
34'45"
34'50"
34'55"
Elc. I
P1
P2
P3
P4
P5
P6
T
Db.
Db.

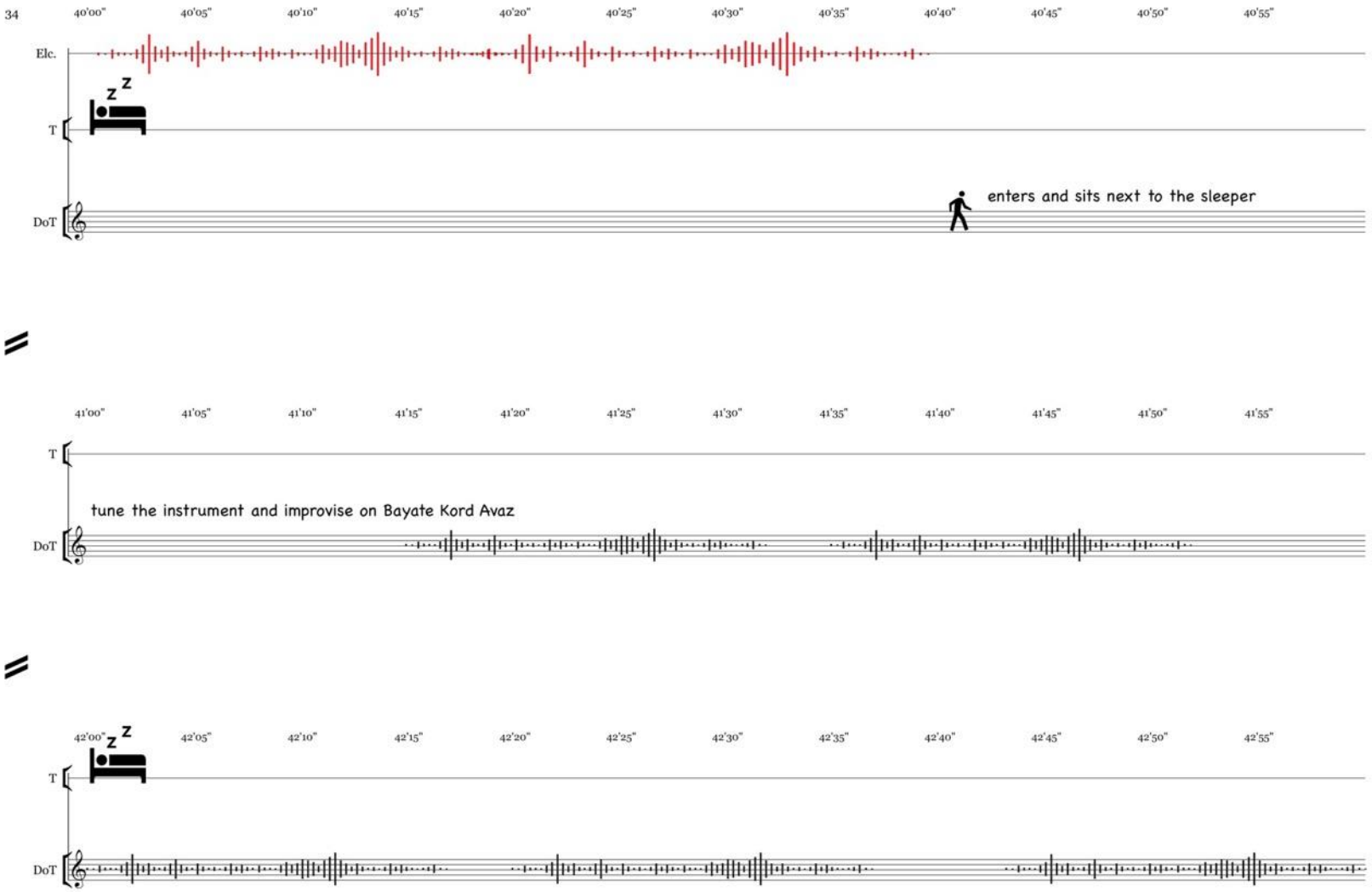

35'00"
35'05"
35'10"
35'15"
35'20"
35'25"
35'30"
35'35"
35'40"
35'45"
35'50"
35'55"
29
Elc
P1
P2
P3
P4
P5
P6
T
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
Db.
Db.

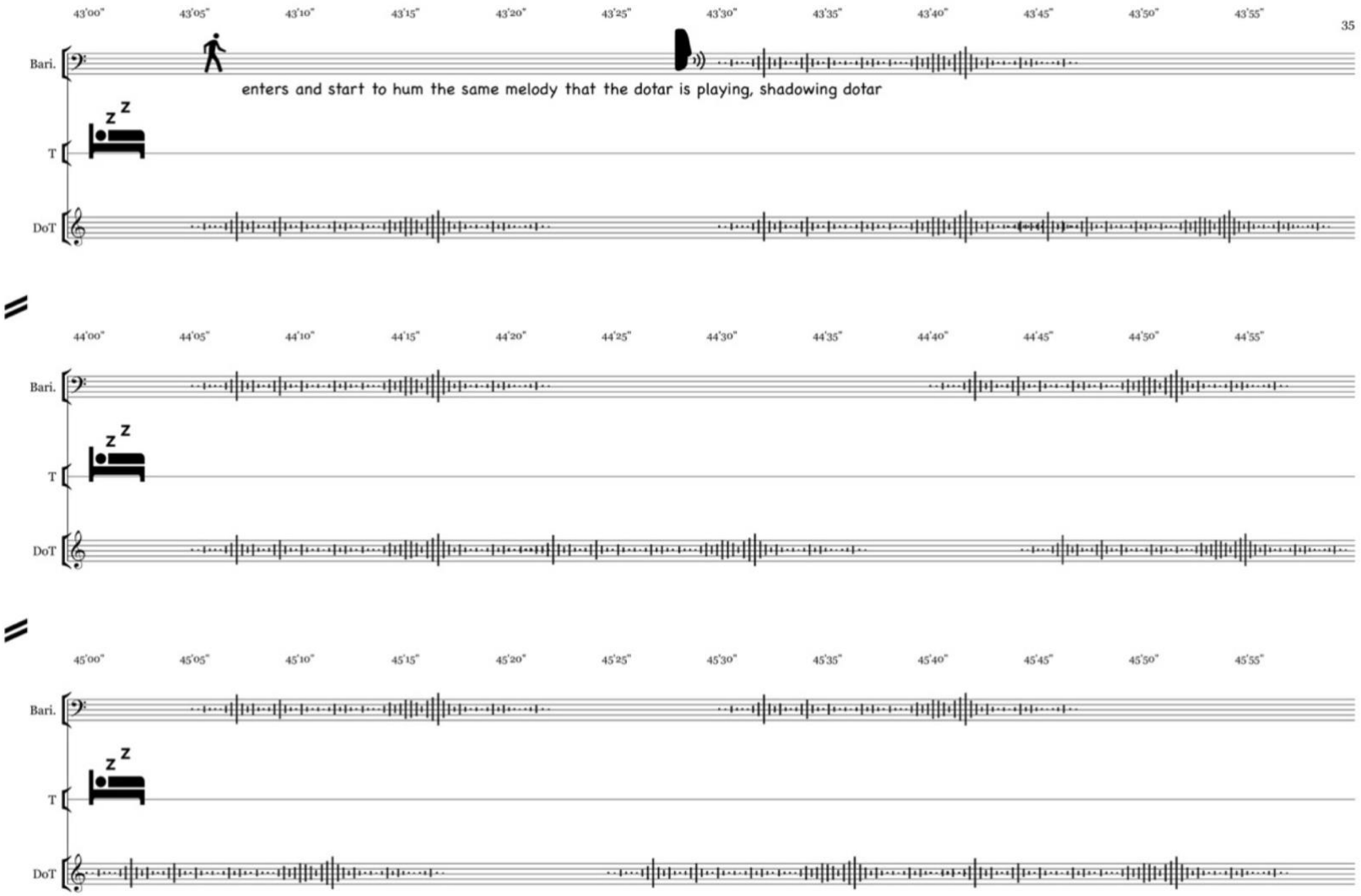

30
36'00"
36'05"
36'10"
36'15"
36'20"
36'25"
36'30"
36'35"
36'40"
36'45"
36'50"
36'55"
Elc.
Sop.
Dark
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
P1
P2
P3
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
P4
P5
P6
T
Db.
gliss.
gliss.
Db.
gliss.
gliss.

