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Silent Music

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

In Integrated Composition, Improvisation, and Technology

by

Adib Ghorbani

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Professor Christopher Dobrian, Chair
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2022

DEDICATION

To my parents

Akram and Hossein

and my brothers

Ali and Erfan

in recognition of their worth.

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ABSTRACT OF THE DISSERTATION

Silent Music

by

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Doctor of Philosophy in Integrated Composition, Improvisation and Technology

University of California, Irvine, 2022

Professor Christopher Dobrian, Chair

Since the twentieth century, silence has become an increasingly significant theme in the performing arts, including music and theater. This dissertation analyzes some of the most prominent approaches to composing with silence and offers new methods for using and creating silence in the context of a theatrical music performance. My methodology for investigating sonic and visual elements that evoke silence is derived from the notion of censorship and surveillance.

The first chapter defines silence in music and theater and introduces its varieties, as well as the concepts of censorship and panopticism. In the second chapter, I analyze prior musical and theatrical works that either focus on silence, or have distinct silent moments. This includes pieces by John Cage, Salvatore Sciarrino, Krzysztof Penderecki, and György Ligeti, as well as a politically oriented play by Nassim Soleimanipour that is based on the theme of censorship. In the third chapter, I introduce a palette of silences and evocations of silence, which incorporates both methods employed by other composers and original techniques I have devised. In the last chapter, I detail the creative process of my film, *Silent Music*, a multidisciplinary project that integrates music, theater, and motion sensor technology. Through that analysis, I explain my methodology for composing a theatrical music piece centered on the notion of silence and censorship.

This dissertation demonstrates the many capabilities of silence and will assist composers, directors, and performers in better understanding the variety of silence and how to use it as the main theme of a creative work.

Introduction

Silence, as a noun, is defined as the complete absence of sound. As a verb, it means to make someone quiet or to prevent someone from expressing themselves. In music, silence refers to the lack of musical sounds and, as a result, the absolute presence of background noises. John Cage was the first composer to point out that silence is an idealized concept that does not exist in reality.

There is no such thing as an empty space or an empty time. There is always something to see, something to hear. In fact, try as we may to make a silence, we cannot. For certain engineering purposes, it is desirable to have as silent a situation as possible. Such a room is called an anechoic chamber, its six walls made of special material, a room without echoes. I entered one at Harvard University several years ago and heard two sounds, one high and one low. When I described them to the engineer in charge, he informed me that the high one was my nervous system in operation, the low one my blood in circulation. Until I die there will be sounds. (Cage 1961, 8)

Absence of sounds is not possible in reality and therefore silence is only a concept—a concept that can be interpreted in many ways. In *Silent Music*, the notion of silence is translated into perceptible sonic and visual elements—elements that simulate silence for the spectator. Silence in *Silent Music* is a conceptual theme that arises in different forms. Any sound or performative event that replicates the sense of silence is characterized as silence. For this purpose, this project also utilizes silence as a verb defined as hiding or censoring. Censorship is one of the initial ideas behind the use of silence in this project. The empty voids in *Silent Music* aim to represent suffocation, and they are made by

- the extensive use of musical silence (rests or pauses),
- the sounds that simulate silence,
- silencing, and
- visual and theatrical elements.

The idea of silencing stems from totalitarian governments' methods of censoring artworks in the media. In these societies, the artist creates the content and also deconstructs it. The artist goes through the process of manipulating their own work in order to legalize it. They either remove ideas or hide them by using metaphors. Utilizing specific compositional techniques, every empty void in *Silent Music* indicates a previously existing idea that has been replaced or muffled.

Being under strict observation gradually shapes self-censorship. The artist filters and manipulates every idea based on political and deep-rooted cultural limitations. Manipulating the work creates a new work. In other words, the form of the initial work becomes the foundation for a new piece and morphs into a different final outcome. Discussing the process of this manipulation and the artistic possibilities it offers is the focus of this research.

The silence in *Silent Music* aims to have a dual quality: as a compositional element that develops and advances the sounds and visuals, and furthermore, as a metaphoric conceptual element that refers to something other than itself. The artist tries to hide suspicious ideas by pushing them to a further level, making them inaccessible to the person in power (or the censor). In other words, by concealing what the censor seeks, the artist confuses them and leaves them powerless.

To pursue the structure of this project, I was very much inspired by the architecture of panopticon prison which has the ideal form of censorship. A panopticon is a type of architecture and a system of control that is designed to observe and punish prisoners. In a panopticon prison, the inmates never know when they are being watched. With a certain observation technique, the prisoners are forced to feel like they are always being watched. The constant unnoticeable observation results in extreme self-censorship.

This research investigates a variety of compositional and performative elements that simulate the silence of prohibition or the experience of a panopticon prison. To do so, I investigated many disciplines and forms, including live music performance, sound design, theater, storytelling, film, visual arts, and motion sensing. In this multidisciplinary project, I aim to find elements in each field that symbolize silence, and then use these elements as the main compositional tool that evolves the creative outcome. Chapter three of this dissertation is dedicated to introducing these tools in detail.

Chapter 1: Silence

Musical Silence

Silence in music is the equivalent of a pause or rest, and it is a fundamental and universal element in musical language. Silence does not have any specific character of its own. Similar to the characteristic of water, which is flexible and adapts to the shape of its surroundings, silence adapts to the quality of the sounds around it. The energy of the preceding sound, whether tense or resolved, influences the pause that follows. One of the musical elements that is crucial in shaping the silence is the dynamic transition between the rests and the sounds. This means how bold or faint the edges are between musical silence and notes. The effect of a pause after a quick cut-off, where the silence disrupts the sound, is different from a pause that occurs after a long fade-out. The former reverberates the tension of the previous sound, making it energetic. The latter does not accentuate any event; it ties sounds to pauses and brings stillness.

Another important element that forms the character of the rest is the harmonic function of the previous sound. The silence that follows a resolving chord differs from the silence that follows a dissonant unresolved chord. The sense of stability or tension affects the following rest. The silence after a dissonance (as an example, a cluster chord), like its preceding sound, has a higher level of energy, which means it is as moving and unexpected as a dissonant chord in the middle of silence. In contrast, a pause followed by a consonant sound brings the repose of an ending. It often clears the mind of the listener from expecting the piece to continue and gives them the sense of preparation to mentally get out of the performance (musical) space.

In *Silent Music*, I employed musical pauses with particular considerations. I attempted to use as many empty voids as possible in order to examine the events' potential to prolong a certain effect. In this project, musical silence serves several purposes, including:

- To frame the structure by punctuating the beginnings and ends
- To emphasize the most important sections, including the peak of dramatic moments when the sonic and performative elements surpass the threshold of expressivity
- To parse the musical phrases and add a stuttering quality to the statements
- To create a space for the reflection of the previous event, or in other words, a chance to review what just happened
- To create tension, anticipation, and resolution.

* * *

Portraying Silence Through Sounds

To develop the theme of silence as the main composing tool, this project not only defines silence as an empty musical space, but also as sounds that can replicate silence. I call this category of sounds *semi-silence*. Semi-silence refers to certain qualities of sound that elicit the sense of silence. For this purpose, I explored various possibilities of sounds, including different textures and techniques. Semi-silences include ambient sounds, soft dynamics, different vocal effects, echo, repetition, and sustained sounds, which will be explained in more detail later. These techniques, if used in certain ways, evoke the feeling of silence, emptiness, or stillness essential to build the project.

In the anechoic chamber, Cage realized that absolute silence is not real and that the experience of isolation contains continuous, sustained sounds that ring in the ear and never stop until death. The inner sounds are perfect examples of semi-silence. In this endeavor, I suggest a handful of techniques and possibilities to build silence using sounds. By this means, the theme of silence grows out of mere musical pauses and brings variety to the composition.

* * *

Conceptual Silence

One of the most significant aspects of this project is that silence is introduced both as a noun and a verb. Silencing is a compositional method that is developed for this project. This technique is one of the important components that separate this work from other silent pieces. The idea of using silencing as a compositional tool comes from the process of censorship, when suspicious ideas are hidden or covered. Silencing in *Silent Music* is to purposefully conceal one event with another one. The overlap of two or more layers initiates novel sonic and visual events. Furthermore, it gives specific commentary to the images and showcases philosophical, psychological, and political ideas—one layer of sound covers the other to create a new connotation.

The primary function of silencing is to disturb the details of the whole and to aid in the deconstruction of the content. One of the main questions to answer is how to construct a piece by silencing or deconstructing it. This means carving holes in order to make a piece as porous as possible. This should be carefully considered so that the framework will not be affected when disturbing the content. The structure should stay solid and have enough informative elements for the spectator to have a sense of integrity. In other words, deconstruction is the main theme that develops the work and shapes the framework, leaving the minimum of literal information to convey the structure and building the remaining with abstract material. Silencing, like censorship, does not imply ignoring reality, but rather manipulating and concealing it in different ways.

The amount of concealment is an important concern in the process of composition. Too much hiding damages the cohesion of the piece and makes it needlessly obscure. In addition, the silenced moments should be introduced in such a way that one clearly senses the absence of the

hidden element. These silent moments might create a sense of misunderstanding, wonder, curiosity, and exploration to decode symbols. From the perspective of music, the mixture of different contrasting sounds creates sonic effects and helps build the grotesque atmosphere of the film. This is a metatheatrical work that uses emptiness to evoke a mixture of fear, surprise, laughter, and anticipation.

* * *

Theatricality

Two important aspects of this multidisciplinary project are theatricality and motion sensors. While researching different ways of performing live electronic music, I found theater (particularly physical theater) as a perfect field to integrate motion sensors and live music making. Regarding the combination of motion, technology, and sound, the theater might be the domain that receives little attention compared to dance or the visual arts. Having the possibility to move and make music simultaneously with a single actor-musician opens up new performative possibilities: the synchrony between motions and sounds in real-time and the potential for the performer to improvise the movements and the sounds simultaneously. The following paragraphs explain how this theatricality emerges from the interactions that occur during the censorship process.

One of the main ideas behind *Silent Music* comes from Islamic restrictions against music and performance in Iran. Since the Islamic Revolution in 1979, women have been prohibited from singing solo in public, and there are strict rules against dancing. In this form of authoritarian state, artistic products are strictly controlled. Permission for every publication or performance requires relentless wrangling and time-consuming bureaucratic processes. In such circumstances, the artist

not only creates the work but also goes through a chaotic and lengthy procedure to prove that the work is legal.

According to Article No. 3 of the third chapter of the Press Rights approved by the Islamic Parliament in Iran:

The press (including any publication) has the right to publish and bring to the public's attention the people's and the officials' views, constructive criticisms, suggestions, [and] explanations in accordance with Islamic values and society's interests. (Islamic Consultative Assembly 2002)

The first condition, Islamic values, generally refers to old written religious rules that limit or muffle works of art. For instance, there should be no sexual content, no physical touching between men and women, and no solo singing by women. The second section of the law is about society's interests. There are no explicit written laws for this section. The artist will need to interact with a person in power (censor) in order to obtain approval. The intrusion of a powerful individual who criticizes and modifies the work is a vital notion for the foundation of this project. The dynamic of power between the artist and the censor serves as the foundation for theatrical interactions as well as the narrative. This project simultaneously shows both the artwork and the considerations that led to its creation. Censorship, as well as bureaucratic procedures, provide the groundwork for the development of the silencing technique.

* * *

Theatrical Silence

Theatrical silence usually correlates with stillness and non-verbal communication. These moments, like the musical silence, are influenced by the events that occur around them. In pauses, the spectator has the time to reflect upon and mentally process two things: what happened and

what is likely to happen. The pause is a space for the imagination to recapitulate the previous events or to create tense anticipation for upcoming incidents. Any dialogue or sound may change the perception of the pause afterward. The empty voids are composed by accurately structuring the surrounding events. Theatrical silence, or in other words, stillness, can create anticipation, agitation, or calmness depending on its location in the structure.

An important aspect of theatrical silence is non-verbal communication. Lack of literal verbal information challenges the audience to perceive the essential information through accurate focus on the most minimal changes. Removing the verbal information draws attention to the nonverbal components.

Theatrical semi-silence, or in other words, semi-stillness, can be defined as events that are not motionless or wordless, but still replicate them. One example is slow movements. In *Silent Music*, slow movements are employed to showcase emptiness, frustration, distress, desire, fear, and strict bureaucratic procedures, all while reinforcing the absurdity of the scenes. The slow movements prolong the act and create anticipation or reflection that is similar to stillness.

The theatrical equivalent of silencing is to cover or disturb dialogues or images. Characters interrupt each other's words. The dialogues get spliced by jump cuts, stutters, and sudden pauses. Furthermore, silencing happens in the visuals by using blackouts. These techniques ban the content from the spectator in an explicit way.

Chapter 2: Silence in prior works

This chapter is an overview of some prior works that either focus on silence as their main theme or have significant silent moments. In this chapter, I will discuss the role of these silences and their different characteristics.

During the twentieth century, silence has become an increasingly important subject for artists in music and theater. Empty spaces became a new domain for study in a variety of disciplines. Artists started exploring silence, stillness, emptiness, and nothingness to examine new possibilities in making performative art. John Cage and Samuel Beckett are the two most important artists who moved silence from an ordinary, negligible factor to an important subject in time-based media. These two artists and philosophers started a new way of creating art by paying more attention to the supposed negative spaces. These attempts drew attention to an area that had previously received less focus, opening up new avenues for creative expression.

