

The Role of Silence in Salvatore Sciarrino's *Infinito Nero*, and a Series of Original Compositions Based on Silence

by

Ramin Akhavijou

BA Music, Shiraz Art Institute of Higher Education, 2011

MM Music Composition, Tehran University of Art, 2015

MM Music Composition, Carnegie Mellon University, 2019

Submitted to the Graduate Faculty of the
Dietrich School of Arts and Sciences in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

University of Pittsburgh

2024

UNIVERSITY OF PITTSBURGH
DIETRICH SCHOOL OF ARTS AND SCIENCES

This dissertation was presented

by

Ramin Akhavijou

It was defended on

March 5, 2024

and approved by

Dr. Amy Williams, Professor, Department of Music

Dr. Dan Wang, Professor, Department of Music

Dr. John Walsh, Professor, Department of French and Italian

Dissertation Director: Dr. Eric Moe, Andrew W. Mellon Professor, Department of Music

Copyright © by Ramin Akhavijou

2024

The Role of Silence in Salvatore Sciarrino's *Infinito Nero*, and a Series of Original Compositions Based on Silence

Ramin Akhaviyou, PhD

University of Pittsburgh, 2024

This dissertation focuses on the multifaceted role of silence in the structure of Salvatore Sciarrino's (b.1947) composition, *Infinito Nero*. The study employs a graphic technique I call "outsidegraphy" to explore how silence is intentionally incorporated and represented in the score. This method condenses the musical elements, strategically removing rests and staves, providing a comprehensive visual overview that emphasizes the significance of silence in the composition. *Outsidegraphy* centers on perception, offering a silence-focused lens to interpret the composer's intentions. The resulting single-image representation of the score integrates both temporal and spatial elements, presenting a holistic image of the piece's silence. Salvatore Sciarrino's compositions, particularly *Infinito Nero*, challenge conventional notions of sound and silence. Sonic elements are deliberately placed at or below the perceptual threshold, creating a deliberate distance between the audience and the sound platform. This intentional distancing encourages listeners to actively engage with hidden intricacies of the music, akin to scrutinizing a seemingly blank canvas to reveal concealed patterns and colors. The dissertation also explores the concept of "self-erasing boxes" in Sciarrino's compositions, highlighting the transient nature of certain sounds. These sounds, meticulously notated in the score, lack stability, lingering at the threshold of perception. The fragility of these sounds, influenced by factors like *azzerare* dynamics and the absence of recognizable musical cells, contributes to Sciarrino's intentional creation of transient sonic elements.

The original compositions include *A Miniature Opera: Censorship* and *The Unnoticed Dance No. 1 & 2*, exploring the convergence of sociopolitical and musical silence. In the exploration of censorship, the musical elements illustrate the process through reduction, converting sounds into noises, and gradually introducing silence. The title, *A Miniature Opera: Censorship*, signifies metaphorical censorship, where all elements of the opera undergo suppression, leaving only four instrumentalist characters on the stage. Amidst these alterations, a singular action endures—the foot strike, symbolizing a potent form of protest. Within *The Unnoticed Dances*, the established theme undergoes an elimination process, not solely in sounds but also in the visual aspect of the score.

Table of Contents

Preface.....	viii
1.0 Introduction.....	1
1.1 Scope and Methodology	3
1.2 Structure of the Dissertation	5
2.0 Literature Review and Analysis of <i>Infinito Nero</i>	7
2.1 Salvatore Sciarrino	16
2.2 Outsidegraphy.....	19
2.3 The Fragile Art of Framing Silence in Music: A Conceptual Exploration with an Analogy of Boxes.....	27
2.4 Infinito Nero’s Text; Shaping Composition’s Elements	34
3.0 Conclusion	41
Appendix A Another Use of Outsidegraphy.....	44
Bibliography	47
Original Compositions; <i>a miniature opera: censorship, the Unnoticed Dance no.1 & 2</i>	50

List of Figures

Figure 1- the whole image of silence in Infinito Nero	20
Figure 2 The outsidegraphy of bars 1-99.....	23
Figure 3 The compression of bars 1- 99	23
Figure 4 The window forms and little bang in bars 1-99	25
Figure 5 The outsidegraphy of bars 100-210.....	27
Figure 6 An example of azzerare in a dynamic context; the dynamic begins at zero and reaches very low level and goes back to zero.....	30
Figure 7 little bang.....	33
Figure 8 Voice influence on flute	39
Figure 9 Contrasting Onset of Piano and Voice in Bar 108.....	40
Figure 10 Vocal and Piano Relationship Shift in Bar 120.....	40

Preface

To ...

1.0 Introduction

Silence, often defined as the absence of sound, holds a fascinating and complex position within the realm of music composition. In this dissertation, I aim to shed light on Salvatore Sciarrino's unique approach to silence, focusing specifically on his 1997 composition, *Infinito Nero* (Black Infinity), based on the words of Maria Maddalena de'Pazzi. Although some exploration of the significance of silence in Sciarrino's compositions has taken place¹, there is still an opportunity to contribute a fresh and distinct approach to understanding and interpreting his work in relation to the use of silence. This composition spans a duration of 25 minutes and is scored for 8 instruments and voice, and presents a compelling opportunity to examine the role of sound and silence in shaping the overall structure.

To delve into the underlying principles of Sciarrino's approach to silence, it becomes necessary to explore the intricate relationship between expectation, intention, and awareness as they feature in the discourse surrounding silence. Our auditory perception of silence is intricately tied to the surrounding sound-space, shaping our understanding of sound in specific ways. We are all familiar with the experience of encountering silence, or the absence of audible sound, in various situations. For example, when we transition from a bustling street into a quiet library, we notice a distinct absence of sound entering our auditory perception, at least temporarily. The sounds we were previously immersed in—the street noises—suddenly vanish, while new sounds that lie

¹ David Metzger, "Modern Silence," *The Journal of Musicology* 23, no. 3 (2006): 331–74, <https://doi.org/10.1525/jm.2006.23.3.331>. His work primarily revolves around configuring the relationship between expression and silence, with a significant emphasis on incorporating elements of *Infinito Nero*'s text.

beyond/below our perception have yet to enter our conscious awareness, like our eyes when entering a dark room from a sunlit exterior.

Even within the seemingly serene environment of a quiet library, there are still sounds present, albeit quieter than those outside. These may include the soft whir of a ventilation system, hushed conversations, or the gentle footsteps of people. However, due to our cognitive failure to map these auditory perceptions onto our understanding of the sound-space, we interpret them as silence—an absence of connection to the new sound-space. However, one could argue that these sounds actually effectively "silence the silence." It is crucial to recognize that silence encompasses not only the absence of audible sound but also encompasses visual elements—implied sound. Sometimes silence is intentionally meant to be understood as such, despite the absence of absolute silence, as the concept of silence is highly contextual. One of my arguments revolves around the notion that silence encompasses a visual dimension, alongside auditory information. For example, when we see a violin being played in a silent film, even though we may not hear the actual violin sound, it may still evoke imaginary sounds.

Through my exploration, I aim to reveal the intention behind the use of silence in Sciarrino's composition and to highlight instances where alternative forms of silence may be overlooked in traditional sound-centric analyses. By uncovering the underlying intentionality at play when Sciarrino incorporates silence into his works, we can discern some of the intricate nuances and artistic choices that shape the overall composition. Additionally, this investigation aims to offer a new perspective on silence as a concept, recognizing its inherent connection to visual elements and contextual cues.

1.1 Scope and Methodology

This dissertation is centered on Sciarrino's *Infinito Nero*. Through an analysis of the piece's overall structure, I will explore some of the ways silence is contextualized and functions on multiple levels. This examination will encompass the creative aspects of silence, considering how it is intentionally incorporated at the level of composition, as well as the ways in which it may contain visual information. By adopting a multidimensional approach that incorporates auditory perception, visual analysis, and embodied content, I aim to unveil some of the intricate relationships between silence and the overall artistic intentions of the composer.

In musical analysis, various approaches are employed to capture the essence of a piece's overall structure. One such method is Schenkerian analysis, which aims to distill some fundamental aspects of compositions by hierarchizing pitch structure surface-level details. Another hierarchical technique, the Generative Theory of Tonal Music (GTTM), developed by Fred Lerdahl and Ray Jackendoff, shows nested pitch and rhythmic structures within a musical work. These analytical practices seek to summarize and elucidate the underlying framework of a piece. There are instances where composers themselves incorporate an integrated summary form into their scores, effectively presenting a self-analysis of their work. A notable example is Georges Aperghis's composition *Récitations*. Rather than employing the conventional left-to-right Western notation, Aperghis chooses to illustrate the musical components of the piece in a visually intuitive manner, making it accessible even to non-musicians. By doing so, he unveils the overall structure of the composition, offering a comprehensible snapshot. Furthermore, this visual approach aids performers in grasping the piece's overall shape, as it inscribes a clear roadmap in their minds. It is noteworthy to mention that some compositions by Aperghis are deliberately designed to invite

multiple and significantly distinct interpretations. One of the examples is *Récitation* No. 8, where the piece deliberately allows for both vertical and horizontal reading interpretations.

Naturally, this method of presentation cannot be universally applied fruitfully to all types of music scores. In the case of *Récitations*, a defining feature lies in the structural repetition of short musical elements. Thus the visual aspect of the score effectively reveals the piece's overall manifested shape without necessitating intricate analysis. Drawing inspiration from Aperghis's *Récitations* scores, I employ a similar approach to introduce a novel analytical presentation in my research. However, I adapt this method to a different time scale, considering that, while individual *Récitations* are relatively short, my focus lies on analyzing, in this case, a twenty-five-minute long composition. With a comparable visual approach, my analytical chart aims to provide a comprehensive overview of the piece's structure, enabling musicians and scholars, among others, to grapple with certain of its intricacies with greater ease. Moreover, this presentation method proves particularly well-suited for capturing the significance of silence as employed in the works of composers like Sciarrino. Traditionally, discussions surrounding silence in music have predominantly revolved around the presence, nature, and arrangement of sounds. This perspective on silence has been reinforced by the limitations of conventional notation, which complicate the analysis of silence by necessitating the consideration of sounds before identifying their omissions.

