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UNIVERSITY OF CALIFORNIA SAN DIEGO

Metagesamtkunstwerk: A Compositional Approach to Life

A Dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Music

by

Jacques Zafra García

Committee in charge:

Professor Roger Reynolds, Chair
Professor Anthony Burr
Professor Miller Puckette
Professor Eric Watkins
Professor John Weare

2023

The dissertation of Jacques Zafra García is approved, and it is acceptable in quality and form for publication on microfilm and electronically.

University of California San Diego

2023

EPIGRAPH

Jeder Mensch aber ist nicht nur er selber, er ist auch der einmalige, ganz besondere, in jedem Fall wichtige und merkwürdige Punkt, wo die Erscheinungen der Welt sich kreuzen, nur einmal so und nie wieder.¹

— Hermann Hesse, Demian

¹Translation: Every human being is not only himself, he is also the unique, particular, always significant and remarkable point where the phenomena of the world intersect, only once in this way and never again. — Hermann Hesse, Demian

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ACKNOWLEDGEMENTS

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To all the members of my committee: Roger Reynolds, Anthony Burr, Miller Puckette, Eric Watkins, and John Weare, I extend my deepest gratitude.

To my friends Wingel Pérez, Andrés Nuño de Buen, Adrian Kleinlosen and Pauline Råker, thank you for being by my side throughout this journey.

I also want to express my sincere appreciation to Teresa Díaz de Cossio, Grace Talaski, David Aguila, Kosuke Matsuda, Myra Hinrichs, Pauline Ng, Alexander Taylor, Robert Bui, Matthew Henson, Matt Kline, Berk Schneider, Ilana Waniuk, Peter Ko, Gabriel Zalles, and Sergey Kasich for their invaluable contributions and support.

Immense gratitude to Jessica Flores and David Espiritu for their crucial roles in making my concert piece a reality.

Special thanks to Michelle Lou for pushing me to embrace radical creativity, and to architect Susanne Vogel for her insightful comments on my piece.

To my family, especially my mother for her unwavering support, my sister for aiding in my move, and my niece for being a continuous source of inspiration – thank you from the bottom of my heart.

And of course, to my grandmother, to whom this dissertation is dedicated.

Dear Roger,

In this section, I would like to extend my deepest gratitude to you. Having you as a mentor has been everything and more than I had hoped for. Thank you for accepting me as a student and believing in my potential, respecting my ideas, and always pushing me to give my best in everything I do. I once told Zach that studying with you was very challenging, as the level of excellence you expect from your students seems almost unreachable. However, even if it might be, pushing me to always do my best has made me grow immensely.

What I appreciate most about you is that the expectations you set for me, and presumably for your other students, are what you offer in return. Whenever I have the opportunity to choose a teacher, I opt for one my intuition tells me possesses the qualities I seek: someone committed, deeply in love with music, profound, hardworking, and honest. I also thank you for your patience and always being there when I needed your support. I am grateful for the artistic and personal freedom you've granted me. You always allowed me to speak my mind, both in our one-on-one meetings and in seminars and Del Mar sessions. Thank you for opening your home to us, your students, and for the meals you cooked. The commitment you have to your students is rare, invaluable, and truly special.

I also appreciate the words of encouragement, admiration, and the utmost respect you've shown towards my ideas and my identity as both an individual and a composer. You've always encouraged me to embrace "my edges" and to lean into the unique attributes that make me who I am. I'm thankful for our discussions during our individual sessions where you introduced me to your notepad technique and where, even if we didn't always agree on the approach, we often concurred on the essence.

Thank you for always greeting me with a smile. You have been a pivotal figure in my development as an artist and individual, and I will always remember you with the utmost appreciation.

Jacques

VITA

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ABSTRACT OF THE DISSERTATION

Metagesamtkunstwerk: A Compositional Approach to Life

by

Jacques Zafra García

Doctor of Philosophy in Music

University of California San Diego, 2023

Professor Roger Reynolds, Chair

“Metagesamtkunstwerk: A Compositional Approach to Life” delves into a deeply personal and profound exploration of music and composition, reflecting a holistic life philosophy and an intertwining of lived experiences and creative pursuits. The central theme of the dissertation is the idea of a “Metagesamtkunstwerk”, a term expanding upon Wagner's “Gesamtkunstwerk” or “total artwork”, suggesting an all-encompassing art form that extends beyond traditional artistic boundaries, penetrating life's very essence.

Beginning with an introspection on my personal evolution, the dissertation examines three critical phases dubbed as the “first Supercycle”. These phases — at CIEM in Mexico, HMT in Leipzig, and UCSD in San Diego — mark significant periods of musical growth and discovery, each offering unique perspectives and challenges. In Mexico, the groundwork is laid with “The Code - Ways to Compose”, an exploration of foundational compositional techniques. Leipzig's phase, “Adding Parameters”, dives deeper into the complexities of compositional parameters, expanding the initial groundwork. The phase at UCSD, “Studying Myself”, represents an introspective journey, fusing the learnings from the past with a renewed understanding of one's musical identity.

Central to the dissertation is the in-depth exploration of my piece “Coda”, a work that epitomizes the idea of *Metagesamtkunstwerk*. This piece, born out of deep introspection and a desire to challenge compositional boundaries, represents the synthesis of the my musical journey. A rich tapestry of electroacoustic and electronic elements, “Coda” is a reflection of the organic evolution of my relationship with electronics and technology in music.

The use of the software Sibelius as an instrument elucidates a modern, technology-driven approach to composition, challenging traditional paradigms and underscoring the dissertation's central theme. In conclusion, “*Metagesamtkunstwerk: A Compositional Approach to Life*” offers not just a reflection on my musical journey, but an invitation to view life itself as an intricate, evolving composition, enriched by experiences, challenges, and discoveries.

Metagesamtkunstwerk: A Compositional Approach to Life

Introduction - What is important to me now?

This is the question UC San Diego Professor Roger Reynolds asked me as I began my dissertation. What a relevant and complicated question to answer. Intuitively, and to some extent at the beginning of this essay, I believe I have clarity on this. I could summarize it as: what's important to me at this moment is to be as authentic and congruent as possible in all my thoughts and actions. This idea of authenticity, where I decide for myself what concerns me rather than being shaped by external influences, is not new. As Charles Taylor highlights, Rousseau articulated a closely related idea of self-determining freedom, explaining that "I am free when I decide for myself what concerns me, rather than being shaped by external influences" (Rousseau, as cited in Taylor, 1992 p.27). This resonates deeply with my own personal philosophy. In relation to this exercise, it is to respond to the above question in that stylistic and philosophical manner. I'm not sure how detailed, or in the words of UC San Diego Professor Chinary Ung, how many "layers of the onion" I will reflect on in this text, but I will start with what I believe is most relevant in this context, and as I delve into reflection, I will decide what to include and what to edit so that this text can stand on its own.

The most important thing for me, what is at the pinnacle of the pyramid of my creative priorities, is musical sound embedded in a discourse, also musical. From this moment on, a vast number of questions arise. At the very least, what is considered musical, and what constitutes a discourse. Or perhaps, more relevantly, what do I mean

by musical and discourse. However, this essay will not be where I reflect on those questions.

What else could be important for a composer if not the final result, the music itself? In the body of the pyramid, there are all sorts of activities, such as the mere act of composing. In other words, the mental process that creates structures, their relationships, and proportions. Through these processes, I discover new possibilities, ones that I interpret as my unique musical syntax. This introspective journey isn't isolated but builds upon the legacy of past composers while also seeking to contribute something new to the ongoing dialogue. This isn't just about seeking a single 'musical truth' but understanding that there are multiple truths, each offering a unique lens through which we can experience and understand music.

Another activity, quite similar yet substantially different, is programming: the programming of patches or small programs that produce or manipulate sound in all imaginable ways, or that program interactions between various media, such as the relationship between a video and a musical event produced by an instrument. Or, creating potentially endless musical material based on some algorithm.

Diving into social research and exploring the contexts in which certain music originates, is another activity composers might have as a priority. Through understanding history from different perspectives and current social problems, they try to justify their artistic pursuits and alleviate the guilt the particular group they might belong carries as an original sin. However, this guilt often has little to do with them as specific individuals. One might think that all of this is done with the ultimate goal of making music, but there are also those who make music to be able to engage in all of

these activities. In other words, they don't necessarily see music as an end, but as a means. Regarding the approach to the creative process, I remember Richard Sennett's reflection on the nature of craft. In "The Craftsman", he delves into the commitment and skill inherent in craftsmanship, suggesting that the journey to perfect one's craft often surpasses the importance of the final product itself (Sennett, 2008). This resonates with my approach to music and creating in general. It's not just about the ending, but the intricate journey of discovery, innovation and self-expression that leads to it.

For me, it's important to accept who I am—my tastes, my stories, my inclinations, my abilities, my limitations, my peculiarities, my fears, my aspirations, my possibilities, my potentials... and to act in accordance with them. While I've been aware of this for a long time and have tried to do so, it's not entirely easy because acting in this way seems to come at a high cost. However, I realize it's the most efficient path. It's much more costly not to act in alignment with one's principles, ideals, and identity. Some may say there's no alternative but to be oneself, but I believe there is. Sometimes, all too often, we give up on ourselves out of fear of the possible consequences, the desire to belong, or the need to be diplomatic. As these actions and decisions accumulate over the years, we begin to construct an identity that is not truly our own. After years of doing this, these layers blend with one's true identity, making it difficult to see what one really is because the layers are thick and well-established. It's an onion covered in layers that aren't its own. In summary, I am interested in the truth, my truth, and I want to pursue it in whatever way necessary without allowing the potentially negative aspects of speculation to determine my actions, both personal and professional, as well as artistic. I believe this is the only way to create art.

1. Metagesamtkunstwerk

Once, a teacher told me, “Naming phenomena changes the world.”

(H. Vazquez, personal communication, 2011)

This idea had a profound impact on my life. It's a concept that allowed me to, so to speak, take ownership, through conceptual delineation by means of a name, of various phenomena that, in their precise combination, manifest themselves uniquely in different facets and realms of my existence.

For the past couple of years—as documented in my qualification exam—I've been developing a concept I call *Metagesamtkunstwerk*. This concept involves extending the term “Gesamtkunstwerk”, popularized by Richard Wagner, by adding “Meta-” to explore a more abstract and comprehensive perspective. While Wagner's idea centered on an art form that combines various genres for a unified aesthetic experience, *Metagesamtkunstwerk* goes beyond this. It implies not only the fusion of the arts but also the idea that life itself can be seen as a composition, where each decision, emotion, and experience contributes to the overall “opus” of existence. The goal of this exploration is to examine the idea that an individual's life, in this case, my own, can be intentionally designed, “orchestrated”, and carried out with artistic intent. This concept envisions the creation of form by subdividing the stages of life, much like a composer creates structure within a piece.

Wagner defined *Gesamtkunstwerk* as something “which must encompass all genres of art, in order to consume each of these genres as a means, so to speak, to

destroy in favor of achieving the overall purpose of all, namely the unconditional, immediate representation of the perfected human nature” (Wagner, 1849). In contrast to that term, by adding the prefix “Meta”², I not only include “ [...] the works I produce, or the conceptual or material relationship between them but all aspects of my life that are susceptible to being controlled through intellectual and emotional processes. In other words, it's about approaching life as a compositional process. [...]. In essence, the idea is to contemplate my existence and my person, not as a means that produces works (of any kind) but as an end in itself; the work that composes itself.” (Qualification Exam, 2021)

In general, my artistic work, in which music plays the most significant role, is essentially an exercise in coded autobiography in the form of sound. In most of my pieces, I abstractly express the accumulation of experiences that constitute my existence. This includes everything from my bodily experiences to the cognitive processes that take place consciously and unconsciously in my brain. All these experiences are evidently informed by the realities that involuntarily surround me and those I consciously choose to immerse myself in. Examples of these include the city where I live, the news, the culture and art I experience, the people I'm exposed to, what I read, hear, consume, see, feel, smell... essentially my human experience. These events are, so to speak, filtered through my aesthetic inclinations and my overall worldview, and presented artistically in the form of music and other media such as video, digital art, text, etc. Philosophically and practically, this is the foundational

² The prefix “Meta-” is traditionally used to denote a level of abstraction or self-reference. In this context, it signifies an abstracted version of Wagner’s original idea, encompassing not only the fusion of arts but also the broader fabric of life itself. This broader interpretation includes the various experiences, decisions, and emotions that form the intricate tapestry of our existence, making it more encompassing and universally applicable.

concept of how I strive to live my life. However, in this essay, I will only address the ideas related to my creative output.

When I arrived at UCSD, I did so under the assumption that I was essentially a composer. In other words, I placed much greater value on my sonic compositions than on the rest of my creative endeavors, which include videos of different genres, photography, digital art, my teaching duties, and my writings, among others. The way I value my sonic creations today has not necessarily diminished, but I have elevated the rest of my creative output to a much higher level. I've realized that while my music *per se* has enough strength to stand on its own, it gains—at least for me—much greater strength and relevance when contextualized with the rest of my work.