* * *

Prior Theatrical Works

In a dialogue between Samuel Beckett and Georges Duthuit (Beckett and Duthuit 1949, 98), Beckett mentions his frustration with expressing and with old means of expression.

Duthuit: What other plane can there be for the maker?

Beckett: Logically none. Yet I speak of an art turning from it in disgust, weary of puny exploits, weary of pretending to be able, of being able, of doing a little better the same old thing, of going a little further along a dreary road.

Duthuit: And preferring what?

Beckett: The expression that there is nothing to express, nothing with which to express, nothing from which to express, no power to express, no desire to express, together with the obligation to express.

His statement might look pessimistic or destructive, but nothingness for Beckett is an unexplored creative domain. He aims to put aside all the old tools and explore creativity without them. Nothingness is a theme that runs through most of his pieces, and even his interviews. Silence is an explicit (written as instruction) and implicit element in works like *Waiting for Godot*, *Embers*, *Act Without Words*, *The Unnamable*, and many others. His rare interview in 1969, after being awarded the Nobel Prize, is an interview with him without any questions or answers. Throughout the video, there is only silence. By removing language and words, Beckett was seeking a new means of expression. He wrote, “As we cannot eliminate a language all at once, we should at least leave nothing undone that might contribute to its falling into disrepute. To bore one hole after another in it, until what lurks behind it—be it something or nothing—begins to seep through; I cannot imagine a higher goal for a writer today.” (Beckett 2009, 171-172)

The idea of carving holes in the structure and making it as porous as possible is one of the main intentions of composing *Silent Music*—to carve voids by removing as much of the actual material as possible. This is an endeavor to redefine the supposed negative space in a work—which is usually interpreted as nonproductive—and to achieve a new balance between negative and positive. Regarding this idea, Deborah Weigel explains that “The coexistence of sound and silence is a particularly significant feature in *Waiting for Godot*. Beckett creates a certain musical rhythm in the play, and there is power in the silence which becomes productive space.” (Weigel 2002, 254)

The matter of silence was so vital to Beckett that he wrote the required pauses specifically and meticulously. Even the type of silence is important for his works. In the novel *Unnamable*,

Beckett discusses the necessity for different types of silence. “Silence, yes, but what silence! For it is all very fine to keep silence, but one has also to consider the kind of silence one keeps.” (Beckett 2010, 46)

Beckett uses different expressions for different types of silence, with words such as *pause*, *hesitation*, *fumble*, *halt*, *long hesitation*, *silence*, and *long silence*. The accuracy in such instances emphasizes the importance of the information that the silence carries with itself.

In *Waiting for Godot*, two characters named Vladimir and Estragon are waiting for someone called Godot, who is supposed to arrive soon, but never does. There is only one scene and two acts in this play. In both acts the two main characters are desperately waiting for Godot who postpones his arrival and leaves them in boredom and anticipation. During the story Vladimir and Estragon meet three other characters. One of them is called Pozzo who is a decisive autocratic personage. The following short example from *Waiting for Godot* showcases some instances of Beckettian silence. At this moment, Pozzo, Vladimir, and Estragon have just given up on finding Pozzo’s watch, and they are about to say goodbye.

POZZO: I must go.

ESTRAGON: And your half-hunter?

POZZO: I must have left it at the manor.

Silence.

ESTRAGON: Then adieu.

POZZO: Adieu.

VLADIMIR: Adieu.

POZZO: Adieu.

Silence. No one moves.

VLADIMIR: Adieu.

POZZO: Adieu.

ESTRAGON: Adieu.

Silence.

POZZO: And thank you.

VLADIMIR: Thank you.

POZZO: Not at all.

ESTRAGON: Yes yes.

POZZO: No no.

VLADIMIR: Yes yes.

ESTRAGON: No no.

Silence.

POZZO: I don't seem to be able... [*long hesitation*] ... to depart.

ESTRAGON: Such is life. (Beckett 1956, 37-38)

The first silence in the above example is a gap in which Vladimir and Estragon find the time to show regretful reaction to Pozzo's proud dialogue about his manor. During this pause we recognize why Pozzo was making the trouble for Vladimir and Estragon to find his watch in the first place—merely an excuse for Pozzo to show off his wealth before he leaves the scene. The silence at this point functions as a moment of reflection on previous dialogues and it is insightful and hilarious.

In the preceding example, the second silence happens after they have repeatedly said Adieu and are expected to depart the scene. However, they do not move after saying it. Placing stillness after such a dialogue breaks the expectation in the spectator and creates a humorous paradox. This parody is created by placing stillness on odd occasions. The notion of nothingness, waiting, silence, and failure is represented in this instance. Their passiveness and the resulting hollow space remove the meaning of the dialogues, or in other words, devalues the text. This reinforces the absurdity of the scene. As with many other instances in this play, they talk and decide, but they do not accomplish. Their hesitations continue until Pozzo confesses that it is difficult for him to leave. The paradoxes that are made by the pauses make multilayered events that are comical and essential for the development of the work.

In addition to all the different silences and their positions in the play, repetition is another important aspect of this example from *Waiting for Godot*. Repeating evokes steadiness and absurdity and also functions as a musical tool. A sentence takes on a bi-directional quality as it

gets repetitious. While repeating the statements emphasizes the underlying idea, the words gradually lose their literal meaning and shift toward abstract sounds. The above excerpt, with its repetitions and pauses, becomes close to a music score with accurate composition of sounds and rests.

Below is an example from the beginning of Beckett's one-act radio play titled *All That Fall*. (Beckett 1984, 12)

Rural sound. Sheep, bird, cow, cock, severally, then together.

Silence

MRS ROONEY advances along country road towards railway station. Sound of her dragging feet.

Music faint from house by way. "Death and the Maiden."

The steps slow down, stop.

MRS ROONEY: Poor woman. All alone in that ruinous old house. [Music louder.

Silence but for music playing. The steps resume. Music dies.

MRS ROONEY murmurs, melody. Her murmur dies. Sound of approaching cartwheels. The cart stops. The steps slow down, stop.]

This radio play starts with ambient sounds to introduce and simulate the required environment of the scenario. The ambient sounds resemble a quiet village area. But more important than sounds, are the pauses that Beckett asks for. Each sound that he introduces has an accurate punctuation mark that separates sections of the play. As an example, the first silence prepares the ears for another layer of sounds and announces the entrance of Mrs. Rooney. Or the second pause separates the first dialogue from the initial sounds. The pauses function like cinematic cuts that connect one frame to the next. The play continues as below:

MRS ROONEY: Is that you, Christy?

CHRISTY: It is, Ma'am.

MRS ROONEY: I thought the hinny was familiar. How is your poor wife?

CHRISTY: No better, Ma'am

MRS ROONEY: Your daughter then?

CHRISTY: No worse, Ma'am.

[Silence.]

MRS ROONEY: Why do you halt? *[Pause.]* But why do I halt?
[Silence.]
CHRISTY: Nice day for the races, Ma'am.
MRS ROONEY: No doubt it is. *[Pause.]* But will it hold up?
[Pause. With emotion.] Will it hold up?
[Silence.] (Beckett 1984, 12)

The halts are an important piece of information. The hesitation in Christy's dialogue initiates a theme that evolves in Mrs. Rooney's voice. She first asks Christy why he halts, but then she doubts and asks the same question of herself. The pauses are filled with a sense of skepticism and bring an early tension for the listener to become curious for upcoming events. The hesitation goes on in the same manner for the rest of their conversation. Creating mute expressions during pauses in a radio play with no visual elements needs a lot of consideration. To fill the pause with emotion and shape a certain character in it, Beckett utilizes precise texts, sounds, pauses and repetitions.

Regarding silence in radio art, Marjorie Perloff, modern poetry scholar, has written about silence in *Embers*, a radio play by Beckett which was broadcast in 1959 on BBC. At the end of this play there appear a lot of pauses, and a repetitive line by the narrator saying "Not a word, just a look, the old blue eye[...]". Perloff writes about this moment of the play:

But if there is "Not a word, just a look," the radio narrative is over. [...] if there is really no sound, the listener must assume that the receiver isn't working [...]. On radio, in other words, the only way to simulate silence is via sound. [...] silence is never in fact, silent: to record it for radio or audiotape therefore presents special problems. On stage or in film, "silence" is represented by having some sort of visual movement (as in Beckett's own *Film*) during which nothing is "said." But on radio, there is no such option and so "silence" must be sounded as it is in *Embers* (Perloff and Oppenheim 1999, 263).

The way Beckett elaborates silence by using certain noises as well as his accuracy in placing ambient sounds is a useful source for the subject of simulation of silence with sounds. In pieces like *Embers*, he accurately mentions the dynamics of the noises by using words like louder or softer. He clearly defines the shape of the border between sounds and pauses by using texts that indicate fade outs and fade ins and their speed, with instructions such as *rapidly amplified* or *sudden cut off*. Furthermore, he conducts the dynamic contrast between the composed silences and the accompanied sounds. As an example, in the beginning of *Embers*, he mentions a certain mix of dynamics between different layers.

Sea scarcely audible.
HENRY's boots on shingle. He halts.
Sea a little louder. (Beckett 1984, 93)

Another example appears at the end of *Embers*.

Nothing this evening. *[Pause.]* Tomorrow . . . tomorrow . . . plumber at nine, then nothing. *[Pause. Puzzled.]* Plumber at nine? *[Pause.]* Ah yes, the waste. *[Pause.]* Words. *[Pause.]* Saturday . . . nothing. Sunday . . . Sunday . . . nothing all day. *[Pause.]* Nothing, all day nothing. *[Pause.]* All day, all night nothing. *[Pause.]* Not a sound. (Beckett 1984, 104)

At first glance, these pauses sound like a stutter, and then they gently grow more and more, until they thoroughly silence the work and finish it. This section sounds similar to the end of a musical work, gradually fading away by *ritardando*, *rubato*, and *morendo*. The effect is especially noticeable in the performance of the original version of the play by John Joseph MacGowran, an Irish actor who was one of Beckett's favorite performers.¹

Removing words and their meanings, and substituting them with pauses and lifeless stuttering, increases the absurdity, reinforces the melancholy of the protagonist, and brings the text

¹ *Embers* is actually dedicated to John Joseph MacGowran.

closer to musical sounds. These are some of the techniques that my own project shares with absurd and surreal literature and artworks.

In absurd and surreal works like Beckett, Eugène Ionesco, and Harold Pinter (particularly early works of Pinter), the empty spaces between the lines require as much attention/composition as the words/sounds. Considering silence as something rather than nothing opens up new avenues for expression in their works, which I strive to incorporate into my own.

* * *

Silence, Theater, Censorship

The notion of self-censorship is observable in *Waiting for Godot*. Viewing *Waiting for Godot* from a sociopolitical perspective, I observe themes of constraint and suffocation. This is another point about this play which makes it a relevant resource for *Silent Music*—the correlation of silence and censorship. The following line is an example of this type of idea in *Waiting for Godot*.²

Estragon: [*anxious*]. And we?
Vladimir: I beg your pardon?
ESTRAGON: I said, And we?
VLADIMIR: I don't understand.
ESTRAGON: Where do we come in?
VLADIMIR: Come in?
ESTRAGON: Take your time.
VLADIMIR: Come in? On our hands and knees.
ESTRAGON: As bad as that?
VLADIMIR: Your Worship wishes to assert his prerogatives?
ESTRAGON: We've no rights anymore?
Laugh of Vladimir, stifled as before, less the smile.
VLADIMIR: You'd make me laugh if it wasn't prohibited.
ESTRAGON: We've lost our rights?

² It is noteworthy that an important feature of Beckett's play that influenced this project is to express sophisticated concepts through a simple and modest language.

VLADIMIR: [*distinctly*]. We got rid of them.
Silence. They remain motionless, arms dangling, heads sunk, sagging at the knees.
(Beckett 1956, 12-13)

Beckett points out the character's prohibition from having a natural and ordinary expression such as laughter. Following this line, the characters discuss how they abandoned their rights, which I interpret as self-censorship. As mentioned before, extreme observation from a source of power leads to self-censorship.

The play *White Rabbit, Red Rabbit* by Iranian playwright Nassim Soleimanipour is a political play with the focus on censorship as the main theme. Among the most significant recent plays based on censorship, one can mention pieces such as *If truth be told* by Beverley Cooper, *The Censor* by Anthony Neilson, and *The Metal Children* by Adam Rapp. Of all these plays with a similar subject, *White Rabbit, Red Rabbit* by Soleimanipour is the most relevant to this project. This absurdist comedy-drama is centered on artist suppression, and was inspired by the author's own experience with censorship. The matter of censorship extends beyond the content of the script and is reflected in various aspects of *White Rabbit, Red Rabbit*, such as the performer's first encounter with the script. Neither the actor nor the audience are aware of the narrative of this play prior to the performance. The play is delivered in a sealed envelope and the performer must open it for the first time in front of the audience. One of the ideas behind concealing the play from the public is to emphasize the prohibition that the author experienced. He is successful in his goal since it is the censorship of the script that draws the audience's attention to attend this performance, not the script, or any other normal qualities of a play. It is noteworthy that each performance of this drama is a cold read, with no director or rehearsals, and no specific set, costume, music, or lighting.