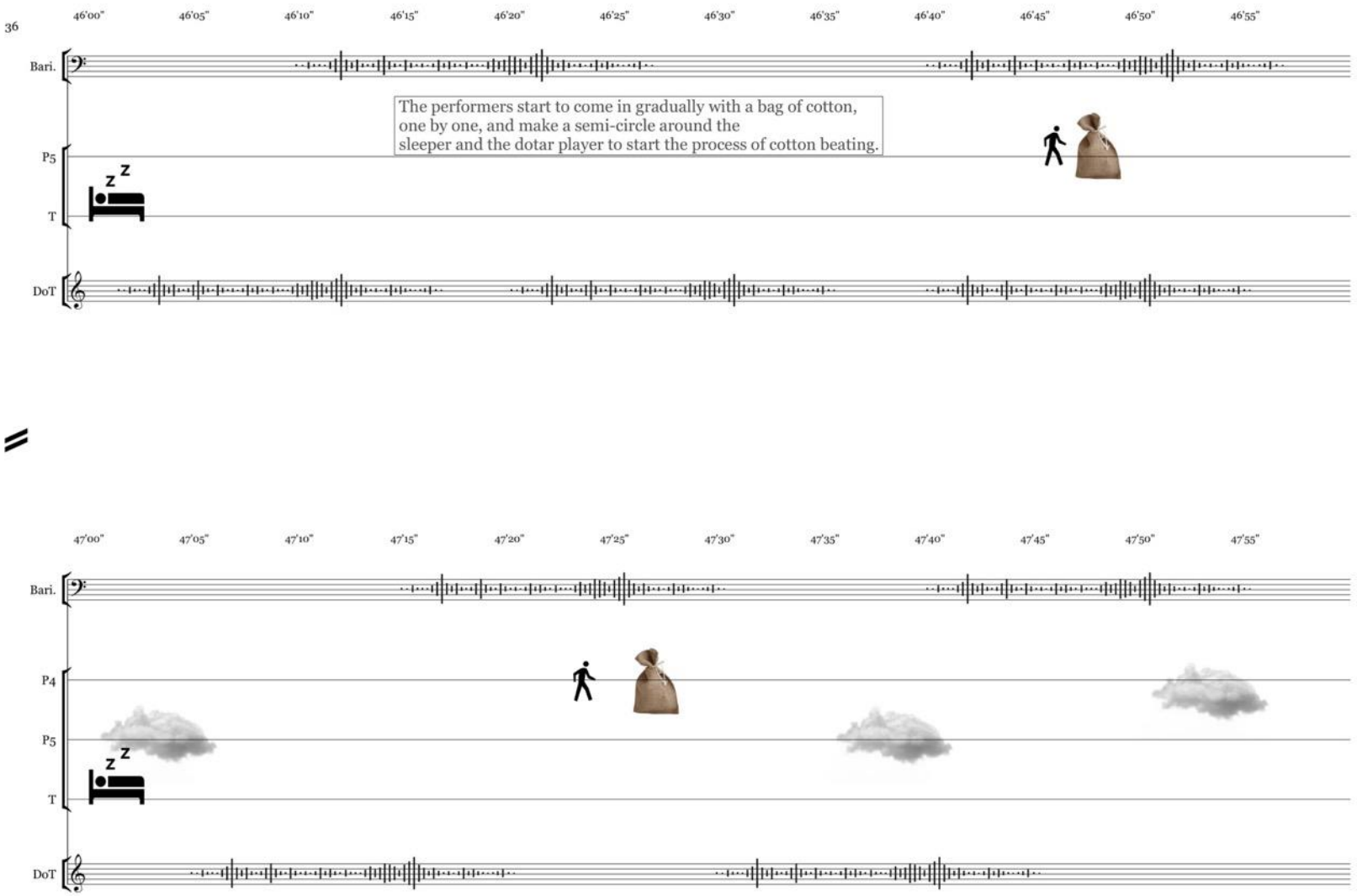

37'00"
37'05"
37'10"
37'15"
37'20"
37'25"
37'30"
37'35"
37'40"
37'45"
37'50"
37'55"
31
Elc.
Sop.
P1
P2
P3
P4
P5
P6
T
Db.
Db.
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
gliss.
gliss.
gliss.
gliss.
gliss.
gliss.

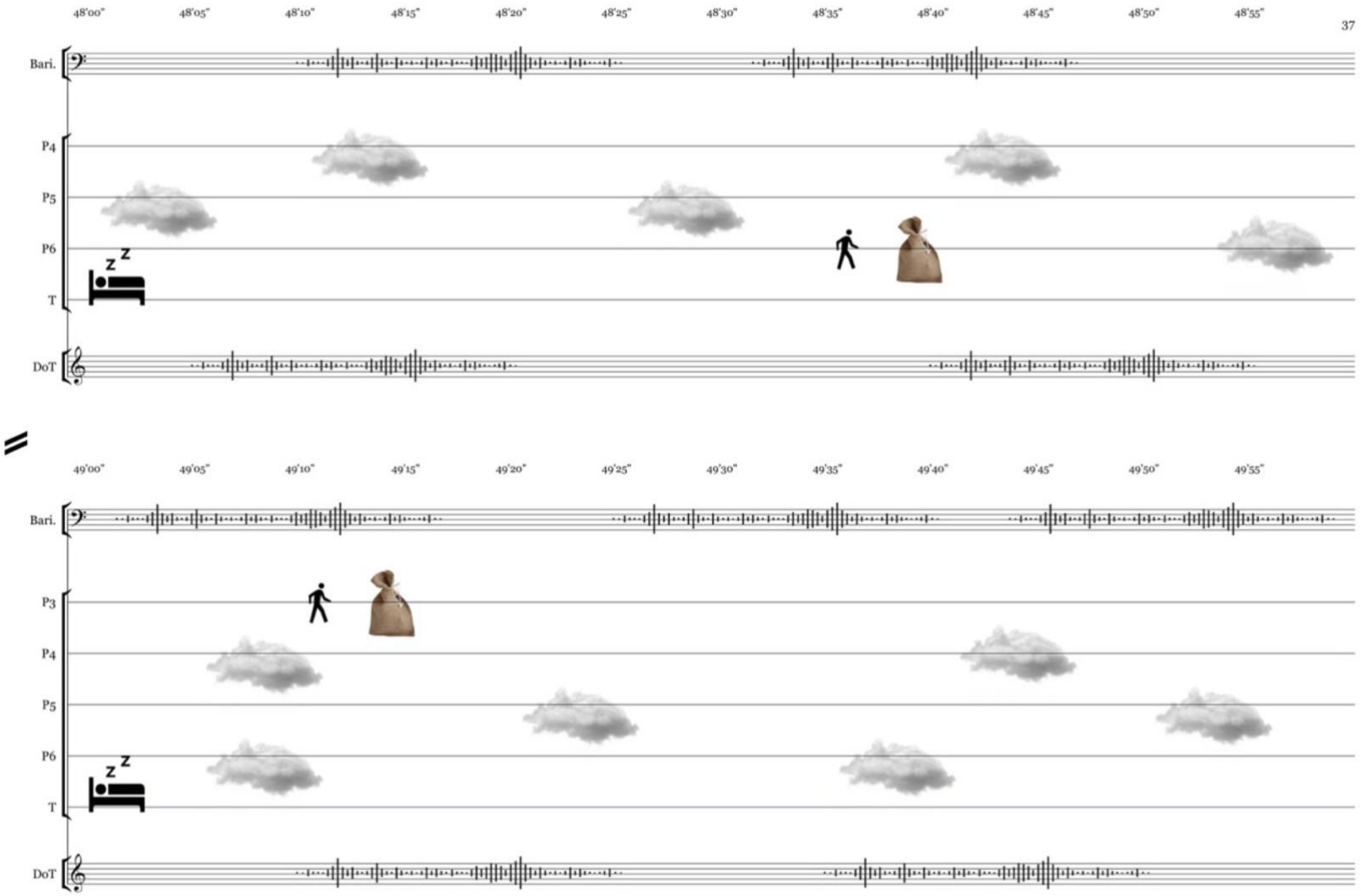

32
38'00"
38'05"
38'10"
38'15"
38'20"
38'25"
38'30"
38'35"
38'40"
38'45"
38'50"
38'55"
Elc.
Sop.
P1
P2
P3
P4
P5
P6
T
Db.
Db.
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
Freely play on the instrument, e.g. bow on different parts, pluck, tap,...
gliss.