For a long time, I believed music could powerfully convey my thoughts, concepts, emotions and memories — essentially, the sole artistic avenue to bridge my inner and outer worlds. Yet, with time and self-reflection, I've come to realize that while music excels at expressing emotions, it may not be the optimal medium for conveying intricate intellectual, ideological, or less abstract concepts. Yet, the realm of cognition rich with abstract ideas and intellectual exploration, can sometimes require a different way to express oneself. This is where my involvement in other art forms becomes relevant. My NFT's, for example, aren't merely digital assets; along with the videos and photos I create for social networks, they serve as visual and/or textual reflections on contemporary social and political realities. They are my means of engaging with, questioning, and critiquing societal norms and dynamics in a more tangible manner .

(Figure 1)

Furthermore, my writings, whether they have been published or not, contribute an additional dimension to my narrative. Within these texts, I articulate my ideas, arguments, and perspectives on a broad spectrum of subjects. While some are personal reflections or stories, others involve more rigorous examinations of topics, including music and various subjects. Music remains an integral part of my identity, a medium that possesses unparalleled expressive power. Nonetheless, I've come to appreciate the multifaceted nature of my artistic pursuits. By embracing this diversity, I believe I can present a more comprehensive representation of myself and the world I interact with.



Figure 1: 14/ 379 - Brass on Haut

(0.311222 ETH)

I could never build the Tuba,
With its shiny brass and deep, rich sound,
No matter how hard I tried,
My efforts always fell to the ground.

I could never build the Tuba,
Though I longed to see it come to life,
The intricate details were too much,
For my inexperienced hands to contrive.

I could never build the Tuba,
But I can still admire its beauty,
From the delicate curves of its horn,
To the intricate mechanisms that make it whole.

I could never build the Tuba,
But I can still find a way to play,
I could never build the Tuba,
But I can still find a way to sway.

#NFT

I aim to elevate the rest of my work by giving it (almost) equal importance and consideration as my music receives. This involves granting these elements the same *rights* and *responsibilities* within my creative process. By doing this, I hope to achieve a more well-rounded and comprehensive expression of who I am and what I want to express with my work. This means that they are now included in a metaphorical budget as a priority and not under miscellaneous expenses as they were before.

Assuming more responsibilities has prompted me to allocate additional time, energy, and financial resources to pursuits beyond music. For instance, I've dedicated a significant amount of time to learning about photography and video composition techniques. This endeavor goes beyond merely taking pictures; it involves a deeper exploration of concepts like visual storytelling, color theory, composition, and timing. Although my grasp of these principles remains at a foundational level, they have proven valuable in the creation of various images and videos I've produced in recent years³.

I have recently delved into the realm of architectural theory and education. One notable influence has been Juhani Pallasmaa, a Finnish architect and architectural theorist. His book, “The Eyes of the Skin” (1996), underscores the multi-sensory experience of architecture and the profound role our senses play in understanding

³ For examples of my work in photography and video, please see the following Instagram posts:

- @jacqueszafra. “🍷🍰” [Video]. Instagram, July 29, 2023, <https://www.instagram.com/p/CvS4MI4oXcg/>
- @jacqueszafra. “🍷🌐” [Video]. Instagram, August 4, 2023, <https://www.instagram.com/p/CvicXMaloPJ/>
- @jacqueszafra. “Metro Chabacano” [Video]. Instagram, August 15, 2023, <https://www.instagram.com/p/Cv9scqko959/>

constructed spaces.⁴ My interactions with Susanne Vogel, a practicing architect and former partner, have further deepened my grasp of these ideas. Our discussions bridged the worlds of architecture and music, allowing me to perceive the intricate relationship between space and sound. I had an understanding of its importance even before these experiences, but they have given me greater confidence in embracing this concept. In the past, I placed greater emphasis on the intellect when composing, but now I recognize the significance of physicality in shaping my sonic experiences.

Recently, when Steven Takasugi, an associate of the Harvard University Department of Music, listened to my dissertation piece at Darmstadt 2023, he commented that it was music that made him feel like he was being hit with a hammer. Takasugi's reaction to my music was a clear indication to the palpable physicality I strive to instill in my pieces. And that is precisely that kind of physicality that I am referring to, one that is deeply and intensively felt.

My work is largely autobiographical and serves as an act of reflection and analysis through which I attempt to understand myself. In other words, why do I make the aesthetic choices I do? From where does my artistic sensitivity originate? Why do I sometimes disdain my own taste, while at other times, I value it? How do these choices and sensibilities relate to my personal history, my present, and the realities and experiences I expose myself to? What would I like to eliminate or include in my life? These kinds of questions arise at different stages of my creative processes, sometimes

⁴ Juhani Pallasmaa's architectural philosophy is deeply rooted in sensory perception, human experience, and the emotional resonance of spaces. At its core, his architectural theory emphasizes the holistic, multi-sensory experience of architecture — that is, the understanding of spaces not solely through visual elements but also through sounds, touch, scents, and even the passage of time. This aligns closely with many music composition pedagogy philosophies, such as the one advocated by Dr. Maria Antonieta Lozano, which similarly prioritized a holistic approach to understanding and creating music.

propelling my creativity and at other times arising after a work is completed. Through this introspection, I'm better equipped to make life decisions with greater confidence. In many ways, this introspective journey is the most vital path I've chosen, leading me towards becoming my own "Übermensch"⁵ and, in artistic terms, evolving into a Metagesamtkunstwerk.

⁵ The term "Übermensch", as used here, is a reference to Friedrich Nietzsche's concept of the "Übermensch" or "Overman". It represents a philosophical idea of individual self-transcendence and creative self-realization. Please note that this usage does not endorse or imply any association with the Nazi interpretation of the term, which is a separate and historically problematic concept.

2. The first Supercycle

The concept of a “supercycle” is frequently used in the fields of economics and finance to describe an extended period of time, often lasting several years or even decades, during which a particular economic trend or cycle exhibits longer and more pronounced fluctuations than usual. Supercycles are characterized by larger amplitude oscillations and typically consist of multiple smaller economic cycles within them. (CFI Team, 2022)

I borrow this idea and adapt it to my concept of Metagesamtkunstwerk. In this context, it obviously does not refer to economics or finance but rather to well-defined periods of my life that also consist of smaller cycles and are related to my development as a musician and artist. In this case, I define the first supercycle as the period of my professional music studies that began approximately in 2005 and concludes with this text in 2023. An 18-year period that began with two years of studying jazz electric guitar in Mexico, which I interrupted to start my studies in composition, music theory, and classical guitar from 2007 to 2012 at CIEM. Subsequently, I moved to Leipzig, Germany, where I pursued a master's degree and the *Meisterklasse* ⁶ in composition from 2013 to 2018, which ultimately led me to San Diego for my doctoral studies. Below, I will mention significant aspects of each of these sub-cycles, as they are relevant to understanding the third sub-cycle I undertook in San Diego, concluding the stage of my life as a student.

⁶ [https://de.wikipedia.org/wiki/Meisterklasse_\(Hochschule\)](https://de.wikipedia.org/wiki/Meisterklasse_(Hochschule))

By applying this concept, I can categorize distinct phases in my personal and professional development. Each phase, or sub-cycle, presents its own unique set of challenges, opportunities for learning, and moments of achievement. This framework enables me to map my progression as an artist, much as an economist might chart the growth and decline of a market. It provides me with a comprehensive overview of my artistic journey, helping me identify patterns, repetitions, and shifts. However, it extends beyond the macro perspective; within each overarching phase, the individual sub-cycles carry their own significance. It's within these sub-cycles that we can delve deeper into the everyday experiences that define each larger phase. By conceptualizing my journey as a series of interconnected cycles, I can trace back to the decisions I made, the influences I encountered, and the evolution of my artistic identity. This serves as an introspective tool, enabling critical reflection on my past and offering insights to inform my future creative endeavors.

2.1. CIEM, Mexico (2007-2012): “The Code - Ways to Compose”

“The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift.”⁷

When I was starting my studies at CIEM I remember being confronted for the first time in my life with the idea of “creating my own code” for composing. For Professor

⁷ While this sentiment is often attributed to Albert Einstein, its exact origins are uncertain. The quote is paraphrased by Bob Samples in *The Metaphoric Mind: A Celebration of Creative Consciousness* (1976). However, there's no concrete evidence that Einstein actually expressed this idea in these exact words.

Maria Antonieta, this meant studying and understanding oneself so as to establish a set of rules and principles based on one's own needs (acoustic, aesthetic, philosophical, political, etc.) with which one could compose music on one's own terms⁸. At that time, the idea of having to follow rules—even if they were my own—seemed abhorrent to me. I interpreted the concept as a prison that one enters and remains inside of one's own free will. I didn't understand that, no matter how much one wants it to be different, there are certain inclinations or preferences inherent to oneself that emanate from the deepest core of one's being, and they are practically impossible to change, as they are the essential matter of our being. While this is pure speculation, my intuition and experience indicate to me that the reflection is correct.

At CIEM, the idea of creating a code was reiterated time and again, but all I wanted was to compose without rules, without a code. To simply do as I pleased. Yes, capriciously, as an act of supreme freedom. This freedom, when expressed in non-musical actions, could potentially threaten the intellectual, cultural, and even physical freedom of others, but as music (as I experience it) translates solely into sound, it is hardly powerful enough to harm anyone else.

At that time, as I was beginning to compose and was first confronted with the task of formalizing my musical impulses into numbers, notes, rhythms, dynamics, proportions, and so forth, I felt immense frustration. It made me feel like I was betraying my musical intuition. However, when I attempted to work solely on intuition, without any strategy, I quickly hit a wall almost as high as the border wall between Mexico and the

⁸ The notion of an artist or composer 'creating their own code' also parallels the broader concept of a 'personal language' in arts, where an artist develops a distinctive set of expressive tools that become intrinsic to their work.

USA, surrounded by a barren desert from which it's not easy to escape. I began to understand that, to be able to compose, I needed to harmonize my physical impulses with my rational faculties. My strategy from that point onward was to alternate between composing a work where intuition substantively prevailed and then one where reason prevailed. I pursued this approach almost systematically for at least five years. The goal I envisioned reaching at some point in my life was a point where I could “simply write” without concerns about formalizing my ideas and where my intuition was sufficiently informed by history, techniques, and all sorts of tools, that the need to face formalization again would be eliminated. I did not know then that every time I am about to reach that goal, it moves away once again, since at the same time that I am solving the problems, new opportunities open up that prevent me from completely abandoning formalization.

It took me several years (perhaps 16) to realize that the code to which Dr. Maria Antonieta (the director of CIEM) referred wasn't something that had to be artificially imposed but rather something to be discovered. In the literal sense of the word, it was something that needed to be uncovered, revealing something that had always been there.

Essentially, the task was to understand the core of who I am and to embrace both the strengths and weaknesses my origins imprint upon my artistic sensibility. If I were a building, the primary task would be to discern the land on which it's built, to know the materials and the quality of its foundations, the proportions of its spaces, the play of light and shadow within, and the very echo of its rooms. Among all these features, the location of a building—its unique spot on the earth—is immutable. While many aspects of a building, like its internal layout, furnishings, colors, or even its guests can change,

its essential foundation remains. This idea of an unchanging foundation or essence is what I think Maria Antonieta meant by “the code”. Similar to how a building can host unwelcome guests or pests, we, too, can carry undesired influences or biases. The challenge is to discern this core essence and translate it into musical terms, aiming for authenticity without compromise. Thus, staying true to this core becomes my guiding principle, and straying from it now feels counterproductive.

Certainly, there are many times when we wish that this piece of land were more fertile, or that it were on a mountain with an unbeatable view, and that the best materials and architects had been used to build it. But such ideals may not be possible. And that's what I have recently discovered. What is left is to accept what exists, see its potentials, flaws, and qualities, and optimize what is there. Perhaps what I now understand in words, I grasped intuitively at a very early age, but didn't always keep it in mind when composing. Frequently, I pondered how my instructors might react to my musical choices, and over time, the views of my peers, distinguished composers, thinkers, and the aesthetic standards of specific festivals or institutions also factored in. While these perspectives never dominated, they consistently held considerable influence. I now realize that in terms of composition, one can be irresponsibly experimental or capricious. There is essentially nothing to lose. It's not as if miscalculations can cause the deaths of hundreds of people like miscalculating a bridge and the frequency at which it vibrates. In reality, I can only fail to be faithful to the canons that preceded me.

In my opinion, music, at least the one created with a clear sense of purpose, has no possibility of failing. In the worst case, it might be the individual who fails – not getting hired, not receiving invitations to festivals, not getting commissioned, or not

having their music written about. But in essence, the sound itself, however it is organized, doesn't owe anyone an explanation. From my perspective, it's worth taking the risk to create one's own music. Ironically, what results might even be precisely the opposite of what was feared. In other words, it could be the music that gains relevance, gets programmed, studied, discussed, and written about. While external success (in life or afterward) is never guaranteed, I am convinced of the intrinsic success one achieves by following genuine passions. In my exploration of personal agency and creativity, a sentiment that strongly resonates is that when an artist engages in authentic self-expression, they are liberated from external expectations and judgments. Essentially, by embracing what truly matters to them, artists rise above the fear of external failures or setbacks. This perspective underscores the empowering and transformative nature of true artistic pursuit.