To challenge this approach and minimize the primacy of sound, I propose a visual method that directly makes silence visible in a composition's overall structure. Silence, in this case, is redefined in terms of orchestration and can be conceptualized as intentional omissions. In this process, I condense the score to one or two pages, removing all rests and staves at those points. This approach allows for a holistic view of the composition, emphasizing the presence and significance of silence throughout. I refer to this type of analysis as *outsidegraphy*, as it utilizes

the visual components of a score to provide a comprehensive overview in a single image, viewing the work from the outside in.

By employing the *outsidegraphy* method, my aim is to offer a fresh perspective on analyzing musical compositions, shedding light on the often overlooked role of silence. Through innovative visual representation, this method allows for a different conception of a composition's overall structure, and in some cases a deeper understanding, particularly when applied to the works of composers like Sciarrino where silence holds particular artistic weight.

1.2 Structure of the Dissertation

This dissertation is organized into several chapters that collectively present a comprehensive exploration of the role of silence in *Infinito Nero*. The subsequent chapters include:

- Chapter 2: Literature Review and Analysis of *Infinito Nero*: This chapter opens with a brief review of existing scholarship on silence in music, examining the historical and theoretical perspectives that have shaped our understanding of silence as a compositional element. This chapter also presents a silence-centric analysis of Sciarrino's composition, mapping the overall structure and investigating the intentional contextualization of silence by means of *outsidegraphy*. Various levels of silence, such as reduction, stasis, and omission, will be explored alongside the visual information contained within the composition.
- Chapter 3: Conclusion: In the final chapter, I offer an interpretation of the findings and discuss the broader implications of Sciarrino's approach to silence in *Infinito Nero*.

Additionally, I examine the impact of atemporal and visual elements on silence, contributing to my ongoing exploration of the complex relationship between sound and silence in the realm of music.

2.0 Literature Review and Analysis of *Infinito Nero*

In its symbiosis with sonority, silence is one of the structural elements of the sound fabric, though in itself silence is the very negation of a sound fabric.

–Zofia Lisaa²

It is useful to delve into existing scholarship on the discourse of silence, not only within the realm of music but also in literature and philosophy. This examination is crucial to provide readers with a comprehensive understanding of the chosen pathway and the specific types of silence incorporated in each section of my dissertation.

There are diverse approaches to conjuring and interpreting silence, distinct locations and occasions where silence is exhibited, and varying significances that silence holds within each of these domains. Much scholarship has been devoted to silence: our tendency to perceive speech as precise while regarding silence as ambiguous³; the way semiotics in silence reveals cultural variation⁴; communicative silence's mixed meanings in marriage proposals⁵; The importance of silence in second language acquisition,⁶ or praising silence for conveying the ineffable, invoking

² Zofia Lissa, "Aesthetic Functions of Silence and Rests in Music," *The Journal of Aesthetics and Art Criticism* 22, no. 4 (1964): 443–54. <https://doi.org/10.2307/427936>.

³ Adam Jaworski, *The Power of Silence: Social and Pragmatic Perspectives*, 1st ed. (Thousand Oaks: SAGE Publications, Incorporated, 1993), <https://doi.org/10.4135/9781483325460>.

⁴ Ibid.

⁵ M. Saville-Troike, "The Place of Silence in an Integrated Theory of Communication," in *Perspectives on Silence*, ed. D. Tannen and M. Saville-Troike (Norwood, NJ: Ablex, 1985), 3-20.

⁶ J. Perales and J. Cenoz, "Silence, Communicative Competence, and Communication Strategies in Second Language Acquisition," in *Semantics of Silences in Linguistics and Literature*, ed. G. M. Grabher and U. Jessner (Heidelberg, Germany: Universitätsverlag C. Winter, 1996), 67-88.

"tacit knowledge" beyond words.⁷ How silent meditation can induce perceptual transformations in the realms of time, space, and self.⁸ The practice of immersing oneself in silence forms a central pillar in the context of mindfulness and meditation practices.⁹ The interplay between silence and technology exemplified in the case of the Norwegian pavilion's Silent Room¹⁰, and many more.

Silence, being devoid of inherent content, derives much of its identity from the contextual elements in which it exists. Thomas B. Pitfield posits that silence in music resembles white paper for a drawing; it serves as an aural backcloth. While white paper is blank and neutral, silence is pregnant with meaning and can only be destroyed, not made, by humans.¹¹ Consequently, when analyzing silence in music, there is a tendency to gravitate toward its relationship with sound. While this perspective holds some validity, it should not serve as the sole interpretation of silence in music. My objective is to explore alternative discourses of silence that introduce new possibilities in which silence can be associated. In music, composers employ various discourses and themes throughout the stages of preparation, imagination, and creation. These facets are all subsets of the composer's intention, through which they infuse their subjectivity into the music. Such intentions can stem from cultural, political, mathematical, theatrical, technological, and other influences. As a result, music transcends a purely subjective experience of sound, and we witness that each composition carries its own message. While this holds true for sounds within the realm of creation, it should also extend to the imagination and preparation of silence. Although silence

⁷ Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (London: Routledge & Kegan Paul, 1962).

⁸ Aviva Berkovich-Ohana, Yair Dor-Ziderman, Joseph Glicksohn, and Abraham Goldstein, "Alterations in the Sense of Time, Space, and Body in the Mindfulness-Trained Brain: A Neurophenomenologically-Guided MEG Study," *Frontiers in Psychology* 4 (2013): 912, doi: 10.3389/fpsyg.2013.00912.

⁹ David S. Black, Jennifer Milam, and Steve Sussman, "Sitting-Meditation Interventions Among Youth: A Review of Treatment Efficacy," *Pediatrics* 124 (2009): e532–e541, doi: 10.1542/peds.2008-3434.

¹⁰ Morgan Meyer, "A Space for Silence: Exhibiting and Materialising Silence through Technology," *Cultural Geographies* 23, no. 2 (2016): 321-336, <https://doi.org/10.1177/1474474015588708>.

¹¹ Thomas B. Pitfield, "Music and Silence," *The Musical Times* 100, no. 1391 (1959): 17–18.

may be imperceptible and unobservable as sounds can also be, it should not be entirely detached from the composer's intention within a musical piece. Often, silence is predominantly linked to the absence of sound, as it exists within the same contextual framework as music. For instance, consider the example of a singing bird interspersing its melody with moments of silence. We cannot assert that the bird intentionally desired the absence of sound during those intervals. Instead, the silence within this context can embody various elements, such as the bird feeling wary of being detected, consuming and quenching its thirst, flying, inserting syntactically significant punctuation, or experiencing fatigue. All of these factors contribute to interruptions that manifest as silence.

When exploring the concept of silence within the realm of music, an essential work is *4'33"* composed by John Cage¹². Cage even took significant strides in introducing silence to audiences, which I would call it as effectively unfurling a metaphorical "boom carpet" of silence, where the absence of sound resonates as a powerful and thought-provoking artistic statement, and of course, was controversial in its time. Cage's belief was influenced by his experience in an anechoic chamber at Harvard University, where he anticipated encountering pure silence. To his surprise, he heard two distinct sounds, one high and one low—he was told the high one was related to his nervous system and the lower one to his blood circulation.¹³ This fact reshaped his philosophical perspective regarding the conventional dichotomy between sound and silence. For Cage, it transformed into a distinction between intentional and unintentional sounds, subsequently marking a pivotal moment in the history of music and expanding into the realms of interpretation, chance,

¹² This work consists of three distinct silent movements, each varying in duration, which collectively amount to four minutes and thirty-three seconds. Initially performed in Woodstock, New York, on August 29, 1952, the piece challenged the notion of absolute soundlessness.

¹³ John Cage. *Silence: Lectures and Writings* (Middletown, Conn: Wesleyan University Press, 1961), 14.

and indeterminacy within the world of art—an extension that resonates as well within the domain of philosophy.

It is worth emphasizing that the purpose of highlighting this scholarly discourse is not to impose a subjective framework for perceiving silence in music. It is difficult to make specific claims about any particular instance of silence. However, I hope that this exploration expands the understanding of the immense potential of silence within the creative process, leading to the emergence of more artistic works where silence assumes a prominent role and to a better understanding of those that do. Apophasis, a concept of negation and paradoxical affirmation, sheds light on the often overlooked role of silence in music. It becomes evident that during the initial stages of learning music composition, many students tend to disregard the significance of silence, resulting in compositions that are dominated by sounds with minimal moments of silence. This phenomenon can be attributed to the predominant influence of conventional music theories, which primarily focus on rules, templates, practices, and examples related to sound-based elements. Throughout their musical education, students are exposed to a wealth of information and techniques centered around sounds and their organization. They are taught about melody, harmony, rhythm, counterpoint, and various other sound-centric aspects of composition. As a result, silence, which is not inherently addressed in most traditional theories, often takes a backseat in the students' minds, while silence could be a main component of composition. Lack of exposure to theories or practices specifically dedicated to silence further exacerbates this situation. Unlike sound-based elements, there is no dedicated branch or comprehensive curriculum on the subject of silence in music composition. While students may encounter syntactical silences in their studies, these are often used merely as pauses to indicate the organization of motifs, phrases, subphrases, and other sound-related structures. Consequently, in the subsequent sections of my dissertation, I

will focus on how the composer, in the case of Sciarrino's *Infinito Nero*, deliberately utilizes silence as a primary component and powerful tool.