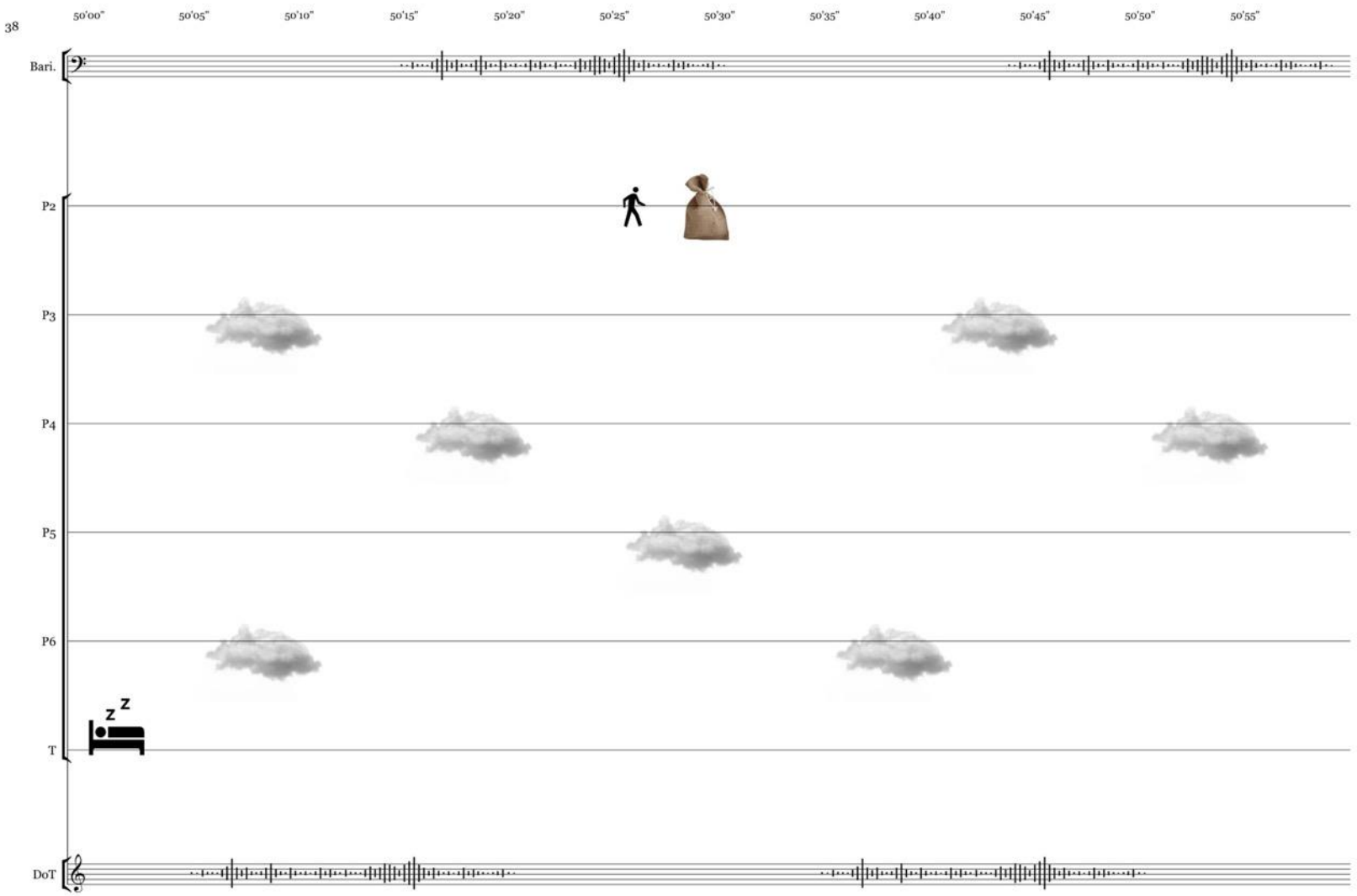

39'00"
39'05"
39'10"
39'15"
39'20"
39'25"
39'30"
39'35"
39'40"
39'45"
39'50"
39'55"
33
Elc.
Scene 6
Slumber
Sop.
P1
P2
P3
P4
P5
P6
The tailor puts the futon in the middle of the rug so the sleeper could sleep on it.
T
Db.
Db.
gliss.

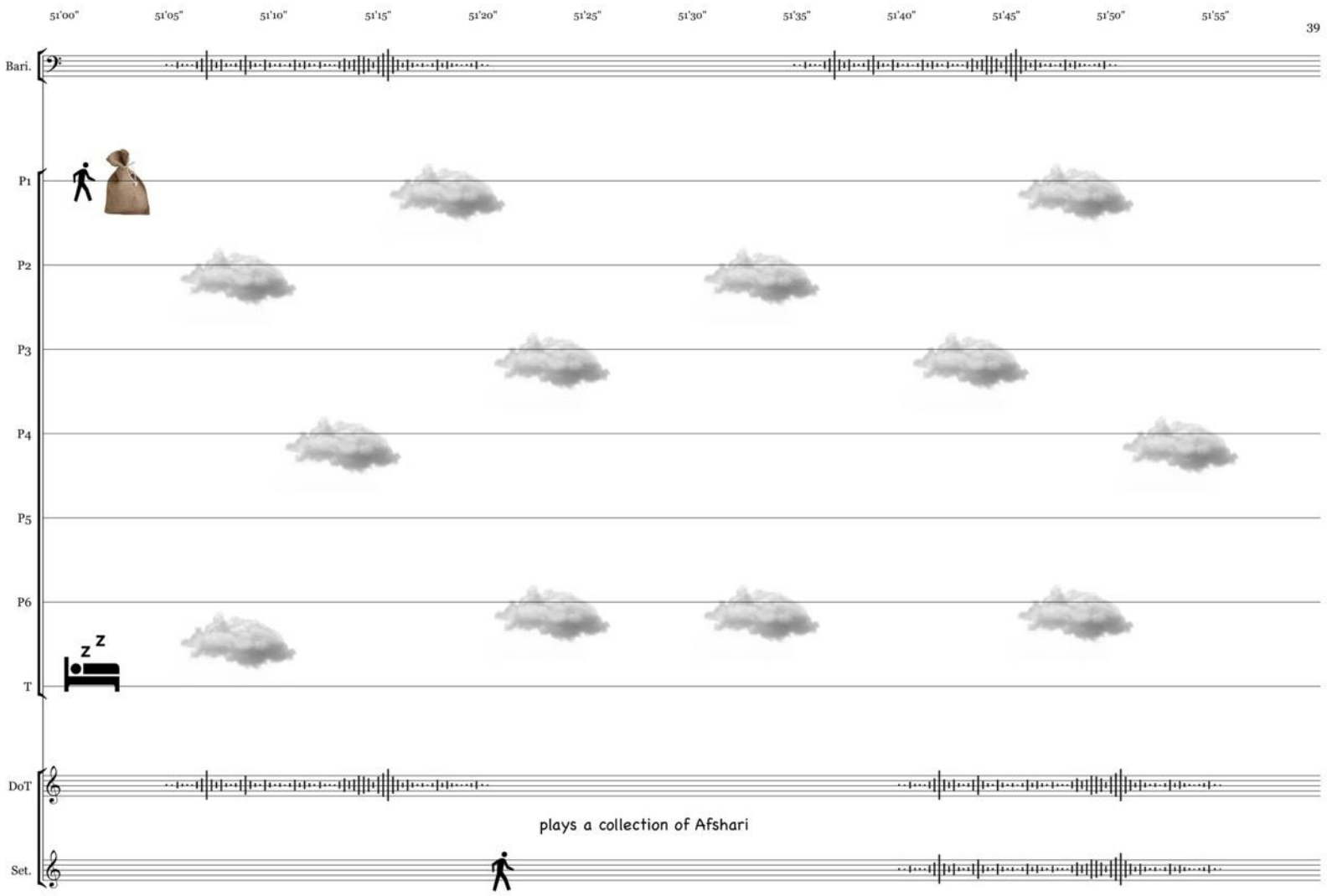

34
40'00"
40'05"
40'10"
40'15"
40'20"
40'25"
40'30"
40'35"
40'40"
40'45"
40'50"
40'55"
Elc.
T
DoT
enters and sits next to the sleeper
41'00"
41'05"
41'10"
41'15"
41'20"
41'25"
41'30"
41'35"
41'40"
41'45"
41'50"
41'55"
T
tune the instrument and improvise on Bayate Kord Avaz
DoT
42'00"
42'05"
42'10"
42'15"
42'20"
42'25"
42'30"
42'35"
42'40"
42'45"
42'50"
42'55"
T
DoT

