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Plastic Extension of Music

Lund University
Doctoral Studies and Research in Fine and Performing Arts, N° 36.

Plastic Extension of Music

Bertrand Chavarría Aldrete

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DOCTORAL DISSERTATION

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This doctoral thesis in artistic research explores new methods to perform score-based Western art music, based on a transgeneric interpretation by the performer of the score.

The project, Plastic Extension of Music, is a response to the need for extending the artistic significance of the performer of score-based music, based on a creative criticism of a tradition that imposes a perpetual and canonical model of performance on performers. This is a model that has been decaying with the development of digital reproduction and the continuous socio-economic challenges that are described in the thesis.

The exploration started by investigating the performer's plasticity in connection with the music score. This intervention in traditional performance, triggered a poietical phase to imagine new ways to perform music in space instead of time. It is through the employment and manufacture of materials from different disciplines that these new performances in the form of metaphorical containers emerge as installations, paintings, drawings, sculptures and video works.

The aim of the project was to explore how Plastic Extension of Music can be shared, to contribute to and extend the field of music performance by providing a new artistic identity to the performer, and to investigate how this practice can be employed across diverse communities in society.

The research trajectory of the project started from its concept and practice, resulting in the creation of six Plastic Extensions. This was followed by a workshop where the practice was turned into a shareable method for other musicians. Finally, it was applied as a concept for the design of two artistic research tools: a workshop for the visually impaired and blind, and an idea for a new musical toy.

This artistic research project is a first stepping stone towards a new practice. This is a practice issued from tradition that will allow the score-based music performer to rethink the potential that resides in the performative body of score-based music, and to consider it as a creative tool for new and heterogeneous music performances.

Key words: Plastic Extension of Music, Artistic Research, Muscle Memory, Plasticity, Blindness, Emancipation

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ABSTRACT

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PART 1

…we still conceive of paintings in terms of a space in which the element of time can receive special emphasis, for it has always been there; and music must be conceived of primarily in terms of time for the purpose of simultaneously receiving a sense of space which again was always there, for modern science has shown us that it is impossible to separate the two, and that to do so is simply a convention. Yet the fact that this is a convention can be explained by the limitations of certain media to express a particular view of things in which the unexpressed elements are symbolized. Such is the nature of all human forms of communication, and this is why the particular expressions of a definite medium are not interchangeable with that of another. Thus we cannot duplicate the statement of a painting in words. We can only hope to arouse with our words a train of similar associations, but these are subjective to the spectator and in no way duplicate the original statement. Therefore, such an attempt might be criticized as an extension of the plastic language beyond its proper domain to perform a function which is not within its power. This is a problem about which, fortunately, we need not draw conclusions here.

(Rothko 2004, p. 49)

Origin

Prototype of *Ballade* (2016), a Plastic Extension for the visually impaired and the blind
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Introduction

> In writing a method, I would be understood to speak of that only which my reflections and experience have made me establish to regulate my own play. If certain precepts are in contradiction to the practice heretofore adopted by guitarists who, through blind submission and a religious respect for their masters, have followed their maxims without examining the foundation of them, it would be wrong to suppose in me a spirit of opposition.
>
> (Sor 1832, p. 5)

About ten years ago, I decided to widen my path as a classical guitarist and to explore alternative ways of performing music. This decision arose from a personal existential question: What is the artistic significance of the living performer of score-based music in a world where this role is gradually disappearing in a tradition that just seems to repeat itself, in the digital distribution of music, and in an oppressive socio-economic situation for musical culture?

The decision came from the need to search for an artistic significance and widen the practice of the performer by exploring new grounds and rethinking the performance of score-based music, possibly breaking up with traditional practices and the canonical interpretation of music. From this search, a new practice gradually emerged, which I decided to call Plastic Extension of Music.

Plastic Extension of Music is an artistic research project focused on score-based music performance in Western classical and contemporary music and the particularity of the performer, who is the communication device between the score and the listener. As an heir to this tradition and its canonical performance practice—the instrumental performance of music scores—I decided to go astray, err and explore alternative methods for my music performances. This errancy started by drawing on the etymological roots of the word *perform*:

per- “forward, toward,” *per* “through, by means of,” *form* “semblance, image, likeness, shape”. (O.E.D. n.d.)

These etymological roots made me understand that besides the common use of the word *performance* in the musical field, which is the act of playing a musical piece, *perform* could also mean *towards* an *image*.

This polysemic sense of the word opened my perspective to integrate, as part of this new meaning of *performance*, another polysemic word directly associated with the *through form* of performance, which is *plasticity* (“everything relating to the emergence of form in general” (Malabou 2005, p. 31)). Finally, and in order to imagine this form, I added as a previous stage, the *poiesis* (“the process of emergence of something that did not previously exist” (Polkinghorne 2004, p. 115)).

So, I organised myself to find a new way to perform music by *thinking something that did not previously existed* (poiesis) in the *emergence of a form* (plasticity) during my traditional instrumental *praxis* (“practice, exercise, action”, mid-13c., opposite of theory (O.E.D. n.d.)).

This open perspective led me to explore the plasticity of the performer, the score, the performing body, and the sounding music. I wanted to extract parameters that would take place in space instead of time as a foundation for a different performance of the music score. This new kind of performance would take form through the employment and transformation of the plasticity into materials issued from different art disciplines that would allow me to *imprint* (“mark by pressure, stamp, impress on the mind or memory, to stamp, engrave, compress” O.E.D. n.d.), *shape* (“Old English scapan, past participle of scieppan “to form, create, make out of existing materials; bring into existence; destine”. O.E.D. n.d.) or *concretise* (“to render (the abstract) concrete,” O.E.D. n.d.) the plasticity of the parameters extracted from the performance of the music score.

This approach therefore *extends* (“stretch out, extend, increase, lengthen or extend in time, cover an area, have a certain extent in space” O.E.D. n.d.) the role of the performer, to become a “creative critic” of the score.