There are some attempts to create a taxonomy of silence. Bernard Dauenhauer, in his book *Silence: The Phenomenon and its Ontological Significance* explores the multifaceted nature of silence beyond its association with sounds. According to Dauenhauer, silence is not merely a passive absence but an active performance in itself. He distinguishes between muteness and silence, drawing a parallel to the distinction between being without sight and intentionally closing one's eyes. While muteness signifies an inability to convey meaning through any form of expression, silence necessitates conscious engagement. Dauenhauer emphasizes that the presence or absence of external noise cannot autonomously determine the occurrence or cessation of silence, as it is an outcome of deliberate conscious activity. Expanding on his examination of silence, Dauenhauer introduces additional categories such as intervening silence, fore-and-after silence, and deep silence.¹⁴

Within the realm of silence discourse, where content is seemingly elusive, the concept of meaning emerges as a delicate thread that weaves through our perception. According to Steven L. Bindeman, when we transcend linear time, we enter a realm where meaning can be created rather than observed. He reaches this point by exploring the works of Gaston Bachelard, Paul Klee, and Merleau-Ponty. Bindeman explores the temporal nature of the poetic moment, influenced by Bachelard, where vertical time suspends the flow of horizontal time. This allows contradictory

¹⁴ Bernard P Dauenhauer. *Silence: The Phenomenon and Its Ontological Significance* (Indiana University Press, 1980), 3-25. Project MUSE, <http://muse.jhu.edu/book/84734>. Intervening silence emerges as brief pauses that punctuate sentences and discourse, while fore-and-after silence surrounds an utterance, encompassing the silence before its initial sound and after its final sound. Although these two types of silence share some resemblance to intervening silence, they each exhibit unique qualities. Conversely, deep silence transcends a direct correlation with any particular utterance, lacking a reciprocal relationship. It does not assume a rhythmic or melodic role within an utterance, but rather coexists in connection with it.

events to coexist within a single instance, and the process of finding meaning in a poem involves arranging these simultaneities to offer diverse interpretations, revealing poetry's transformative power and its ability to transcend conventional time. He mentions that Paul Klee emphasizes that art reveals the invisible, while Merleau-Ponty highlights the separate yet interconnected nature of language and meaning. He concludes from these three main points that breaking free from the confines of horizontal time allows us to engage in transformative events that have the power to generate meaning rather than passively witness it.¹⁵ This moment in composing a piece of music transcends linear time and immerses the composer in a realm where profound meaning can be conceived. It is a moment when the flow of musical time seems to cease, allowing the composer to work with a temporal framework that differs from real time. During the compositional process, the composer envisions the final section, culmination, various sections, and the overall structure, without necessarily adhering to a linear sequencing of details in chronological order. This deliberate arrangement of sections, each containing embedded real time, is created in a non-linear fashion. However, when we listen to the music, it unfolds in a linear progression. This fascinating juxtaposition, where materials are generated in non-linear time but perceived in a linear time frame, gives rise to an aspect of vertical time in music, enabling the creation of meaning.¹⁶

The perception of meaning is intricately tied to a listener's understanding and is enriched through the application of various theories and information. This process of perceiving meaning is greatly influenced by the listener's background knowledge, which may allow them to anticipate forthcoming events. In doing so, listeners, in moments of silence, also form expectations

¹⁵ Steven L Bindeman. *Silence in Philosophy, Literature, and Art* (BRILL, 2017), 50-51. <https://doi.org/10.1163/9789004352582>.

¹⁶ This concept can also be likened to the nature of cinema, where scenes are crafted in diverse locations and time periods, yet presented to the audience in a linear sequence. As viewers, we perceive a sense of temporal traversal, as if we are time-traveling between different locations.

about when and what events may occur.¹⁷ Music is a diverse and subjective art form, with individual composers pursuing specific goals in their creative process. Through music analysis, we can uncover the techniques used by musicians to achieve these goals. However, it is important to note that the identification of techniques does not dictate the essentiality of those techniques in music. Music analysis aims to understand how existing music works, rather than imposing rigid guidelines on its creation or appreciation.¹⁸

Another approach is formed in the insightful research of Thomas Gould regarding the concept of "Not Saying," tailoring it to the context of music. Gould's exploration delves into "Apophasis," also known as negative theology, which posits that the understanding of God cannot be attained through affirmative statements, but rather through negation. This perspective resonates with the profound and transformative power of silence, embodying its inherent ineffability. He also states that "reticence"—another version of Not Saying—represents a unique form of human silence that involves a deliberate and self-reflective withholding, rooted in a profound personal connection.¹⁹ My focus veers from the former divine silence to examine the notion of reticence within the more linguistic music.²⁰ Reticence in music entails a purposeful and introspective withholding of sound. It arises from an intimate connection to one's inner self and a sense of personal ownership over the music. While reticence and apophasis are more commonly associated with language and rhetoric, elements of these concepts can be observed in music as well. Here is a look at how they can manifest in the musical context:

¹⁷ David Brian Huron. *Sweet Anticipation: Music and the Psychology of Expectation* (MIT Press, 2006), 193.

¹⁸ Huron, *Sweet Anticipation*, 260.

¹⁹ Thomas Gould. *Silence in Modern Literature and Philosophy Beckett, Barthes, Nancy, Stevens* (Springer International Publishing, 2018), 23. <https://doi.org/10.1007/978-3-319-93479-2>.

²⁰ Gould states that Apophasis operates within the vertical realm of the paradigm, positioning silence (*silere*) as something transcendent and beyond the reach of language's referential power. On the other hand, reticence exists alongside the verbal domain (*tacere*) and manifests as a form of silence marked by ellipses, pauses, and hesitations.

Apophysis in music can be understood as a form of musical suggestion or allusion. Musicians may make indirect references to certain musical styles, motifs, or themes without explicitly stating or fully developing them. For example, a composer might evoke the essence of a particular musical era or genre by subtly incorporating elements associated with it, while not explicitly labeling or exploring it. This indirect approach can create intrigue, engage the listener's imagination, or serve as a commentary on musical traditions.

Reticence in music can be seen as a deliberate choice to withhold certain musical elements or expressions. Musicians may employ reticence by leaving deliberate pauses or silences in their compositions or performances. These silences can create tension, anticipation, or a sense of mystery, or flabbiness, disappointment, or boredom. Reticence in music can also be observed in the use of restraint or minimalism, where musicians purposefully limit the number of musical elements or the degree of musical expression, resulting in a more subdued or reserved sound.

I have explored the concept of reticence in music as a means to examine the role of silence in Sciarrino's composition *Infinito Nero*. By focusing on silence from a subjective perspective and considering it as a distinct entity rather than merely the absence of sound, I aim to enhance our understanding of silence through the analogy of reticence. Throughout the piece, Sciarrino deliberately incorporates reticence in various sections, emphasizing silence as a fundamental element. The initial instance of this reticence occurs at the beginning, where he gradually reduces the instrumentation until reaching bar 10, where he has narrowed down the instrumentation to only three instruments, and then maintains this configuration for 30 bars which also features extremely short-duration key clicks and soft dynamics. In a review of *Infinito Nero*, Nicholas Hodges aptly describes this approach as enthralling when executed with precise tension control and mastery of

timing.²¹ In his discussion of the sonic object in *Infinito Nero*, Aaron Helgeson explores how Sciarrino's rhythmic pattern serves as the backbone for its temporal structure. He states that this composition exists in a state of ambiguity, constantly teetering on the edge of perception. It resides at the boundary where the silences are neither too long to isolate individual sounds nor too short to reveal a clear rhythmic regularity.²² This strategic use of reticence, to keep silent, highlights silence as a crucial component within the composition.

Another example of Sciarrino's use of reticence is found in bars 50 to 69, where he utilizes only two instruments. In this and the previous instances, the composer employs sporadic silence spaces to enhance this reticence process. While sound-based analyses or discourses often express this reticence as the "sounds" that are dispersed within sporadic spaces, with silences between them, I intend to shift this perspective in my research. I argue that the spaces and silence are inherent and preexisting elements, while the sounds themselves give shape and duration to the silence. Consequently, music should be seen as a symbiotic relationship between sound and silence, where the integration of temporal space serves as a vessel and mold for these two components.

The reason why I make this argument is that we can shift our perspective to consider silence itself within certain pieces of music, such as Sciarrino's *Infinito Nero*. Silence, in the context of music, is not merely an absence, but rather a deliberate construct. Thomas Clifton, in his article *The Poetics of Musical Silence*, affirms that "If silence is distinguishable from nothingness, it is because silence is fundamentally not autonomous. In this respect 'made' silences are different from

²¹ Nicolas Hodges, "Review of Sciarrino: *Infinito nero*; *Le voci sottovetro* by Ensemble Recherche, Sonia Turchetta, Salvatore Sciarrino," *Tempo*, no. 216" (2001): 60, Cambridge University Press, <http://www.jstor.org/stable/946743>.

²² Aaron Helgeson, "What Is Phenomenological Music, and What Does It Have to Do with Salvatore Sciarrino?" *Perspectives of New Music* 51, no. 2 (2013): 4–36, <https://doi.org/10.1353/pnm.2013.0001>.

‘real’ silences, e.g., the silence of outer space. The significance of silence is therefore contingent upon a sounding environment; in the resulting collaboration silence articulates the sound, while sound confers a specific character on silence.”²³ Intentionally made silences, such as those found in music, possess their own subjectivity and should not be simply regarded as a mere absence of sound, disregarding other contextual factors.

2.1 Salvatore Sciarrino

My music is extreme music, especially because it seeks to rediscover perception. And it is a music that is born of silence and returns to silence. In this situation the limit of human perception also arises.

–Salvatore Sciarrino²⁴

Salvatore Sciarrino, born in Palermo in 1947, takes pride in his unconventional path to becoming a composer, having never attended a music school. His musical journey began at the age of twelve, when he started composing on his own, and in 1962, he presented his first public concert. However, Sciarrino regards all his pre-1966 works as part of his formative phase, considering that it was only after this year that his distinctive personal style began to emerge. His music possesses a unique quality, leading listeners to experience a different way of perceiving and emotionally

²³ Thomas Clifton, “The Poetics of Musical Silence,” *The Musical Quarterly*, vol. 62, no. 2 (1976): 163–81. JSTOR, <http://www.jstor.org/stable/741335>.

²⁴ Salvatore Sciarrino, interviewed by BBVA Foundation, "Interview subtitled in English with Salvatore Sciarrino, Frontiers of Knowledge Award in Music," YouTube video, July 27, 2017, https://youtu.be/h_GtmUL0BK4?si=6VS-i3IdDOnOndTi.

connecting with reality and themselves on a deeper level. Even after four decades, Sciarrino's extensive collection of compositions continues to evolve surprisingly.²⁵

Sciarrino's music revolves around communication, bridging a line between an expansive, boundless world and an individual, intimate realm. This connection occurs through the conduit of music, but to achieve its objective as a broad, unbiased medium, the music must avoid being familiar and subjective. Thus, Sciarrino feels it is essential for this music to liberate itself from conventional communication by rendering the sounds ambiguous and often barely audible. Otherwise, it risks being confined by cultural listening background and failing to serve its purpose for composers like himself. In many instances, Sciarrino employs soft dynamics with a unique texture, and creates music that is remarkably devoid of familiar elements. This shift aligns with Paul Griffiths' insight into Sciarrino's [2000] compositions, that their virtuosity now leans towards precision, maximum intensity, and the nuanced exploration of near-silence, departing from conventional norms.²⁶ Sciarrino deliberately keeps the sounds just below the threshold of our general level of musical perception, creating an ethereal realm that hovers between sound and silence. It is not complete silence, as intentional sounds are present, but neither does it adhere to the typical use of sound; instead, it cultivates ambiguity. This perceptual space, which I refer to as "sounds at threshold," epitomizes the fascinating interplay between sound and silence within Sciarrino's musical universe. Many scholars have already referred to this hovering between familiarity and unfamiliarity from various perspectives. Pierson mentions that "Sciarrino emphasizes the urgency of preserving the power of song while also advocating for an 'ecology of

²⁵ Salvatore Sciarrino, "Biography," Salvatore Sciarrino Official Website, <https://www.salvatoresciarrino.eu/php/eng/biography.html>.