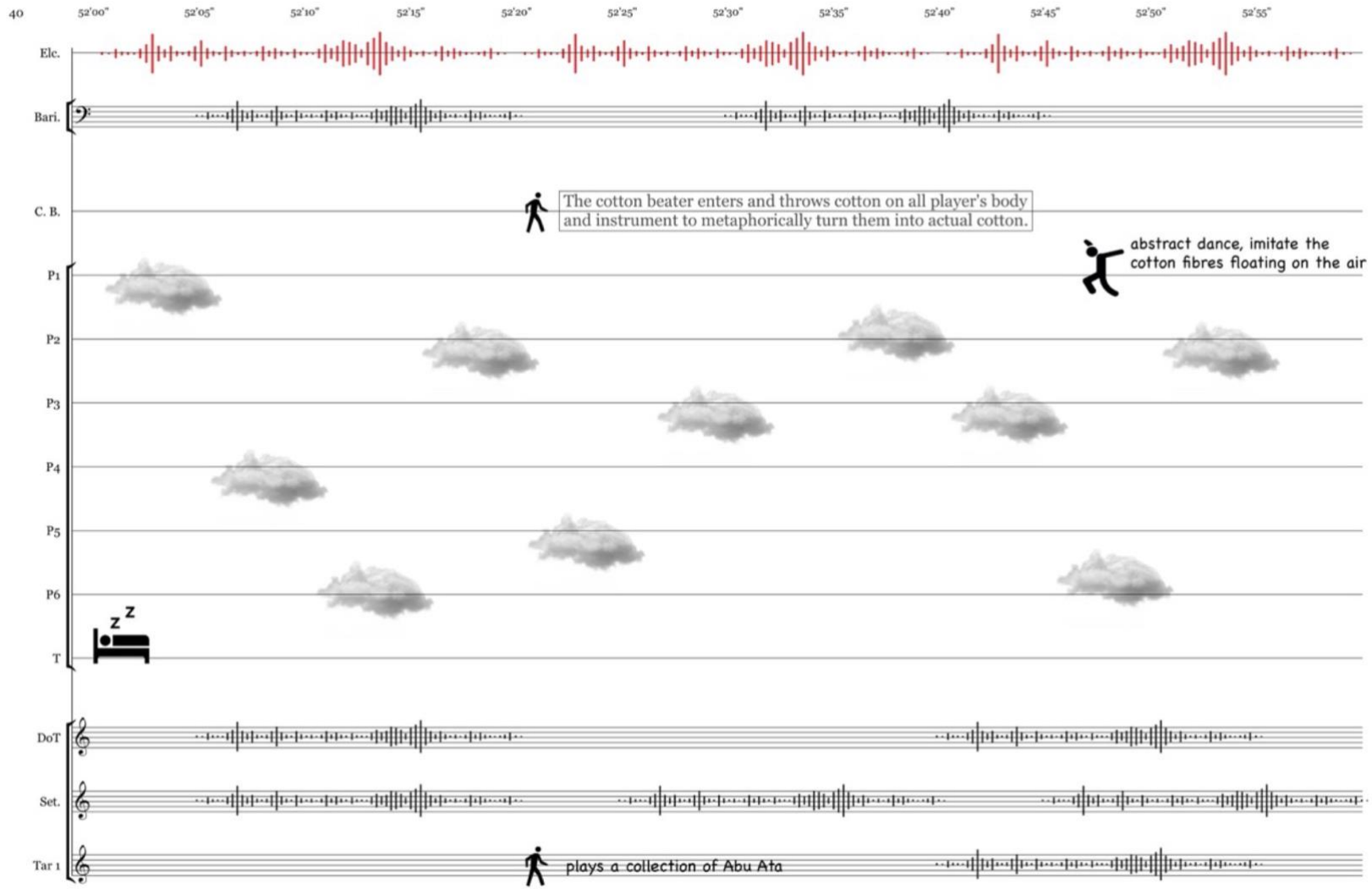

43'00"
43'05"
43'10"
43'15"
43'20"
43'25"
43'30"
43'35"
43'40"
43'45"
43'50"
43'55"
35
Bari.
enters and start to hum the same melody that the dotar is playing, shadowing dotar
T
DoT
44'00"
44'05"
44'10"
44'15"
44'20"
44'25"
44'30"
44'35"
44'40"
44'45"
44'50"
44'55"
Bari.
T
DoT
45'00"
45'05"
45'10"
45'15"
45'20"
45'25"
45'30"
45'35"
45'40"
45'45"
45'50"
45'55"
Bari.
T
DoT