> Creative criticism is therefore not a genre but a transgeneric practice that is not even specific to a particular medium. Representing less a domain that is clearly delimitable, than a certain tendency in the relationship to the works, significant in productions of very diverse natures.
>
> (Landerouin 2016, p. 139, Trans BCA)

This creative criticism inside the canonical score-based music performance triggers a new mental process in the performer, to detect and imagine how the parameters can take form outside the score and its traditional instrumental performance. This is a process that I denominate the “poietical intervention”, one that imagines the emergence of the form and the imprint of the plasticity issued from the parameters.

This poietical intervention establishes a "transductive" condition for the performer with "a margin of indetermination between both domains" (Simondon 2024, p. 212), the instrumental and the plastic, for the performer to explore and analyse the plasticity between both domains, towards their transformation/transposition/extension into the different materials, and their emergence in space.

The *manipulation* ("to handle skilfully by hand," O.E.D. n.d.) of different materials issued from different disciplines outside music, allows the performer to employ innovative and multidisciplinary/transgeneric artistic research methods to extend the parameters and their plasticity, creating thus "metaphorical containers" (Lakoff & Johnson, 1980, p. 29) of the music performance emerging as installations, paintings, drawings, sculptures or video works.

I have called this new practice Plastic Extension of Music and formulated the following **research questions**:

.

- How can the performer find new ways to perform score-based Western art music today?

- How can the concept of Plastic Extension of Music provide the necessary tools for this process?

- How can this artistic research be applied in society?

Considering these research questions, this artistic research project **aims** to:

- Contribute to and extend the field of music performance

- Find alternative methods to rebirth music performance, providing a new artistic identity to the performer.

- Create emancipative artistic research tools for society, issued from the concept of Plastic Extension of Music.

While my artistic practice is at the core of this research endeavour, this text should not be regarded as something that merely comments and reflects upon the artistic work. It is in itself a multilayered composition that weaves together artistic explorations, personal experiences, reflections, manifestations, and conclusions—all based in, around, and through the concept and practice of Plastic Extension of Music.

The multilayered text employs three different text tools that I apply in order to link multiple times and spaces to the main text and to the journey of investigation, thereby establishing a kind of anachronic/catachronic lecture (*Ana*-: upward, up in place or time, back, backward, against, again, anew, *Cata*-: is through, on, against. (O.E.D. n.d.)). The three text tools are:

> (i) the etymology of certain keywords that function as meaning-landscapes to explore and deactivate their inherited common use, attributing a polysemic sense to the word. This tool creates a resonance soundboard for the main text to rebound, and at the same time functions as a parallel method to the practice of Plastic Extension of Music,
>
> (ii) quotes, that in most cases are presented as *objets trouvés*, a second-hand knowledge that gives a counterpoint to the main text instead of a justification or support of it, and
>
> (iii) the parataxis journal in the form of a personal diary, which consists of tales, whispers, memories, and anecdotes that relate to the main text as open thoughts for the reader.

This paratactic format allows me to provide what I consider the necessary insight for the reader to connect with open thoughts and reflections issued from the main text but reside on a different timeline. The overarching purpose of these tools is to open up for new thoughts and anachronic/catachronic relations for the reader between the layers of the text, the artworks, and the concept of Plastic Extension.

Thesis structure and artistic methodology: origin, extension, and emancipation

- Origin

In the first part of the thesis, I give a personal background and retrace important events that led me to search for alternative ways to perform and communicate with music. I then proceed to present a series of key artistic works and practices that have been influential to my research along with current artistic research projects of music performance. This section is followed by the first seeds of the concept of the current research and the exposition of what I consider my first Plastic Extension of Music.

- Plastic Extension of Music

After explaining the theoretical concept of Plastic Extension, I establish a point of departure based on these two **premises**:

  - Plastic Extension of Music is a creative criticism of the music score, meaning that all its artistic outputs are extensions of the performer's plasticity created in relation with the music score, therefore always linked and attached to the source, the music score.

  - The attachment to the music score and its performance allows Plastic Extension of Music to become a poietical intervention in the form of a transductive process between the instrumental performance and the plastic extension. This allows both potentialities to be actualised with the possibility to relate and communicate, which is, therefore, paratactic to both.

I then explore the concept of Plastic Extension of Music through the creation of six artistic outputs to test, analyse and categorise them and to develop a series of tools and to establish a method for this new practice. These tools and methods were then proposed in a workshop for the participants to use and create their own Plastic Extensions of Music. Finally, I arrive at the conclusions by relating back to the research questions.

- Plastic Emancipation of Music

After concluding the Plastic Extension of Music part, I expose how to apply the concept in society and emancipate it from my personal practice outside the domain of score-based music performance, with two artistic research tools issued from the concept of Plastic Extension of Music.

This final part starts with two personal essays about technology and muscle memory from the perspective of Plastic Extension of Music. These are problematic areas where I consider it possible to create and predetermine a series of general issues in the current socio-economic situation with consequences that directly affect score-based music performers of today.

I then expose the two artistic research tools: The Kléndinsky Test, a deep interview and creative workshop for the visually impaired and the blind, and NABÔKÔ, an audio-tactile-visual language issued from my muscle memory, that is applied to a building toy and an idea for a new recording format. Considering that both outputs are still in an experimental phase, I summarise the expected outcomes and then proceed towards a general conclusion.

I conclude the thesis with a series of reflections about the emancipative qualities of Plastic Extension in music and its latent potential in society. I also expose my personal conception of what I consider to be my artistic research contribution. The exploration in this project has allowed me to deconstruct and understand the basic concepts of Plastic Extension of Music, to detach them from me and my practice, and to seek for their appliance in society.

Plastic Extension of Music, as a concept and a practice, has multiple potential outcomes: as alternative interpretations and performances of music scores, as new individual artworks, and as a critical tool to analyse canonical music performance. Thus, Plastic Extension of Music is a practice that, in this artistic research project, has the role of being both the object of the research and the research methodology, unfolding into an alternative practice for music performers and the cornerstone of two inclusive artistic research tools.

Chapter 1 - Personal Background

1.1 Mimicking

Most of my colleagues don't remember how they started learning music; for the vast majority of professional musicians, music comes as a language acquired at such a young age that it becomes a natural part of the body and mind.