Soleimanipour was unable to travel overseas at the time of this play because of his refusal to participate in the mandatory military service. This is a common issue for an Iranian male after the age of 18. Anyone who refuses to serve in the military at the appointed period is considered a fugitive soldier. A person with this condition is unable to obtain a passport or complete any official paperwork, including receiving permission to stage a play. One other noticeable intention for Soleimanipour to hide the play is to protest this unfair, cruel procedure of obtaining official approval. In other words, to defeat the censorship, he uses a type of censorship and hides the play. With this mechanism he refuses any consideration from outside. As Sarafraz Manzoor explains in a review of *White Rabbit, Red Rabbit*, “The spontaneity of an actor reading a script for the first time and discovering it with the audience gives complete authority and power to the writer's voice.” (Manzoor 2012, par. 5)

Because the play is always new to both the actor and the audience, there is little distinction between the roles of people in the hall. The actor may even react to what she says in the same way that an audience would. This allows everyone in the house to experience one mutual state—the censorship and the absence of an exiled artist and the fear behind understanding this absence. As Charles Isherwood describes, “Among the shivery aspects of the play is the ghostly presence of the writer — absent and present, simultaneously — and ever in danger of being silenced, whether by the oppression of the country’s rulers or, more darkly, the anguish and despair that this can induce.” (Isherwood 2016, par. 7)

The performance concludes leaving the audience with a collective sense of guilt—the guilt that is caused by having approved artist suppression by participating in the performance.

Silent moments, whether conceptually or sonically, build a shared space between every person who is involved in the performance and turn all the present individuals into performers.

* * *

Prior Musical Works

Silence in 4'33"

This section is dedicated to analyzing silence in previous musical works that employ silence as a key theme, or have notable silent moments, including compositions by John Cage, György Ligeti, Krzysztof Penderecki, and Salvatore Sciarrino. Around the same time of Beckett's discoveries on silence and nothingness, John Cage was exploring similar concepts in music. As shown in the quote at the beginning of this dissertation, Cage redefined silence and created a sensation with his silent composition 4'33". This work, with 4 minutes and 33 seconds of silence, is the most extreme of all "silent" pieces.

During the performance of this three-movement piece (which can be played by any instrument) the performer(s) do not perform any music. They start the piece and sit in quietness. In the first performance of this piece, by David Tudor in New York in 1952, he opened and closed the keyboard lid to indicate the beginning and the end of each movement. Other than this act, he solely sat quietly at the piano and played nothing. In 4'33", John Cage creates a time frame in which he removes his own voice and individuality as the creator of the piece and instead draws the attention of the audience to the sounds that are usually supposed to be extraneous noises. By playing nothing, he calls for the audience to awaken our ears to listen to what we assumed as silence.

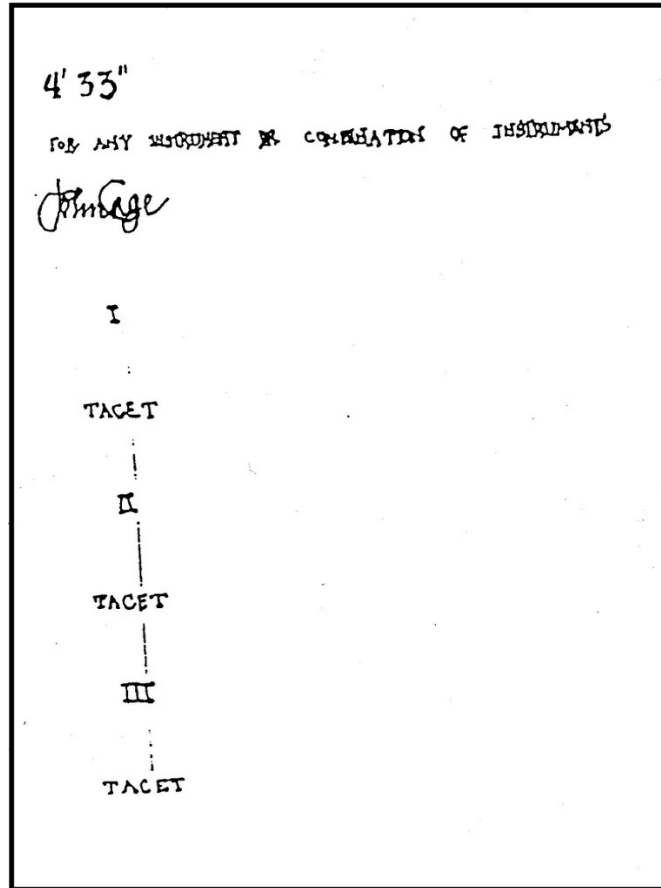


Figure 1 – John Cage's 4'33'' (score)

The silence of 4'33'' functions like a big mirror on the stage reflecting the audience and their surroundings, letting us listen to what we took for granted, any ordinary unplanned and spontaneous sound, which Cage classifies both as noise and silence.

* * *

Sounds and Silence in four prior works by Ligeti, Penderecki, and Sciarrino

Jennifer Judkins in her article "The Aesthetics of Silence in Live Musical Performance" mentions "long unmeasured silences are given individual meaning and form by the tonal and rhythmic material surrounding them (their musical edges) and they are characterized both by these

edges and by physical gesture in performance” (Judkins 1997, 40). In addition, the dynamic transition between the sounds and rests is another aspect that shapes the character of the following silence. The density of silence is relative to the density of previous sounds. The silence located after a long sustained noisy section has a more distinct character than the one which happens after a gentle fade out. The former type of pause is filled with intensity and excitement. Similar to their preceding sound, the empty void in such situations is more surprising, lively, and energetic. The reflection of the louder sounds when they confront an empty void seems to last longer. Because of the contrasting dynamics, this type of silence sounds “louder” than usual. This sort of effect in silent moments is particularly noticeable when it happens after a long sonic section. In such scenarios, the ear is accustomed to the sounds, and therefore the sudden shift from one environment to its antipode makes it unpredictable and shocking, sounding like a loud gasp.

Polymorphia is a composition by Krzysztof Penderecki for a large string orchestra, including forty-eight instruments, written in 1961. Similar to his style of composition in a similar piece written the same year, *Threnody to the Victims of Hiroshima*, Penderecki creates continuous textures, extends them across long sections, and layers them on top of each other. Gradual growth and synthesis of these layers results in big masses of sound. There are two moments in this piece that a cluster reaches the peak and abruptly drops into silence.

Polymorphia has three main sections. Section A consists of sustained sounds and it continues until measure 32. The B section starts at measure 33 and its main material is short pointillistic sounds. In measure 46, B section ends with a climax that ends abruptly, and the third section starts in measure 46 with a long soft note. (see figure 2) This measure is not a total silence, but the sudden start of the soft sustained A3 makes a momentary misunderstanding of silence. As will be explained later in this dissertation, long sustained sounds are able to replicate silence.

18

45 46 47 48

Vn
1-6
7-12
13-18
19-24

Vl
1-4
5-8

Vc
1-4
5-8

Vb
1-4
5-8

arco
pizz.
ppp

7" 10" 8" 6"

Edition Moeck Nr. 5008

Figure 2 – Krzysztof Penderecki's *Polymorphia* (score excerpt)

The second significant silence occurs at the beginning of measure 66, which is one measure from the end of the piece (see figure 3). This two-second silence puts a punctuation mark to a long section which starts 20 measures earlier in measure 46. Measure 46 begins with the cellos playing a long sustained faint A3 pitch. Other layers imitate the same sound and gradually join in. First, they play the same note, and then they gently move away by semitones and quarter tones. The

result is a growing cluster that becomes noisier as it develops. A big crescendo brings this dense chord to an intense climax in measure 65. This is followed by an instant pause at measure 66.

*) vgl. Anmerkung S. 22 - cp. note on page 22 - cf. la remarque à la page 22

Figure 3 – Krzysztof Penderecki's *Polymorphia* (score excerpt)

The nothingness of this moment does not remove the tension, but continues and even intensifies it. As Andrew Shenton notes, "Rests are often arranged so that the preceding chord is carried into silence. Like an image burnt on the retina, which can be seen with closed eyes [...]" (Shenton 2021, 118). The loudness in measure 65 reaches its peak of musical expressivity, and

then the decisive loud silence continues the tension. The silence in measure 66 is a short moment to preserve, contemplate, and wonder at what just happened.

The two-second pause is not the only shocking element of the ending since the short silence is followed by a sustained loud C major triad which lasts 5 seconds. The silence after this C major chord (which is the ending silence) is more striking than the one in measure 66. This silence is pregnant of many contradictory elements and therefore it aggravates the previous turmoil. Since there has been no tonal center, a major triad does not help solving the tension, and it actually makes it more jarring. The classical archetypal closing triad is so extraneous to the rest of the piece (at least in the first hearing of this work) that the silence becomes 1) confused with the feeling of expectancy for the music to resume, and 2) ironic, mocking, and grotesque.

Silence that occurs after a fade-out is different from the ones above. An example of this type is the ending of *Atmosphères* by György Ligeti. *Atmosphères* is a piece for large orchestra written in 1961³. This piece ends with three measures of rests (see figure 4). The ending silence is the result of a long gradual fade out which initiates in measure 69 after the last climax of the piece. In measure 69, the various layers of sound that built the loud cluster in the orchestra begin to vanish one by one by *morendo* and *decrescendo*. This section is followed by a very quiet atmosphere with brasses blowing into their instruments without any pitch, similar to the sound of wind. In a few measures the piano joins in by sweeping jazz brushes on the strings. At this point, new quiet murmuring figures emerge in strings. These short faint *con sordino* effects are then accompanied

³ The same year that Penderecki wrote *Polymorphia*.

by long, soft, high sustained notes of the flutes. The dynamic of the piece does not increase anymore and has an overall decrescendo towards the silence at the end.

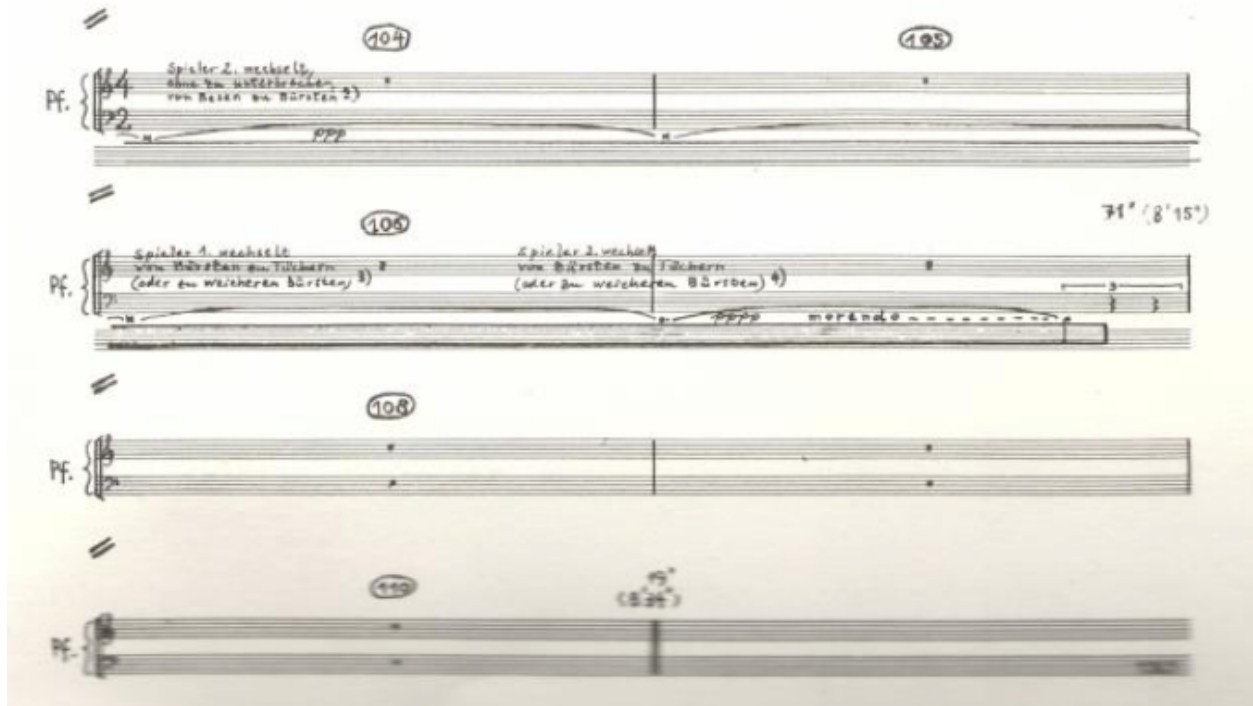


Figure 4 – György Ligeti’s *Atmosphères* (score excerpt)

The flutes stop at measure 91. As the murmuring fleeting figures continue in the strings, long notes appear in the low register of trombones. By the appearance of these low notes along with the quiet sound of sweepings in piano, the hazy texture of strings gently vanishes.

From measure 100, the sweeping brushes on the piano strings is the only sound color that remains. In measure 107 the piano fades away with a *morendo* and then three measures of rests. This gradual departure from the loudest section to nothingness lasts thirty-nine measures. The disappearance of sounds at the end is so gradual that the distinction of the border between sounds and rests is difficult. The extended techniques and the low dynamics establish an obscure

mysterious environment. In contrast to the ending silence of Penderecki's piece, this one gives the permission to the ear of the listener to settle for a second without the concern of any upcoming progression. The sounds fade away gently, while the three measures of silence preserve the ambiguity of the previous chaotic noises.