²⁶ Paul Griffiths, "Spring Music: Writing on the Edge of Silence," *The New York Times*, March 5, 2000, <https://www.nytimes.com/2000/03/05/arts/spring-music-writing-on-the-edge-of-silence.html>.

sound' to free the mind from the familiar and embrace the unknown in music."²⁷ Lanz states that "Sciarrino's extremely soft dynamics and very subtle changes in timbre may produce the effect of experiencing an event from a distance, recalling a memory..."²⁸

In addition to the dynamic and texture elements I previously mentioned as ways for Sciarrino to strip familiarity from his music, I would also include time and space in this list. Obviously, these two elements are not exclusive to Sciarrino's music; rather, they form the primary components influencing the perception of silence. Let's begin with the following analogy by Clifton:

To focus on the phenomenon of musical silence is analogous to deliberately studying the spaces between trees in a forest: somewhat perverse at first, until one realizes that these spaces contribute to the perceived character of the forest itself, and enable us to speak coherently of "dense" growth or "sparse" vegetation. In other words, silence is not nothing. It is not the null set. Silence is experienced both as meaningful and as adhering to the sounding portion of the musical object.²⁹

Sciarrino's perception of silence, which is ultimately reflected in his creation of silence, differs from John Cage's notion of silence. Particularly in *Infinito Nero*, Sciarrino's music hovers on the edge of sound and silence, dwelling in the realm of sounds at or under threshold, shaping the perception of silence within a context of sparse space. If we draw on Clifton's analogy of the forest to discuss musical silence, Sciarrino's music can be likened to a grassland with a few scattered trees, rather than a dense forest. The term "density" would not be appropriate in this context, and we need instead to use "sparse" directly, reflecting the use of sounds under the

²⁷ Marcelle Coulter Pierson, "Silencing," *Mountains of Songs: Salvatore Sciarrino and the Revitalization of Voice. The Voice Under Erasure: Singing, Melody and Expression in Late Modernist Music* (University of Chicago, 2015), 56-59.

²⁸ Megan Re Lanz, *Various Roles of Silence in Music. Silence: An Exploration of Salvatore Sciarrino's Style through "L'opera Per Flauto"* (University of Nevada, 2010), 13.

²⁹ Clifton, *The Poetics of Musical Silence*, 163.

threshold that permeate his music, creating a scrubland atmosphere rather than a forest. Sciarrino uses this space between sound and silence as an awareness for new communication and consciousness. McConville highlights this awareness, noting that Sciarrino recognizes that there exists a multi-dimensional space that can be occupied between silence and sound. Moreover, he emphasizes that these two poles, taken together, play a crucial role in shaping a vibrant and dynamic means of communication.³⁰ Sciarrino himself eloquently states, “Sound has an intimate relationship with silence, the consciousness of that connection is new.”³¹

2.2 Outsidegraphy

As mentioned earlier, I use a technique to visually highlight the silence within a composition's structure. This method helps redefine the role of silence by foregrounding its relationship to orchestration and intentional omissions. By condensing the score, it provides a comprehensive overview, emphasizing the significance of silence in the determinate meaning of the work³². Termed "outsidegraphy," this approach summarizes the visual elements of the score and strategically removes rests and staves to create a single image representation. In this method, both time and space elements are integrated, with the traditional left to right time axis. The resulting blank spaces then show an overall image of the piece's silence. Additionally,

³⁰ Brendan P McConville, *Reconnoitering the Sonic Spectrum of Salvatore Sciarrino in 'All' Aure in Una Lontananza'* (London: Tempo, vol. 65, no. 255, 2011), 31–44, <https://doi.org/10.1017/S0040298211000040>.

³¹ Salvatore Sciarrino, “Entretien,” *Entretiens* 9 (1991): 139.

³² I initially developed this modification to the score using notation software (e.g. Sibelius) with my orchestral piece, *Vasna*, using the digital file of the score. Music software notation facilitated the process of condensing the score into one or two pages, by simply reducing the width of the bars. This adjustment allowed for the preservation of all musical elements while presenting the overall duration in a more compact space. However, for Sciarrino's *Infinito Nero*, as no digital score was available, I resorted to employing a Python program on a pdf and employing some manual techniques to create the final condensed score.

outsidegraphy contains a general sorting of timbral and registral elements and rough dynamics that measures textural density, rather than amplitude. As it is shown in Figure 1 the blank spaces in the score show silence in *Infinito Nero* both general and of specific instruments.

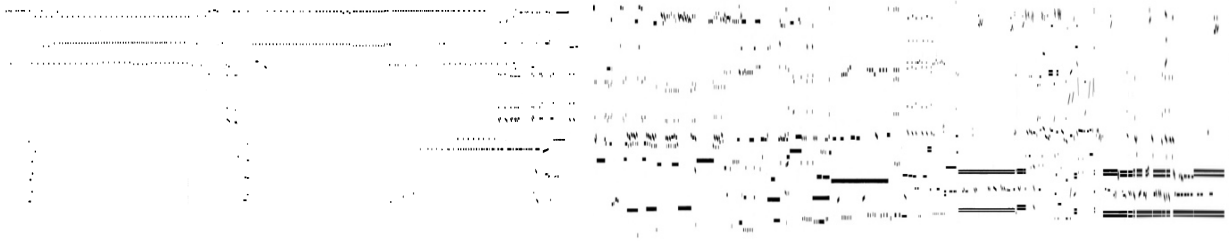


Figure 1- the whole image of silence in Infinito Nero

To better understand the concept of *outsidegraphy* and its role in this section, some key features need clarification. *Outsidegraphy* is not a technique that allows one to delve into complex details of hierarchal structures as traditional music analytical procedures do. Its primary purpose is to serve as a silence-centered method; details are irrelevant to the silence discourse. Instead, it revolves around perception.³³ If we were asked to view Figure 1 as a purely visual entity, our interpretation is somewhat atemporal, and we don't naturally consider the role of time in such visuals. Unlike music, which unfolds sequentially, visual representations (like paintings and graphics) often freeze a moment, allowing us to study them without a predetermined inclination to process them in a specific direction, as humans might typically do for certain types of information

³³ In this approach, silence refers to an overall form that shapes the structure of the piece. However, certain forms of silence, such as syntactic silence, are not covered by this method as they fall outside its scope and are better explored through sound-based theories due to their direct association with sound. *Outsidegraphy* functions similarly to a binary computer code, employing 0s and 1s to signify the presence or absence of silence. However, it does not disclose the intricate details of the sound in the absence of silence. Instead, it serves as a visual tool that could be supplementary to existing music analytical approaches, especially when silence plays a central role, providing a comprehensive perspective on the profound impact of silence within the context of music.

(e.g., reading from left to right). Mariusz Kozak begins his book's introduction in a thought-provoking manner, pondering the concept of time's linearity and drawing an analogy with the flow of a river.³⁴ Taking this into consideration, if we were to view Figure 1 as a graphic, we may avoid processing it strictly from left to right as we read the music score, even though it is within the context of music and music discourses. In this case, we can analyze the figure in two ways: one by considering time from left to right, which aligns with traditional Western music mappings of time and presents the overall time in a condensed space. In this approach, the time axis is present, and the graphic's entities unfold sequentially over time. However, another approach involves looking at Figure 1 without considering time, despite its derivation from a music score.

How would our perception change if we practiced not considering time at all in this figure? What if we apply the concept of a frozen time to all the entities in this figure? This perspective delves into the compositional level, where the composer breaks free from the linear notion of time and visualizes the entire structure. It becomes a moment of transcendence where meanings are encapsulated, and time loses its linear constraints. As an example, in Aperghis's *recitations*, this very moment occurs. Not only does time become non-linear during the creation process, but also during the presentation and interpretation stages. However, it should be mentioned that it is not during perception by listeners. To develop this way of looking at silence further, as Elizabeth Hellmuth Margulis notes, in acoustic terms, silence is unidimensional, defined solely by its length. However, perceptually, it becomes multidimensional, describable by attributes such as tense,

³⁴ Kozak states: "Imagine Time. Perhaps it is a line that stretches horizontally in front of you, with the past all gathered up to your left, the future to your right, and the place where you stand marking the present. Perhaps the line stretches front to back, with the past behind you and the future in front... Maybe the line is actually a river, and from the riverbank you can view time and the events happening within it, with the future upstream and the past downstream—or perhaps you yourself are being carried along by its current." Kozak, Mariusz. "Introduction," in *Enacting Musical Time: The Bodily Experience of New Music* (New York: Oxford University Press, 2020).

relaxed, too short, arresting, disturbing, etc.³⁵ The visual aspect of *outsidegraphy* is a part of enhancing this multidimensional perception. In contrast to some graphic-based methodologies, such as spectrography, which primarily maps out the sound itself, *outsidegraphy* takes a composer's eye view by mapping out the composer's intentions. These intentions are mostly related to sound, but they can also include visual information or other elements³⁶. *Outsidegraphy* accomplishes this by utilizing the same elements used by the composer during the music's creation, effectively connecting back to the compositional level.

I explored various perspectives on silence through different taxonomies, drawing on the insights of other scholars. In the context of *Infinito Nero*, I would like to emphasize the integration of a multitude of extended techniques. These effects are not only dramatically impactful but also remarkably effective in conveying a unique sense of silence that transcends conventional classifications of time, space, and gesture. Furthermore, in *outsidegraphy*, I leverage the visual orchestration in the score by emphasizing empty spaces to represent silence. As a result, I classify the observed silence in *Infinito Nero* as visual timbral silence. This visual silence is also present when experiencing *Infinito Nero* in a concert hall, contributing to the spatial perception of silence. These elements are absent when solely listening to the music, as they vanish due to the lack of these characteristics in audio recording.