I was born into a musician family with a long legacy of musical tradition. Since the pregnancy of my mother, the first days after my birth, and so on, I would hear one hour and 15 minutes of classical guitar repertoire daily, performed by my father. After several attempts to start music education (piano, guitar, and solfeggio) in my first years, I consecrated my childhood towards karate, fine arts, and books.

After the unexpected death of my uncle—a child prodigy and guitar virtuoso student of Andrés Segovia—in September 1990, my father started to learn the famous *Chaconne* for unaccompanied violin by Johann Sebastian Bach, transcribed for the guitar by Andrés Segovia. Music historians have speculated that Bach composed this piece after the death of his first wife.

> THE PARATAXIS JOURNAL : When I heard the first chords of the *Chaconne* I understood the deep sadness my father was projecting after losing his older brother that he so much admired. It was at this very moment that I understood the unique power of communication music has.

For a couple of years, curiously those before his death, my uncle was obsessed with this piece. He used to record himself working on passages and entire versions of the *Chaconne*; during those years he used to send those cassette recordings to my father.

> THE PARATAXIS JOURNAL : I have 2-3 hours of these cassettes, he would say to my father that his sound was not good, but the scales were easier to perform.
>
> I also have a recording of my uncle when he was 14 years old. This home recording was made during some holidays at the house of a friend of my grandfather. Apparently this person had a guitar and a recording device (I have also the original tape) and asked my uncle to play. He performs *Sonata 3* by Manuel M. Ponce, *Sonata Ommagio a Bocherinni* by Mario Castelnuovo-Tedesco, *Fandanguillo* by Joaquín Turina, *Etude I* by Heitor Villa-Lobos (the fastest version I know today) and *Fandanguillo*, *Arada* and *Preludio* by Federico Moreno Torrro-

> ba. This recording was the pride of our family (and the only decent recording we have of him playing classical guitar) but was also a very heavy burden for me: at 14 I was not even able to read music correctly…

Back in his mid-twenties, my uncle had to choose between following the tradition of the classical guitar or changing to a more commercial and, at that time, economically steady flamenco guitar career; the choice, if we can call it a choice, was obvious; he was in love with a Spanish flamenco dancer who became pregnant shortly after the beginning of their relationship. During his adaptation to flamenco guitar, working on several *tablaos* (places or bars for flamenco shows) in Mexico and finally in Acapulco, he suffered immensely by "losing" the classical guitar sound and tone. He would often complain about it and it became a huge dilemma for him, to be pouring out little by little, during those years as a professional flamenco guitarist, the classical guitar tradition out of his body.

We can only guess that his redemption with the classical guitar was to be able to perform the *Chaconne* with the classical guitar sound, but his unexpected death interrupted that redemption, a death and interrupted task of my father's brother, that deeply sorrowed the whole family. It was under these conditions that my father decided to learn this iconic piece and continue that task.

> THE PARATAXIS JOURNAL : In the Mexican inner circle of guitar, they used to call the *Chaconne* (*Chacona* in Spanish) as *La chingona* (the bad ass - in feminine). At that time Segovia stated that it took him 10 years of practise to perform the *Chaconne* in public.
>
> I saw a guitar concert with the shortest version of the *Chaconne*, the guitarist started involuntarily by the re-exposition…

As mentioned before, at that time I was not at all interested in music, nor guitar, but when hearing the first chords of the *Chaconne* on the guitar, I felt something. Although my interest in performing music was none, I did have a 1/2-size guitar that my father bought me years before, and I did know at least how to tune it; so, completely fascinated by this music, I started to watch and hear my father practice the *Chaconne* and visually memorise the hand positions and rhythm of the piece on the guitar. Too shy to show him that I too was learning the piece, I would practice the piece when he was not at home. This situation probably lasted for a month until one day he heard me playing. I was, without any musical knowledge, performing the first page of the *Chaconne* by memory. This was a very happy moment for both of us—specially for him—and the beginning of my music career.

THE PARATAXIS JOURNAL : Since that first day when I started the guitar I have not been able to play the *Chaconne* again; years ago, because I didn't want to perform it, accomplish his task and provoke my father's death. After his death (2016), I don't do it because I feel I can lose the people that I love. I guess I will never play that piece.

Gregorio Rangel ("Goyo"), my guitar teacher, had a very sad and macabre story with *Torre Bermeja* by Isaac Albeniz. When he started learning the piece, his mother told him that the piece was beautiful, a week after she suddenly died. After that horrible episode he stopped playing it. Several years after he started working on it again and his aunt told him how beautiful the piece was, she also suddenly died a few days after. My father and Edgar Cortés (my first guitar teacher) told me Goyo played that piece beautifully. Goyo had a certain magic, his vibrato was very close to the Segovia vibrato. His version of *Serenata Española* by Joaquín Malats was also amazing.

The first time I heard Segovia's version of *Fandango* (from Tres piezas españolas) by Joaquín Rodrigo I had a unique reaction at the measures 47-48 (Mi, La, Do, Mi) Segovia's vibrato provoked a real electric shock in my body that made me stand up from where I was sitting…my father brought that recording home with the purpose to make me hear that unique version. Since then, I never felt that again in my body…

- mimic (n.)

“one who or that which imitates, a mime,” 1580s, from Latin *mimicus*, from Greek *mimikos* “of or pertaining to mimes,” from *mimos* “mime”.

- mime (n.)

c. 1600, “a buffoon who practices gesticulations” [Johnson], from French *mime* “mimic actor” (16c.) and directly from Latin *mimus*, from Greek *mimos* “imitator, mimic, actor, mime, buffoon,” a word of unknown origin. In reference to a performance, 1932 as “a pantomime,” earlier (1640s) in a classical context: The ancient mimes of the Italian Greeks and Romans were dramatic performances, generally vulgar, with spoken lines, consisting of farcical mimicry of real events and persons.

- mimicry (n.)

“an act of imitation in speech, manner, or appearance,” 1680s; *mimic* (adj.) + *-ry*. The zoological sense of “the external simulation of something else in form, color, etc.” is from 1861.