When I attend a concert, I don't go expecting to hear only what I like. I go with the intention of hearing the unique expression of the individual who composed the music, and generally, when it's authentic, I can identify that. There's an intuition, more than a historical and technical one, a human one that tells me, "this is real", or "this is false", much like when I communicate verbally with someone and can identify with a high degree of certainty, through a combination of non-verbal and verbal language, the truthfulness of what they are expressing. Personally, I prefer to listen to such "real" music, even if I don't like it, than to listen to music that tells me what I want to hear by lying. Essentially, what I want is to hear the other composer's code, their unique and particular way of communicating through sound, their way of experiencing existence.

2.2. HMT, Leipzig (2013-2018): “Adding Parameters”

During my time studying in Mexico, I primarily composed using the Sibelius notation software. In other words, I heavily depended on a tool that instantly, but externally, mechanically, and artificially reproduced the musical ideas I put on “paper”. The thought of composing by hand, depending solely on my internal sonic imagination, seemed daunting. How could I be certain that what I wrote down would match the sounds in my mind? At that time, my musical vocabulary was still growing. As I mentioned earlier, my exposure to music, both in theory and practice, was limited, I wasn't yet deeply acquainted with the vast timbral possibilities of instruments, intricate musical structures, or the large repertoire of historical and contemporary compositions.

However, when I arrived in Germany, things changed. I was immediately confronted with an unfamiliar challenge: I had to compose by hand. This wasn't just about writing down notes on a music software; it was a physical exploration of an instrument – my instrument, the acoustic guitar, and the exploration had to go beyond the conventional bounds of playing traditional notes and rhythms. It was about exploring and experimenting with diverse technical approaches that the guitar could offer. Every note I wrote was no longer an abstract entity; it needed my body's physical engagement to be played. I started depending on the tick of a metronome and the countdown of a timer to help me with musical timing. Dynamics weren't only abstract instructions on a screen anymore; they turned into something I could physically control. A dynamic like *mf* wasn't a set value; it shifted, requiring different levels of energy based on the music's context.

I found myself taking charge, translating my theoretical ideas into practical musical situations. This realization was humbling because it highlighted the physical effort involved in the creative process of composing and performing music. While using Sibelius, the software effortlessly translated my musical ideas into sound. However, now, every note I wrote by hand in my solo guitar piece “El imperdonable invierno”⁹ represented a valuable lesson and experience. The piece served as evidence of my expanding skill set, which grew with each note I manually wrote. However, this hands-on approach also showed me the extensive knowledge I still needed to acquire.

As a consequence, I dedicated a significant portion of my time in Germany to the study of music that featured unconventional notation and/or incorporated non-traditional sounds. This exploration included works by a range of composers, such as Gerard Grisey, Helmut Lachenmann, Klaus Hübler, Raphael Cendo, Brian Ferneyhough, Claus-Steffen Mahnkopf, Aaron Cassidy, Timothy McCormack, Andrew Greenwald, Pierluigi Billone, Frank Cox, and John Cage. For instance, in “Gran Torso” for string quartet, Helmut Lachenmann radically reinvents the capabilities of string instruments by deeply exploring the sonic possibilities of the instrument through non-traditional instrumental techniques, which had an enormous impact on how the work was notated. (Figure 2)

⁹ “El Imperdonable Invierno” for solo guitar: <https://www.youtube.com/watch?app=desktop&v=U2ftRgj-BAo>

Right Hand ->

Left Hand ->

Figure 2: Helmut Lachenmann - Gran Torso, second violin, bars 1-2
 In this work, Lachenmann separates the physical actions of the right hand (above: rhythmic figures without hotheads) and left hand (below: regular staff) into two lines.

One characteristic shared by some of these composers is the exploration of musical instruments by breaking down the various physical actions involved in sound production. For example, to play a prototypical middle C¹⁰ in *mf* on the transverse flute requires executing a series of physical actions, which have a minimum range of possible variation.

Among these actions are fingerings, the position and tension of the lips, the angle of the flute with respect to the performer's mouth, and the air pressure delivered. Any variation in these dimensions can significantly alter the quality or character of the sound. Composers like Hübler, Cassidy, Greenwald, McCormack, and sometimes Brian Ferneyhough break down sound into such dimensions, isolate them, and treat them as if they were an independent voice that has the potential to counterpoint with the other dimensions, producing unusual technical combinations that result in unconventional sounds. One notable example is Brian Ferneyhough's "Unity Capsule" (Figure 3) for

¹⁰ Clear and bright, with a clean quality with moderately strong volume but still retaining a certain softness and delicacy. The sound is characterized by being very focused and tuned, without strident or harsh features, and with a well-defined sound body with good projection. (OpenAI, 2023)

1) Tempo (the top line represents a faster tempo than the bottom line) 2) Meter¹¹ 3) Embouchure (which may include, depending on color, air pressure, tongue position, use of voice, or techniques that include the use of the throat) 4) Fingering.

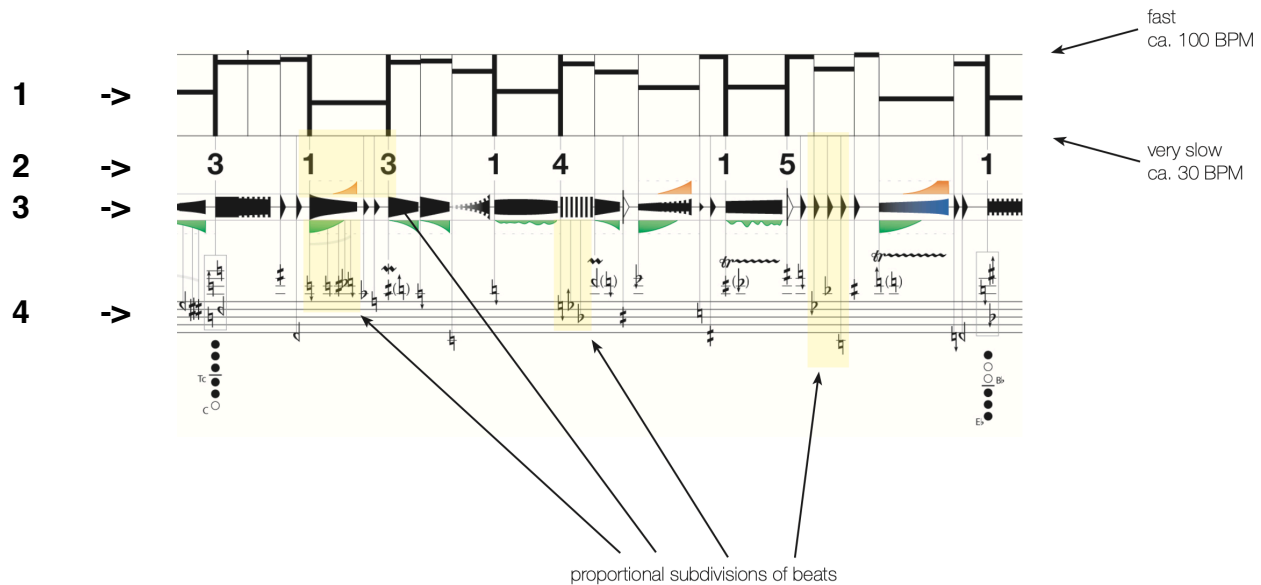


Figure 4: Aaron Cassidy - The Wreck of Former Boundaries, Instructions page

Studying the works of these composers and embracing their approach triggered a transformation in my creative process. It enabled me to compose by hand, primarily relying on my imagination and referring to instrumental technique books for support. I discovered that by manipulating various musical dimensions, I could create a vast spectrum of sound possibilities, which might not have been attainable had I only relied on Sibelius's synthesis capabilities during composition. At this point, I was drawing upon the knowledge and experience I had accumulated.

¹¹ In Aaron Cassidy's "The Wreck of Former Boundaries", the concept of meter differs from traditional pulse or beat. Meter serves to group rhythmic elements, and these groups have flexible and often unpredictable durations linked to the inherent energy of each musical event. As a result, each 'beat' possesses a unique speed and duration, leading to varying temporal patterns. Steady, recurring pulses are rare, but occasional exceptions occur.

Every so often, people I know who are not musicians tell me how incredible they think the act of composing is and believe it's a skill one is born with. My answer is always the same: that I am convinced that anyone could learn composition. That doesn't mean anyone can be as good as Mozart, as composing is a task composed of a series of additive skills, essentially like any other activity. So, I ask them if they can imagine the sound of a violin. Then, I see if they can focus on just one note. After that, I suggest they imagine that note getting louder and then softer. (Most people say they can do these things.) Next, I tell them to think about the note being very short, like a quick tap, and then much longer, like a lingering hum. Finally, I ask them to imagine the long note starting very quietly and slowly getting louder. As we go through each step, it gets a bit trickier for them. Eventually, I push them to envision the short sound being repeated numerous times, randomly jumping between high and low notes, and varying in intensity. They might not be able to fully imagine how it sounds, but they can grasp the concept. In essence, even if they can't hear it in their minds, they can roughly grasp what kind of sonic impact such a scenario might create, even at a basic level. They understand that with practice, they could improve their ability to do this. To wrap up, I draw a parallel to cooking. I ask if they can imagine the taste of salt and where they sense it on their palate. Then I compare it to something sweet and quickly prompt them to imagine blending those flavors and sensations. I finish by explaining that this is how composition functions, and over the years, through experience, one can imagine more intricate and less conventional sonic textures.

In a similar vein, we can draw parallels by substituting sonic dimensions with the physical actions that produce them. For instance, with a bowed string instrument,

consider the hand movements wielding the bow: its position relative to the strings (from *ordinario* to *ponticello*), its tilt (from full hair to half hair/half wood, to *legno*), the pressure exerted, and the bow's motion (be it perpendicular or parallel to the strings, or even circular). These can be integrated with the left hand's actions, like finger pressure, finger placement, muting techniques, pizzicatos, and more. In this way one can envision a dynamic interplay or “counterpoint” of shifting actions. By doing this, one can anticipate a range of potential sound outcomes, which are, ideally, within a small enough locus to be used as musical material for a piece. Such piece could be reproduced by different performers and still maintain a recognizable sonic identity. (Figure 5)

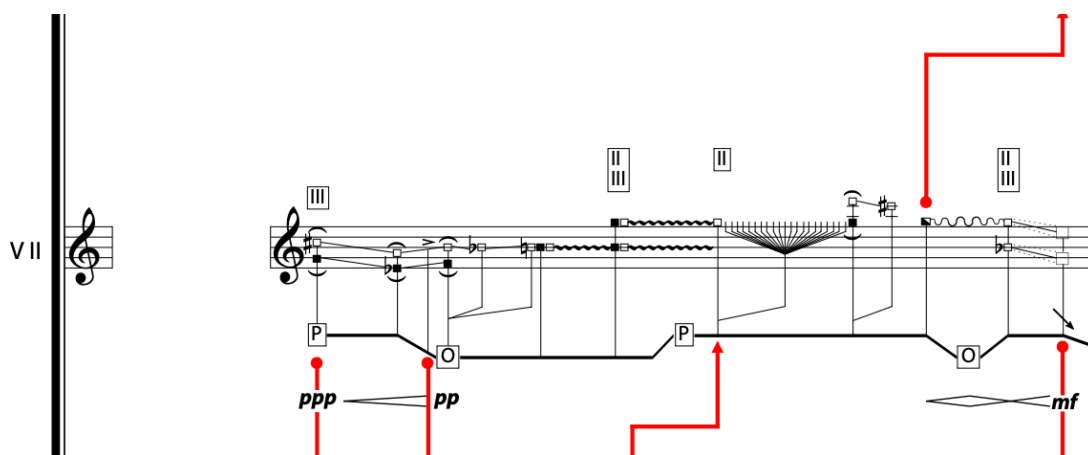


Figure 5: Timothy McCormack - *Decke*, p. 2, second violin

In the string quartet “*Decke*”, Timothy McCormack creates a counterpoint of physical actions between the movements of the left hand, which executes the notes on the fretboard with different levels of finger pressure, while the left hand (horizontal lines connecting the framed P's and O's) moves independently to the right hand.

This was the way I composed for at least 5 years. In other words, I considered, as clearly as possible, the physical actions the instrumentalist would have to perform, roughly calculating the resulting sound based on the sum of its dimensions. When using this compositional technique, which may involve extended tablature notation or represents only movements without specifying the produced sound, the expectation is generally that the sound falls within a limited spectrum of possible outcomes rather than pinpointing a precise sonic result¹². This is partly because the same type of physical action, where each movement is indicated with extreme precision, can still produce significantly different sounds on different instruments (especially when they vary in quality)¹³ or because, at times, the required movements are not precisely indicated, meaning the exact path of these movements will be influenced by the performer's physical characteristics, their instrument, as well as their sensitivity, aesthetic inclinations, and technical abilities. (Figure 6)

¹² Aaron Cassidy has been known for his extended use of tablature notation since 2004. In this approach, he outlines possible actions for musical instruments by adjusting various parameters, guided by intersecting paths and vectors. These intersections give rise to musical phrases that arise spontaneously rather than being pre-planned. The central idea in Cassidy's work is consistent: he constructs systems that confront him with unexpected challenges, compelling him to innovate within unanticipated conditions. His reliance on randomness, reminiscent of John Cage's techniques, serves to mold unique compositional styles while consistently immersing him in unforeseen situations, fostering a continuous spirit of experimentation (Cassidy, 2012).