Figure 2 displays the original score of bars 1-99. The Y-axis represents the full instrumentation, as commonly seen in music scores, while the X-axis represents the time across

³⁵ Elizabeth Hellmuth Margulis, "Moved by Nothing: Listening to Musical Silence," *Journal of Music Theory* 51, no. 2 (2007): 246, <https://doi.org/10.1215/00222909-2009-003>.

³⁶ In my orchestral piece, *Vasna II*, I incorporated a visual element where the viola players softly blow air into the instrument's f-hole during the middle section while other instruments play with louder dynamics. The main intention behind this choice was purely visual. While this particular moment may not be captured in spectrography, it finds its presence in *outsidegraphy*. As I previously mentioned, it won't be represented as a detailed sound but as an entity that visually exists. Although its presence is primarily visual with minimal sound, it effectively conveys the composer's intention and will remain an integral part of the visual presentation without being excluded.

99 bars (this consistency applies to all *outsidegraphy* in this dissertation). It is worth noting that this score is already abbreviated, with unused bars hidden. However, when working with scores that include bars with rests, it creates more visual spaces. In this particular score, the blank spaces are a result of linearly arranging the bars in landscape mode like cutaway scores³⁷. Nevertheless, there are still rests that need to be eliminated to create the *outsidegraphy* for the first 100 bars, as demonstrated in Figure 3. Therefore, Figure 3 represents the *outsidegraphy* of the first 100 bars of Sciarrino's *Infinito Nero*.

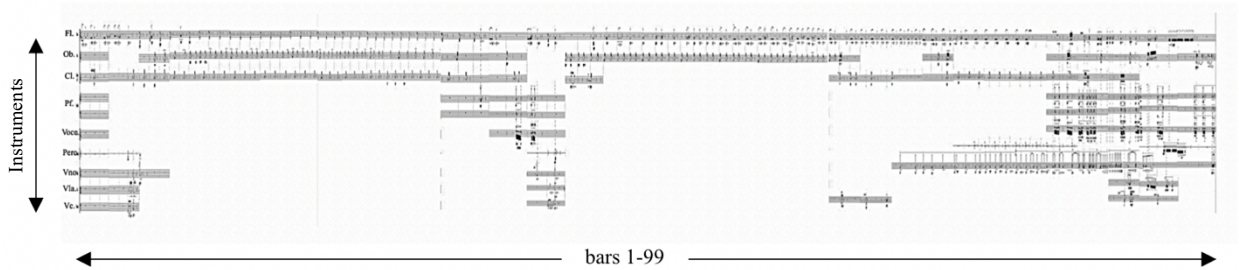


Figure 3 The compression of bars 1- 99

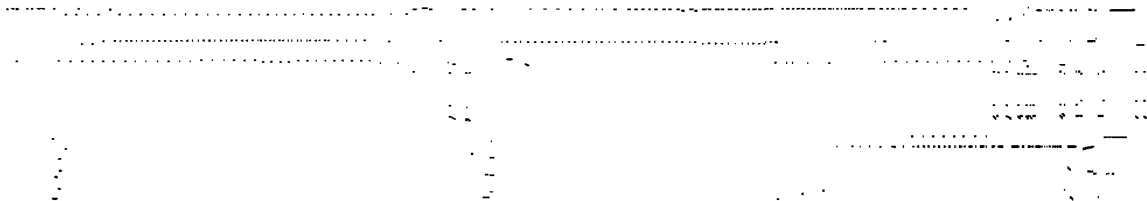


Figure 2 The outsidegraphy of bars 1-99

As is evident from the arrangement of sounds in Figure 3, silence, represented by the blank spaces, holds a more prominent position during this time span. Additionally, it is essential to clarify that a portion of these blank spaces is dedicated to the separation between the staves of instruments,

³⁷ Sometimes, scores are formatted in a way that involves the complete omission of silent measures—meaning not just leaving them empty but leaving the staff itself blank.

which is not considered musical space and, therefore, does not constitute musical silence. For a more comprehensive understanding of the overall extent of silence, it is necessary to exclude these non-musical blank spaces from our consideration.

To better understand Sciarrino's composition, I've employed terminologies discussed in his book 'Le figure della Musica, da Beethoven a oggi.' Grazia Giacco provided translations for these terms³⁸:

- *Azzerare*: A zero-based term echoing 'niente,' exploring instrumental timbres near silence.
- *Window form*: Reflects variable concepts of space and time.
- *Little bangs*: Musical triggers initiating changes in intensity and scale, adding surprise and impact to the composition.

In Figure 4, I've extended the exploration of Figure 3, specifically focusing on the application of terminologies related to silence. Here, I present the two *window forms* and illustrate the *little bang* as the transformative link between them. While it may seem like a simple shift in orchestration, particularly in sound-based theories involving a reduction from three to two instruments (in this case), this silence-focused approach employs terminology to elucidate the dimensions of silence in terms of space, time, and their proportions within the composition. It highlights how the space of silence expands in the second *window form*³⁹ through the transitional role of the *little bang*.

³⁸ Grazia Giacco, *La notion de 'figure' chez Salvatore Sciarrino* (Paris: L'Harmattan, 2001), quoted in Brahim Kerkour, *Beyond the Poetry of Silence: Musical Process and Perception in Salvatore Sciarrino's Introduzione All'oscuro* (ProQuest Dissertations Publishing, 2010), 3-5.

³⁹ The second window form can be perceived differently, as it expands further and becomes divided into two spaces by the linear line of the violin.

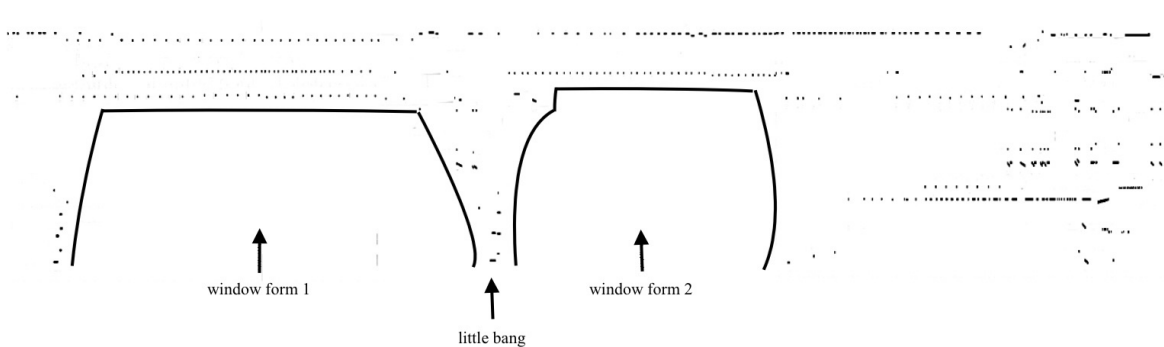


Figure 4 The window forms and little bang in bars 1-99

While the *window form* is discussed as a musical event that interrupts the continuity of a passage, creating a new temporal space or providing a window to an external world, Sciarrino's notion of "entering and leaving" elucidates the underlying mechanism. In the context of examining silence in this figure, I emphasize the act of entering and leaving spaces of varying sizes. As previously noted, silence, typically defined unidimensional by its duration, can acquire another attribute—size—within the context of music. When considering music within a broader context of space and time, silence gains this attribute. This attribute is primarily determined by perception, influenced by factors such as instrumentation, texture, and structure. Yet, these elements remain flexible and subject to change based on how the contextual framework is initially established. The attribute emerges through the amalgamation of spaces created by multiple instruments and isn't perceptible in syntactic silence within a single instrument, as it doesn't reach a level of discernible expansion at that scale.

In the continuation of the second *window form*, a division of space occurs, visually partitioning the score into two smaller segments. This partition is closely tied to the layout of instruments in the score, specifically in the way the placement of the violin has generated this division. It could be posited that repositioning the violin section higher within the score would lead

to the formation of a larger blank space, effectively eliminating the division. In essence, the segmented spaces within the score correspond to the vertical ordering of instruments, and the amalgamation of these blank areas may be interpreted as the cumulative representation of moments of silence. While this interpretation remains valid, I propose an argument that not only reaffirms this perspective but also introduces an alternative viewpoint that holds promise for future exploration.

When considering the concept of accumulation, one must recognize its inherent dimension of size. Silence, in itself, lacks substantive content for accumulation, yet its dimension (size), as previously discussed, can indeed vary. While it is possible to vertically aggregate the empty spaces depicted in the figure to form a larger spatial void, this amalgamation remains distinct from visually extended periods of silence at identical size. This distinction is rooted in texture, timbre, and the manner in which silence is rendered for perception. One apt analogy is that of placing an object, such as a box, within an otherwise empty room. The spatial perception within the room changes depending on the box's placement; a box situated at the room's center imparts a sense of greater emptiness compared to one nestled in a corner. In this context, the violin disrupts the preexisting spatial arrangement established in the second *window form* structure through its specific spatial positioning. This phenomenon transcends the realm of timbre and is accentuated further, particularly in the domain of acoustics and within the confines of concert halls. In a live venue, the audience not only perceives the acoustic orientation of a sound source, in this case, the violin, but also visually registers the transitions between sound sources. However, in audio recordings, these dual elements are largely absent, unless they are replicated through a surround sound system and accompanying visual components, which significantly influence our perception of silence. This visual-spatial dimension stands as a fundamental prerequisite for the apprehension

of silence, a characteristic notably exemplified when David Tudor raised the fallboard of the piano, signaling the commencement of John Cage's 4'33" and thus dictating the course of the piece and its movements.