(O.E.D. n.d.)

I became aware that through the mimicking of the *Chaconne*, I could adapt and commune not only with my father but also with my recently deceased uncle, I could fill that empty hole he left, continue his interrupted redemption, and follow the family tradition. All those elements are present each time I hear the *Chaconne*. All those memories haunted me for decades when picking up the guitar, being the last sprout of a lost legacy each time I plucked a string. A flashback to times I never lived in would emerge as I was performing the repertoire of my uncle or father. The fingers and the body would feel the weight of history at each gesture, reviving personal and historical myths at each note; unconsciously, it would be the reason why I immediately started to compose and the very reason why I write this text today. My relationship with the guitar has completely changed; the repertoire of my family is now assimilated and, after decades, finally belongs to me. I do live better with my ghosts and my family, but still, until today, I have not been able to learn more than that first page of the *Chaconne*.

THE PARATAXIS JOURNAL : Tablature is a time travel device: we are capable of seeing the hands and movements, the hand choreography of the vihuela composers. We inhabit the same perspective as the composers when they were searching for their notes. For many years I was obsessed with Alonso de Mudarra, it is a beautiful sensation when you play his music, you can see his hands performing the music he composed…

A score does not have the same “time traveling” power as tablature, the note is already a code than can be transposed on any musical instrument. While the tablature has a quality similar to parataxis.

- parataxis (n.): the placing of clauses or phrases one after another without coordinating or subordinating connectives.

- parataxic (adj.): relating to or being thinking in which a cause and effect relationship is attributed to events occurring at about the same time but having no logical relationship.

(Merriam-Webster, n.d.)

Mimicking has been a talent that I have been using since then, and I became conscious about it lately. This talent helped me to adapt each time I changed my way of life and migrated to a different country. By learning the language, customs, expressions, and style of life of each country, adapting and camouflaging has been a tool for my survival as a human being, an instinctive tool that is present in other living organisms.

> Mimicry, the similarity in appearance of one species of animal to another that affords one or both protection. In Batesian mimicry, one of two species is poisonous, distasteful, or otherwise protected from predators, and often conspicuously marked. The mimic is innocuous, gaining protection from predators by its similarity to the model.
>
> (King, Stansfield & Mulligan, 2006, p. 278)

I understood that through the mimicking of the family heritage, I was able to grow faster as a musician (I've always felt I was late). But the mimicking also carried, as mentioned before, a lot of information in the form of traditions and memories that I was not fully conscious about.

- emancipate (v.)

1620s, “set free from control,” from Latin *emancipatus*, past participle of *emancipare* “put (a son) out of paternal authority, declare (someone) free, give up one’s authority over,” in Roman law, the freeing of a son or wife from the legal authority (*patria potestas*) of the *pater familias*, to make his or her own way in the world; from assimilated form of *ex*- “out, away” + *mancipare* “deliver, transfer or sell,” from *mancipum* “ownership,” from *manus* “hand” (from PIE root **man*- “hand”) + *capere* “to take,” from PIE root **kap*- “to grasp.”

(O.E.D. n.d.)

1.2 Emancipation attempts

As a late bloomer inside a family with a long legacy of musical tradition, my first unconscious emancipation attempts were music composition as an autodidact and performing contemporary music, including my own. Looking back at those first attempts, I clearly see how uncomfortable I was and in need of searching for activities in music that would have less tradition in my family and that would allow me to create my own path. These two attempts at emancipation immediately became my main source of activity during my first years as a musician. Not only did they help me understand tradition and all its vehicles by avoiding it and observing it from a different perspective, but they also opened my first professional opportunities and my future arrival to Europe.

Guitar virtuoso and today world-renowned professor Judicaël Perroy brought me to Paris from Mexico and arranged everything for me to start my career. My objective was to start following music composition classes and get into the Paris Conservatory (CNSMDP), but upon arrival I was afraid of not passing the entry exam, since my knowledge in music theory and strict counterpoint was next to nothing, so I decided to continue the composition on my own and started learning musical analysis. My level in guitar was not bad, so a few months later I started having some concerts, recordings, and some teaching. The following year, I was admitted to the Royal Conservatory of the Hague in the class of the one and only Zoran Dukic.

> THE PARATAXIS JOURNAL : While playing in class the second movement of *Sonata 3* by Ponce with Zoran Dukic at The Hague, he yelled "dolce!", I stopped and asked him, "how dolce?" He hesitated and said "dolce es dolce!" (my classes and all communication was in Spanish with him) I replayed the passage and he said, "dolce…" I tried again and he said, "no", he took my guitar, but had scotch tape in his nails to study and protect them, he played the passage but the sound was terrible, I chuckled, he got a bit angry, took the tape out and performed the passage…I then understood what "dolce" IS. I'm certain that I will never be able to perform "his dolce," no one will, but I did understood the delicacy, the "sweetness" and gesture of that unique word.

At this moment I began to leave the music composition behind and started my career as a guitarist, mainly performing contemporary music but always performing classical music too; a good example is my first album.

1.3 Bypass

In 2007, my first official guitar album, *Bypass 2.1: sonorités avec guitare*, was released. The recording was produced by the late recording company 3D Classics. I was released by this well-established recording label in Paris with an important catalogue of performers, thanks to Patrick Gallois, who had already recorded there and put me in contact with its director, Jean-Claude Benezech.

As any musician who has released a recording in a renowned record company—that also included a beautiful booklet and design made by French photographer Julien Bourgeois—I was secretly expecting an impact of this release: amazing reviews, great critics, prizes, a recording contract, more concerts… I had a couple of good critiques, and some concerts came out thanks to this recording, but nothing else. Already in 2007, specialised music journals, radio stations and every other means of diffusion were already in an economic crisis (2008 was just around the corner), overloaded with work and receiving hundreds of new releases like mine each week. This experience was quite frustrating since my mindset was still in a 20th-century model, in which a first recording could boost a career. Instead, I had around 800 copies of my CD, not enough concerts to sell them directly (and people were buying less and less CDs), no echo in media, and the financial crisis that obliterated almost all the cultural and artistic structures I was relying on had begun.