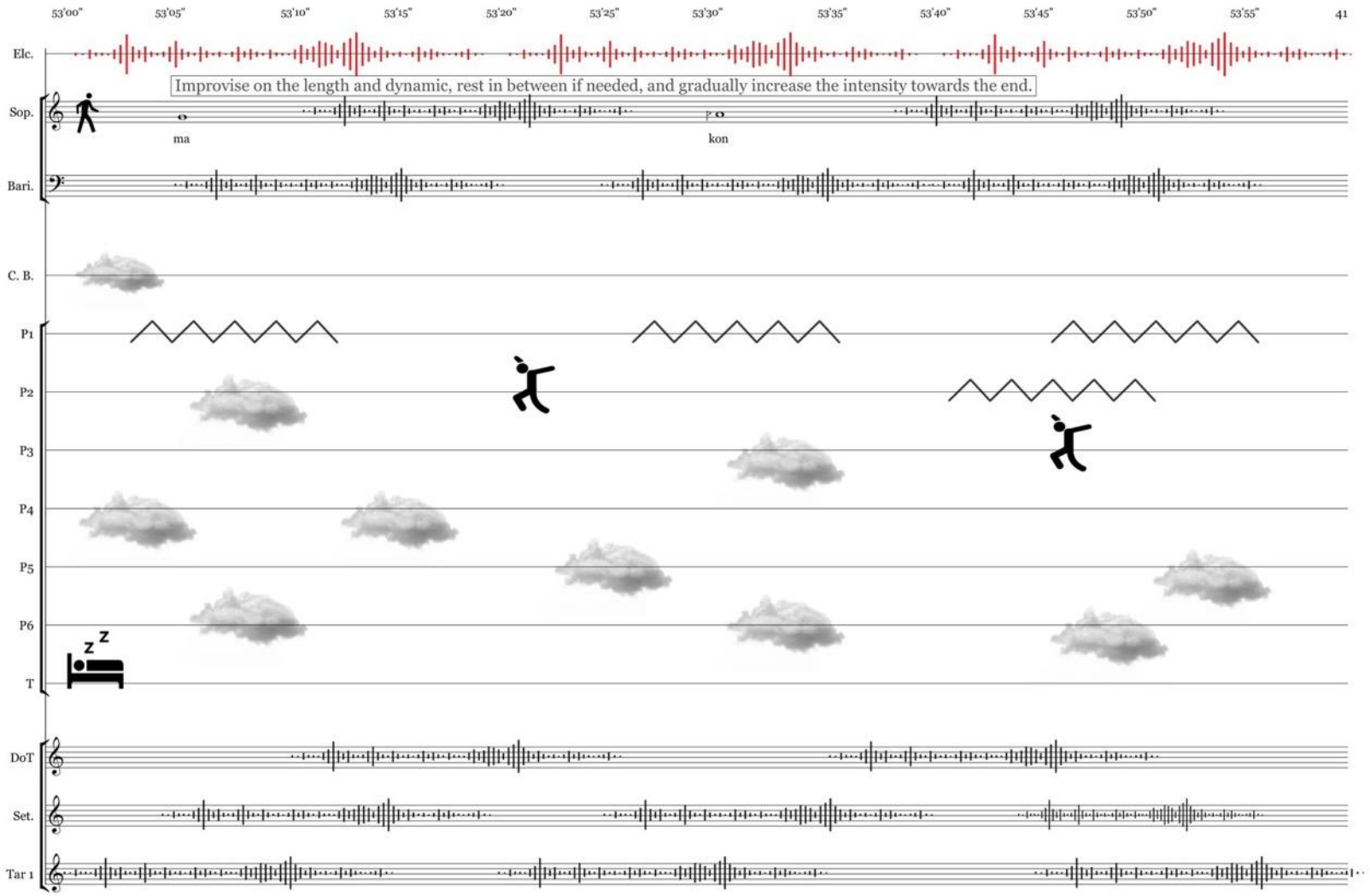

36
46'00"
46'05"
46'10"
46'15"
46'20"
46'25"
46'30"
46'35"
46'40"
46'45"
46'50"
46'55"
Bari.
The performers start to come in gradually with a bag of cotton,
one by one, and make a semi-circle around the
sleeper and the dotar player to start the process of cotton beating.
P5
T
DoT
47'00"
47'05"
47'10"
47'15"
47'20"
47'25"
47'30"
47'35"
47'40"
47'45"
47'50"
47'55"
Bari.
P4
P5
T
DoT

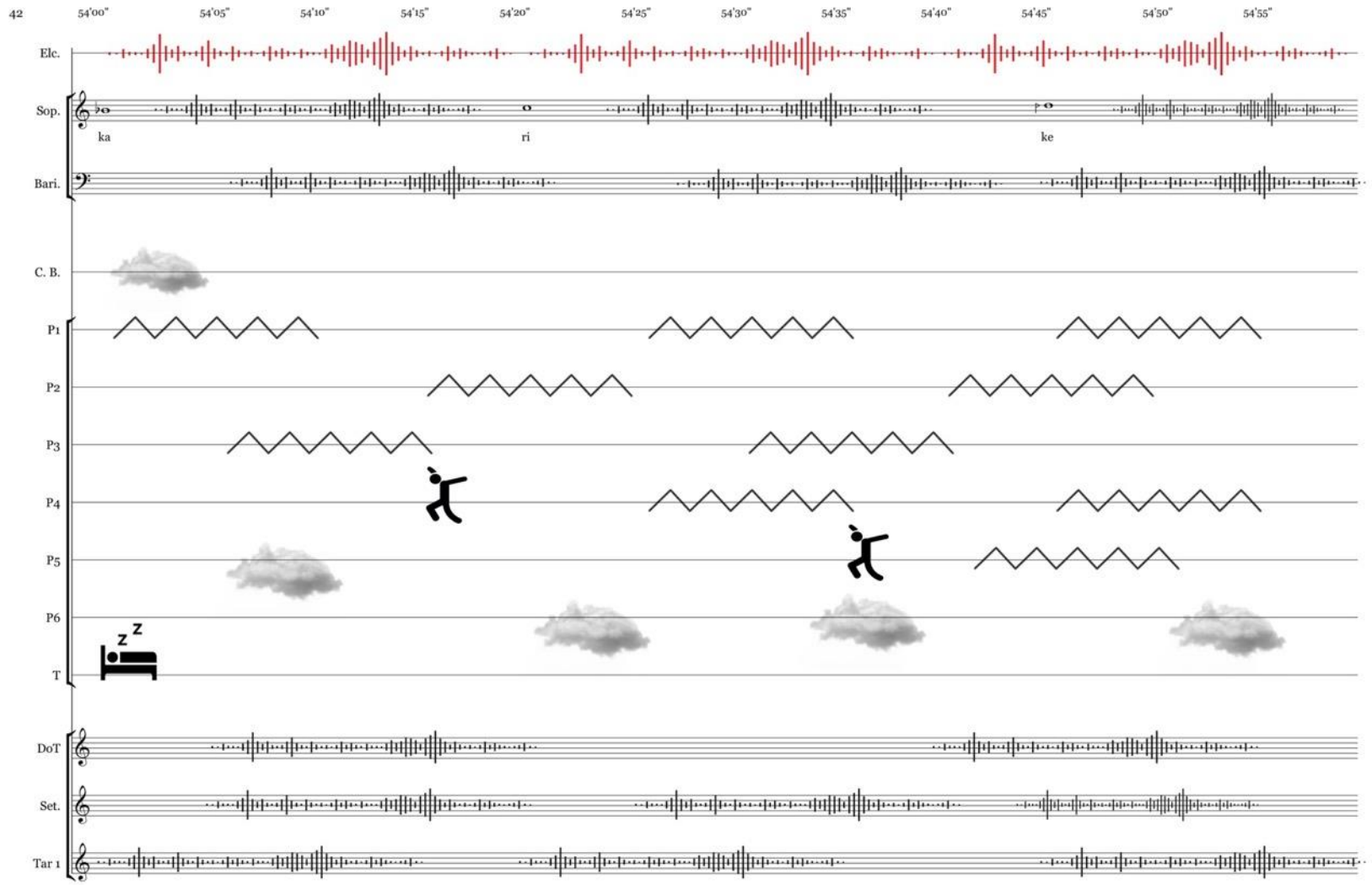

48'00"
48'05"
48'10"
48'15"
48'20"
48'25"
48'30"
48'35"
48'40"
48'45"
48'50"
48'55"
37
Bari.
P4
P5
P6
T
DoT
49'00"
49'05"
49'10"
49'15"
49'20"
49'25"
49'30"
49'35"
49'40"
49'45"
49'50"
49'55"
Bari.
P3
P4
P5
P6
T
DoT