Figure 5 The outsidegraphy of bars 100-210

2.3 The Fragile Art of Framing Silence in Music: A Conceptual Exploration with an Analogy of Boxes

To comprehend the concept of framing silence through sound, we can draw parallels with philosophical notion of visual differentiation. Campbell states that the object's location is vital for subjective identification and neural processing.⁴⁰ Dretske posits that genuine visual perception hinges on an object being clearly distinguishable from its immediate surroundings. He exemplifies this idea by considering the scenario of nine cubes arranged in a square formation. If you step back until the cubes collectively appear as an undifferentiated mass, an individual cube like cube #5 in the center is no longer perceptible. In this case, Dretske argues that you do not authentically "see"

⁴⁰ John Campbell, *Reference and Consciousness* (Oxford: Oxford University Press, 2002), ProQuest Ebook Central, <http://ebookcentral.proquest.com/lib/pitt-ebooks/detail.action?docID=3052698>.

cube #5. It remains visually indistinguishable from the neighboring cubes, transcending mere awareness to define the essence of true perception.⁴¹

This principle, rooted in visual perception, also finds resonance in the realm of sound and music. Much like the cubes that blend into an indistinguishable whole when viewed from afar, some of the compositions of Salvatore Sciarrino often appear as a mostly sonic "blank paper" to the audience. The richness of detail, the musical intricacies, and the subtle nuances are hidden, waiting for the audience to "zoom in" their attention, much like scrutinizing the fabric of a blank sheet of paper to uncover its hidden patterns and colors. At the heart of this exploration is the question of the composer's distance from their creation. In the case of Sciarrino, the music is presented in a manner that creates a perceptual distance between the audience and the sound platform. This is achieved through the deliberate placement of sonic elements at or beneath the perceptual threshold, causing them to be initially imperceptible, then barely perceptible.

The composer's vantage point, figuratively and perhaps even literally, usually stands at a distance from the immediate perception of sound. Sciarrino's objective is to engage the listener actively, inviting them to bridge the gap between silence and sound. In doing so, the audience is encouraged to seek out the hidden intricacies of the music, much like an artist who meticulously crafts complex details within a seemingly blank canvas. This approach contrasts with more traditional forms of music, where sound is readily accessible, leaving no perceptual gap. One might wonder why composers like Sciarrino do not employ easily discernible sonic cues to bridge the gap between silence and sound. The answer lies in their artistic intent. By omitting obvious sound referrals or cues, these composers emphasize the autonomy and fragility of the sound elements

⁴¹ Fred Dretske, *Seeing and Knowing* (London: Routledge & Kegan Paul, 1969).

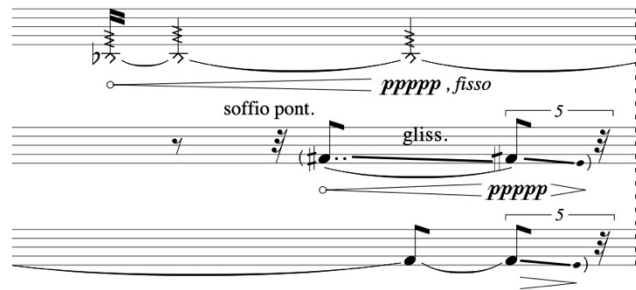
that frame silence. Each sound becomes a discreet entity, briefly surfacing from the depths of silence to delineate its boundaries.

The use of boxes as an analogy is particularly useful. Consider a space defined by the placement of boxes at its borders. The empty spaces created by the boxes become evident, and the boundaries of the defined space are clearly marked. Now, imagine replacing these solid boxes with "self-erasing boxes"—boxes that quickly disappear after their presence. In this scenario, the empty space remains, although the boxes are no longer physically present. This analogy mirrors the role of sound in framing silence in certain music compositions. Sound serves as the "box" that defines the boundary of silence. However, in this case, the sound is fragile, transient, and fleeting, not meant to be a permanent fixture but rather a momentary delineation, a mere glimpse into the hidden depths of silence. The fragility of certain sounds such as these primarily manifests during the act of listening. These sounds lack stability, often lingering at the threshold of perception. Paradoxically, they are meticulously notated in the score and thoroughly documented. The use of the box analogy serves to illustrate the idea that when we aim to extract information from these sounds, much like inspecting the contents of a box, that information is exclusively found within the box, in this case, the score. I mentioned this exclusivity to the score because we can't easily reference the sounds we hear—they are fleeting, non-memorable, and lack the characteristics needed for reference. Although this information is accessible to us through the score, the fragility of these sounds becomes evident in the act of listening. They frequently serve a minimal, framing function, prompting the term "self-erasing boxes" to describe their ephemeral nature.

The concept of sound as boxes finds resonance in *outsidegraphy* as well. These sound blocks, by design, share a similar appearance with varying lengths. To uncover the contents within these sound boxes, one must refer to the score for the necessary information. They have been

intentionally transformed into boxes or blocks of sounds to avoid being drawn into details, merely existing to delineate the boundaries of silence. Before examining the role of one of these sound blocks, I would like to discuss the factors required for making a sound fragile.

One of the factors is *azzerare* a zero-based term which is usually used for dynamics. When the dynamic is quiet to the extent that we need to zoom in and change our hearing focus the sound hinging between nothingness and beingness, I call the sound fragile because it has the potential to be imperceptible to the listener, Sciarrino does this in various places in *Infinito Nero*.



**Figure 6 An example of *azzerare* in a dynamic context;
the dynamic begins at zero and reaches very low level
and goes back to zero.**

Another significant factor contributing to the creation of transient sounds lies in the absence of recognizable musical cells within the texture. In the context of Sciarrino's music, as previously highlighted, and particularly within this specific composition, there is a deliberate avoidance of memorable melodic or rhythmic elements. In doing so, the sounds are intentionally crafted to be fragile, existing primarily to shape the surrounding silence. The inclusion of any melodic or rhythmic patterns that reference established sounds from various musical genres is consciously avoided in this scenario. It is important to note, however, that the perception of memorable or unmemorable sounds can vary depending on the listener's musical background. What one person may find unmemorable, another might perceive differently. This subjective aspect adds complexity

to the creation of transient sounds. Furthermore, it is evident that a composer's knowledge and sources of inspiration are finite, and relying solely on the absence of memorable cells is not a guaranteed method to achieve sonic fragility. The combination of multiple factors, such as dynamics and texture, is essential in creating the overall perception of transient sounds within a musical composition. The delicate balance of these elements is crucial to crafting a sonic environment that evokes a sense of transience.

Another factor contributing to the creation of transient sounds is the use of quick, short notes. When sounds are rapidly articulated, they are less likely to leave a lasting imprint in our memory—meaning they lack the character of melody or harmony and tend to resemble noise, often characterized by elements of randomness and dissonance. This is especially the case when these fast notes lack a discernible pulse, follow no pattern, and offer no repetition. In contrast, long notes, rhythmic patterns, and pulses are more easily memorable and referable as they tend to attract attention. However, their memorability also depends on their context and usage. Conversely, even when employing pulses or extended notes, sounds can become unmemorable. For example, consider the first half of the composition in Figure 3, which features a woodwind section imitating the inhalation and exhalation of breath. This section incorporates rhythmic pulses, but since it is repeated over a course of approximately 12 minutes without variation, it becomes predictable background. Consequently, the listener's attention drifts, and the sound recedes into the background perceptually.

Considering these factors, let's turn our attention to the sound's transient aspects, specifically focusing on the *little bang* that occurs in the first half of the piece, as depicted in Figure 4. I have zoomed in on this particular moment to delve deeper into the details within sound blocks and to determine whether this *little bang* possesses the characteristics of a transient (see Figure 7).

In this instance, the strings and flute exhibit an *azzerare* as they start from silence, gradually build to a soft dynamic, and then return to silence. In contrast, all the other instruments maintain a consistently low dynamic level throughout the entire piece. This perpetually subdued dynamic characterizes the majority of the composition, effectively creating an auditory canvas that could be described, as previously mentioned, as akin to a "blank paper," inviting closer scrutiny. Much like the blank canvas, its emptiness from a distance transforms upon closer inspection, revealing complex fabric patterns and tiny elements that contribute to its rich complexity. Another contributing factor to the transient nature of the sound is the use of short notes that all the instruments (except for the strings and flute perform sustained *azzerare* notes) play. They exhibit a lack of pronounced noticeable melodic and rhythmic characteristics that typically contribute to the transient quality of the sound. The only notable variation in sound occurs in the vocal component. However, this variation is presented in a manner that primarily serves to convey the text in a natural, conversational style rather than adopting a more bel canto/melismatic approach. This particular vocal style is useful for conveying the nuanced meaning of the words, serving a vital function within both the textual and musical dimensions of the piece.

Fl. *mp* *mf*

Ob. *pppp*

Cl. *ppp* *p*

Pf. *ppp*

Voce *pp*

l'anima nel
si trasformava

45

Fl. *mf-pp* *pp* *ppp* *mf*

Pf. *ppp* *p*

Voce *ppp* *pp* *ppp*

sangu, da in-
tanto non

G. C. *pppp*

Vno (soffio) *mp*

Vla (pont.) *p* *p*

Vc. *mp* *pp*

soffio flaut.

Figure 7 little bang

2.4 Infinito Nero's Text; Shaping Composition's Elements

The piece's text is based on writings by Maria Maddalena de' Pazzi (1506-1607), a saint and mystic.⁴² Here is the original text, followed by a rough English translation:

l'anima si trasformava nel sangue, tanto da non intendere poi altro che sangue, non vedere altro che sangue, non gustare altro che sangue, non sentire altro che sangue, non pensare altro che di sangue, non potere pensare se non di sangue. E tutto ciò che operava la sommergeva e profondava in esso sangue
influirsi influssi influiva rinfluiva e il sangue influiva rinfluiva influssi rinfluire rinfuisce rinfuisce influssi rinfluivono influssi rinfluivono superesaltando

allora il Santo mi versò sul capo un vaso e il sangue mi coperse tutta. Anche la Santa versò. Il latte mescolandosi col sangue mi fa una bellissima veste. Obumbrata la faccia

o, o, o (silenzio) o, o, o (sil.)

o se le piante potessino avere amore, non griderebbero altro

o, io non lo so (sil.)

timui timore amoris. Timui timore amoris. Timui timore amoris (sil.)