This experience allowed me to see where music performers like myself were on the music scene in 2007, along with a few valuable lessons. Already at that time we were too many musicians doing the same thing in the same format, and the recording companies had less and less direct influence on the media. Contemporary music CDs became just another visiting card that we gave away for free at meetings, and soon the expensive and bulky CDs were replaced by social media content and streaming, as platforms for releasing music, with little or no profit for the musicians.

Although this experience was frustrating and revealing, it did not stop me from releasing two more solo albums and several other recordings in the following years… all in CD format and all with the same ephemeral impact. The last lesson I learnt lately on releasing an album was to always consider an important amount of the general budget exclusively for advertising.

Two years before this recording, I co-founded SMASH ensemble, a contemporary music group and a yearly festival specialised in contemporary music. I directed this structure for 11 years.

1.4 SMASH

SMASH was a non-profit entity established in Salamanca (2005–2012) and San Sebastián-Donostia (2013–16). SMASH was my third emancipation attempt, in which I had one single mission: to promote society's interest in culture through the creation and dissemination of music, along with several ideals:

> - Reconstruct and solidify sociocultural foundations through music, philosophy and art.
> - Transmit to society the knowledge and vision of contemporary artists, heirs of tradition.
> - Offer an alternative way of living with art through its understanding.
> - Promote artists' creativity in our society.
>
> (X Festival Internacional SMASH de Música contemporánea 2015 - Musika Garaikideko X. SMASH Jaialdia 2015, handprogram, 2015, Trans. BCA)

These ideals were set out with a huge amount of activities, a contemporary music ensemble (SMASH ensemble), a yearly festival (*Festival Internacional SMASH de Música contemporánea*) and educational activities, including an academy, masterclasses, conferences, workshops, and therapeutic concerts.

At this time, I was mainly aiming to create a connection between the audience and the cultural contents in contemporary creation, but still not questioning those contents or their form, nor precisely the platforms in which they were displayed. My ambition was to create the ideal learning environment at each event by providing everyone with philosophical and artistic references. In that way, the music I was programming and performing could be appreciated by the audience and, at the same time, attract the official institutions to support us. From 2006 until 2016, all our activities were funded by the Spanish government and private institutions.

> THE PARATAXIS JOURNAL : I have always been very sceptic about thematic concerts or recitals; but now I guess is not such a bad idea. After all, a concert is a performance and we probably need as many tools as possible to connect with the public. References are always good.
>
> During the years of SMASH I did all concerts with a thematic or title; it helped the public to grasp at least a little information inside all that music.

During these years I understood that not only was the audience to blame for the lack of connection between art and society, but I also started to spot, understand and deal with current problems inside music. I realised that the technique in classical music, the muscle memory we develop, and the performance formats, were subordinating the performance of classical and contemporary/experimental score-based music. Music recordings became even more banal and at the same time, we saw how the contents we were creating for social media and other sharing music platforms became ephemeral, forgotten and disposed immediately.

There was also an increasing lack of interest in classical music and contemporary art in the new generations, and contemporary music was often too difficult for the general public to appreciate. Some sectors and performers of contemporary music—often including myself—became even more radical on the choice of the experimental repertoire and the way to perform the music score. These choices would create a new marginalisation in contemporary music performance and even more fragmentation of the public that was left.

If I was to survive in the economic decay and lack of interest in classical and contemporary/experimental score-based music, I had to devise parallel activities that could frame each concert, generate an interest and keep the public informed and comfortable.

I tried to solve these problems with different activities that gradually led me to develop the practice of Plastic Extension. These activities would include an important number of conferences by philosophers, poets, writers and filmmakers; these conferences were always focused on music and on the views of artists/thinkers outside the field of music.

In 2007 we started to create several performances at special needs centres, where we performed classical music and short contemporary music works. These activities helped me understand the importance of the knowledge that people with special needs create with their singular, unique perception of music (and art) and observe how the input is filtered and interpreted through their physical and/or psychological approaches.

This experience led to creating and imagining a series of pedagogical concerts, one of the things I'm most proud of as an artistic director. In these concerts I would explain contemporary music to children. We also had young children, students from the conservatory of Salamanca, performing contemporary music works. In order to explain the music of Helmut Lachenmann to children in one of these concerts in 2008, I transposed the hand trajectories in the piano piece *Güero* (1969) by him into two human bodies moving in a horizontal line in front of the public.

THE PARATAXIS JOURNAL : I wonder if the choreography of Xavier Leroy for *Salut für Caudwell* (2005) by Helmut Lachenmann was inspired by the safety regulations choreography on airplanes.

> Lachenmann loved to send SMS, we wrote each other several times around 2007 when I organised the SMASH festival with his music and the music of his former student José Luis Torá.
>
> In *Salut für Caudwell*, there is a tango at the end…I always asked myself if that tango was for Maurizio Kagel; since the duo that premiered the *Salut* (Ross-Bruck) used to perform together with Kagel on *Tactil* , a chamber piece where there are two guitarists and Kagel…
>
> There is a part in *Salut* where you can clearly hear a koto…was that part for his wife Yukiko (Sugawara) ?
>
> The last time I saw Lachenmann was in Porto in 2016 at Casa da Musica on the bar in the last floor; he still remembered me: "ah Salamanca, right ?" I said, "yes Maestro, Salamanca".
>
> I only played once (2007) *Salut* with Vincent Airault, it was a challenge and I think we did quite well. But this piece needs to be performed many times to make a good version.

Another activity that was important to develop Plastic Extension was the workshop for children I created in 2009 with the music of Salvatore Sciarrino, *Dibújame una obra* (Draw me a score), a reference to *The Little Prince* (1943) by Antoine de Saint-Exupéry (1900-1944). At that time, we were very often performing the quartet *Esplorazione del bianco II* (1986) for flute, clarinet, guitar and violin, so I decided to create an activity for children to introduce them to the unique sounds of Sciarrino. I "translated" the music material and gestures inside *Esplorazione del bianco II* into figures (mouse, lion, bird, hammer, train, arrows) and onomatopoeia ("zzzz" "rrrr" "bang"), so the children could have the opportunity to compose music without any musical knowledge. Each child or parent-child had their own score and "sounds=images" guide to create their own musical piece with the images/sounds of Sciarrino. At the end of the workshop, we would perform their scores and finish the workshop with a performance of *Esplorazione del bianco II*.