¹³ For instance, a high-quality, well-maintained instrument may produce a clearer, richer tone compared to a lower-quality or poorly-maintained one. Thus, even when players employ identical techniques, the sound can differ based on the instrument's quality. This variability means that precise notations can yield diverse sonic outcomes across different instruments.

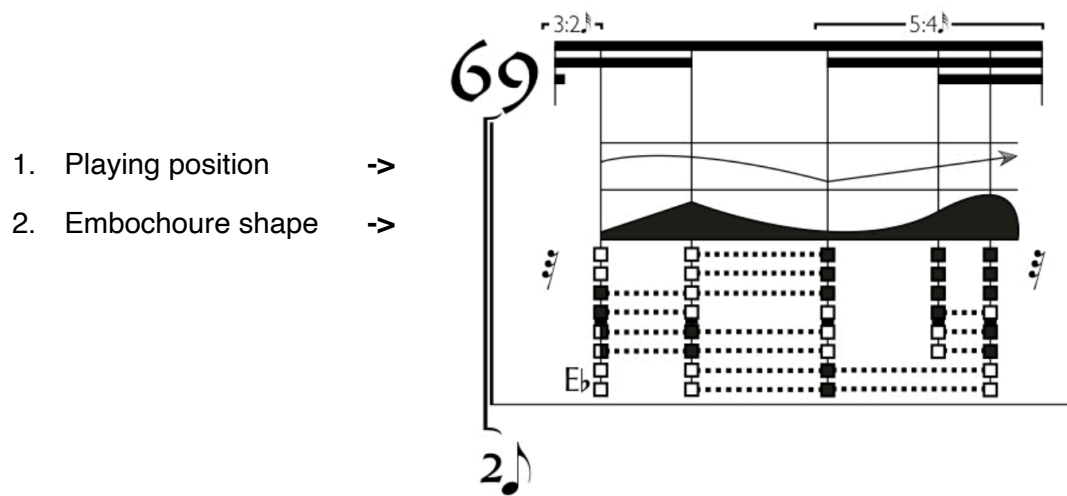


Figure 6: Marek Poliks - Just Shuffling, p.10, alto flute, second system

In “Just Shuffling”, Marek Poliks indicates the position of the mouth with respect to the flute (1), as well as the shape of the embouchure (2). The sound result resulting from these physical indications—which, although defined between more or less two clearly demarcated limits—can vary widely from performer to performer, due to the aforementioned factors. This is in contrast to the prototypical sound of a middle C in *mf*, which, although it will have variations depending on who plays it, the range of variation will be much smaller.

This exploration substantially expanded my understanding of the physics of instruments, their sounds and various ways of notating music. It allowed me to discover a slice of my expressive potential that I didn't know existed, one that didn't rely on the use of a computer but rather on my imagination, the instruments, their repertoire and acquired technique. The question was whether this already resulted in what could be considered my own music? Partially, I would say.

2.3. UCSD, San Diego (2018-2023): “Studying Myself”

At the beginning of 2023, during a conversation with my friend and colleague Zachary Konick, we were discussing our graduation projects, and I told him that it seemed important to me to try to compose an ambitious piece for my graduation, since both the material and human resources offered by the department, and the personal relevance due to the context, made this opportunity something special. It seemed the right time to do something challenging where the learning and effort of recent years can be reflected. During the talk, the question then came up as to what exactly *is* something challenging for us? As I anticipated in my application to UCSD, it means to me a full-length piece (25+ minutes) for a large ensemble, using technology (ideally video, electronics and spatialization) and ideally with an undeniably personal musical language.

When I arrived at UCSD, I only had one piece with electronics, “einmal ist einmal”, for 4 instruments and tape, which I composed a few months before coming to San Diego. One of my goals during my time here was to incorporate digital technology into my music. While I didn't become an expert in MaxMSP as I would have liked, I did become the electro-acoustically enabled composer I aspired to be. I recently realized that I haven't composed a purely acoustic piece in 3 years. What pleases me most is that the use of electronics in my pieces has evolved organically, driven by a sonic need rather than technical imposition.

When I told Zach my initial challenges and goals, he told me that it was also important for him to carefully plan the structure of the piece — as if assuming that I had mentioned that. I replied that I hadn't said that, and even though it was a long piece, I

didn't have a structural map where every proportion and event was calculated and preconceived. He asked if I was improvising, and I explained that it wasn't improvisation either. I told him that for many years I had embarked on a process, reminiscent of Carl Jung's idea of "Individuation" (Jung, 1951), where I aimed to recognize and integrate various facets of my musical psyche. Similar to Jung's conception, where the individual strives for self-realization by integrating diverse conscious and unconscious components of their psyches, I also systematically alternated between composing formal pieces and intuitive ones. The piece I was composing, Coda, was the result of a decade-long process of, so to speak, studying myself, striving to understand and harmonize my various musical inclinations.

That is, to understand my aesthetic, instrumental, temporal, structural, registral, timbral, textural, dynamic, intervallic, chordal, and morphological preferences, as well as my predilections in terms of articulation, tempo, contrast, development, and agogic aspects. And that in my dissertation piece I was to work precisely with that, with what I am. Essentially I already know how to compose. I know to a large extent what my values, expectations, limitations, fears and ambitions are.

I'm familiar with my habitual patterns in composition, and I can almost predict, based on past patterns, which note might come after a C. I also know the most common ways I create dynamic envelopes or the intervals and registers I frequently use. Basically, I've been composing like this for 16 years, so why would I think it would be any different now? Well, while I didn't expect it to be different, I did expect it to be deeper, more authentic, more elegant and sophisticated. More me and less like others. But it wasn't enough to compose a 12-minute piece for 4 instruments. That duration, in a

way, is already ingrained in my being, much like the 12 bars of blues. It had to be something that challenged me, pushed me to my limits as a composer, and compelled me to explore internal corners I hadn't ventured into before.

Analyzing my musical preferences, whether conscious or not, has led to a deeper understanding of my identity as a composer. This self-reflective journey, highlighted by my dissertation Coda, has been significantly shaped by my past experiences in Mexico, Germany, and the United States over the last five years.

Mexico has infused my art with a vibrant spirit, reflecting the rough and contrasting urban landscapes and the improvisational problem-solving approach that mirrors life's unpredictability. Conversely, Germany introduced me to meticulous planning, deep respect for artistic and musical traditions, candidness, and a commitment to precision from the start, greatly influencing the structure, planning, and discipline in my compositions and my life in general. During my time in the United States, I was drawn to its experimental culture, which nurtures individualism and personal development. UCSD provided an environment that catalyzed my musical expressions, enabling me to create Coda, a piece that not only aimed to be new but also represented my artistic voice more refined than ever.

This culmination of influences and introspection led to a work that is both genuine and deeply personal. Although the journey had its challenges, it provided invaluable insights, motivating me to explore newer facets of myself and my artistic expression. Strengthened by these insights, I am poised to take this exploration to a deeper level with renewed focus and determination.

3. Dissertation work

3.1. Technical and logistical challenges

Composing my dissertation work had to be a challenge on multiple levels. One of the main challenges was its duration, which I had set between 35 and 50 minutes, with a strong desire to reach 50 minutes. My longest compositions to date include one of approximately 20 minutes for a solo instrument (named “for alto recorder”) and another of 28 minutes “for three virtual instruments” (fixed media). My longest works for ensembles and/or electroacoustic compositions don't exceed 12 minutes. Considering that most of my pieces in the past 16 years have been acoustic and averaged around 10 minutes in duration, I concluded that I had enough experience to tackle a larger musical challenge.

Technically I have no major problem generating a musical idea and extending it for 10-12 minutes. I already know how it feels, I know well the intellectual and physical effort it entails, and I have explored various ways on multiple occasions to extend or develop the material for that amount of time. Extending that duration by 20% would not be too complicated, and in terms of compositional challenge, it would not require much more effort than I was used to. The challenge had to be substantial, at least the piece had to last 3 times longer than the average of my other pieces, but ideally 5 times longer. The fact that the piece was for 9 instruments and electronics made the task as challenging as expected.

When I embarked on the task of composing a work of considerable length, I immersed myself in a creative process that required me to learn how to expand and develop my musical ideas as I had never done before. A recurring question during the

composition process was how to achieve or what techniques exist to compose a long-form work. In trying to answer this question fundamentally, I came to the conclusion (not theoretically proven) that there are not many ways to achieve this. Some essential techniques include micro-variation processes¹⁴ (à la Morton Feldman) (Figure 7), involving repetition, extension, use of slow tempos or long notes. These techniques can evidently be taken to extremes, such as repeating an idea a large number of times, as Karlheinz Stockhausen did at the beginning of Klavierstück IX (Figure 8), or using extremely slow tempos such as quarter=3 bpm, which I employed in my piece “for three virtual instruments” using digital means (Figure 9). During a 2019 orchestration session at UCSD, Professor Ung made a fleeting comment about the simplicity of extending a piece by introducing a drone. While incorporating a literal drone into my work didn't align with my vision, the idea of using simple material over a prolonged duration resonated with me. By expanding upon this concept, I came to the realization that a drone can be graphically depicted as a horizontal line, which, within the realm of geometry, represents a more substantive dimension than individual points. In other words, a drone can be considered to be composed of a sequence of linked notes that, when separated, produce a pulse.

¹⁴ Micro-variation refers to small, subtle, and often imperceptible variations or changes within a musical or compositional element. These variations can involve tiny alterations in pitch, rhythm, dynamics, or timbre.

Figure 7: Morton Feldman - Triadic Memories - bars 1-16

This exemplifies Feldman's utilization of micro-variations. In each measure, it can be observed that the rhythmic pattern in the left hand is consistently shifted by varying degrees. Additionally, there are instances where both events have identical durations (dotted eighth notes), while in other cases, one of them is shorter.

$\text{♩} = 160$

Akkord 139* in regelmäßigen Abständen:
dimin. ganz kontinuierlich ohne Rück-
sicht auf nicht ansprechende Tasten bei
geringer werdender Intensität.

$\frac{142}{8}$ etc. $\frac{87}{8}$ etc. 87 x

ff *f poco a poco diminuendo* ----- *pppp* *ff* *f poco a poco diminuendo* -

I.P. I.P.

Figure 8: Karlheinz Stockhausen - Klavierstück IX, bars 1 and 2

This exemplifies an instance of extreme repetition, where a chord accompanied by a diminuendo is performed 142 times in the first measure and 87 times in the second.

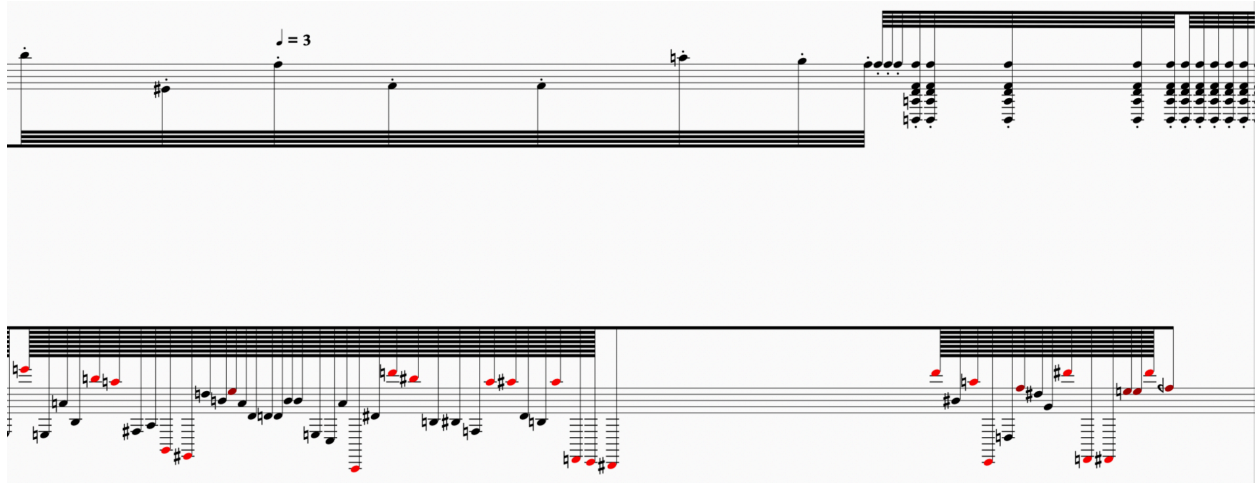


Figure 9: Jacques Zafra - for three virtual instruments¹⁵, at 01:39

In “Sibelius 8.3.0 build 62”, the slowest tempo the program can execute for a passage is quarter note equals 3 beats per minute.

This idea allowed me to create the seed material for the second sub-section of Coda (bars 88-207). Initially, this section lasted around 20 bars (Figure 10) and quickly transitioned into new material. However, after a suggestion from UC San Diego Professor Michelle Lou to “expand this material to an almost obsessive state” (2023), I managed to extend the section by approximately 100 more measures through varied repetitions in terms of tempo, register, and orchestration, all without resulting in a forced or inorganic musical situation.