⁴² "For around 20 years at the end of the 16th and beginning of the 17th centuries, Maria Maddalena experienced religious visions in which she would commune with Christ. Captured by the ecstatic dialogue, her fellow sisters at the Florentine convent circled around her and listened in. During a period of seven months in 1584–85, they wrote down Maria Maddalena's speeches. Transcription posed challenges as there was only her side of the dialogue to be heard, and her lines were spat out at a rapid pace as they careened between seemingly unrelated images. Making matters even more difficult was what she did not say. Maria Maddalena reposed in long periods of silence, unpredictably breaking them with her twitching interjections. Desirous to capture everything, eight sisters took to the task. Four would immediately repeat Maria Maddalena's phrases and four would write them down. They even recorded the silences, viewing them as essential to the mystery." Metzger, *Modern Silence*, 368.

ma dillo, ma dillo

mors intravit per fenestras. Ma tu perché

figure immagini e facce, aspirazione, inspirazione e respirazione in te (sil.)

vieni

sul corpo tuo aperture a noi incognite. Usci, finestre, buche, celle, forami di cielo,
caverne. Senza fondo stillanti. Sono le piaghe dentro cui mi perdo

vieni, vieni

con la corona: le sue spine, lunghe, trapassano il Padre Eterno in cielo

egli scrive su di me con il sangue. Tu con il latte della Vergine. Lo Spirito con le lagrime

vieni

non si aprino le nuvole, si bene il vergineo ventre (sil.) si ma

vieni, vieni, deh, vieni, o, vieni vieni (sil.)

ohimé, vivendo muoio (sil.) o, o, o (sil.)

(stando un poco si pone a sedere)

orsù eccomi in terra (sil.) non posso ir più giù io (sil.) e sì (sil.) o savia pazzia (sil.)

(aprendosi nelle braccia tutta si rilassa, ferma ferma. E poi comincia a

divincularsi: gesti e moti che pare si consumi, per un

pezzo)

io non intendo (sil.) è meglio il tuo, sì, sì (sil.) ohimé (sil.) tu sei senza fine, ma io vorrei

veder in te qualche fine

The rough English translation:

the soul turned into blood, understanding nothing but blood, seeing nothing but blood,
eating nothing but blood, feeling nothing but blood, without thinking about anything but
blood, I can't think of anything other than blood.

to be influenced, to be swayed, to be imbued, to ripple, to flow, to be carried away, a
dance of influence, a rhythmic sway, an undulating current, a constant exchange.

then the Saint poured a vase on my head and the blood covered me all over. The Saint
also poured. Milk mixing with blood makes me a beautiful dress. The face is clouded
o, o, o (silence) o, o, o (sil.)

or if plants could have love, they would cry no more

or, I don't know (sil.)

I feared the fear of love. I feared the fear of love. I feared the fear of love (sil.)

but say it, but say it

Death entered through the windows. But why do you

figures, images, and faces, aspiration, inspiration, and respiration in you (sil.)

come

on your body openings unknown to us. Doors, windows, holes, cells, holes in the sky,
caves. Bottomless dripping. They are the wounds in which I get lost

come come

with the crown: its thorns, long, pierce the Eternal Father in heaven.

he writes on me with blood. You with the milk of the Virgin. The Spirit with tears

come

let the clouds not part, yes, well the virgin womb (sil.) yes but

come, come, oh, come, o, come come (sil.)

alas, living I die (sil.) o, o, o (sil.)

(after a while, she/he sits down)

Come now here I am on the ground (sil.) I can't go any further down (sil.) and yes
(sil.) O, wise madness (sil.)

(opening herself in her arms, she relaxes completely, still. And then she begins to
wriggle: gestures and movements that seem to be consumed, for a
while)

I don't mean (sil.) yours is better, yes, yes (sil.) alas (sil.) you are endless, but I
would like to see some end in you

The piece's first text appears with 'l'anima si trasformava nel sangue, tanto da non intendere' (the soul was transformed into blood, so much so that it could not be understood) with the delay of the word 'intendere,' which means 'to understand.' After this phrase, the music undergoes a transformation from the first *window form*, where there are only flute, oboe, and clarinet, into the second *window form*, where the instrumentation is reduced to only flute and oboe for several bars. These two *window forms* unfold over the course of 90 bars, with the text mentioning the transformation of the soul into blood right in the middle of this section, bars 44-45 where the little bang happens, creating a symmetrical structure. Notably, as the text addresses the transformation of the soul into blood, it is noteworthy that the clarinet is removed from the musical

arrangement, leaving the flute as a consistently present element in the composition. The flute's sound seems to correspond intricately to the theme of blood in the text.

The instance of reticence at the beginning of this piece, where the composer reduces the use of all instruments until bar 10, David Metzger also addresses this aspect. Metzger explores the opening of the piece, where various instruments produce sounds resembling breathing, heartbeats, and soft drumming, which, rather than constituting vague and unending murmurs, might be interpreted as references to silence.⁴³

Another connection between the text and the music becomes evident when the phrase "influirsi influssi influiva rinfluiva e il sangue influiva rinfluiva influssi rinfluire rinfuisce rinfuisce influssi rinfluivono influssi rinfluivono" occurs, which essentially conveys the idea of flowing from single-root words. We can observe this influence in the flute immediately after this phrase, shown in Figure 4, where the flute replicates similar melodic figures (bars 113-115).

⁴³ David Metzger, "Modern Silence," *The Journal of Musicology* 23, no. 3 (2006): 331–74, <https://doi.org/10.1525/jm.2006.23.3.331>.

The image shows a musical score for five instruments: Flute (Fl.), Piano (Pf.), Voice (Voce), Guitar (G. C.), and Viola (Vla.). The score is in a common time signature. The flute part has several dynamic markings: *pp*, *mf*, *pp*, *ppp*, *f*, *ppp*, *f*, *ppp*, and *f*. There are also performance instructions like "(tra i d.)", "tra i d.", "Rin", and "tra i d.". The piano part has *ppp* and *(pppp)* markings. The voice part has lyrics: "-isce in- rinfluivono in- flussi (insp.) rinfluivono superesaltando". The guitar and viola parts have *pppp* markings. An arrow points from the piano part to the flute part, indicating a dynamic shift or influence.

Figure 8 Voice influence on flute

In this composition, the text onset consistently aligns with the piano pulse, a pattern that persists throughout the piece. The piano's presence has exclusively accompanied the initiation of the text. However, in bar 108, as shown in Figure 8, the piano pulse stands alone, while the text experiences a delayed commencement (on *profondava*). This disparity can be characterized as a moment of silence or an instance of embedded text. The meaning of this delayed text means deeper (*profondava*), potentially alluding to an infinity of blackness that could be conveyed more intellectually through silence than words and sounds. In bar 120, as illustrated in Figure 9, a shift occurs as the vocals conclude earlier than the piano pulse, signifying a return (*rinfluivono*). This action mirrors the reversal observed in bar 108, emblematic of the piece's dynamic oscillation between near silence (*niente*) and extreme softness (*pppp*).

8 |

ppp pp ppp

3

8 -

pp - *

9

profonda- esso |
-va in sangue

Figure 9 Contrasting Onset of Piano and
Voice in Bar 108

8 |

ppp pppp

8 -

pppp

5 6 15 - - - - -

rin- flu- i - vo- no

Figure 10 Vocal and Piano
Relationship Shift in Bar 120

3.0 Conclusion

In *Infinito Nero*, Sciarrino employs silence as an active and dynamic component of the musical narrative. Silence in this piece is not merely the absence of sound; it is infused with a sense of anticipation and presence. The silences are meticulously crafted to heighten the listener's awareness of subtle sonic details, creating a space where the boundaries between sound and silence blur. This results in an auditory experience where silence becomes a canvas for the faintest of sounds, enhancing the overall depth and complexity of the composition.

The quality of silence in *Infinito Nero* is characterized by its fragility and nuance. Sciarrino uses extremely soft dynamics and delicate timbral shifts to explore the edges of auditory perception, bringing sounds to the threshold of hearing. This approach transforms silence into a palpable entity that interacts with the listener's sense of time and space. The silences in the piece evoke a heightened state of listening, compelling the audience to engage deeply with the music's fleeting and transient sounds.

Sciarrino's technique, involving the concept of *azzerare*, strips away traditional musical elements to their bare essentials. This method redefines the listener's auditory experience by emphasizing the subtle interplay between sound and silence. By pushing sounds to the threshold of audibility and employing *azzerare*, Sciarrino creates a unique and immersive soundscape that challenges conventional perceptions of music.

Sciarrino was chosen for this analysis precisely because of his innovative and profound use of silence. His work demonstrates how silence can be an integral and expressive element in music, challenging traditional notions and expanding the boundaries of auditory experience. Sciarrino's compositions, with their intricate interplay between sound and silence, provide invaluable insights

into the potential of silence as a powerful tool in contemporary music composition. This analysis reaffirms the importance of considering silence not just as a void but as a rich and dynamic space for musical expression.

This dissertation marks not an endpoint but a crossroads leading to intriguing avenues for my future exploration. The visual representation of silence, the fragility of sounds, and the atemporal perspectives woven through *outsidegraphy* open doors for my continued inquiry into the complex interplay between sound and silence in the realm of music.

The atemporal perspectives discussed in this dissertation offer a terrain for further theoretical and practical exploration. How does the consideration of frozen time influence compositional elements in music? Or how might awareness of it scientifically and perceptually affect our compositions? How could this atemporal perspective be applied in analyzing works beyond the one explored in this dissertation? These questions beckon me to venture into uncharted territories, expanding my understanding of the temporal dimensions within music.

Outsidegraphy highlights silence in a composition by condensing the score into a single image, emphasizing silence through the strategic removal of rests and staves. This approach integrates time and space, presenting silence as a central element. Unlike spectrography, *outsidegraphy* maps the composer's intentions, offering insights into the creative process.

Sciarrino's works parallel visual differentiation, presenting a sonic "blank paper" that invites listeners to bridge the gap between silence and sound. By placing sounds at or below the perceptual threshold, Sciarrino creates a deliberate distance, prompting deeper engagement with the music's hidden intricacies. The analogy of "self-erasing boxes" underscores the transient nature of these sounds, which frame silence while lingering at the threshold of perception. *Azzerare*

dynamics and the absence of recognizable musical cells enhance the fragility and transience of Sciarrino's sounds, contributing to a nuanced perception of silence within his compositions.

Some of my compositions about silence have been affected by using silence in overall structures. In *The Miniature Opera: Censorship*, silence is not only used texturally and as *azzerare* but also in the overall structure, as the music experiences a reduction process from the beginning toward the ending. Furthermore, I incorporate texture and unfamiliar elements into my music, gradually aligning the sounds with ambient noises, thereby blurring the distinctions between musical sound and silence, as well as between surrounding sound and silence.