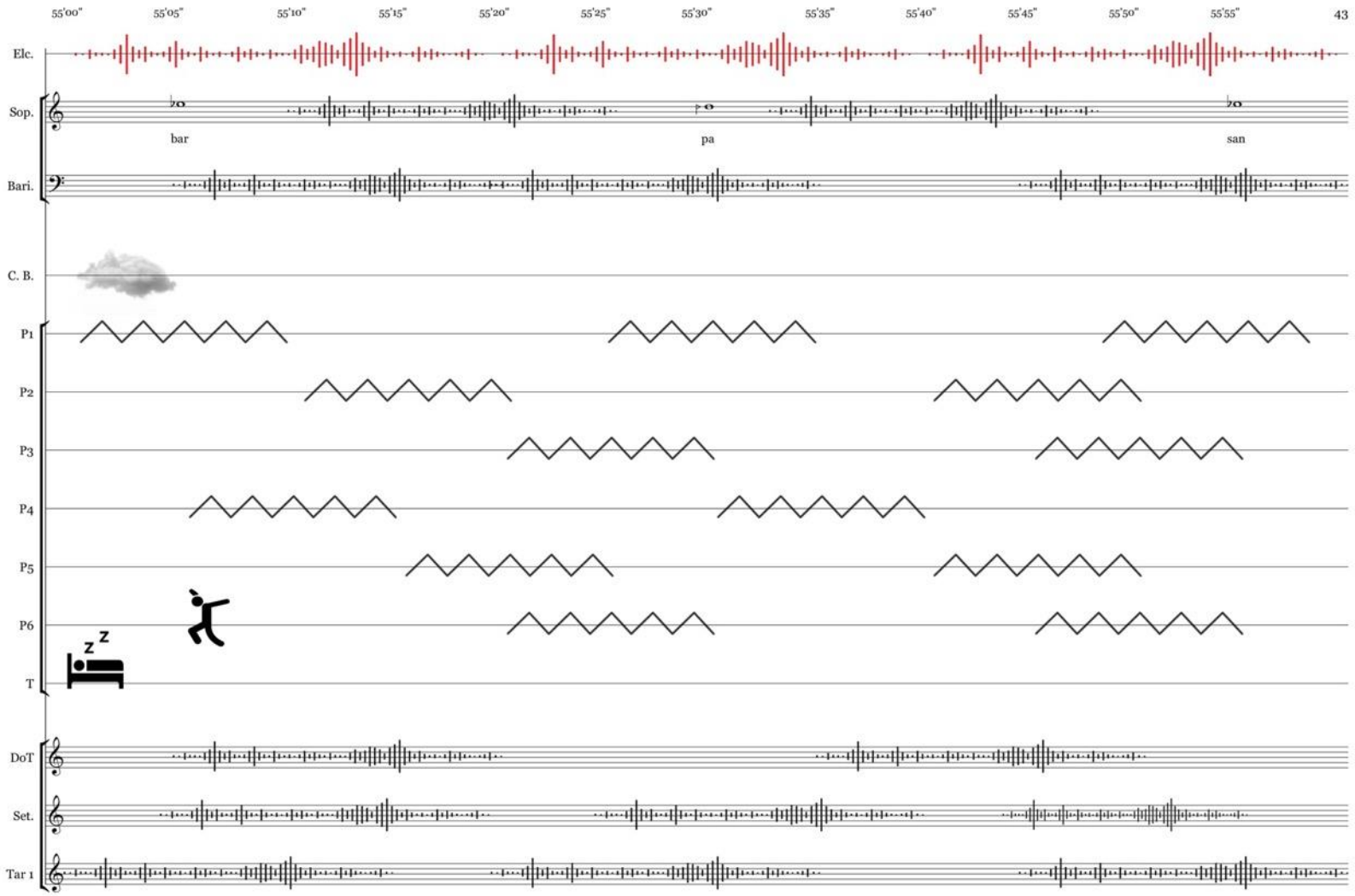

38
50'00"
50'05"
50'10"
50'15"
50'20"
50'25"
50'30"
50'35"
50'40"
50'45"
50'50"
50'55"
Bari.
P2
P3
P4
P5
P6
T
DoT

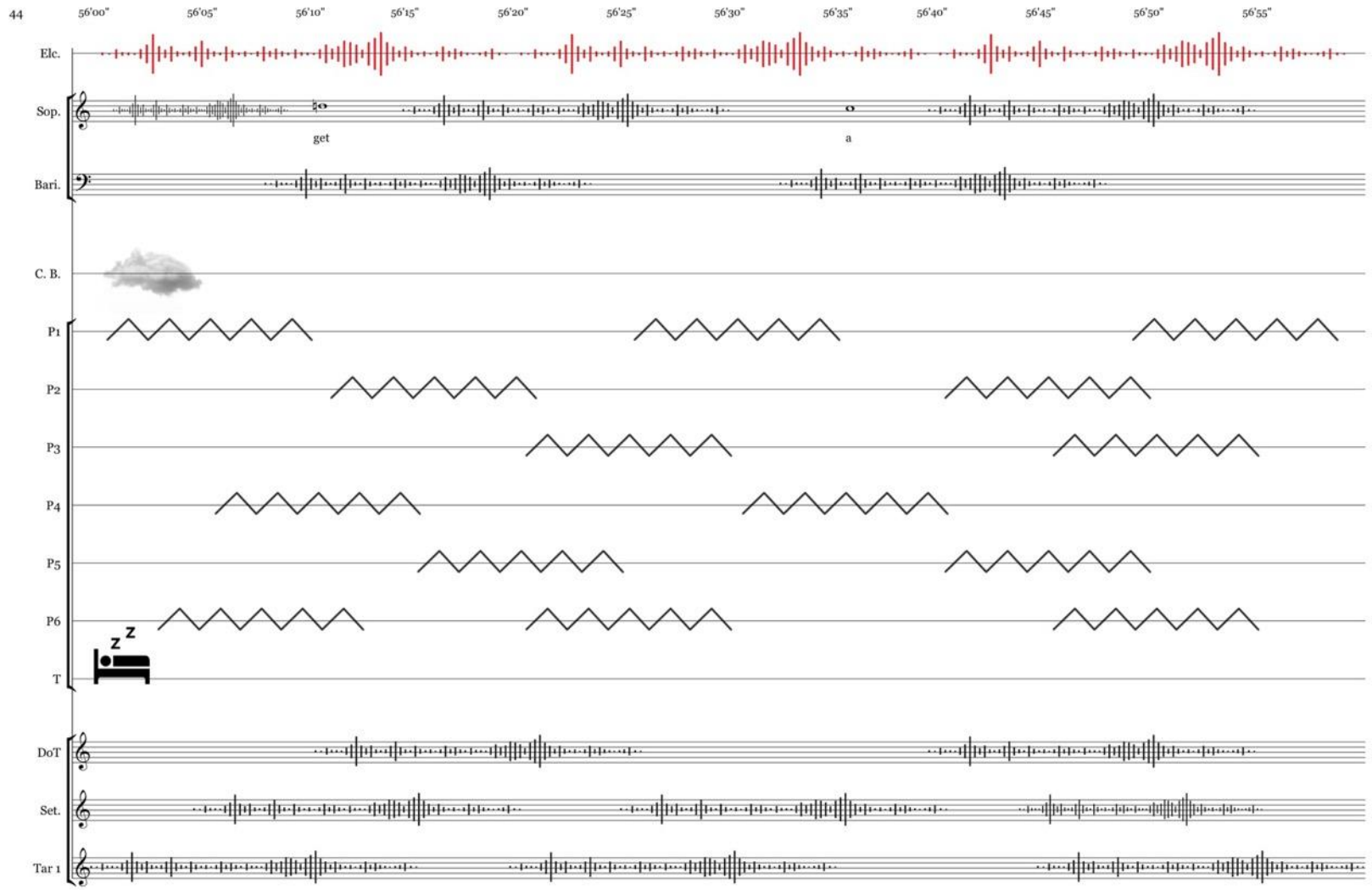

51'00"
51'05"
51'10"
51'15"
51'20"
51'25"
51'30"
51'35"
51'40"
51'45"
51'50"
51'55"
39
Bari.
P1
P2
P3
P4
P5
P6
T
DoT
plays a collection of Afshari
Set.