In 2013 I started my adventure in San Sebastián-Donostia with the 8th edition of the festival. I knew that it was important to imagine something new and innovative, so I decided to create a new workshop, *Construyendo e Interpretando* (Building and Interpreting), for public schools aimed at children without music instruction between 10 and 12 years old. The main purpose of this workshop was the interpretation/reaction of graphic scores written/composed/drawn in the years 1950–70 by composers like John Cage, Roman Haubestock-Ramati or Earle Brown, among many others.

In order to stimulate a direct approach to these kinds of scores and avoid their performance with conventional instruments, children had to imagine and also build their own instruments and create new gestures to "perform" their own ideas about their specific graphic scores.

The main objectives were to trigger and create new audiovisual experiences for children; observe the reaction and relation of the visual object in an unknown language (graphic scores) into non-descriptive sound interpretation, document the process of creation and interpretation of the works, awaken children's creativity in non-technological objects, and stimulate creative/artistic freedom without established cultural parameters such as music scores and instruments.

Working with children and explaining to them the complexities of contemporary/experimental music led me to create metaphors of the contemporary music material and extract performance parameters to explain them differently, conveying the complexities in a non-specialised language. But most importantly, I was able to learn from their perspective how they approached and understood what I was doing as a performer.

I was able to study, practise and explain music in its different representations, like theatre, graphic scores or drawing, that unveiled to me the possibilities of un-staging music, a concept I would be developing in the practice of Plastic Extension.

THE PARATAXIS JOURNAL : When Brian Ferneyhough brought us his musical ideas, we might expect that his music was a superposition of musical events happening at the same time "as if performing several pieces at the same time, but unconscious" (*Kurze Schatten II*). The way to understand and perform his music is really no different than Bach; as interpreters we need to understand in which "position" of the space is each note placed, spatialise the notes not only in the time they are written, but also in an imaginary space, where the music is happening.

1.5 Pulsações dilatadas - Proto-plastic extensions

In 2015 I decided to study at the Faculty of Fine Arts at the University of Porto (Portugal) to try new ideas and methods in music.

As mentioned, my impression was that musical performance as an artistic phenomenon suffered from a constant deterioration since the 19th century by relying on the act of only playing an instrument. “It is hard to find a composer or musician today who does not subscribe to the notion that performance is an integral part of the process by which music is formed.” (Hodkinson, 2017, para. 1)

Also, technology became even more important, allowing 90% of the world population (Howarth, 2024) to carry the complete history in our pockets and at the tip of our fingers, not only of music but of our whole existence. This phenomenon had opened a new and what Jean Baudrillard (1929–2007) would call “obscene” interaction with music performance that “was devoured on one stroke” in social media and distribution platforms: “In obscenity, the bodies, the sexual organs, the sexual act, are not only brutally ‘staged’ but immediately given to be seen, to be devoured, all being absorbed and reabsorbed on one stroke.” (Baudrillard, 2010, p. 33, Trans BCA)

I did not feel alone, since this deterioration had been acknowledged already in 1926:

> If every possible audience has records of everything he ever wants to hear, or has it broadcast, there is no possible audience for the performer. There will, of course, be no concerts. Why should people buy dear tickets, turn out and sit in uncomfortable seats, with train journeys, and general waste of time, if they can get what they want at home? As there need be only one or two instrumentalists of each kind, and one orchestra to make records, there will be no proper competition and playing will degenerate.
>
> (Scholes 1926, p. 25)

And later in 1966:

> The only thing performers have left to do, in this day of super recording techniques and super recording artists and super recording engineers, I think that all the basic statements have been made for posterity, now, I think what we must do is try to find a way around these things, try to find a “raison d’être” that is still somehow different and still somehow right, that it makes sense.
>
> (Gould, 2017)

As a performer and artistic director, I understood that music performance by itself had more than enough information, a quintessence, to imagine a new music interpretation, an extension of the score and its performance outside the historical canon of musical interpretation, that would be "different and still somehow right, that it makes sense" (Gould, 2017)

Score-based music has the particularity of the performer's intervention. I felt the need to give artistic significance and widen the practice of the music performer, creating a new ground for music performance to be able to break up with the traditional and canonical interpretation of music. Following the advice of Antonin Artaud and Bertolt Brecht, to destroy an object in order to re-establish it, I decided to recreate the intervention of the performer by starting to unfold the word at its etymological roots, *per-* (towards) + *form* (image, form).

So, I decided to provide a physical form to the music I was performing in the form of installations. The first ideas for this new practice came from sign language, dance (the most natural and probably the first plasticity given to music), autobiography, pain, translating music into images, melophrasis (verbal description of a sound), silent cinema, sound sculpture, *Gesamtkunstwerk*, graphic scores, ekphrasis (verbal transcription of objects), and the iconographic tradition created from texts; these first ideas established a starting point to create and develop a new ground for music performance.

The imaginary that emerged from the contact with the music, the ideas of the composer, the hand gestures, the inspirational sources of the piece, and the score became my exegetical elements that could take form in space.

I started to investigate how these elements could be filtered, adapted with or collided against, interpreted by my personal experience, geographical situation, budget, space availability, time, interest, and physicality, in order to create something new by using previous systems of translation-interpretation.

- performance (n.)

“accomplishment, completion” (of something), from *perform* + *-ance*. Meaning “that which is accomplished, a thing performed” is from 1590s; that of “action of performing a play, etc.” is from 1610s; that of “a public entertainment” is from 1709.

- perform (v.)

performen, “carry into effect, fulfill, discharge, carry out what is demanded or required,” via Anglo-French *performer*, *performir*, altered (by influence of Old French *forme* “form”) from Old French *parfornir* “to do, carry out, finish, accomplish,” from *par*- “completely” + *fornir* “to provide”. Church Latin had a compound *performo* “to form thoroughly, to form.”