The composer intentionally places these silent measures to assure that the orchestra reaches nothingness before ending the piece. Ligeti himself mentions in the instructions of the piece "in meas. 107 the piece fades away as if it were into nothingness." (Ligeti, 1961). The long continuous masses of sound gradually lose their energy, and recede to three measures of silence. As Clifton mentions "[...] the piece itself becoming absent, and with it, its phenomenal world". (Clifton 1976, 175)

* * *

In contemporary music repertoire, there are a handful of pieces dedicated to the development of silence as a fundamental musical element.⁴ Salvatore Sciarrino's *Infinito Nero: Estasi di un Atto (Infinite Black: Ecstasy in one Act)* (1998), is a significant piece with this approach. This composition is written for flute, oboe, clarinet, piano, percussion, violin, viola, cello, and voice.

Infinito Nero starts with a two-note motif played by the flute. An exhale sound (without any specific pitch) followed by an inhale. The breaths are quiet, but sharp. The notes are separated from each other with a rest (see figure 5).

⁴ Jennifer Judkins, "The Aesthetics of Silence in Live Musical Performance," *Journal of Aesthetic Education* 31, no. 3 (1997): p. 49, <https://doi.org/10.2307/3333486>. It is not until the nineteenth century that we see longer silences used regularly as a compositional device, growing to immense popularity in the twentieth century, where they have reached a point of complete acceptance as a compositional tool in contemporary music.

The image displays two systems of a musical score for Salvatore Sciarrino's *Infinito Nero*. The first system includes staves for Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Piano (Pf.), and Voice (Voce). The second system includes staves for Flute (Fl.), Piano (Pf.), Voice (Voce), Guitar (G. C.), Violin (Vno.), Viola (Vla.), and Violoncello (Vc.). The score features a variety of dynamic markings such as *mf*, *pp*, *fff*, and *ffff*. It also includes performance instructions like *soffio* (breath), *soffio flaut.* (flute breath), and *gliss.* (glissando). The lyrics 'l'anima nel si trasformava' are written under the voice staff in the first system, and 'sangue, da in-tanto non' is written under the voice staff in the second system. The number '45' is written above the Flute staff in the second system.

Figure 5 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

The two-note motif repeats for six measures. Due to the repetitive notes, the music seems to have a steady pulse, but the repetitions are not exactly aligned in each measure. The slight dislocation of each motif makes it sound like a spontaneous and natural noise; similar to heavy breathings of a sleeping person. The contrasting dynamic indications for each note, create a small contrast between each figure and the result is an echo effect. This technique also replicates a quiet ambience. Below is a summary of all the elements that Sciarrino uses in this moment to simulate silence and stillness by using sounds.

- The sonority of the breathing motif by using a particular extended technique which is quiet in nature. In *Infinito Nero*, Sciarrino uses breathing sounds in wind instruments in a very effective way. To exaggerate the sound of breathing, the flutist blows into the instrument without producing any specific pitch. This is a technique that he uses to portray the sacred and mystic quiet night when the breathings are easily audible. Equivalent to the effect of a POV in cinema, this is a useful way to help the observer put herself in the position of the characters.
- The soft dynamics
- The dynamic contrast between each note which makes an echo and resembles emptiness
- The slow tempo which reinforces the immobility.
- Repetitive motifs. As will be explained in the next chapter, repeating a motif gradually moves the quality of the sound to the background, making it lose its distinction. In other words, it morphs into the background noise.
- The fragmentation of phrases.

Sciarrino uses these techniques in many other sections, including the one between measure 8 to 43, which has a constant repetitive character—continuous reiteration of three notes which spread across the flute, oboe, and clarinet (see figure 6). As stated above, the slight irregularity of each reappearance makes this section sound similar to unintentional natural noises and thus help create a suspenseful imagery and dramatic ambience.

The image displays two systems of musical notation for the instruments Flute (Fl.), Oboe (Ob.), and Clarinet (Cl.). The first system shows the initial part of the excerpt, with the Flute staff featuring a series of notes and rests, and the Oboe and Clarinet staves showing similar patterns. A dynamic marking of *pp* is present at the end of the first system. The second system begins at measure 35, indicated by a double bar line and the number '35'. It continues the repetitive motifs, with dynamic markings of *ppp* and *ppp cresc.* appearing. The notation includes various note values, rests, and articulation marks, all set against a background of vertical dashed lines that suggest a rhythmic or structural grid.

Figure 6 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

This prolonged segment serves as a preface to the first utterance of voice in measure 44 (figure 7). In measure 44, the singer enters the dense silence with the accompaniment of piano and clarinet. This surprising moment is the end of the introduction and the initial dialogue between Maria Maddalena de Pazzi and Jesus.⁵ What she sings is two similar short motifs that enter louder than their surrounding sounds and instantly vanish with a decrescendo and a downward glissando. After her two short statements in measure 44 and 45, the voice does not reenter for forty-four measures. There are long gaps between the voice parts. We can observe that the theme of fragmentation is expanded in a broader scope as well. As mentioned above, low dynamics are among the tools that the composer uses to evoke silence. The majority of the compositional structure in *Infinito Nero* is built upon soft dynamics and fragile noises. *Infinito Nero* pushes down the softness to pppppp (pianissississississimo) in many instances.

⁵ This piece is inspired by a story of Maria Maddalena de Pazzi and her mystical conversations with Jesus. In the story there are eight novices listening to Maria and documenting what she says during her conversations.

Fl.
 Ob.
 Cl.
 Pf.
 Voce
 G. C.
 Vno
 Vla
 Vc.

l'anima nel
si trasformava

45

sangue, da in-
tanto non

(soffio)

(soffio flaut.)

prende Flauto

Figure 7 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

In terms of dynamic markings, he employs crescendos and decrescendos that begin and end with nothing (*niente*) (see figure 8).

Fl.
 Cl.

prende Flauto

$ppppp$ $pppppp$ pp

Figure 8 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

The silence in *Infinito Nero* has a dramatic character. It sounds dense, serious, spiritual, mystical, and suffocative. The composer uses a big palette of extended techniques all of which evoke silence and often have an innate quiet quality. These techniques include key click, slap tongue, multi-phonic, harmonics, muting, breathing, tongue ram, whispering, panting, and specific bowings. Furthermore, he employs whistle-like noises, and sustained long notes to create a silent effect. Sciarrino uses these qualities as essential compositional elements for developing the piece. Gavin Thomas mentions “... what is uniquely characteristic of this music is that such extended techniques are not occasional color but the basic musical subject matter.” (Thomas 1993, 194)

In measure 150, the violin fades in from nothing to ppppp dynamic marking while playing a Bb harmonic with tremolo (see figure 9).

The image shows a musical score excerpt for Salvatore Sciarrino's *Infinito Nero*. It consists of four staves: Voce, Vno (Violin), Vla (Viola), and Vc. (Cello). The Vno staff is the primary focus, showing a tremolo Bb harmonic with dynamic markings like 'arco soffio', 'soffio pont.', and 'PPPPP .fisso'. The Vla and Vc parts also show sustained notes with dynamic markings like 'ppppp' and '5'. The Voce part has lyrics 'timui timore amoris'.

Figure 9 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

This Bb continues for a few measures with some pauses in between, nearly staying at the same dynamic range throughout the section. The sustained low dynamic notes along with the descending glissandos and the pale whistles intensify the still atmosphere that replicates a quiet night. It is noteworthy that the orchestration approach in writing cello and viola higher than violin makes a unique sonority in this part.

At measure 110 as well as many other instances, we hear the voice part stuttering on specific syllables (see figure 10).

The image shows a musical score excerpt for Salvatore Sciarrino's *Infito Nero*, starting at measure 110. The score is arranged in a system with six staves: Flute (Fl.), Oboe (Ob.), Piano (Pf.), Voice, Guitar (G. C.), and Viola (Vla.).

- Flute (Fl.):** Measure 110 is marked "(respiro nel Fl.)". Dynamics range from *pp* to *fpp*.
- Oboe (Ob.):** Starts with a *fpp* dynamic.
- Piano (Pf.):** Features complex rhythmic patterns with dynamics *fpp* and *pp*.
- Voice:** The lyrics are "profonda- esso in- fluirsj in- flussi influ- i- va rinflu- i- va e il sangue". Dynamics include *pp*, *fppp*, *sub. p > fppp*, and *mp* (inspir.).
- Guitar (G. C.):** Features a tremolo effect with a *fppp* dynamic and a marking "M...".
- Viola (Vla.):** Marked "soffio pont. (senza suono)" and *fpppp*.

Figure 10 – Salvatore Sciarrino’s *Infito Nero* (score excerpt)

From a musical perspective, the stuttering is a compositional tool that develops the theme of silence – similar to several articulation signs, such as staccato and marcato, which partially mute sounds. From a theatrical perspective, Sciarrino uses stuttering to disturb the words and therefore represent the excitement, the speechlessness, and the haunting psychological status of Maria Maddalena. The whisperings represent the scene’s quiet hurried conversations in the darkness of the night.

At the end of measure 115 there is a dynamic contrast between different layers (see figure 11).

Figure 11 – Salvatore Sciarrino’s *Infinito Nero* (score excerpt)

All the instruments are performing a decrescendo, however the violin is going the opposite way by crescendoing from pppp to ff. The violin part with the crescendo and the portamento descending from a high harmonic C sharp to B, sounds like a shrieking whistle. The trembling voice of the singer is quickly overshadowed by this whistle. The beat ends with the accompaniment of piano, playing a high short B note, and the cello, playing a pizzicato B.

The whistle suffocates the voice of the singer and the plucking sounds quickly end it. This sudden startled gasp is followed by the repetitive strokes of the bass drum (*gran cassa*), a pulsing

constant rhythm and a low frequency texture that create a sonority close to the heart beating sound. This steady beat heightens the impression of solitude and emptiness, especially in that it mimics a quiet inner bodily sound.

Using split solitary consonants is one of the extended techniques for voice that simulate silence. György Ligeti uses this technique in his piece *Aventures* (1962) as a compositional tool. *Aventures* is for soprano, alto, and baritone, as well as an ensemble of flute, French horn, cello, bass, percussion, harpsichord, and piano. This piece belongs to the category of new music theater or theatrical music and thus uses a lot of vocal techniques that have both musical and theatrical functions. In measure 18, after the reappearance of a repetitious polyrhythmic loud figure in the voice parts, there is a short general pause (see figure 12). This pause is instantly followed by a sustained chord played by flute, cello and double bass.

5

Handwritten musical score excerpt for György Ligeti's *Aventures*. The score is divided into measures 15, 16, 17, 18, and 19. Measures 15 and 16 are for vocal soloists (Soprano, Alto, Bass) and Celesta. Measure 17 features a complex rhythmic pattern with notes marked 'm', 'o', 'm', 'E', 'm', 'm'. Measure 18 is marked 'crescendo' and 'subito f'. Measure 19 is marked 'ff possibile' and 'plötzlich aufhören, wie abgerissen'. The score includes staves for Soprano (S), Alto (A), Bass (B), Celesta (Cel), Piano (Pf), Flute (Fl), Violin (Vc), and Cello (Cb). Handwritten notes include 'sfpp > niente', 'ppp (eco)', 'subito f', 'molto aggressivo, cresc.', 'ff possibile', and 'plötzlich aufhören, wie abgerissen'. A large 'GP' is written in the center. A note at the bottom left reads: 'Weich anschlagen, so dass der Celesta-Einsatz vom den Sängern überhört wird. Der Celesta-Klang wird also erst hörbar, sobald die Sänger verstummt sind.'

Figure 12 – György Ligeti's *Aventures* (score excerpt)

The chord fades away with a decrescendo ending to nothing. The resulting silence continues in the next three measures (between 20 to 22), which are filled with scattered rhythmic figures for voice soloists performing consonant letters. As it is also mentioned in the preface of *Aventures*'s score, Ligeti is asking for a whispering sonority. "Particularly intensive whispering directed towards the audience" (Ligeti, 1962, 7)⁶ (see figure 13).

⁶ Besonders intensives, zum publikum gerichtetes flüstern ("stage whisper").

Ohne Zäsur fortsetzen: 20

2(4) Presto
2(4) $\text{♩} = 35-38$ ($\text{♩} = 70-76$)

21
22

* Besonders intensives, zum Publikum gerichtetes Flüstern ("stage whisper"). Dabei die (stimmlosen) Laute übertrieben klar artikulieren. NB. In den Pausen nicht zusatmen.

** Sollte der Bariton das A nicht sicher treffen, kann dieser Ton vom Cellisten mitgespielt werden, in Form eines sehr leisen Pizzicato.

Figure 13 – György Ligeti's *Aventures* (score excerpt)

During the next measures, the theme of a murmuring crowd is developed and combined with the previously indicated repetitive polyrhythmic pattern in measure 17.

The last semi-silence to discuss in this section is shushing. The act of shushing is a gesture as well as a sound. Shushing is performed by sustaining the consonant "sh". The action of shushing is a form of imposing silence. In measure 92 of *Aventures*, the sounds get interrupted by the alto and baritone performing a simultaneous "pst" sound. This act of disrupting other sonic layers occurs again in measure 94. The laughter and the screams in measure 93 are stopped by the baritone performing a continuous "sh" sound. There is not much rest after, and the music continues with performing short syllables. The shushing in this part is similar to the concept of silencing in *Silent*

Music. Silence may also be considered as an action— to silence something or someone—as will be described later in this article.