In essence, the techniques of diverse repetition (with small adjustments), tempo changes, and longer notes are what allowed me to reach the minimum duration of 35 minutes that I had aimed for. (Figures 11 and 12)

¹⁵ <https://soundcloud.com/jacqueszafra/listen-with-earphones-for-three-virtual-instruments-jacques-zafra>

Figure 10: J. Zafra - Coda, beginning of sub-section 2, bars 88-104

This section is characterized by relatively stable and regular musical material that generates an unmistakable sensation of pulse, which rarely occurs in my music. This specific material, which includes minimal tempo changes, is performed purely digitally by Sibelius and makes almost exclusive use of percussion instruments.

194

The image displays a musical score for measures 194-196. It consists of several systems of staves. The top system includes five staves for strings and woodwinds, with a dynamic marking of *f* and a '5' indicating a five-measure attack. Below this is a snare drum staff with a 7-measure attack. The bottom system is labeled 'arco' and includes five staves for strings and woodwinds, also with a dynamic marking of *f* and a '5' indicating a five-measure attack. The score is in 4/4 time and features complex polyrhythmic textures.

Figure 12: J. Zafra - Coda, bars 194-196

The final part of the 2nd sub-section begins at measure 194 and concludes at measure 200. The measures shown in this figure show the highest point in terms of variation of the pulse idea. Here the tempo is quarter=37bpm and both Sibelius (upper 2 staves) and the entire acoustic ensemble participate in creating a polyrhythmic texture (5:4:7) in which the acoustic ensemble, with the exception of the snare, performs 5 regular attacks in a 4-quarter time signature. Likewise, a substantial increase in timbral and harmonic complexity can be seen in contrast to the previous 2 figures.

Another challenge I set for myself when starting the PhD was that the dissertation had to incorporate electronics in one way or another. This aspect unfolded probably better than I had anticipated, and it is related to the technique I developed and used to produce electronic sounds. This essentially involves using the notation program Sibelius as an electronic instrument. I'll discuss this in more detail below.

The other challenges were related to “extra-musical” elements, meaning they weren't directly related to sonic structures. These included video, spatialization, and theatrical performance. The latter, was the only one that didn't find a place in the piece. Apart from not having the time to develop the theatrical elements to the level I would have liked, it also didn't fit the concept of the dissertation. What I was going to compose needed to be the result of an organic process rather than imposed. Forcing the performance element would have detracted from the authentic, inherent flow I aimed for in the piece. It was essential to let the work evolve naturally, allowing each component to find its rightful place, rather than artificially inserting elements that might not resonate with the dissertation's core essence—in this case, a *mostly* purely sonic experience.

Regarding spatialization, it happened not exactly as I had initially imagined, which involved using at least 4 channels, but ideally 8. While I made some attempts to create that situation, I didn't have the necessary time to achieve the level of quality I wanted. Ultimately, what occurred to me was the use of virtual acoustic spaces, utilizing relatively simple resources. For the first 20 minutes of the piece (the electroacoustic music section), during the premiere of Coda, the amplified sounds of the instruments and electronic sounds came in stereo format from the front speakers of the Experimental Theater. In the last 15 minutes of purely electronic music, the sound, also

in stereo format, came from all the theater's speakers, creating a sense of a broader acoustic space.

Out of all these techniques, the one I regret not being able to fully implement was the use of video. Ideally, I would have liked the piece to include pre-recorded video and live video in its live performance. However, the time I had to realize this dimension was also not sufficient. Nevertheless, I did record several of my colleagues in front of a green screen, with which I produced two short videos that I used for promoting the piece on social media and for the full online version I am producing. (Figures 13 and 14)

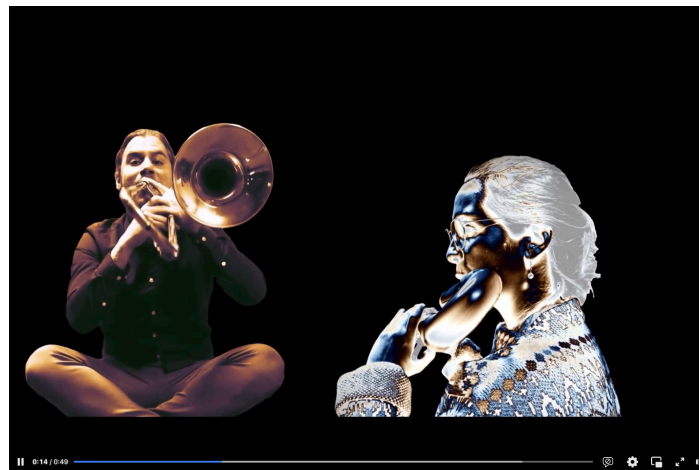


Figure 13: Screenshot from Coda's First Trailer

(Published on Facebook, April 13, 2023) - Represents Bars 23-31 from Coda

This image captures a moment where a trombone player and a flutist interact, mirroring the ensemble's sonic output through their physical movements. It's worth noting that although the ensemble features various instruments like strings, timpani, flute, clarinet, trumpet, electronic elements, the trombone isn't audibly present. Instead, its visual presence seems to mimic the energetic rhythmic elements generated by the contrabass.

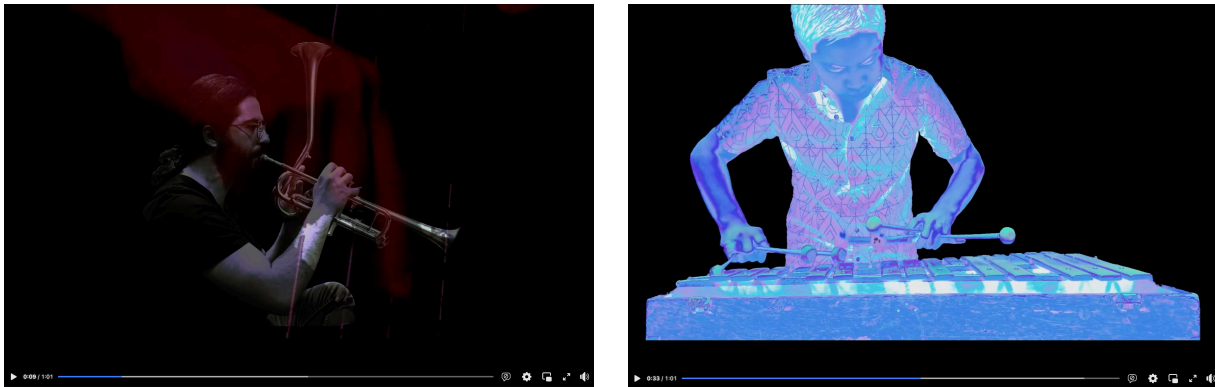


Figure 14: Screenshots from Coda’s Second Trailer

(Published on Facebook, April 25, 2023) - Represents Bars 141-157 from Coda

In contrast to the first video, the left-hand image (bars 141-145) depicts the performers engaged in sound production. However, a visual-sonic dissonance emerges as the hand actions of the contrabass player in the video occasionally diverge from the actual sound, establishing a counterpoint between sight and sound.

The image on the right (bars 149 - 153)contrasts with the two preceding visuals, positioned as an intermediate between both phenomena: full correspondence and lack of alignment between video and audio. While the prominent sound emerges from a percussion instrument, the depicted percussionist playing the vibraphone does not produce the heard sound. The choice of blue color aims to convey a “cold” sensation.

3.2. Origin of the concept of the dissertation

Initially, the idea for my dissertation was to compose three works that could be performed both independently and as subsections of a tripartite composition. The common theme binding them was going to be the COVID pandemic, with the subsections representing the before, during, and after phases of the pandemic. The first piece would allude to pre-pandemic life and was planned as an acoustic work for a small ensemble to be performed in the UC San Diego Conrad Prebys Concert Hall. It would somehow represent something more traditional, common, or what people are more accustomed to. The second sub-section was going to be an electroacoustic work for trombone and trumpet, pre-recorded in video format, symbolizing life during the

pandemic. The third sub-section would be an electroacoustic, multichannel work for three strings: violin, cello, and contrabass, lasting 30 minutes. I imagined it would be performed in the Conrad Prebys Music Center Experimental Theater, with the audience lying on the floor around the instrumentalists, featuring a calm character with very long notes. In reality, while the idea was inspired by pandemic experiences, my intention was not necessarily to directly address the COVID pandemic but rather to explore a process of transformation, as is often the case in my music and my own personal transformation.

This idea never fully materialized, at least not as I described above. At some point, I began composing what I thought would be the first sub-section of the piece and soon realized that what I was composing didn't fit the earlier concept. It was a piece for a larger ensemble and a virtual ensemble (where Sibelius would provide the virtual entity) that had its own meaning that was gradually revealing itself to me. However, I continued composing while trying to maintain the tripartite idea, now transformed into what I envisioned as three sections within a single long-format piece: an acoustic section, an electroacoustic section, and an electronic section. At the time, I wasn't entirely clear how evident those parts would be — whether they would manifest as clearly identifiable sections or as interwoven ideas. This meant that their identifiability as distinct entities might vary depending on the listener's experience with music during the performance. Ultimately, nothing (at least in formal terms) from the initial concept I had imagined came to fruition. While the work doesn't directly reference the pandemic, it does allude to the personal transformation process I mentioned earlier, and which I will discuss in more detail later on.

3.3. What *is* the piece in formal, technical and logistical terms?

Now that I've mentioned everything that the piece *wasn't*, I want to discuss what it *is*. The piece I composed can either be divided into four internal sections or, in a broader view, into two major sections. The first major section, lasting 20 minutes, is predominantly electroacoustic, while the second, lasting 15 minutes, is exclusively electronic (for a detailed breakdown, refer to Table 1 in the Appendix). Despite my serious attempts, there is no *purely acoustic* section in the piece either.

The piece Coda has a precise duration of 35 minutes, reaching the lower limit I set for myself. It is a work that can be presented to the public in multiple ways depending on several factors. It can exist between the boundaries of a purely electronic piece—meaning without the intervention of any live instrumentalist but the version “performed” by Sibelius—or as a work for a large orchestra and fixed media. This implies that there can also be multiple versions with different numbers of live instrumentalists, and fixed media. The number of performers depends on the available human resources in a given situation. On May 24, 2023, in the UCSD premiere performance example, there were 9 amplified musicians¹⁶. However, there could have been just one, for instance, a percussionist or even a full orchestra, as I mentioned earlier. This is because, since the “electronic” component is written in Sibelius, much of the material can be extracted and adapted to be written as a part that can be performed by a live musician (Figures 15 and 16). Furthermore, in another dimensional axis, there can be various versions that don't involve live musicians, either for online experiences

¹⁶ Flute: Teresa Díaz de Cossio, Clarinet: Grace Talaski, Trumpet: David Aguila, Percussion: Kosuke Matsuda, Violin 1: Myra Hinrichs, Violin 2: Pauline Ng, Viola: Alexander Taylor, Cello: Robert Bui, Contrabass: Matthew Henson, Virtual performer: Sibelius, Conductor: Matt Kline

or in any other context such as a purely electronic music concert. While it's possible to do this with almost any piece of any type and composer, in this one, that consideration is woven into its “DNA”.

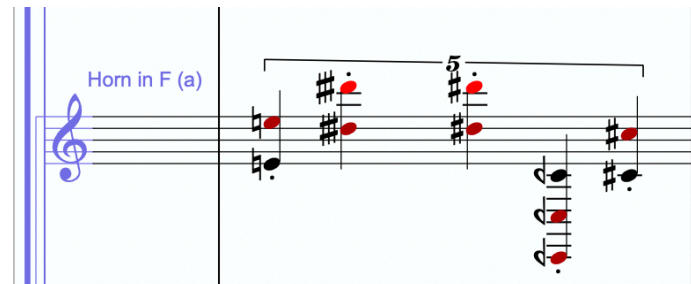


Figure 15: J. Zafra - Coda, Horn in F (a), bar 188

In the premiere of “coda”, this measure was “performed” by Sibelius (tape) and evidently, due to its characteristics of range and use of quarter tones, it could not be played by a real horn player.

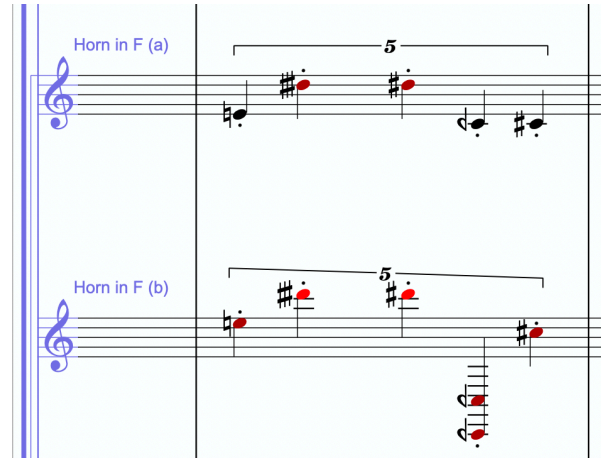


Figure 16: J. Zafra - Coda, Horn in F (a), bar 188 (alternative version)

If a hornist with a microtonal horn is available, this version designates the real horn player to perform part (a) while the virtual performer handles the rest of the material. In the absence of a microtonal horn, quarter tones from part (a) can be removed and retained in the virtual part.