Theatrical/musical senses of “act or represent on or as on a stage; sing or render on a musical instrument” are from c. 1600. The verb was used with wider senses in Middle English than now, including “to make, construct; produce, bring about;” also “come true” (of dreams), and to *performen muche time* was “to live long.”

(O.E.D. n.d.)

1.5.1 POIESIS/PRAXIS

I took the act of crafting an interpretation of music as a first phase, a raw element, a poiesis, an idea, a performative ephemeral idea—"Auditory sensations are ephemeral, they are born and die, as quickly in being born as in dying." (da Vinci 1997, p. 117, Trans BCA)—that has a short life term but is an act that contains all the exegetical elements. The second phase was to transpose these elements into space, a plastic gesture filtered by the singularity and experience of the artist, to create a new praxis of the raw idea into a spatial element that was crafted with the same hands of the performer, an "extended interpretation" of music.

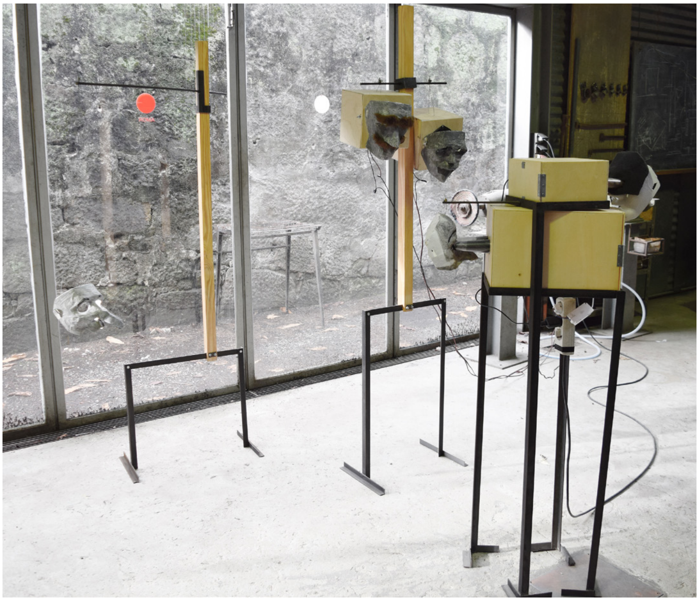
I created a proto-language of my own in which I understand/interpret music; an osmosis of sound and objects working together to develop a new "praxis" inside the uniformly and perfectionist field of music.

This concretisation of music created a "gameplay" in both cerebral hemispheres (sound and image working in space), since these "sound structures" were not a "tool" or a defined translation, but a very personal interpretation that involved the "cluster" of information and experience in which all ideas became objects. During this time, I created two installations.

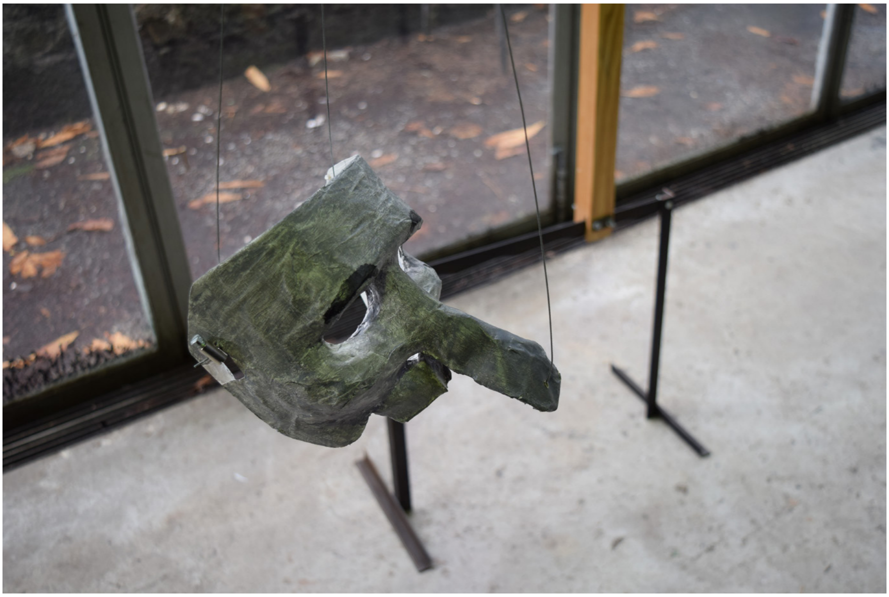
1.5.2 *…pas digun ne vedèva sa cara (uma vontade de foder)*

This proto-plastic extension is a sound installation/*tableau vivant* of *Breviario de espejismos* (2005) by Elena Mendoza (b. 1973), a solo guitar piece inspired by the *Capricho* "Nadie se conoce" by Francisco de Goya (1746-1828). This extension was conceived as a collaborative *Tableau vivant* of the *Capricho* by Goya, the etching is recreated by the interaction of the audience with the installation.

The installation consists of five masks, in which three are open to interact and two are "murmuring" my recorded performance of *Breviario de espejismos*. The interactive masks recreate the different perspectives that Goya explains in his text for the *Capricho*. The "woman" sees the seduction of the "general" (a video inside a box), the "general" sees the woman (photo collage), and the "husband" sees both the "general" and the "woman" courting.