* * *

Prior works by the author

In the upcoming paragraphs, I will describe some of the silent techniques that I employed and evolved in my own earlier works. These efforts aided in the development of the current project. The first example is from a theatrical music piece named *Three Miniatures* (2017), composed for baritone, bass clarinet, trumpet, and trombone. The excerpt showcases a form of silencing.


The second movement of this set starts with a solo for baritone. The poem is describing a prison and introduces each prisoner by mentioning their crimes.⁷ At the end of the poem, the author brings up his own guilt, which the score designates is to be performed in the form of a recitation. While the voice is reciting, the ensemble joins in with a repetitive soft motif, which gradually becomes louder. During this long crescendo, the singer performs a decrescendo to nothing. This is the peak of this operatic work, which contains the most important textual information. However, there is an unusual paradox happening in the orchestration. Dynamically, the two layers move in different directions (see figure 14). The coarse sound of the ensemble grows louder and suppresses the voice. Meanwhile the voice itself reinforces this suppression. Eventually, the ensemble overshadows all of the words, leaving the vocalist with nothing but the moving lips.

⁷ Written by Ahmad Shamlou, Iranian poet.

5 times
speak smooth
Stay in the same dynamic-
let other's sounds cover you
gradually until one barely
understands your words.
mp

23


B



But I uncover no such thing in women.(quick pause)
But I have killed no one. (quick pause)
No, I... in the aerial core of my own dreams nothing is heard but the
cold echo of the bitter song of these desert weeds
that grow (quick pause) rot (quick pause) wither (quick pause) and fall.

Tbn.

Prepare Bucket Mute



Bucket Mute
Gradually remove the mute (In <--)

p cresc. poco a poco

Figure 14 – Adib Ghorbani’s *Three Miniatures* (score excerpt)

At the end of this section the ensemble abruptly comes to a halt, and the voice whispers “That was my crime.” In essence, this action emphasizes that the spectator was prohibited from hearing the climax of the story.

The third movement of *Three Miniatures* opens with a lyrical tune. The sonic elements, as in the preceding movement, are influenced by the story. When the lyrics shift from a romantic to a violent atmosphere, the music adjusts by adding dissonances, larger registers, higher dynamics, and more leaps in the melody. After a climatic high E by the baritone, a short measure of silence appears. Following this silence, the singer breaks the operatic character, shifts to an opposite timbre, and speaks with a normal and rather insecure tone (see figure 15). As he attempts to amend the text he previously sang, he stutters with shame. The regret of the character and his temptation to self-censor leads to madness.

13 *ff* *p*

B chain

Words spoken with deep voice Seriously *p* smack

so-rry

C Tpt. *f* *mp* *f*

Tbn. *ff* *p*

B. Cl. *ff* *p*

17 *mf* *f* *ff*

mumb & exhausted bewildered & insecure Excited but, skeptic & comic

I meant I mean a heavy a bea-u(tiful) a a p-re-ty— a p-re-tybird?

Figure 15 – Adib Ghorbani’s *Three Miniatures* (score excerpt)

Moving back and forth between two opposing characters represents his insanity and this becomes the main theme for the rest of the piece. One character excitedly sings “a pretty bird”, and the other, who sounds like choking, sings “a heavy chain”. In either case, each phrase is followed by a repetition that imitates an echo. This echo is created by repeating the same sentence, but each time with softer sounds.

At the last measure (m. 23), the echo becomes significantly more accentuated with a single consonant of “ch,”. The echo represents the silence and the solitude of the character; a person who is conversing with himself and meticulously questioning the legality of each thought (see figure 16).

Scared and unhappy
rit
mp *p* *pp* *ppp* *p*

whisper

23 24

B. a hea - vy chain a hea - vy chain a hea - vy chain a hea - vy chain th

C Tpt. *mf* *pp*

Tbn. *mf* *pp*

B. Cl. *mf* *pp*

Approximate duration:
[1 min. 50 sec.]

Figure 16 – Adib Ghorbani’s *Three Miniatures* (score excerpt)

One other representation of silence in *Three Miniatures* is crossing out the words in the score. By this tool, the content is prevented from being performed. Keeping the syllables, and crossing them out, rather than erasing them from the score, gives the performer enough information to figure out the right intonation to perform the uncrossed syllables. In measure 18 of the last movement, the words “heavy” and “beautiful” are partly crossed out. This type of silencing creates stuttering.

The next examples are from another collection called *Nine Caricatures for baritone and piano* (2017). This piece employs another method of silencing by using silent depression of keys on piano. This is a technique in which the pianist depresses the needed keys without making any sound, and then uses other sounds to produce reverberation in the open strings. In this piece, depressed keys are followed by short, accentuated sounds that help ring the harmonic tones in the open strings. At the beginning of *Nine Caricatures*, the pianist should hold the two lowest B flats of the piano with the left hand, while playing a fortissimo marcato F note in the right hand. The

result is the resonance of the third harmonics in the open strings and makes a subtle aftereffect. The chord of the depressed keys becomes more complex in the next attempt by using a cluster chord made of three major seconds. The resultant texture is noisier and has clashing dissonances (see figure 17).



Figure 17 – Adib Ghorbani’s *Nine Caricatures* (score excerpt)

In measure 99, in the last section of the same work, there is a tune inspired by an old Iranian nursery song called *Khoshhal-o Shad-o Khandan* (*Joyful, happy, and laughing*). This melody is manipulated by changing the durations, the tempo, the form of expression, and melodic intervals. The tempo of this arrangement is slower and the notes are prolonged. The legatos in the original version are removed and each note of the melody is separated from the other via rests. Each note builds from pianissimo to forte with a quick exaggerated crescendo followed by a brief pause. The lyrics are bright and lively, which contrasts dramatically with the music’s atmosphere. The voice slowly loses energy and gets exhausted, ending in meaningless mumblings. After a few measures, the singer closes his mouth with a loud slurping sound. For the next section of the piece, the vocalist should perform *bocca chiusa* (mouth closed). The sonority is similar to quiet wailing. This wailing figure, as well as several pauses, bring the work to an end.

The primary strategy of my theatrical music compositions is to incorporate elements or acts that are multidirectional, meaning that they serve both theatrical and musical purposes while also being drawn from the notion of silence. In *Eight Musical Skits for Pianist and Electronicist* (2019), there are different moments that represent this idea. During the seventh skit of this collection, there is a big bucket of water in front of the audience and the skit begins while the pianist's head is in the water. During this parodic metatheatrical scene, the electronic musician is demonstrating some of the technical aspects of the work to the audience. This includes the bucket, which is equipped with contact microphones picking up the quietest sounds produced inside the water. To showcase how the voice resonates after filtering through the water, he dunks the pianist's head into the water and asks him to sing a song for the audience.⁸ This scene portrays silence in many different ways; musical, theatrical, and conceptual. The muffled voice that is filtering through the water in realtime, combined with reverbs and delays, creates a novel illusive sound color. The theatrical interaction in the scene illustrates a literal form of silencing, alluding to the concept of artist repression.

The sixth skit from the *Eight Musical Skits* is named "Solo for the Parroted Pianist". This is a short piece for piano and voice which should be performed by the pianist while wearing a parrot mask. During the fourth measure of this skit, the pianist plays a repetitive D which is accompanied by two sustained sounds—one from the electric bow inside of the piano which is resonating a major third higher (F sharp), and the other sound from the pianist singing a long note which should be slightly (a quarter tone) higher than F sharp. The combination of these sonic

⁸ As is mentioned in the score, it is up to the performer to decide what to sing. In the recording of this piece by the Teeth and Metals duo, the pianist, Mark Micchelli, sang an excerpt of "Body and Soul" by Johnny Green.

worlds coming from inside and outside of the mask as well as the unnatural imagery using animal figures help create this strange grotesque scene.

The pianist turns around to the audience at the end of this scene. He takes off his mask, stares at the audience, and then puts it back on quickly while cutting off his voice. At the same time, a blackout occurs, putting everyone in the hall in complete darkness. Long notes, repeating notes, gasps, mask, muffled voice, darkness, and dynamics—all of these components combine together to portray silence and censorship.

The last example is from another work called *Six Caricatures for soprano, piano, drums, and bass* (2018). In the last caricature of this set, which is a very short duo for piano and soprano, the soprano acts as if she is screaming. Meanwhile, the pianist, who is looking inside of the piano, screams in sync with her. Each scream creates a loud resonance inside of the piano and makes the sound echo.

The idea is to detach the voice from the sound source. This not only helps create a novel effect, but also references the theme of the piece which is the suppression of female performers. This piece is dedicated to an incident in 2015 when an Iranian woman soccer player faced an imposed travel ban by her husband and therefore could not attend the Championship League. The notion of the suppression of female performers and athletes is portrayed with such theatrical-musical compositional tools.

In the next chapter I will discuss the silent techniques that I developed through this most recent project, *Silent Music*, and will explain the process of creating this work, including techniques of ‘silencing’.

Chapter 3: Semi-silence and Silencing

Semi-silence

This section investigates the various possibilities of sound in order to identify those that can elicit silence in the mind of the spectator. For the purpose of this study, I have named these textures *semi-silence*.

Ambient sound in music usually refers to the noises heard in a concert venue or a recording studio, but it can also apply to the ambience of any location where the sound is recorded or performed. Ambient sounds are not only a variety to silence but also give sensory information about a certain location, which is necessary in a medium that has narrative. These sounds can be reproduced using musical instruments, as happens in *Infinito Nero* by Sciarrino as discussed in the previous chapter—or it can be produced as sound samples, recorded from a real ambience.

In either case, ambient sounds, due to their timbral consistency, can evoke immobility and be a substitution for pauses. This type of sound can be used as thematic material for the composition. Electronic effects can also be used to modify them.

Ambient sounds are frequently employed as lengthy sound samples that play for the duration of a segment. However, placing splices of ambient sounds one after another in a short period of time can replicate certain sensations and concepts such as perplexity, melancholy, and stream of consciousness. In the following chapter, I outline how I used this strategy in the second episode of my film *Silent Music*. In that excerpt, the scene's location stays unchanged, while the ambient sound alternates between several locations rapidly. This is a useful strategy for composing a theatrical music event that mimics soliloquy. Soliloquy, or the act of talking to oneself always carries a sense of isolation and silence.

The next sort of semi-silence is soft dynamics, which is the most common among silent pieces. In extreme low dynamics, the sonic quality becomes fragile and dwells on the border of sound and silence. This sonority can be amplified by recording with a close-positioned microphone. Amplification of these sounds produces unique effects (whether with or without additional electronic effects), heightens the sense of closeness to the sound source, and makes the ear more sensitive to every activity. Loud ambient noise (loud silence) in such recordings, conveys the impression of an enclosed space.

The category of low dynamics includes several instrumental techniques that induce silence. The majority of them are modern extended techniques. Many of these techniques are naturally quiet such as: airy multiphonics in a clarinet, bowing non-string parts of a string instrument, keyclicks in a flute, breathing inside an oboe, and harmonics in strings. It is worth noting that many of the sounds created using extended techniques have an inherent noisy aspect that replicate background noise and hence resemble silence.

This project also employs a variety of vocal effects to create the illusion of silence. These vocal effects include breathing, panting, stuttering, shushing, whispering, mumbling, quiet conversations, bocca chiusa (singing with mouth closed), knocking on teeth, chewing, swallowing, drinking, gulping, and soft whistling. Basically, any type of sound that can be perceived by oneself from one's own body, particularly in isolation, can also be amplified and heard by an outside listener, giving the impression of being really close to the sound source. Some of these semi-silence tools, such as stuttering, aim to remove the meaning of the statement and create absurdity. Stuttering happens when empty gaps are carved in sounds or words. This technique can be performed acoustically by the performer or it can be produced electro-acoustically by splicing the audio samples or via electronic effects. Blackouts or glitches in the visuals are the equivalent of

this effect. The visuals may go entirely dark for a brief period of time, or there may be faults such as flickering here and there.

Using spoken consonant letters and whispering are two other semi-silent vocal techniques. The effects of these two techniques are rather similar. The vocal cords are contracted during whispering, therefore, the consonants of the speech sound louder and the vowels are less audible. Whispering resembles silence because it is an act that can only be done and heard in silence. Meaningless whispering and murmuring may be utilized as a sound texture. Another variant of this sonic effect is the alliteration of a consonant letter such as "s" or "sh"—the repetition of particular consonant letters in close succession in a phrase is a highly efficient approach to create such soundscapes.

The next semi-silence method is repetition. When a musical element keeps repeating, the ears become accustomed to hearing it. In such situations, the sound slowly absorbs the stillness of the background and therefore loses its impact. A theatrical example is a ticking clock; a musical example is an ostinato pattern that repeats during a long section. The significance of a figure is diminished through extended repetition. Despite the fact that the repetitive motif is audible, with time one tends to ignore it.