For some years now, I decided not to upload documentary videos or audio recordings of my works, but to create specific and unique versions for the medium in which they will be presented. In other words, I don't just record the piece in audio and video and present that material on the internet; I compose or recompose a version that takes into account the conditions of where it will be presented and create a series of instructions for the viewer to experience it. Examples of this approach can be seen in my first “Jury” piece 🤖👤♟️🏠🎲🧠💊🩸👉🎈🧸🍫, as well as in “for three virtual instruments” and in “for string quartet”. In some of them, in addition to composing an audiovisual version to be experienced over the internet, I also compose the experiencing ritual in terms of space, light, and sound that the viewers have to carry out to listen/watch the piece. (Figure 17)

In this case, for the first complete audiovisual presentation, I am working on a version that includes the video recording from 4 angles provided by the UCSD Music department. Merging video with sound requires a thoughtful integration, as the relationship between auditory and visual elements can deeply influence the audience's experience of the piece¹⁷. As I combine the department's footage with the audio mix, individual recordings, and the Sibelius version, my aim is to create a rendition in terms of video and audio that is unique and substantially different from what the department live-streamed on YouTube during the concert.

¹⁷ Chion, M. (1994). *Audio-vision: Sound on screen*. Columbia University Press. Chion emphasizes the intricate dance between sound and visual elements in audiovisual presentations, noting that the two mediums, when synergized effectively, can result in an immersive experience that's greater than the sum of its parts.



2019
for violin, trombone and 8 cymbals

This work includes theatrical elements, so it is necessary to watch the video while listening to the piece. Listening only to music would mean not having experienced the piece as it was conceived.

Follow these instructions to recreate an experience similar to the live performance:

- Watch in a **single session** avoiding interruptions of any kind. You should not forward or rewind the video under any circumstances. (The duration of the full video is 13 minutes and 9 seconds)
- Turn off or set your phone to airplane mode.
- Disable all notifications of your laptop (mail and reminders).
- **Turn off all the lights** in the room.
- Use the biggest screen available to you, and if possible, use an independent sound system (external speakers or high-fidelity headphones).
- Turn the YouTube-player volume to the maximum, and adjust the volume of your computer (and/or sound system) to approximately 65% (even if it does not seem loud enough at the beginning). The volume should be adjusted **before the video begins**, and **should not be altered** during the performance. The *pianissimos* and *fortissimos* are intended to sound that soft/loud, and be as contrasting as they are.

Figure 17: J.Zafra - , instructions to experience on YouTube

3.4. Final concept of the dissertation piece Coda

“One might say that the coda is a sign of dissatisfaction with the form, a declaration in each individual case that the symmetry is inadequate to the demands of the material, that the simple parallelism has become constraining.” (Rosen, 297)

At some point while composing the first 10 minutes of the piece, I thought that the work should be called “Coda”. I like to believe that the way I choose titles is not an act of conscious reflection but rather that they are *revealed* to me. In other words, I discover what the piece is called. Once I know its name, I begin to question why it's called that. In this case, the first question that came to mind is the obvious one: What is a coda? And what does it imply in historical, technical, formal, philosophical-musical, and speculative terms?

The term “coda” means “tail” in Italian (Collinsdictionary.com, 2023). In music, according to the Merriam-Webster dictionary (2023), a coda is “a concluding musical section that is formally distinct from the main structure.” Other definitions include “a more or less independent passage, at the end of a composition, introduced to bring it to a satisfactory close” (Dictionary.com, 2023), “an ending part of a piece of music or a work of literature or drama that is separate from the earlier parts” (Britannica.com, 2023), or, according to the English Wikipedia (2023) definition, “a coda is a passage that brings a piece (or a movement) to an end. It may be as simple as a few measures, or as complex as an entire section.” In essence, it is the end, a conclusion, or a final section.

To gain a deeper insight into the philosophical and musical meaning of the coda, musicologist Charles Rosen, in his book “Sonata Forms”, discusses various codas by Haydn, Mozart, and Beethoven. He suggests that “the coda essentially attempts to restore a loss of balance” (Rosen, 311) and that it “not only adds weight, but is essential to complete what has been left unfinished, providing stability and musical meaning.” While Rosen specifically examines codas within these composers’ works, his descriptions align with my understanding of the coda’s nature.

In my case, when I think of a coda, naturally I also think of a musical section that concludes a movement or work but generally from the classical or romantic period. However, even if it's not necessarily thought of in those terms, and its connotation may be different, the coda (the concluding part) exists in works from all eras. What I understand as a coda is a section where the principles established throughout the piece can be expanded, broken or flexibilized, or where new principles can emerge. Many times, it is characterized by an energetic inevitability that signals an end. Often, perhaps most of the time, the coda is perceived when it arrives, thanks to its cadential energy that makes it feel like the previously exposed material—at least in that context—has been exhausted. As Charles Rosen observes, “the coda does not have the character of a development but of a cadence” (Rosen, 320). It carries a unique essence, with nuances akin to a climax, yet distinct in its own right. It differs in that we yearn for the climax to satisfy us, whereas we eagerly await the coda to bring us back to emptiness, all set for a fresh start. The climax is an intensely fleeting instant, one longed to extend, perhaps infinitely, or at the very least, a few moments more – just sufficient for its arrival to leave no doubt of its existence. On the other hand, from my perspective, the coda,

even though it may possess its own internal climax, delivers genuine gratification as it concludes. It is the silence itself, the eagerly anticipated moment, that the coda foreshadows.¹⁸

My dissertation work is, therefore, the coda of the first super-cycle of my life. The 18-year period I wrote about earlier that spans from when I formally began studying music in 2005 to this moment when I complete my doctorate.

3.5. Metaphorical meanings in Coda

Just as I mentioned that I have the impression that the titles of my works are not the result of a conscious process but rather *reveal* themselves to me unconsciously, I also hold the same belief regarding the metaphorical meaning of the piece. Throughout the composition process or at its conclusion, I encounter processes, materials, or structures that invite me to contemplate metaphorical meanings. Sometimes, I can identify them on my own, and at other times, they are pointed out to me by others.

In the case of Coda, in addition to symbolizing the cycle I mentioned earlier, it also alludes to life, specifically the process of death. The transition from the physical world to another energetic state, one without a body. This interpretation was first made by Professor Michelle Lou. While I don't recall her exact words, she mentioned at some point, almost when the piece was practically finished, that this music made her feel a transitional process in which the body is lost. This feeling is not only technically reflected

¹⁸ “[...] the coda does not have the character of a development but of a cadence.”

in the work, as there is no intervention by the performers in the last 15 minutes—but also in sonic terms.

The piece begins *without* a slow or progressive introduction (Figure 18); it jumps into action without any preparation.¹⁹ Based on my musical experiences, the “start” of the work has more similarities to a moment preceding a climax than to a more traditional beginning. Metaphorically, one could argue that the piece doesn't begin with a birth but rather at a point in a person's adult life. In this case, it's a moment filled with energy in terms of rhythm, character, dynamics, and instrument interaction. While there are a couple of less energetic moments, such as those in Figures 19 and 20, this level of energy is, on average—at least from my subjective perception—the overall energy level of the entire piece.

Right at measure 208, the third subsection of the work begins, and, as I envision it, that's when the transition between the physical state and death begins. In measure 211 (Figure 21), one can hear a long note played by a virtual horn, which is repeated with a variation in dynamic envelope at measure 213 and by the real trumpet at 215. For me, that sound, even if it's just one note, brings to mind the resonance of an alphorn, alluding to my maternal grandmother's Swiss heritage, Elsa Rocha Weber, to whom the work is dedicated. It also conjures associations with melodies and fanfares from 19th-century German Romantic music, including C.M.v. Weber's *Freischütz* Overture, *The Ride of the Valkyries*, and Wagner's *Tannhäuser* Overture, as well as, as I will discuss later, the introduction of Richard Strauss' *Also sprach Zarathustra*.

¹⁹ When I initially presented my work to Professor Roger Reynolds, Professor Michelle Lou, and Dr. Steven Takasugi, as I played the audio, they interrupted to inquire whether what they were hearing indeed marked the beginning of the piece.

While the long note from the brass instruments takes the spotlight in this section, it had been introduced at the beginning of the second subsection in measure 75 by a virtual trumpet (two octaves higher) and later by the clarinet in measure 78 in the same octave that appears on all other occasions. This motif appears several times throughout the piece, played by virtual trumpets and horns as well as the real trumpet. In measures 216-223, the reference to “Also sprach Zarathustra” becomes more evident with the addition of the timpani playing an alternating perfect fifth. By referencing this work, I also refer to Nietzsche's work of the same name and his concept of the *Übermensch* (Overman or Superman). Although the following quote is not written in the score, that moment represents the scene in the book where Zarathustra speaks to his heart “there they stand [the people] [...] there they laugh: they do not understand me, I am not the mouth for these ears.” (Nietzsche, 1883)

This final section marks the transition to the fourth and last part of the piece, which begins at measure 249 and is characterized by being completely electronic, symbolizing the concept of death and disembodiment. Additionally, the last part takes place in total darkness. The lights in the hall begin to dim from the 18th minute and completely turn off by the 20th minute. For 15 minutes, the audience cannot see anything.

The decision not to include the final section in the score also holds a symbolic meaning, which is unnecessary to explain. The final two measures of the piece, spanning three minutes and depicted in Figure 20, represent the composition's deepest tonal point, creating a sustained drone-like atmosphere. To fully experience the depth of this fundamental pitch, the use of subwoofers is essential. As previously discussed, the

fourth section symbolizes the detachment from the body. However, in the closing moments, the reintroduction of subwoofers and their influence on the acoustic environment and audience perception rekindles a sense of corporeality. As the final note fades, and as the audience's vision adjusts to the dimness, they are abruptly illuminated by intense white spotlights for three seconds. This sudden burst of light, reminiscent of the proverbial “light at the end of the tunnel”, signals the conclusion of the piece.

There are many more references in the piece than I am aware of, but the ones mentioned here are the most relevant for this essay.

The image displays a musical score for the "Coda" section, covering bars 1 and 2. The score is written for a large ensemble, including the following instruments: Tape (not full), Piccolo, Clarinet in Bb, Trumpet in C, Timpani (Snare), Percussion, Piano, Violin I, Violin II, Viola, Violoncello, and Double Bass. The score is in 4/4 time and features a variety of dynamic markings such as *ff*, *f*, *mf*, and *pp*. The Piano part shows a complex rhythmic pattern with many sixteenth notes. The Percussion part features a steady, rhythmic pattern. The strings (Violin I, Violin II, Viola, Violoncello, and Double Bass) play sustained notes with varying dynamics. The score is marked with a tempo of *J = 58* at the beginning.

Figure 18: "Coda" - Bars 1 and 2

Figure 19 shows a page of a musical score for the Coda section of a piece by J. Zafrá, covering bars 206 to 217. The score is arranged in a standard orchestral format with multiple staves. The instruments listed on the left are Tuba, Flute (Fl), Clarinet (Cl), C Trumpet (C Tpt), Timpani (Timp), Percussion (Perc), Piano (Pno), Violin I (Vin. I), Violin II (Vin. II), Viola (Vla), Cello (Vc), and Double Bass (Db). The score includes various musical notations such as notes, rests, and dynamic markings (e.g., ppp, f, mf). There are also performance instructions, such as 'cluster using both arms' for the piano part. The tempo is marked as $J = 37$ at the beginning of the section.

Figure 19: J. Zafrá - Coda, bars 206 - 217

Figure 20 shows a page of a musical score for the Coda section of a piece by J. Zafrá, covering bars 249 and 250. The score is arranged in a standard orchestral format with multiple staves. The instruments listed on the left are Clarinet in Eb, Bass Clarinet in Eb, Tuba, Lead 1 (Square), Lead 1 (Square), Lead 1 (Square), and Lead 2 (Sawtooth). The score includes various musical notations such as notes, rests, and dynamic markings (e.g., p, mf). There are also performance instructions, such as 'cluster using both arms' for the piano part.

Figure 20: J. Zafrá - Coda, bars 249 and 250

4. Using Sibelius as an instrument

For over a decade of my 16-year composing experience, I never genuinely entertained the idea of incorporating electronics into my music. This was partly due to a lack of technical expertise, but more crucially, because I didn't feel a compelling aesthetic or sonic reason to venture in that direction. I also mistakenly believed that there were right and wrong ways to create electronic music, and the ones I thought were right required techniques that I believed I could never acquire to the necessary level to use them properly. I somehow believed it was essential to know how to program and understand exactly what was happening at a physical/mathematical/technical level to be able to use them; otherwise, I would feel like a fraud. That was highly frustrating. However, as my need to hear and create certain sonic situations in my own music involving electronically manipulated or produced sounds grew, I realized it wasn't necessary to understand everything as deeply as an expert in the field, and I began to solve problems as best as I could.

While it wasn't necessary to understand everything so profoundly, I knew it would be beneficial to learn as much as possible through courses at UCSD, online courses, tutorials, texts, and experimentation. Through experimentation, I realized that it was more important to know and understand fundamental concepts of electronic music such as additive synthesis, subtractive synthesis, AM and FM synthesis, and granular synthesis than to be able to program a patch perfectly in PD or MaxMSP that could execute those techniques in them. Being aware of these concepts and having a broad understanding of how they work had an impact not only on my way of thinking and

listening but also on composing acoustic music and even digitally manipulating images and video.