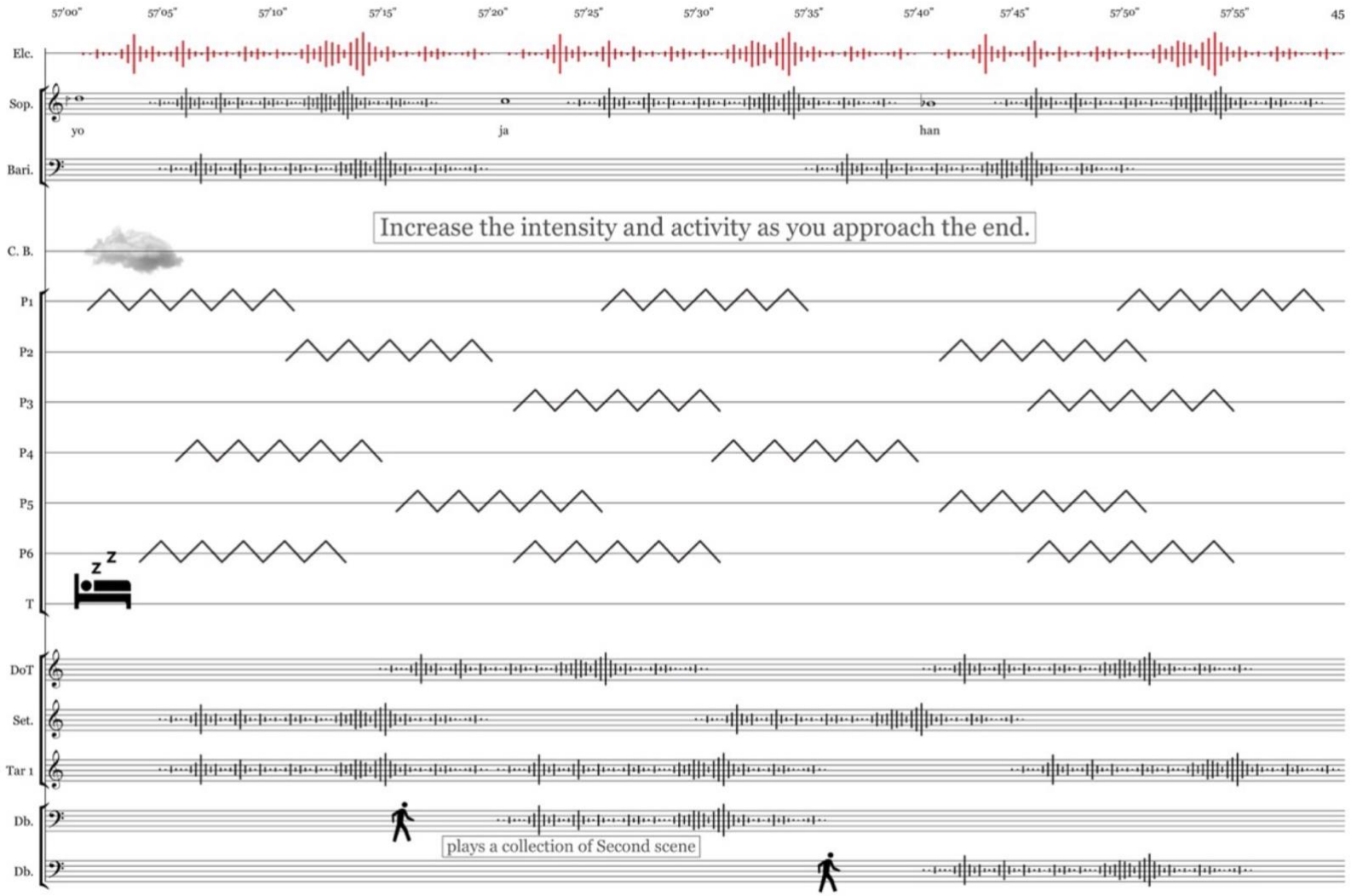

40
52'00"
52'05"
52'10"
52'15"
52'20"
52'25"
52'30"
52'35"
52'40"
52'45"
52'50"
52'55"
Elc.
Bari.
C. B.
The cotton beater enters and throws cotton on all player's body and instrument to metaphorically turn them into actual cotton.
abstract dance, imitate the cotton fibres floating on the air
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1
plays a collection of Abu Ata

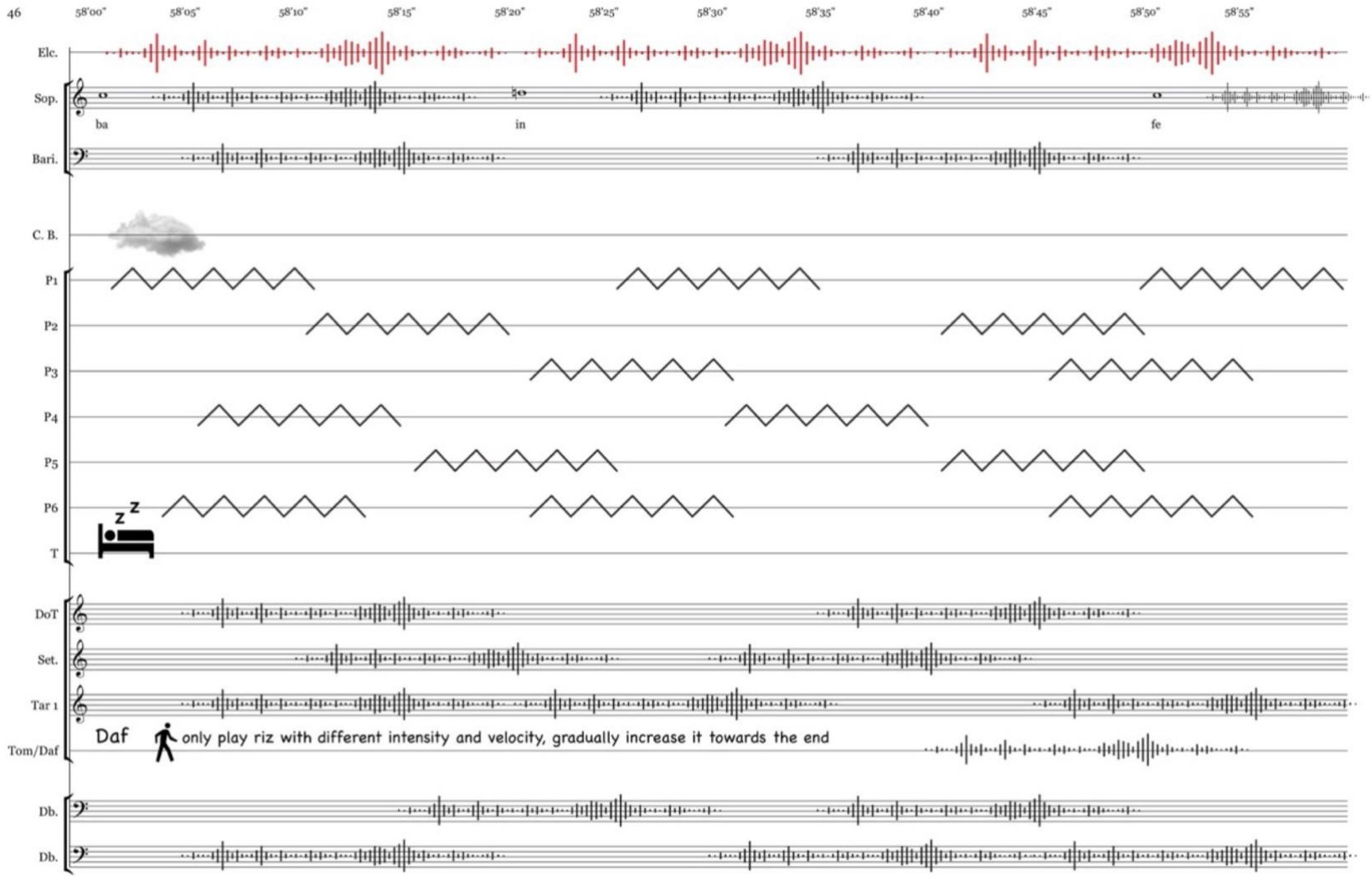

53'00"
53'05"
53'10"
53'15"
53'20"
53'25"
53'30"
53'35"
53'40"
53'45"
53'50"
53'55"
41
Elc.
Improvise on the length and dynamic, rest in between if needed, and gradually increase the intensity towards the end.
Sop.
ma
kon
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1