In terms of losing effect over time, long sustained notes are the same as repetition. In *Silent Music*, sustained sounds are defined as a decorated version of silence. White noise is an example of a steady sound that gently loses its impact. The white noise from the speakers or the air conditioner of a venue often becomes inaudible even during a quiet performance. Other examples of prolonged sounds are pedal notes and drones. Pedal notes are held through changing harmonies. They are an effective part of the music, but as they sustain, they lose their dominance and become a hidden member. As a result, any dissonant note may layer on top of them without sounding

inharmonious. Usually when the duration of a sound extends, the ear adapts to what it is perceiving and focuses on more active layers.

Echo is another sort of repetition and a powerful tool for achieving silence. An echo happens when sound hits a surface and reflects back to the source. This is especially audible when the sound is created in a silent empty space. Echo can be achieved by recording in a certain location with a distinct level of reverberation, or it can be produced by electronic effects such as reverb and delay. Echoing has been used in drama, performance, and music to portray emptiness.

* * *

Silencing

Silencing means concealing, disturbing, or interrupting a sonic event by the use of other sounds. This strategy is based on the methods used in the media to control and censor the content—the distortion of a word by using another sound (usually a bleep sound effect) in order to make it inaudible. Silencing is the simultaneous occurrence of two or more sound layers, one of which is dominated by the other(s) and both of which are sensed by the audience. Silencing is an explicit and expressive form of censorship.

We can identify two methods of silencing, which we will refer to as “vertical” (contrapuntal masking and distraction) and “horizontal” (melodic interruption or diversion).

In vertical silencing, there is a unique relationship between simultaneous layers. This relationship is polar opposite to the traditional understanding of counterpoint, in which all layers are equally audible and aesthetically important. In vertical silencing, one of the layers is more elaborated and informative than the others, but it is momentarily overshadowed by them. This sort of concealment occurs by employing contrast between layers. This can involve dynamic, texture

and genre contrasts. Silencing occurs when there is a conflict between what is being expressed and what should be heard. The amalgamation of these factors is such that the listener either recognizes the suppressed layer, guesses how it would sound, or at least feels the lack of it.

In other instances, the sound might get silenced horizontally, resulting in interrupted or unfinished statements. Rests or opposing musical elements are used to create such events. Utilizing this collision, the composer can elicit a combination of emotions. The frequent arrival of distinct paradoxical sound worlds reinforces the surreal quality of this parody. *Silent Music* uses fragmentation, or dispersed sound occurrences, as a horizontal silencing method. Phrases are broken up into discrete sound segments separated by plenty of pause. Similar to stuttering in speech, fragmentation is a state between sound and losing sound. In this style of composition, the events become a whole as a consequence of splicing. The foundation is emptied by using extended fragmentation in composition. This technique helps represent a plot or a musical structure with as little literal information as possible and offers enough space for different interpretations.

Chapter 4: Silent Music

Silent Music is an interdisciplinary project integrating theater, music, film, and motion sensor technologies.

- From the perspective of music, this project consists of composing sound and silence, live interactive improvisational music, voice, piano, electronic music, acoustic music, electro-acoustic music, and sound design.
- Visually and theatrically, it is a metatheatrical dark parody that contains physical theater, acting, gestures, dialogues, radio, stage design, and paint.
- Technologically it contains a self-playing piano (Yamaha Disklavier), and motion sensors (MUGIC).

* * *

Description of the film

Silent Music is a collection of four short films. Each film is a cinematic video script of a solo performance. These films are interconnected via the narrative and certain sonic elements. The story is about an artist who is in the process of creating a piece—a piece which portrays a prison massacre that happened in a panopticon prison many years ago. Panopticon is a form of observation designed by English philosopher Jeremy Bentham in 1791. The root of this notion comes from a character in Greek mythology called Argus Panoptes. Panoptes is a giant with multiple eyes who serves as a watchman. The panopticon mechanism is a type of surveillance system in which inmates are always suspicious of whether or not they are being monitored. The consequence of such an observation system is a culture of self-censorship, in which people are always wary of their actions for fear of being watched and controlled. The architecture of panopticon prison, the massacre, and the censorship that the artist goes through to depict these

notions, are three important components of *Silent Music*'s plot. All aspects of the piece, including music and theater, are shaped by these ideas.

Throughout the film, the protagonist is stuck between two worlds. On the one hand, his desire to recreate the prison's story causes him to have delusions, while in reality, he is striving to persuade those in power to approve and publish his work. The scenario becomes more complicated when we realize that the power he is up against is himself. To portray this, I used a combination of surreal and real sonic and visual elements.

To lay the groundwork for explaining silence in *Silent Music*, I first outline each episode and its narrative link. In the following paragraphs, I describe how the theme of censorship evolves throughout the story. Following this part, I will discuss the compositional process that led to the depiction of these ideas.

Each of the four episodes of *Silent Music* has a separate set. The first episode takes place in a concert setting. The piece is a duo for the self-playing piano and the pianist. The pianist is equipped with a motion sensor that remotely controls the piano. Based on the performer's motions, the piano plays improvisational phrases. In this scene, the pianist is tiredly struggling to approach the piano from a far distance. With each of his slow steps, the piano plays synchronously. Eventually the pianist arrives at the piano and joins the improvisation by using fingers on the keyboard. This part is a duet for the pianist's fingers and his hand gestures.

Halfway through the piece, several clones of the pianist enter the concert room, sit as the audience, and spectate his own performance. We hear one of them having a vague conversation on the phone, arguing with an agent. The agent is attempting to persuade him to make adjustments to his piece in order for it to be accepted for publication. The voice from the phone is originally a censor that reappears in some other episodes, as well. His personage is represented by an outside

voice, and does not appear in the picture at any point during the film. His lines are few, obscure, and disjointed, with the majority of them forcing silence, whether by advice or compulsion. As revealed by the conversation between the agent and the clone, we realize that the artist is attempting to work on a sensitive subject that happened twenty-five years ago. This piece of information serves as an important linking motif between the first and second episodes.

The setting for the second episode is different. It has the appearance of a documentary interview. Three different characters (performed by one actor) sit in front of the camera and explain their experience in a prison massacre that happened twenty-five years ago in a panopticon prison. The title of the episode is *Final Export_With Required Changes*. From the title we recognize that the present piece has been altered due to a request from outside. Panopticism was originally introduced by the clones observing the performance in the first episode, but here, in the second episode, is the first time that this concept is verbally explained in detail by the characters. The three characters of this episode are:

- a former prisoner who is the only survivor from the prison massacre,
- the former prison director, and
- the architect of the prison.

The interviewees are recounting the massive slaughter that occurred during an uncontrollable riot in the prison. During this riot, the prison guards unleashed gas from four gas chambers in the prison causing most of the inmates to choke.

During the interviews, most of the words are censored or disturbed by layering other sounds. The concealment is not merely the means to impact the literal content, but it is also an artistic tool that shapes new musical events, and creates anticipation and irony. The technique of silencing is a crucial theme that shapes this episode. During one of the interviews, the interviewee mentions that the massacre happened *on Monday at 13:30*. This short phrase is also the title of the

third episode of *Silent Music*. This is one of the hints that interconnects the second and the third episode.

The third episode depicts the prison massacre through a metaphorical setting. During this episode a guard and his boss incarcerate and torture a prisoner to death. For this scene the two hands, as well as the face of the performer, enact the three separate characters simultaneously. The right hand is wearing a glove which is equipped with motion sensors. The glove is designed with multiple white shiny pieces on it that simulate the multiple eyes. The eyes represent the character's occupation as a watchman and refer to the external surveillance. The personage of the boss is played by the face of the performer with its monstrous grin and animalistic behavior. Following the story, these two characters help carry in the left hand who is a prisoner. They drop the prisoner into the water container which symbolizes the prison. The inmate attempts to escape while he is hiding a small bag of red ink in his fist. Throughout the scene, the prisoner experiences a variety of harsh tortures in order to be silenced. The red ink container eventually explodes as a result of the tortures, and its color begins to spread slowly throughout the tank. At the very end, four green drops of ink fall into each corner of the tank. These four drips are one of the main shared motifs that connects the second and third episodes. It depicts the four gas chambers, one at each corner of the prison, when the massacre begins. At the end, the prisoner remains motionless in his solitude in the center of the tank while the clear water is disrupted by the dispersion of red and green colors.

The fourth episode, the *Outro*, depicts the artist's life in confrontation with an unknown book with which he is captivated. Because there is no literal direct information regarding the book, the scene is open to several interpretations. One interpretation is that the book contains the story of the panopticon prison, which the artist was striving to complete during the prior episodes. Throughout this episode, the protagonist is torn between keeping the book and destroying it.

Meanwhile, there is a radio channel playing in the background. The channel features a conversation between a presenter and a guest (again performed by one person). Their conversation is devoid of key information and consists solely of common phrases that have no unique significance. This dialogue is written in such a manner that it looks to be a casual, meaningful radio broadcast that draws the listener in, but it is only a mirage that fails to deliver any point. The absurdity of this section stems from long generic descriptions of an undefined subject with no particular names or titles. This is considered to be another way of silencing or censoring.

While listening to this radio, the protagonist tries different methods to vanish the book. Finally, he cooks it, and gets ready to eat it. The artist is concerned about his thoughts and resolves to eliminate this concern by eating them. Cooking and eating the book is the representation of self-censorship. Whether to protect it or to get rid of it, the protagonist buries the ideas where they originated. As the book disintegrates in the boiling pot, the absurd radio talk grows increasingly incomprehensible. *Silent Music* ends with an overhead shot of the book melting in boiling water.

* * *

The distinct features of the project

In most silent musical pieces, the intention behind the extreme focus on silence is to evoke nature or to convey a spiritual or supernatural mood. One crucial difference between *Silent Music* and similar silent works is the notion of portraying censorship through silence. Silence in this project is both a compositional element and a means to replicate suffocation.

Among the silent pieces that I discussed, *4'33"* has a different approach. In his silent composition, John Cage eliminates his own voice and creates a blank piece to let the listeners hear the ambient sounds around them. In contrast, in *Silent Music*, silence is an expressive tool. The

pauses in the current project are filled with dramatic tension and therefore are not an ideal space for the experience of appreciating surrounding sounds.

To reproduce silence in *Silent Music*, I used the existing palette of silence employed by prior artists and I also developed new composition techniques including semi-silences and silencing.

Another approach to express the notion of self-censorship in *Silent Music* is the protagonist's struggle with his own self while playing different roles. The three character themes of *Silent Music* that reappear in each episode are:

- an artist, (the suppressed)
- a censor who conveys the suffocative rules, (the suppressor) and
- a legislator who establishes or designs the rules.

These three themes return, each time with different variations. The several personages perform for each other, observe each other, evaluate each other, and interrupt each other's acts and words. These are some of the aspects that distinguish this project from others in its field.

* * *

The compositional process

Each episode of *Silent Music* uses a different technique of composition than the others, yet there is a common thread running through them all. For each episode, there were two general stages of composition—one during pre-production and the other during post-production. Initially, each episode is formed from brief ideas, simple instructions that provide the performer a few tasks with which to improvise. Sounds, silence, motion, stillness, speech, interactivity, self-playing piano, and motion sensors are all part of these instructions. The style of these initial instructions is similar

to Fluxus works. The instructions bring together multiple disciplines and guide the performer through an experimental process. Each episode of the film is made out of hours of solo improvisation based on these instructions and themes. The outcome of this first stage of composition is a variety of recorded material, including audio, images, and captured data from the motion sensor.

After making the recordings, the second step of the composition begins. The raw materials are put through an editing process that incorporates both planned and spontaneous choices. The first compositional goal of the second phase is to decide and determine when, how, and with what tool(s) these recordings should be silenced, and how much of the present structure should be carved out. Musical silence, semi-silence, and silencing fill these empty spaces. Throughout all of these steps, I tried to retain a story at the core of the project. This story is a framework that keeps the elements together.

The concept of censorship is embedded in the compositional process of *Silent Music*:

- First, the protagonist creates the content (the first phase).
- Then, the censor disrupts the content, and
- finally, the protagonist uses all available tools to make up for the loss and fill in the gaps (the second phase)

The author's attempts to communicate his and the prisoners' suffocation ends up coming out as different forms of silence.