Appendix A Another Use of Outsidegraphy

Music notation serves as a means of communication between composers and performers, but it has rarely been used as a tool for information visualization or as a means of engaging the audience. Music notation contains instructions from the composer that need to be interpreted by the performer. While some notations are highly detailed and convey various musical parameters, others leave room for the performer's interpretation, allowing their skill, technique, taste, and opinion to shape the compositional process. Some notations are abstract, aiming to translate another medium into the world of sound, much like a painting that requires interpretation by the performer.

The field of notation is not fixed or limited; it is fluid and subject to change based on the composer's intention. Notation can take various forms, such as descriptive, graphic, animated, or anything else that aligns with the composer's vision and their desired transformation of music and information. Numerous studies have explored the auditory and visual perception of music, but these data are not the primary sources of perception during experiencing a piece of music. The audience mostly perceives a piece of music visually and sonically, and it is nearly impossible to incorporate research data while listening to a piece for the first time or even when revisiting a previously heard piece. There is a delay in incorporating any elements other than visual and auditory perception when listening to music. However, in general, additional elements may enhance the overall listening experience. In cases where visual elements have been incorporated into concert experience, they have predominantly taken the form of expanded visual elements such as movies, gestural movements, theatrical stage presentations, and so on. However, there have been fewer attempts to give the audience the same visual information given to the performers. It

is evident that, in most cases, providing musical information (which is usually music notation) to the audience would be impractical as it restricts the full benefit of the experience to only those who can read music notation. Moreover, it may compromise the artistic surprises of the piece, as savvy audience would then be able to follow the information, shifting their focus away from pure listening. However, what if the audience, particularly non-musicians, has a sense of the overall structure and sense of certain musical parameters by observing visual information? Wouldn't this help them visualize the structure of other pieces as well? If so, this method would not only assist the audience in understanding various types of music by facilitating the identification of relationships between different musical domains, but also encourage more people to participate more fully in the musical experience, whether as active performers, listeners, or composers.

There have been significant efforts to bring music closer to the non-specialist public, including public improvisation, representing music information using general symbols like graphics, lines, and colors, and composing with objects. All these approaches require only the intention to create a sonic experience. Despite these accessible avenues for music creation and interpretation, there are fewer elements focused on publicizing the listening experience. Listening tends to be connected to our cultural background, knowledge, and personal preferences, often regarded as a highly personal experience that is not easily shared.

The purpose of this section is not to impose a specific way of listening or to homogenize the listening experience. On the contrary, it aims to provide easily accessible interpretations of listening that expand the horizons of perception, both within a single piece and across various genres. *Outsidegraphy*, as a supplementary visual information system, aims to provide the public with a graspable visual representation that can work at all stages of the musical trilogy: creation, interpretation, and listening.

Another significant objective of *outsidegraphy* is to generate a "listening" score that visually represents the comprehensive nature of sound, silence, density, position, and structure. By providing an overview of the presence of silence and sound in the time domain and instrumentation axes, the listener gains a rough understanding of the composition's structure. Throughout history, many musicians and scholars have endeavored to develop listening scores to visually depict sounds for various purposes. One notable example of a listening score is Gyorgy Ligeti's composition "Artikulation," for which R. Wehinger devised an evocative notation system. Ligeti's intention was to communicate information regarding the electronic generation and sonic characteristics through a series of graphic symbols. After undergoing multiple iterations and developmental stages, a system of vibrant graphic symbols was successfully established for the listening score.

Bibliography

- Berkovich-Ohana, Aviva, Yair Dor-Ziderman, Joseph Glicksohn, and Abraham Goldstein. "Alterations in the Sense of Time, Space, and Body in the Mindfulness-Trained Brain: A Neurophenomenologically-Guided MEG Study." *Frontiers in Psychology* 4 (2013): 912. doi: 10.3389/fpsyg.2013.00912.
- Bindeman, Steven L. *Silence in Philosophy, Literature, and Art*. Vol. 308. Boston: BRILL, 2017. Accessed June 20, 2023. <https://doi.org/10.1163/9789004352582>.
- Black, David S., Jennifer Milam, and Steve Sussman. "Sitting-Meditation Interventions Among Youth: A Review of Treatment Efficacy." *Pediatrics* 124 (2009): e532–e541. doi: 10.1542/peds.2008-3434.
- Cage, John. *Silence: Lectures and Writings*. [1st ed.]. Middletown, Conn: Wesleyan University Press, 1961.
- Campbell, John. *Reference and Consciousness*. Oxford: Oxford University Press, Incorporated, 2002. ProQuest Ebook Central, <http://ebookcentral.proquest.com/lib/pitt-ebooks/detail.action?docID=3052698>.
- Clifton, Thomas. "The Poetics of Musical Silence." *The Musical Quarterly* 62, no. 2 (1976): 163–81. <https://doi.org/10.1093/mq/LXII.2.163>.
- Dauenhauer, Bernard P. *Silence: The Phenomenon and Its Ontological Significance*. Indiana University Press, 1980.
- Dretske, Fred. *Seeing and Knowing*. London: Routledge & Kegan Paul, 1969.
- Grazia Giacco, *La notion de 'figure'chez Salvatore Sciarrino*. Paris: L'Harmattan, 2001. Quoted in Brahim Kerkour. *Beyond the Poetry of Silence: Musical Process and Perception in Salvatore Sciarrino's Introduzione All'oscuro*. ProQuest Dissertations Publishing, 2010, 3-5.
- Griffiths, Paul. "Spring Music: Writing on the Edge of Silence." *The New York Times*, March 5, 2000. <https://www.nytimes.com/2000/03/05/arts/spring-music-writing-on-the-edge-of-silence.html>.
- Gould, Thomas. *Silence in Modern Literature and Philosophy: Beckett, Barthes, Nancy, Stevens*. Cham: Springer International Publishing, 2018. <https://doi.org/10.1007/978-3-319-93479-2>.

- Haus, Goffredo. "EMPS: A System for Graphic Transcription of Electronic Music Scores." *Computer Music Journal* 7, no. 3 (1983): 31–36. <https://doi.org/10.2307/3679592>.
- Helgeson, Aaron. "What Is Phenomenological Music, and What Does It Have to Do with Salvatore Sciarrino?" *Perspectives of New Music* 51, no. 2 (2013): 4–36. <https://doi.org/10.1353/pnm.2013.0001>.
- Hodges, Nicolas. "Review of Sciarrino: Infinito nero; Le voci sottovetro by Ensemble Recherche, Sonia Turchetta, Salvatore Sciarrino." *Tempo*, New Series, no. 216 (April 2001): 60. <http://www.jstor.org/stable/946743>.
- Huron, David Brian. *Sweet Anticipation: Music and the Psychology of Expectation*. MIT Press, 2006. Accessed June 3, 2023. <https://doi-org.pitt.idm.oclc.org/10.7551/mitpress/6575.001.0001>.
- Jaworski, Adam. *The Power of Silence: Social and Pragmatic Perspectives*. 1st ed. Thousand Oaks: SAGE Publications, Incorporated, 1993. <https://doi.org/10.4135/9781483325460>.
- Kozak, Mariusz. *Enacting Musical Time: The Bodily Experience of New Music*. New York: Oxford University Press, 2020. Accessed July 20, 2023. <https://doi.org/10.1093/oso/9780190080204.001.0001>.
- Lanz, Megan Re. "Silence: An Exploration of Salvatore Sciarrino's Style through "L'Opera Per Flauto"." DMA diss., University of Nevada, 2010.
- Lissa, Zofia. "Aesthetic Functions of Silence and Rests in Music." *The Journal of Aesthetics and Art Criticism* 22, no. 4 (1964): 443–54. <https://doi.org/10.2307/427936>.
- Maniates, Maria Rika. "Sound, Silence and Time: Towards a Fundamental Ontology of Music." *Current Musicology*, no. 3 (November 2019): 59–64. <https://doi.org/10.7916/cm.v0i3.3655>.
- Margulis, Elizabeth Hellmuth. "Moved by Nothing: Listening to Musical Silence." *Journal of Music Theory* 51, no. 2 (2007): 245–76. <https://doi.org/10.1215/00222909-2009-003>.
- McConville, Brendan P. "Reconnoitering the Sonic Spectrum of Salvatore Sciarrino in 'All' Aure in Una Lontananza'." *Tempo* 65, no. 255 (2011): 31–44. <https://doi.org/10.1017/S0040298211000040>.
- Metzer, David. "Modern Silence." *The Journal of Musicology* 23, no. 3 (2006): 331–74. <https://doi.org/10.1525/jm.2006.23.3.331>.
- Meyer, Morgan. "A Space for Silence: Exhibiting and Materialising Silence through Technology." *Cultural Geographies* 23, no. 2 (2016): 321–336. <https://doi.org/10.1177/1474474015588708>.

- Perales, J., & Cenoz, J. "Silence, Communicative Competence, and Communication Strategies in Second Language Acquisition." In *Semantics of Silences in Linguistics and Literature*, edited by G. M. Grabher and U. Jessner, 67-88. Heidelberg, Germany: Universitätsverlag C. Winter, 1996.
- Pierson, Marcelle Coulter. "The Voice Under Erasure: Singing, Melody and Expression in Late Modernist Music." PhD diss., University of Chicago, 2015.
- Pitfield, Thomas B. "Music and Silence." *The Musical Times* 100, no. 1391 (1959): 17–18. <http://www.jstor.org/stable/938096>.
- Polanyi, Michael. *Personal Knowledge: Towards a Post-Critical Philosophy*. London: Routledge & Kegan Paul, 1962.
- Saville-Troike, M. "The Place of Silence in an Integrated Theory of Communication." In *Perspectives on Silence*, edited by D. Tannen and M. Saville-Troike, 3-20. Norwood, NJ: Ablex. 1985.
- Sciarrino, Salvatore. "Biography." Salvatore Sciarrino Official Website, <https://www.salvatoresciarrino.eu/php/eng/biography.html>.
- Sciarrino, Salvatore. Interviewed by BBVA Foundation. "Interview subtitled in English with Salvatore Sciarrino, Frontiers of Knowledge Award in Music." YouTube video. July 27, 2017. https://youtu.be/h_GtmUL0BK4?si=6VS-i3IdDOnOndTi.

Original Compositions; a miniature opera: censorship, the Unnoticed Dance no.1 & 2