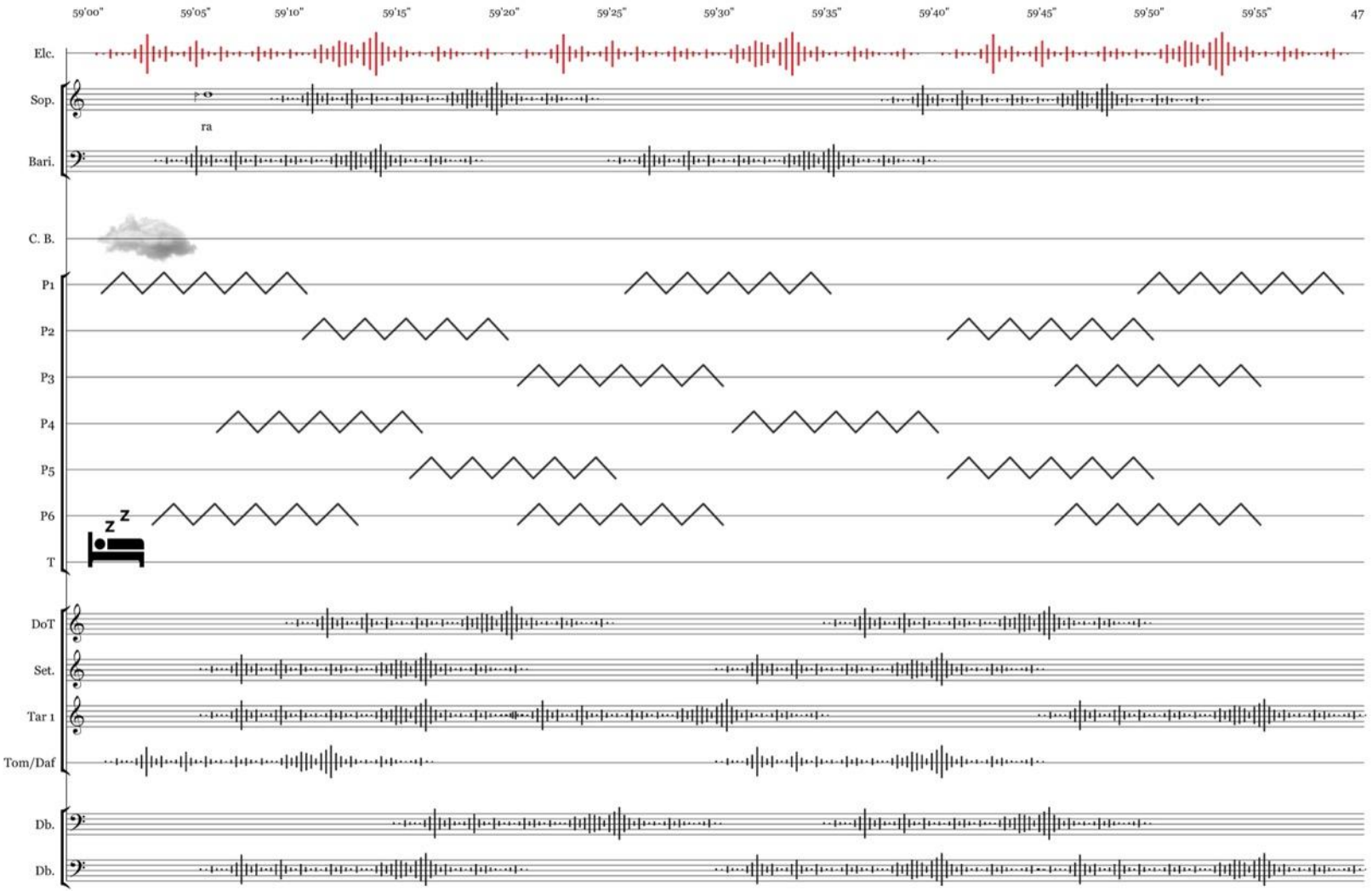

42
54'00"
54'05"
54'10"
54'15"
54'20"
54'25"
54'30"
54'35"
54'40"
54'45"
54'50"
54'55"
Elc.
Sop.
ka
ri
ke
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1

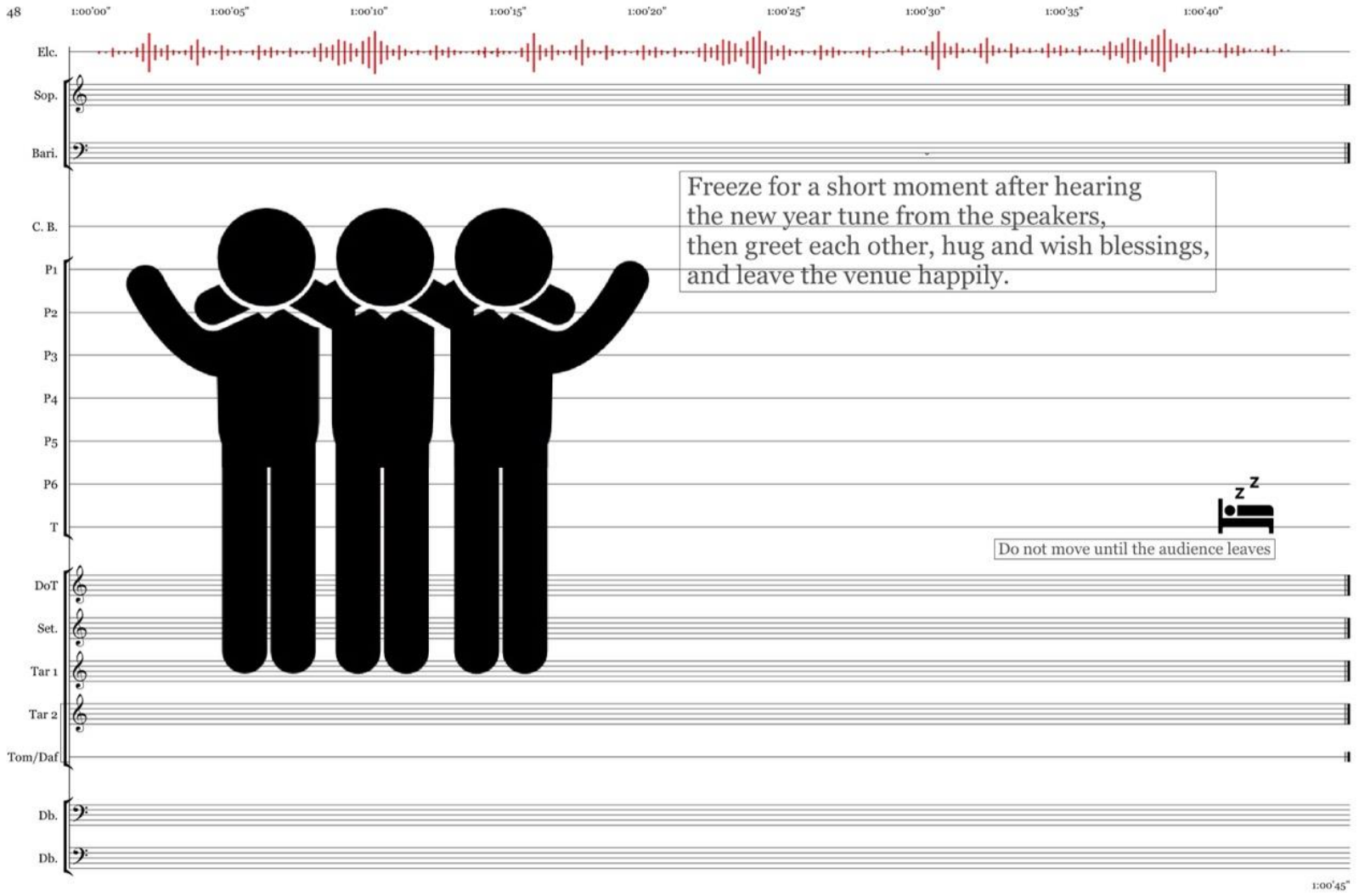

55'00"
55'05"
55'10"
55'15"
55'20"
55'25"
55'30"
55'35"
55'40"
55'45"
55'50"
55'55"
43
Elc.
Sop.
bar
pa
san
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1


44
56'00"
56'05"
56'10"
56'15"
56'20"
56'25"
56'30"
56'35"
56'40"
56'45"
56'50"
56'55"
Elc.
Sop.
get
a
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1


57'00"
57'05"
57'10"
57'15"
57'20"
57'25"
57'30"
57'35"
57'40"
57'45"
57'50"
57'55"
45
Elc.
Sop.
yo
ja
han
Bari.
Increase the intensity and activity as you approach the end.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1
Db.
plays a collection of Second scene
Db.


46
58'00"
58'05"
58'10"
58'15"
58'20"
58'25"
58'30"
58'35"
58'40"
58'45"
58'50"
58'55"
Elc.
Sop.
ba
in
fe
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1
Tom/Daf
Daf
only play riz with different intensity and velocity, gradually increase it towards the end
Db.
Db.


59'00"
59'05"
59'10"
59'15"
59'20"
59'25"
59'30"
59'35"
59'40"
59'45"
59'50"
59'55"
47
Elc.
Sop.
ra
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1
Tom/Daf
Db.
Db.


48
1:00'00"
1:00'05"
1:00'10"
1:00'15"
1:00'20"
1:00'25"
1:00'30"
1:00'35"
1:00'40"
Elc.
Sop.
Bari.
C. B.
P1
P2
P3
P4
P5
P6
T
DoT
Set.
Tar 1
Tar 2
Tom/Daf
Db.
Db.
Freeze for a short moment after hearing
the new year tune from the speakers,
then greet each other, hug and wish blessings,
and leave the venue happily.
Do not move until the audience leaves
1:00'45"