* * *

First Episode (The Intro)

The first phase of the composition of the Intro was to program the sensor and connect it to the self-playing piano to correspond to body movements based on particular sonic ideas. Figure 18 is the first score for the first episode:

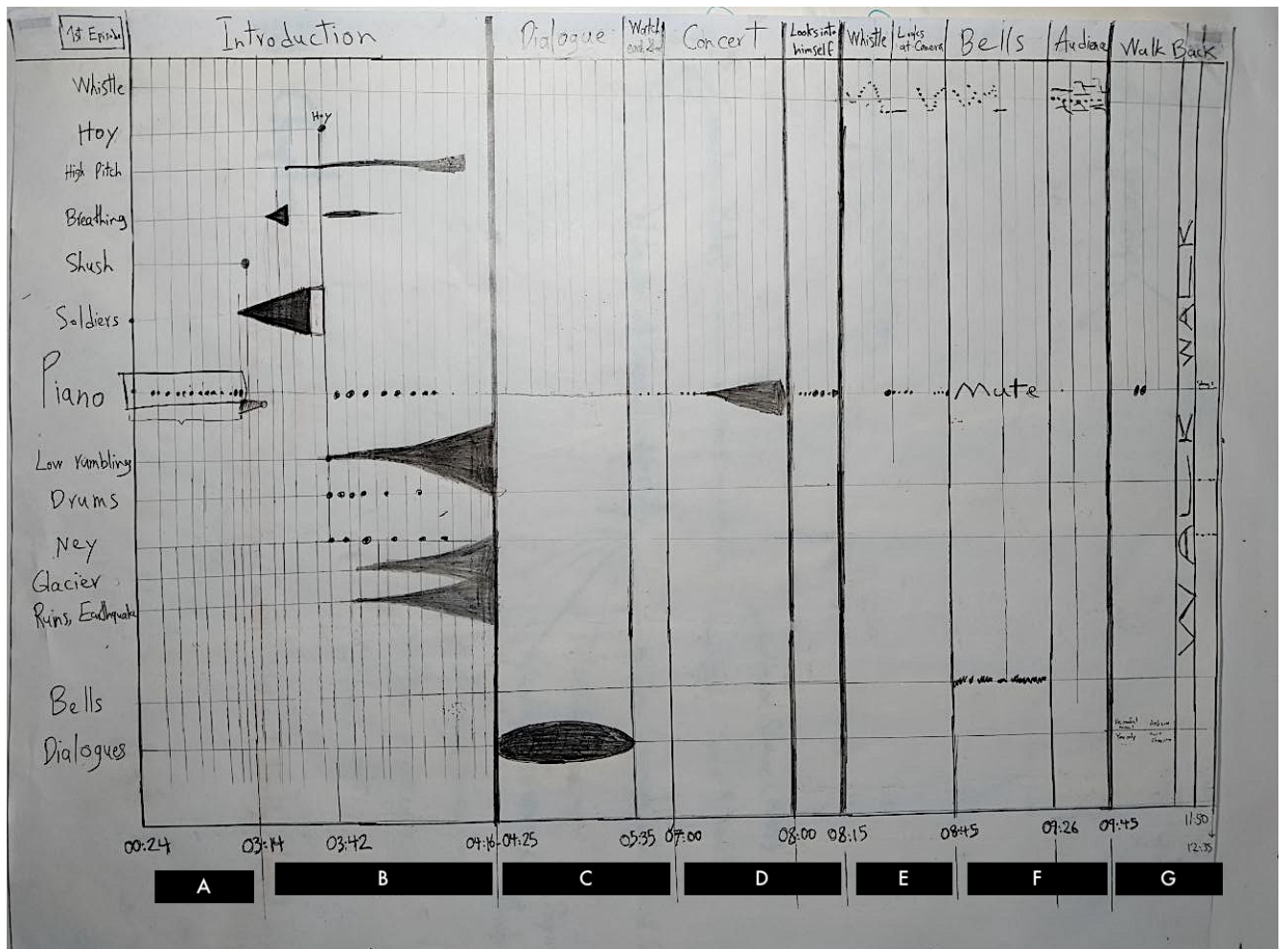


Figure 18– Silent Music, *episode 1, Intro.* (score)

Compositional and technical needs

The primary musical instrument used is a small hand-worn motion sensor that 1) remotely plays the grand piano in the first episode and 2) controls and manipulates real-time voice in the third episode. Based on the intensity of the hand movements, the motion sensor provides an energy value to a Max/MSP patch. The motion sensor contains three accelerometers that measure linear acceleration on the x, y, and z axes. The energy value that the software receives is the magnitude of the linear acceleration of the movement. This is calculated by the square and sum of the values from the three accelerometers. The self-playing piano (Disklavier) uses the energy to generate improvised music phrases.

In Max/MSP, the energy value is represented by integers ranging from 0 to 200, with 0 indicating no movement and 200 indicating the most extreme shaking. The receiving values are bound into particular ranges of numbers. Each range is given its own set of sonic results. The first category ranges from numbers 1 to 10, indicating that the hand is moving slowly. The receiving number rises in proportion to the speed of the hand motions. The second category includes numbers from 10 to 30, the third includes numbers from 30 to 40, and the last group includes numbers from 40 to the maximum. All these numbers are then converted to MIDI data in real time.

The self-playing piano is directed by the MIDI data to play notes. These notes are based on certain harmonic and compositional schemes and the rhythm of the body movements. Lower energy in the motions results in lower MIDI numbers, which means lower notes on the piano. Slower motions result in lower frequencies and decrease the density of the phrases by implying fewer rhythmic alterations, and more stillness. According to the Max/MSP patch, when the energy of the movement drops below 1, indicating the performer's stillness, the piano pedal is released and all sounds are muted.

Figure 19 is a chart that indicates the relationship between the sensor's incoming value, MIDI numbers, the range of notes, and the approximate density of the phrases.

Energy value	MIDI number	The range of notes	The density of the events
0	0	Silence	-
1 - 10	21 - 29	A0 - F1	5000 ms
10 - 30	29 - 50	F1 - D3	1000 ms
30 - 40	50 - 71	C4 - B4	500 ms
40 - 200	71 - 108	B4 - C8	100 ms

Figure 19 – Relationship between energy value and resulting sounds

Figure 20 is another chart that shows the variety of outputs, including notes and chords that are played by the piano based on the incoming values. It ranges from a single B note, to large clusters. The indicated results in this chart are not the actual chords but the condensed version of them. The actual chords are dispersed in several octaves using the whole register of the piano.

The image displays two staves of musical notation in treble clef. The first staff, starting at measure 7, shows a sequence of chords: Unison (a single note), 3M/6m (a triad), P4 (a dyad), P5 (a dyad), 6M/3m (a triad), 8P (an octave), 4aug|2m|7M (a complex chord), and 2M/7m (a complex chord). The second staff, starting at measure 16, shows a progression of increasingly dense and complex chord clusters, with many notes beamed together, representing a transition from simple chords to large, multi-note clusters.

Figure 20 – The resulting sounds played by the piano

The instructional prompt for this episode was:

Put the sensor on the back of one of your hands. Enter the frame from the infinite black background as you approach the piano and the camera. Act trembling and weak. The trip should be performed in a way that appears to have been going on for a long time. Each movement must trigger the sensor and emit a sound from the piano, so make sure to move your sensor-equipped hand with any other body motions. The movements should be spaced out widely.

When you get to the piano, improvise using your fingers. There is no specific navigation for this improvisation, but try to interact with the autonomous notes that are being played on the piano. You may use any extended techniques. Through the piece, interact with the piano and the camera in any musical or theatrical way that you prefer. As an example, look into them or hold them. You may play a handbell while holding it in your sensor-equipped hand. This way you can play the two instruments simultaneously. After finishing this section, slowly and steadily return to your starting position. During the return, hold your hands as steady as possible and try not to make any sound.

At the beginning of this episode, scattered phrases are used to make an anticipatory and slow-moving intro. The fragmentation is reinforced with the synchrony between the sounds and movements as well as by the silence and stillness. Halfway to the piano, in the B section at 03:14, the second group of sounds is introduced. These electro-acoustic sounds are added during the second phase of the composition in post-production. The first layer that interrupts the scene is the repetitive stamping of soldiers approaching from the left audio channel to the center with a crescendo. At this point, the sound of the sonified body is not audible despite the motions since the piano's sound is muffled by the loud stampings. The emptied space is filled with new layers of sound. These sounds merge into the structure one by one and help to create a long build-up:

- fast breathing
- shushing
- a high prolonged pitch
- a low rumbling sound
- quiet sound of a wind instrument that sounds similar to a far cry
- a steady beat of brush on snare with some added cymbals.

- the sound of glaciers
- the sound of earthquake
- the sound of ruins.

After the shushing sound at 03:14, the performer stops moving. The shushing, along with the act of freezing, implies an outside command. Following that, the sudden absence of breathing and stampings creates a gasping effect, heightening the impending tension. These sounds, combined with a high sustained pitch, layer on top of each other and grow to a loud peak. During the climax of these layers, at 04:16, a sharp contrast occurs. In less than a second, all the sounds vanish with no reverberation. This silence occurs at the end of section B and it lasts for almost 10 seconds. This mutation is visually synchronized with the performer shutting his eyes to fall asleep. This synchrony and the drastic dynamic contrast emphasize and punctuate this silence. The suspension in the silence, as well as its location in the structure, makes it resemble the feeling of a half cadence that ends with an unresolved harmonic tension at the end of a phrase. In this section we move from a creeping mass of deafening sound that gradually silences all other sounds in the hall, to a sudden silence when you can hear the person next to you breathing and your own pulse beating.

After this silence at 04:25, there is a dialogic scene between the protagonist and a voice on the phone. The dialogues are carved by using jump cuts and thus the listener only hears fragments of the conversation. The quick subsequent cuts refresh the music by introducing a contrasting sonic element to the prior slow and heavy movements.

During the F section at 08:45, another important example of silencing occurs. The pianist starts ringing a handbell in the air while looking at the camera. The sensor-equipped hand is used to ring the bell; therefore, the piano is also played. In the post-production, the sound of the piano

is removed and only the bell is audible. The theme of silencing the piano that occurred earlier in the piece, has reappeared in this context. The image of the silent keys moving intensifies the notion of silencing and makes the background silence counterintuitive and distinctive.

Around the same section at 08:15, the quiet whistles appear for the first time. This sonic texture is a recurring element across the different episodes of *Silent Music*. The majority of these whistling melodies are in major tonality, and have a rather simple rhythmic pattern. Their melodic and rhythmic qualities are reminiscent of a cheerful marching tune, a national anthem, or a nursery rhyme. However, their manner of performance deforms them. The melodies used in such examples have a dual character. They sound like they were composed but they also seem to be affected by unexpected and spontaneous wrong choices. Despite the fact that they are generally delicate, they are continually facing deterioration. These melodies are performed exaggeratedly slow, faint, breathless, apathetic, and slightly out of tune and out of rhythm; they also make extensive use of downward glissando. The combination of their sweetness due to their tonality and their bitterness in their performance make them a perfect fit for the film's atmosphere. The paradox in them portrays a sonic caricature. In other words, their real character is silenced by the contrast in their expression. These contradictions distort them into dreadful and grotesque events. I call these sonorities 'grim tunes'.

These quiet whistles are amplified to be audible. The amplification makes their background silence (ambient noise) more audible, and this intensifies their quiet nature. This strategy creates an interesting perspective for the observer and brings empathy and closeness to the character. The protagonist's silence at 08:15 is the outcome of witnessing his own clone observing and controlling himself. The purpose is to help the spectator sense this wonder and suffocation. At 09:26, we notice several clones of the main character monitoring him from the audience. The multiple clones

increase the feeling of self-censorship and simulate the idea of panopticism. To strengthen this notion, the sonic element of the scene develops as well; the whistles are now represented in the form of a choral.

At the end of this episode, the pianist (who now has left his head inside the piano), begins walking back to the infinite black background from which he entered. He attempts to move with precision so that his hands and the sensor do not move, and so the piano does not play. At 09:45, at the beginning of his trip, the voice of the agent (censor) tells the pianist that he only has three opportunities to make a mistake. The line is obscure in its meaning until the pianist moves a bit unsteadily and therefore the piano makes sound. The agent continues with another line saying, “And now two chances”. With his counting, it becomes obvious that creating noise is forbidden from that point. This is another metaphorical form of depicting censorship and silencing. The pianist continues his careful journey. The silence that accompanies his journey is long and filled with anticipation. The fear of making mistakes makes every step crucial and the background silence tense. Choosing the length of this silence was the main challenge in composing this section. I aimed to prolong this silence as much as possible without losing the focus on its intensity. As a result, in the editing process I had to experiment with a variety of lengths to determine the maximum capacity of silence, and the elasticity of silence to extend as far as possible without breaking apart.

* * *

Second Episode (Final Export_with Required Changes)

The title of the piece introduces the notion of repression. It refers to imposed changes that have been made to a piece that has already been finished. For the beginning of this episode, I used

a variety of ambient sounds as a type of semi-silence. A hospital, an office, a classroom, a crowded hall, a film set, and a prison are among the ambient sounds that continuously follow and interrupt each other. In *Silent Music*, despite the fact that the same set is being shown, the ambient sound of the set may shift from one place to another. These changes not only correspond to the concept of developing silence, but also increase the character's anxiety and sorrow as he tries to recall his prison memories.

The interview starts with the character's hesitation and stuttering. Silencing elements become more prominent as the narrative progresses. Small flaws in the sound appear at first to be a technical issue in the sound file, but they become longer and extend into various sound layers that dominate the voice of interviewees. The sonic aspects of his story about the prison, such as the gas chambers leaking and the prison doors slamming, accompanies his speech. These layers are used both as sound effects that reinforce the tension of the story and also as compositional material. These sounds frequently imitate the intonation and the rhythmic patterns of the speech and make short scattered musical phrases. This occurs between 15:30 to 15:42, for example. During this moment, the percussive sound of door slams mimics the rhythmic pattern of the prisoner's words.

At 16:25, the prisoner's interview concludes with the story of his vain attempt to get help from the guard. This section of the interview is followed by thirteen seconds of silence and stillness. This long pause is crucial for balancing the structure and freshening the music because the preceding event is packed with considerable verbal information and sounds. This pause, though, maintains the prior tension, leaving both the character and the spectator into a long, attentive silence of wonder.

Earlier in the story, the prisoner mentioned that the prison's chaos began to calm down at some point:

“THE PRISONER: After about thirty, thirty-five minutes, the eeee.... riot [pause] starts getting quieter [pause] and then [pause] the, my neighbor cell [pause] eeee... Habib, [pause], he, eeee... [pause], he said he is out of breath. [pause] Habib had lung issues.”