Another issue I had with creating electronic music, at least as I conceived it, was that I found the process to be very dull and dry. It's true that over time, I discovered the pleasure that can be involved in programming, or in manipulating something like an analog synthesizer, but what I truly enjoy is writing musical notes. That's how I envision music—with notes and rhythms, not numbers and formulas. I like being able to visualize what I imagine in that way. It's not that the other way doesn't seem good to me; it's just that, at least up to this point, it's not what works for me. To me, a sound, before being a number like 440Hz, is a musical note, an A. For me, the continuum of frequencies in the physical world, is a continuum that connects the discrete steps dictated by Western tradition through years of sonic culture. In my case, each frequency doesn't have the same value as any other, even though, concretely, there may not be much difference. The middle C resonates within me. I can effortlessly vocalize it at almost any given moment. It's not just any frequency; it's the central key on the piano and the first fret on a guitar's second string. It is the tonic of what Professor José Julio Díaz Infante at CIEM called the “student's tonality”. To me, the note C is not merely a sound—it has a storied past and serves as my auditory anchor from which I discern other tones.

I also listen with respect to intervalic relationships. In my ears, the relationship between two frequencies is always in comparison to a “traditional” interval; I might think, “it sounds similar to a minor sixth”, or “it's slightly off from a minor seventh”.

My musical education began at the relatively mature age of 16, which is typically considered late by conventional Classical Music standards. In response to this potential

disadvantage compared to those who began their musical education earlier, I devoted myself to intense study and essentially ingrained musical knowledge into my mind and body. Consequently, I now find it challenging to perceive sound, whether musical or not, as something abstract. Instead, I tend to categorize it using the technical terminology commonly found in Western music theory

During my initial five years as a composer, I heavily relied on the Sibelius notation program for composing instead of traditional handwritten methods. While this software often proved instrumental in resolving musical challenges, there were instances where it presented obstacles I couldn't consistently overcome. On many occasions, my colleagues and I would write something in Sibelius that couldn't be played on a real instrument; an impossible glissando on the trombone, an extreme register change, an unrealistic speed, or among many other things, rhythms that our professor deemed absurd—a triplet within a quintuplet. With so little experience, and after hearing the notation software play the pieces I composed over and over for days, it was frustrating to have to give up on that sound, which I had already accepted as an integral part of the piece. Nonetheless, the notion that stuck with me was the belief that Sibelius offered the potential to compose music beyond human performance capabilities. For several years, although I had ventured into crafting small experimental compositions, I deferred the notion of composing an entire piece exclusively for the program, one that could solely be executed by it.

In March 2020, at the beginning of the pandemic in San Diego, I saw the perfect opportunity to do it. Suddenly, I no longer needed external validation or a specific reason to compose that piece; the timing was perfect. I wouldn't require live performers;

I had no looming deadlines or upcoming projects and I could share it effectively through social media. The creation of this piece was now justified not only by my artistic aspirations but also by the prevailing circumstances. The piece needed to have a fairly long duration and present technical challenges; otherwise, it would be dismissed as a mere novelty. Consequently, I resolved to create a work lasting a minimum of 25 minutes. Such a duration could no longer be whimsically improvised in a couple of idle hours. It demanded a particular level of expertise, a defined concept, and a clear purpose. While the chosen instrumental sounds within the program included the ocarina, bass trombone and piano, one might argue that the true instrumentation was Sibelius itself, and the piece could aptly be titled “for three virtual instruments”²⁰. At that point, the blend of timbres struck me as utterly unconventional, aligning with one of the core principles of my aesthetics—a choice I likely wouldn't have made for a composition intended for live instruments. Nonetheless, it also references distinctive and crucial elements found in electronic music

The MIDI ocarina exhibits a consistent, nearly sinusoidal timbre (Figure 20), while the MIDI trombone's sound closely resembles that of a square wave (Figure 21). In contrast, the MIDI piano, despite its artificial quality, unmistakably alludes to the realm of acoustic sound, setting it apart from the former.

²⁰ <https://www.youtube.com/watch?v=b2mHxIP7vYY&t=0s>

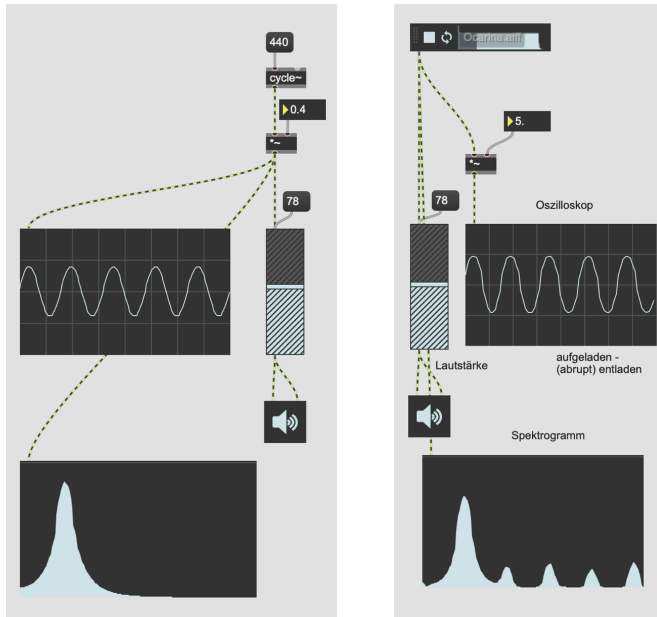


Figure 21: Sine Wave (Left) and MIDI Ocarina (Right) Waveform and Spectrum comparison

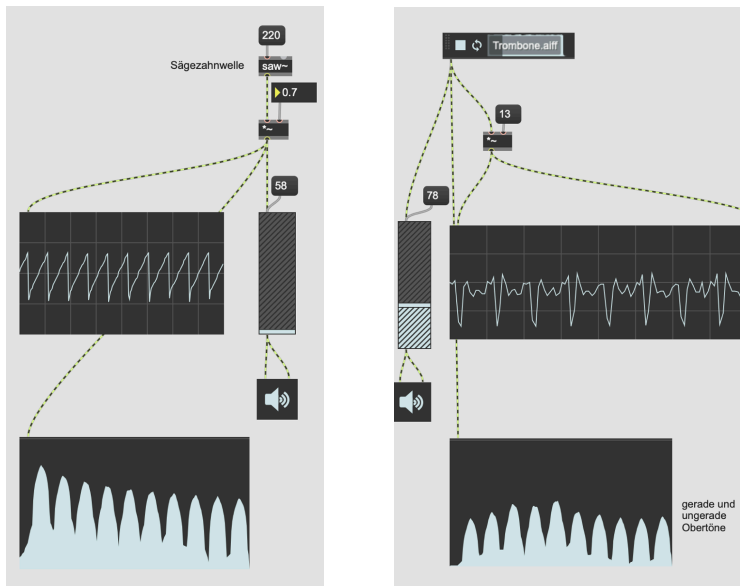


Figure 22: Square Wave (Left) and MIDI Trombone (Right) Waveform and Spectrum comparison

I soon realized that by treating the Sibelius program as an instrument, I could also incorporate the idea of “extended techniques” into it. The challenge then was to begin the journey of exploring the program in an unconventional way, or from my new perspective, the instrument itself. Finally, I could not only write but also hear perfectly tuned microtones executed on the piano or any instrument, as well as instruments playing outside their usual range (Figure 22), chromatic glissandos spanning multiple octaves on the trombone (Figure 23) (or on all instruments), rhythms and speeds impossible for humans (Figure 24), extreme tempos (quarter=3, or 1000), sudden irrational tempo changes, chord progressions on melodic wind instruments (Figure 25), and many more possibilities. I realized that the combination of these elements sounding simultaneously produced sounds more akin to those created by computers than traditional instruments with extended capabilities. I also observed that by pushing various parameters to non-human ranges, I could create sounds resembling additive synthesis, granulation, frequency modulation or ring modulation. What thrilled me the most was that I could achieve this by simply writing notes on a staff. This piece and this method of composition had such a profound impact on me that I decided to continue exploring it. I had to make this technique a part of my musical language, and the perfect opportunity to do so was in my dissertation project, where I could combine this sonic world with that of real instruments.

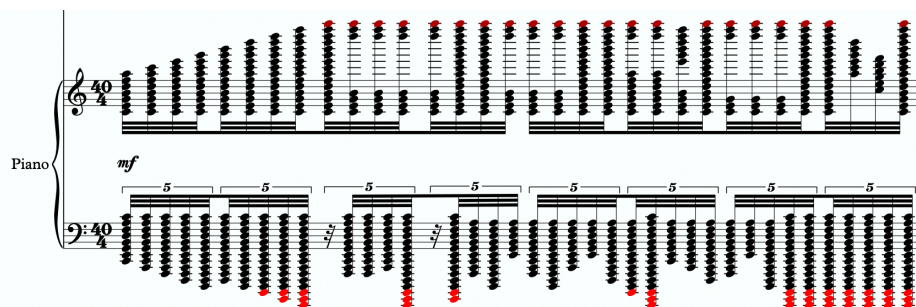


Figure 23: J. Zafra - for three virtual instruments, Piano, bar 1

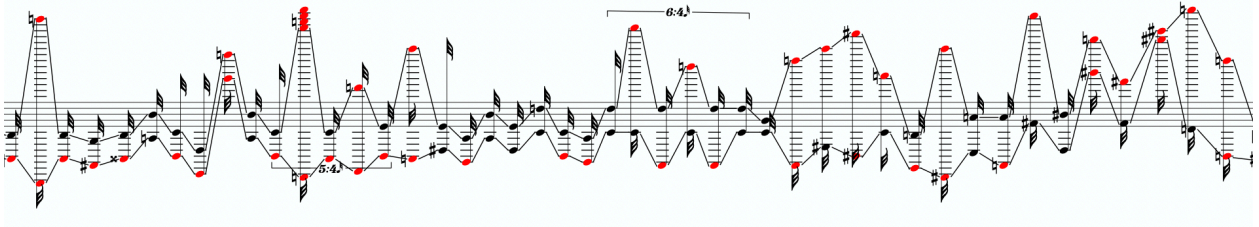


Figure 24: J. Zafrá - for three virtual instruments, Contrabass Trombone, bar 134

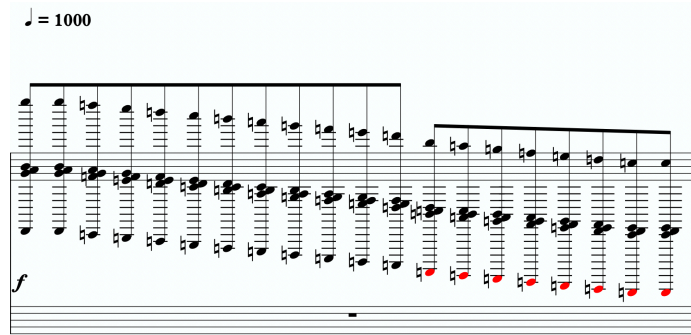


Figure 25: J. Zafrá - for three virtual instruments, Piano, bar 31

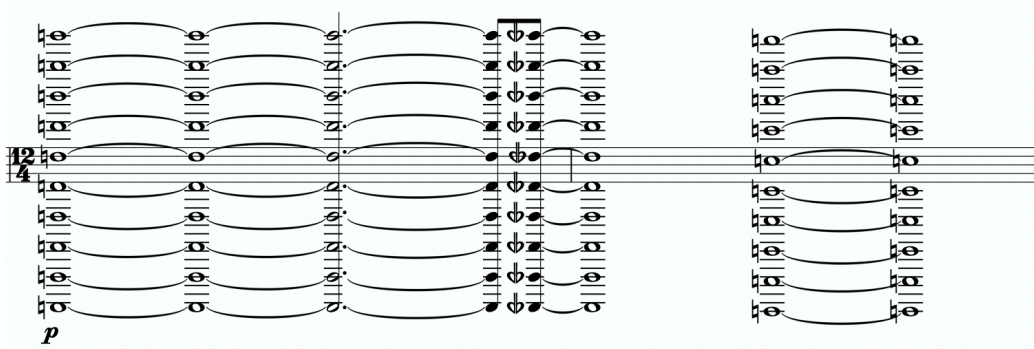


Figure 26: J. Zafrá - for three virtual instruments, Ocarina, bars 192 and 193

In my dissertation work *Coda*, I use a much broader timbral palette than the one I used in 'for three virtual instruments'. In the electroacoustic section, I use flute/piccolo, B♭ clarinet, trumpet in C, three Wagner tubas, three French horns, one bass trombone, triangle, timpani, cymbals, snare drum, tam-tam, woodblocks, celesta, piano, two violins, viola, cello, and double bass. In the purely electronic section at the end, I use two E♭ clarinets, bass clarinet in B♭, baritone saxophone, two trumpets in B♭, two tubas, tam-tam, toms, Almglocken, harp, organ, rock organ, three 'Leads 1' (square waves), and two 'Lead 2' (sawtooths). For many of these instruments, a significant portion of their written musical material couldn't be performed exactly as written on their real-world counterparts. However, as mentioned earlier, this piece has the flexibility to be performed solely by Sibelius or with various numbers of real instruments mixed with Sibelius.