This line refers to the gradual leaking of the gas in the prison, the creeping silence that approaches from afar and overpowers everything as it gets closer. The thirteen seconds of silence allow the imagination to fill in the rest of the story and grasp the consequences. This is how ellipsis in text is translated sonically. “Three dots” is a sort of silence that includes deleting words on purpose and leaving the reader with a moment of thinking.

Another use of sounds in *Silent Music* is to portray an emotion that differs from the emotion provided by spoken words. This is another tool to silence, especially in this episode. At 18:08, during one of the interviews, the former manager of the prison is describing the brutality in the prison. The sound of cans opening and people gulping beverages accompany this part. The pleasing sounds as well as the physical gestures make brutality look normal and create a mix of humor and guilt.

Immediately after this part, the line “the most dangerous people in the world” is accompanied by three chords in the strings. A long C major triad accompanies the word “dangerous”, another method that mocks the normalization of violence. The chord continues to play, but it drops out every now and then. Subsequently, the prisoner appears on the screen to explain about the experience of silence in the panopticon prison.

Several times throughout the same episode, I employed alliteration of the consonant "s" in the speech. This serves as a sound effect for simulating silence as well as a tool for composing. At 18:34 the line says "It was⁹ full of misunderstandings, full of silence". The last consonant in the word "silence" is sustained and it creates a transition from the prior C major chord to the next sound, which is a marching song. This method of using sibilant consonant letters is similar to whispering, and it is an important motif in *Silent Music*.

At 20:19, while the architect is explaining the structure of the panopticon, the grim tunes return. The character's voice becomes thoroughly muted and the quiet whistles accompany his silent speech. The passive, soulless quality of these tunes resembles a broken music box. The architect's obsession with describing the prison's structure contrasts with this sonority. This contrast devalues his discourse, resulting in a type of mockery. Additionally, the proximity of the amplified quiet sound of the whistles takes us closer to the character's personal space and shows an inner silence.

Near the end of this episode the narrator's voice addresses the government's censoring of news about the massacre. While he is speaking, the sound of papers tearing apart, interrupts his words. His speech is eventually cut off as a loud white noise disturbs the word "information."

* * *

⁹ Was is pronounced /wOs/.

Third Episode (Monday 13:30)

The first phase of the composition of *Monday 13:30* was to program the sensor to 1) control and manipulate the real-time voice based on hand gestures and 2) activate pre-recorded sounds.

The MUGIC motion sensor provides data based on three types of hand movements: up and down movement, rotation, and side to side movement (pitch, roll, and yaw). The sensor's orientation is provided by a gyroscope, which identifies those directions based on its relationship to the gravitational force of the earth. The data received from the movements are then assigned to various parameters of reverb and delay effects inside Ableton Live. The reverb output (0 to 100%) is controlled by rotating the hand 0 to 180 degrees. Moving the hand side to side changes the delay time in the right channel, and moving it up and down corresponds to the delay time in the left channel, both in the range from 1 to 2500 milliseconds.

As explained before, shaking the sensor-equipped hand produces different “energy” levels. This energy data controls the amount of feedback on the voice. The faster the hand moves, the higher the feedback will be. These manipulations are all affecting the realtime voice of the performer. The combinations of the movements give the performer the ability to make a variety of sounds including continuous events. These sorts of sounds are ideal for accompanying prolonged actions. The energy data is also assigned to play pre-recorded samples in certain moments. For this purpose, I used the stillness of the hand. If the energy level is below 1, indicating that the hand is motionless, a counter in the patch will begin calculating the length of the stillness and, at a given point, a pre-recorded sound will be triggered.

Meanwhile, a **mtr** object (data recorder) in the Max patch captures and saves the realtime data received from the sensor. This collected data is used in post-production during the composition's second phase to create extra sonic effects as required and to be converted into MIDI

data and provide a musical score for the synthesizers. The following is the instructional prompt for this episode:

Put your right hand in the sensor-equipped glove. Enter the right hand into the scene from the infinite black background. With your right hand, explore each side of the water tank. While doing so, improvise with different sounds and gestures. Keep the sounds as quiet as possible. Bring your face into the scene. Create a master-slave relationship between the right hand and the face. With the help of the right hand and the face, grab the left hand (that looks to be unconscious) and bring it to the scene. A red ink container is held in the left hand.

Sing an improvised song that simulates a ritual ceremony and then drop the left hand into the water tank. The left hand will then desperately search for a way out. Perform sounds that match to its movement. Use different sonic characters for each hand.

Next, use different objects such as wires and stones to torture the left hand. Continue this battle until the red ink container explodes.

Next, use your right hand to drop four green ink droplets into each corner of the water tank.

One of the most important strategies in this episode—both during the performance and during the post-production of the recordings—is the use of a close-positioned microphone with high sensitivity. By this means, I restricted the dynamic range of my voice to a minimum. As the primary performing elements, I sought to employ quiet ambient noise, quiet sounds from my lips, and the noise from the fabric of the clothes. Furthermore, because of the frozen face expression of the character, I had less vocal flexibility. This posture made any realtime sound inherently muffled.

After establishing these restrictions, along with the storyline and the qualities of each character, I improvised utilizing all potential sounds and gestures. During the performance I tried to follow the spontaneous behaviors that happened in the moment. Combining realtime vocal and electronic effects provided an opportunity to create a variety of sonorities. Additionally, the

realtime delay and reverb emphasize the fish tank's emptiness and give it a particular acoustic character. In this episode, the following voice effects are used:

- a variety of breathing styles with varying pitches and intensities
- crackling
- sizzling
- bubbling
- rattling
- clicking
- humming
- panting
- sighing
- grinding
- knocking on teeth
- chewing
- vocal fry
- hissing
- whistling
- singing with mouth clothed
- sounds that are performed in the back of the throat and near to the soft palate
- singing through nose by lowering soft palate and blowing air through nasal cavity
- consonant letters
- stuttering

In this episode, extra sonorities are created and added during post-production by capturing quiet noises using a sensitive microphone. The sound of white particles falling into the water at 32:07, for example, is replicated by the sound of tapping nails on a metal surface close to the microphone. Or, in another instance, the rattling sounds around 33:35 are created by lightly touching the microphone grille.

Theatrical and visual elements—including the glove and the set design—are employed in this episode to further the concepts of surveillance, and silence. The design of the glove with multiple eyes on each side symbolizes the guard (reminiscent of Argus Panoptes). The enclosed chamber filled with water in the set design represents imprisonment, repression, and drowning.

Suppression is evident in the many types of torture imposed on the prisoner by the guard, including tying with wire, stoning, burying, and choking.

In this episode, there are just two spoken phrases, one of which is “We are watching you,” performed with a wicked excitement, heightening the sensation of monitoring and panopticism. The idea of concealment is illustrated by explicitly hiding the red ink container from the audience, allowing them to know it exists but not fully showing it until it explodes.

At 30:39, during the height of the conflict between the guard and the prisoner, a blackout appears on the screen which lasts for thirty six seconds. By hiding the images while preserving the noises, I intended for the spectator to have a closer experience to the prison’s claustrophobic atmosphere. During the darkness, we only hear the sound of rubbing hands against the clothes which reflects the movements, and also the performer's breathless panting and swallowing.

In *Silent Music*, stuttering is employed as a technique to merge music with theatricality. There are several examples of this approach throughout this project, including the line “And scene” at 34:22 towards the end of this episode. At this moment, in the first encounter, we hear a sustained note on the vowel “a” performed with vocal fry. This extended low note arrives as a component of the following phrase “and scene”. The episode concludes a few seconds later.

* * *

Fourth Episode (The Outro)

The sonic world of the first half of the fourth episode is unlike the other sections in that it is more akin to sound design than composition. Until 38:13, when the character throws the book down into the courtyard of the apartment, the sounds are employed to accompany the visual

elements of the film, which is the artist's everyday life environment. The majority of the sound effects are added in post-production, with careful consideration given to the placement and distance of the sounds in order to make the scenario as natural as possible.

To represent the solitude of the character, the room is shown as significantly quieter than the world outside. In the opening, the atmosphere is so quiet that the film appears to be silent until we hear the keys open the door. Each time the door opens, a rush of distant ambient sounds fills the room.

At 36:16, a new sound layer appears, which is a conversation on a podcast. For the purpose of composing this dialogue, the words are chosen in such a way that they sound like a standard radio conversation and are engaging enough that the listener is teased to follow, yet they do not hint at any obvious topic. The speakers are silencing the core point with extra adjectives and descriptions. The radio conversation is emptied of any meaning, symbol, and identity, similar to the book, the contents of which are unknown to us. One is censored with extra useless information and the other is censored by a black plastic bag and a newspaper that conceals the cover. This is most likely a behavior that develops as a result of the protagonist's self-censorship.

Around 38:13, I used the bumper music of the radio show as a transitional element to weave the musical part of the episode into the structure. The sound of a hovering helicopter joins the scene as the character opens the door. The proximity of the sound of the helicopter blades dramatically separates the inside and outside of the room and instantly brings the tension of being observed.

The music of this section includes continuous, unsettling layers of sound that gradually accumulate on top of each other and create a climax. A repetitive rhythmic beat emerges from the sound of the helicopter; subsequently other sounds begin to blend in, including:

- a high sustained sound of a synthesizer,
- a low bass rumble followed by bass drum strokes,
- spoken words from the second episode about panopticon prison.

At 40:54, in the final section of *Silent Music*, while we are watching the book being cooked, the character, who has missed parts of the podcast, begins seeking the point where he left off in the conversation. His careful search through the sound file gives the listener the optimism that, eventually, some informative parts will be revealed about the podcast. However, when he finds the spot, all we hear is a whispering that is concealed by a high pitch sound and a deep rumbling. A sonority which resembles deafness. The podcast finishes and we continue to hear the water boiling.

A few seconds later, at 43:26, the sound of wind and icebergs breaking apart emerge in the texture. The dynamic of these two sound samples has been decreased so that they blend into the gentle sound of boiling water. The resulting low sustained layer is a semi-silence. This sound becomes denser when the voice enters with another semi-silence—a repetitive two-note figure, akin to a signal. The rhythmic aspect of this figure is quite similar to the two-note pattern played by the flute at the beginning of *Infinito Nero*. A short recurring motif with slightly uneven repetitions in each measure that conveys a realistic ambient pulse.

At 44:00, less than two minutes before the end of the film, a distant voice plays a high pitch, with mouth closed. Performing a prolonged faint note with mouth closed (*bocca chiusa*) creates another semi-silent texture. With a downward glissando, this high note gently descends to

low registers and fades away. Eventually, all layers vanish leaving only the low boiling sound until the scene finishes.

Conclusion

Silence does not exist in reality and it is merely a concept that can be interpreted in many ways. Silence in music refers to the lack of musical sounds and, as a result, the presence of ambient noises. In fact, the presence of many other sonic textures can also simulate the notion of silence. This dissertation introduced the idea of evoking silence by using sounds, and investigated various sonorities that simulate silence in the mind of the spectator. I refer to these sounds and techniques as *semi-silence*. In order to broaden the idea of silence, I also used silence as a verb that means to suppress. Silencing is an original compositional method that I developed for this project, and it stems from the practices of censorship. Silencing is the deliberate suppression of one sound layer in favor of the others.

The project's proposed taxonomy of silent techniques is:

- Silence
 - Musical
 - Musical silence (rests and pauses)
 - Semi-silence (sounds that replicate silence)
 - Ambient sounds
 - Soft dynamics
 - Echo
 - Repetition
 - Sustained sounds
 - Some extended techniques (such as keyclicks in flute)
 - Vocal effects
 - Breathing
 - Panting
 - Stuttering
 - Shushing

- Whispering
- Mumbling
- Quiet conversations
- Bocca chiusa (singing with mouth closed)
- Alliteration of “s”
- Spoken consonant letters
- Knocking on teeth
- Chewing
- Swallowing
- Drinking
- Gulping
- Soft whistles
- Hissing
- Any other sound that can be perceived by oneself from one’s own body particularly in isolation
- Silencing
 - Vertical silencing—masking one sound with another
 - Horizontal silencing—editing, deletion, or replacement
- Theatrical/visual
 - Silence
 - Stillness
 - Non-verbal communication
 - Semi-silence
 - Slow movements
 - Silencing
 - Jump cuts
 - Blackouts
 - Act of drowning or torturing

One of my objectives for this dissertation is to draw attention to the importance of silence and to provide a new perspective for future creative and research endeavors—particularly projects involving music composition, improvisation, theater, and technology. Furthermore, I believe that this methodology is beneficial to any composer of any genre who is investigating silence as the main theme of their composition.

It is worth noting that the initial idea for this project came from a concern with artist censorship in totalitarian societies. Having experienced socio-political oppression in my own country, I want to raise awareness about artist discrimination and the challenges that artists confront, particularly in underrepresented areas. By focusing on this topic, I wish to encourage empathy, justice, and free expression.

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Appendix (Online documentation)

The documentation for the creative portion of this dissertation is contained in the site shown below. This film had its world premiere on September 30, 2021, in the Experimental Media Performance Laboratory (xMPL) in the Contemporary Arts Center at UC Irvine.

<https://drive.google.com/drive/folders/1jvHERa0ysooxArco1sr5YwYjdSyqsmsn?usp=sharing>