Furthermore, in contrast to my previous work using this approach, in this piece, I use a library of authentic instrument sounds (NotePerformer) instead of MIDI sounds. This results in a sound quality that, while not necessarily superior, is characterized by a greater spectral complexity due to its origin in real instruments.

While composing this piece, which also presented the challenge of its extended duration, I discovered how to use common tools provided by the program in unconventional ways to generate material that would have been very difficult to achieve manually. Some of these techniques include filtering, harmonization, randomization, shuffling, and note rotation. In Figure 26, I employ filtering, harmonization, and randomization. Figure 27 provides a step-by-step illustration of the process leading to a similar outcome.

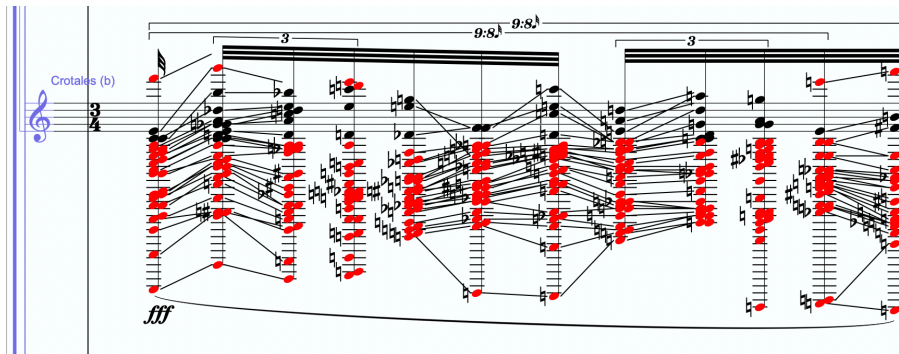


Figure 27: J. Zafrá - Coda, Crotales (b), bar 171

In Coda, the emphasis is on the innovation that results from looking at a familiar tool with a new perspective. Instead of being constrained by the traditional boundaries of Sibelius, I chose to embrace its idiosyncrasies, turning perceived limitations into new sonic landscapes. The intricate textures and timbral contrasts that I achieved, although perhaps unintended by the software's developers, enriched my sound palette in ways I hadn't imagined possible.

By using Sibelius as an electronic instrument, I aimed to challenge traditional notions of electronic musical creation. Instead of employing technology to merely emulate traditional acoustic sounds, Coda utilizes the digital realm to expand upon them. This blurring of lines between the acoustic and the electronic, the traditional and the avant-garde, is a central theme in my piece.

Furthermore, the process of creating Coda has been as transformative for me as the music itself. It became a journey of introspection, making me question the very essence of music and its creation. Is it the tools, the notes, the sounds, or the intent

behind them? Perhaps it is a combination of all, evolving continuously as we, the creators, evolve.

Moving forward, the experience and insights gained from composing Coda will undoubtedly shape my future works. This creative process is a direct result of the extrapolation techniques my colleagues and I explored during an analysis course led by Professor Roger Reynolds in 2019. It has opened doors to a myriad of possibilities, serving as a reminder that technology, when approached with curiosity and creativity, can redefine artistry. The interaction between tradition and innovation, the familiar and the uncharted, will consistently be central to my creative pursuits as I navigate new directions in the expansive domain of contemporary music.

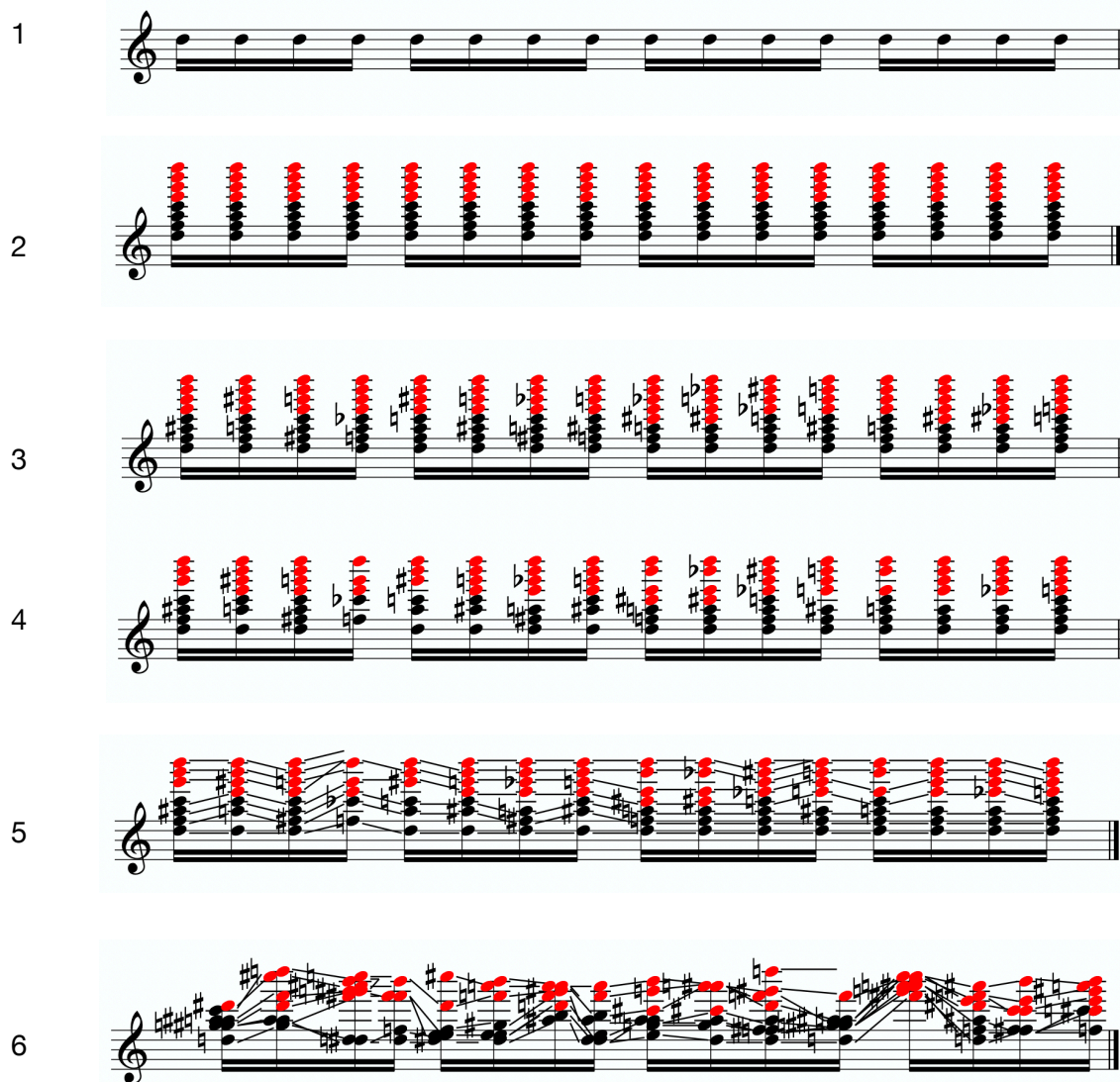


Figure 28: Step-by-Step Transformation Process

1. I begin by selecting a repeated note in the desired register.
2. I harmonize this note in thirds.
3. Manually select random notes and add accidentals, ensuring that when using the randomize tool later, all 12 notes of the octave are included, not just the diatonic ones to C major.
4. I also randomly remove notes from each chord to vary the number of notes per chord.
5. I introduce glissandos to all the notes in the passage.
6. Finally, I apply the note re-randomization tool twice.

5. What comes next?

If you've ever tuned into a symphony on YouTube, chances are you've come across—what I personally consider—a poorly done editing of the timing between the movements. On occasions, the person editing the final track may omit the pause between the movements of a symphony, causing the subsequent movement to begin immediately after the previous one. This avoids the silence—that should only be omitted when there's an *attacca* indication—which is so necessary and welcome. The end of this movement in my life has a pre-composed conditional *attacca* that I'm aware statistically occurs in the minority of cases. The most likely scenario is that this long-awaited and anticipated silence will come, giving me the opportunity to breathe, drink water, refresh my ears, cough, check the time, readjust in my chair, contemplate whether I want to continue experiencing the piece, or leave the concert hall. It's a moment to mentally prepare for the second movement (or, in my case, the second super-cycle), which traditionally is slower, longer, less impulsive, more deliberate, and sometimes more complex, introspective, and profound. This interval between movements, however, is known to be short and one must make the most of it because it can pass so quickly that there's no time even to cough, and then one might have to hold back and do it during the first cadence or a *fff* tutti.

I am going to move to where I always wanted to be, Germany. I have a history there and, in general, I have felt good during the periods I have spent there. Plus, I have a vast social and professional network that I'll use to start *the second movement*. This interim period between movements is likely when I'll lay the foundations for the “house” I didn't originate from but can now build with the budget (intellectual, professional, and economic) I have.

What would the *attacca* mean to me? It would mean continuing to develop myself within an institution like a university immediately or shortly after completing my doctorate. In other words, being hired by a university as a professor. While becoming a

professor is one of the possible options I have and undoubtedly interests me, I'm not mass-applying to any university with a vacant position. There are few alternatives in my mind that would make me give up or postpone the dream of living in Germany. The most relevant one would be obtaining a position in the United States at a top-tier university, which, given my current artistic and pedagogical experience, makes the likelihood of that very low.

In Germany, I initially applied exclusively for such positions; however, given the circumstances, I've broadened my job search to encompass nearly any music-related opportunity. In the most probable scenario during the sabbatical period, I will work towards establishing the foundations for the next super-cycle, encompassing personal, professional, intellectual, and aesthetic dimensions.

I seriously consider the possibility of creating the conditions to be a freelance composer for a medium or long period. In my case, these conditions involve my project of music education through YouTube, "Música Teórica Online", which I've been working on for 7 years. It's an activity that requires a significant time investment, and I would need to dedicate at least 3 full days a week to it, in addition to composing and working on whatever is necessary to finance my life. Most likely, I'll have to start by working in a secondary or high school teaching music in Germany. While it's not the job I prepared for over 16 years, it will allow me to establish myself there and continue searching for a university position.

Professionally, I was invited to be the artistic director of an ensemble called Contemporary Insights²¹, which originally was the name of a small non-profit organization in New York and later moved to Leipzig, Germany, where it was re-established as an ensemble with some renown in the city.

In artistic terms, I intend to ensure that the "quantum leap" I'm trying to make with the coda I composed becomes the work that opens doors for me to compose

²¹ <https://contemporaryinsights.org/>

larger and more significant pieces. I don't yet have a significant work for orchestra, multimedia, an opera, or *Musiktheater*. I was recently chosen to join the Sistema Nacional de Creadores de Arte²² in Mexico. This esteemed recognition came with a three-year grant, which will fund my endeavor to compose a large-scale piece that precedes the coda, aiming for a duration of 2.5 to 3 hours.

My firm belief in the transformative impact of my time in the United States and at UCSD became evident just two days after my graduation concert when I unexpectedly received an invitation for an interview. This interview was for the W3-professorship, which represents the highest academic rank for a professor in Germany, in Music Theory at the *Musikhochschule* Trossingen.

Surprisingly, this was the very first position I had applied for, primarily intending to use it as an opportunity to practice and draft my application. To my surprise, I was granted an interview, even though I had never anticipated it. Unfortunately, I was not selected for the position. Two members of the jury, one of whom was a UCSD alumnus, Joachim Goßmann, conveyed their admiration for my qualifications but noted a preference for a candidate with a “more conventional” profile.

Receiving this news was undeniably challenging, yet it underscored that I possess the academic background and tools necessary to aspire to such a prestigious role. It also afforded me the opportunity for introspection, allowing me to identify areas for improvement and reaffirm my commitment to certain principles that I believe hold validity and relevance.

Understanding the importance of compromise is a valuable lesson. It's about knowing when and how to make concessions, not just for the current moment but to set the stage for future achievements. As I wrap up this dissertation, I'm reflecting on the many choices I've made and the paths I've taken, each accompanied by its own share of compromises, some easier to accept than others.

²² https://en.wikipedia.org/wiki/Sistema_Nacional_de_Creadores_de_Arte

Through this experience, I've learned that compromises vary significantly in their nature and impact. Some are short-term necessities to navigate immediate challenges, while others have more profound and lasting effects, shaping the direction of my work and career. True growth, I've learned, lies in the ability to distinguish between these two types of compromises.

It's crucial for me to develop foresight that can assess the long-term consequences of my current decisions. Instead of viewing them solely as trade-offs for the present, I must consider them as potential investments or detours on my artistic journey. The aim is to identify which compromises today can lead to fewer compromises in the future, granting me greater artistic freedom and a clearer expression of my unique voice.

As I progress in my career, this discernment will be invaluable. Challenges and decisions will continue, but armed with a better understanding of compromise, I intend to navigate them in a way that brings me closer to my artistic vision, ensuring that every concession today serves a larger purpose for tomorrow.

Table 1: Coda map