…pas digun ne vedèva sa cara (uma vontade de foder) (2016) [At the workshop]
© Bertrand Chavarría-Aldrete



…pas digun ne vedèva sa cara (uma vontade de foder) (2016) [Detail]
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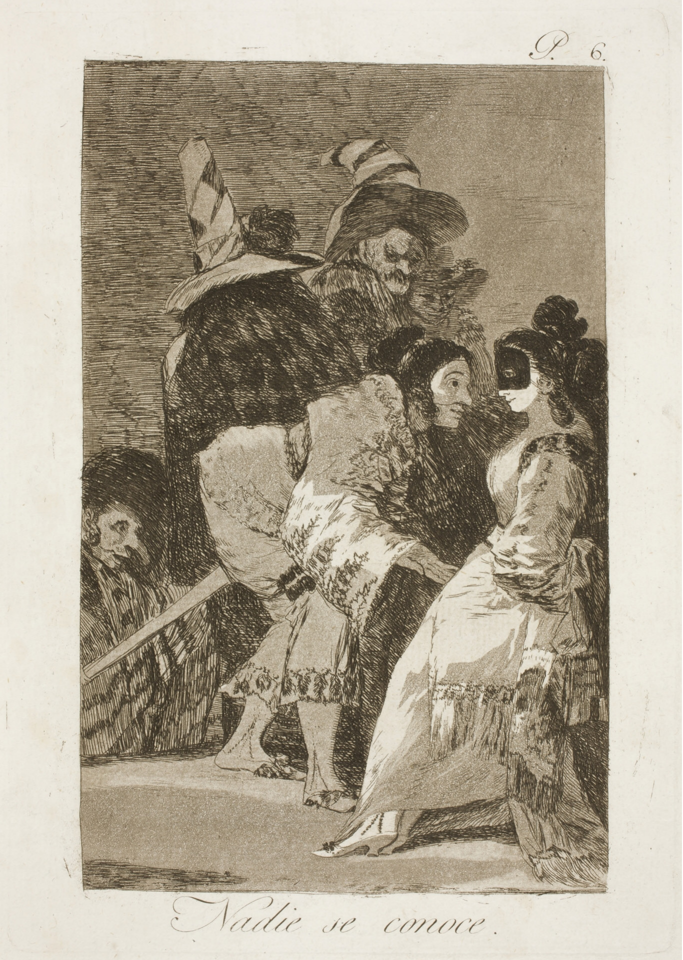
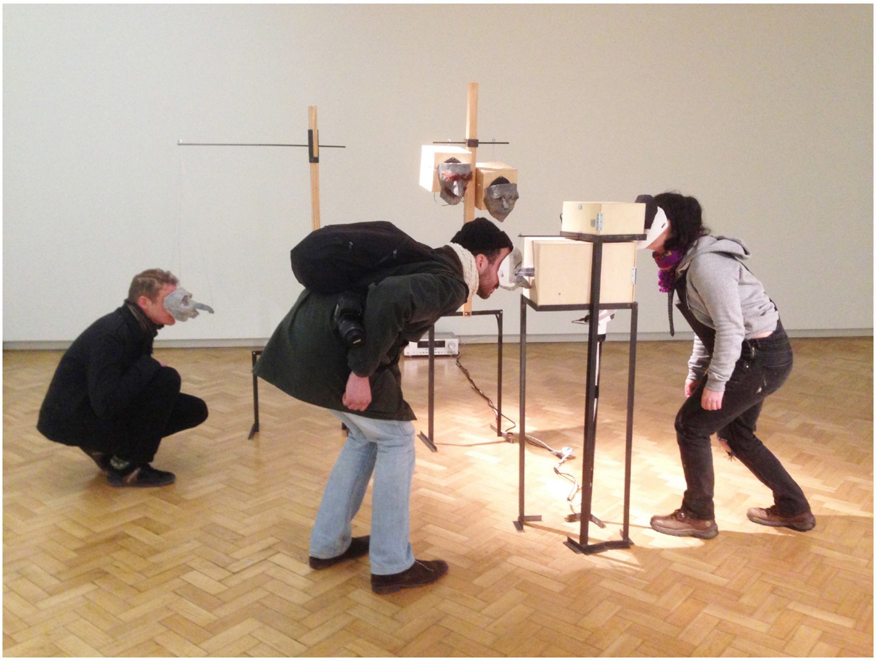

P. 6.
Nadie se conoce.

Capricho nº7 Nadie se conoce (1799) by Francisco de Goya y Lucientes
© Banco de Imágenes del Museo Nacional del Prado



…pas digun ne vedèva sa cara (uma vontade de foder) (2016)
[Spectators interacting during the exhibition]
© Bertrand Chavarría-Aldrete

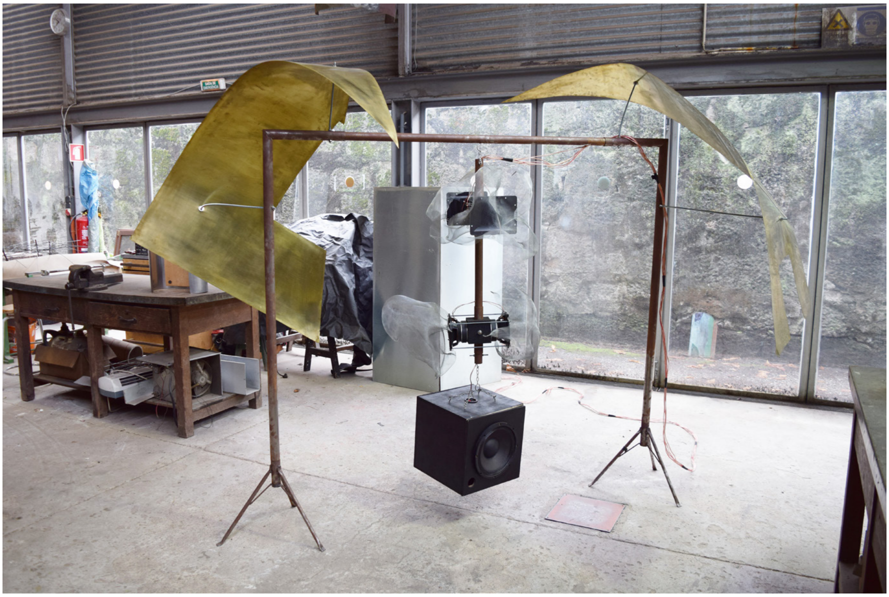
1.5.3 *unexpected stammerings*

unexpected stammerings was a proto-plastic extension of *Ezkil* ("bell" in Euskara), a solo guitar piece from 2002 for quarter-tone tuned guitar by Basque composer Ramon Lazkano (b. 1968).

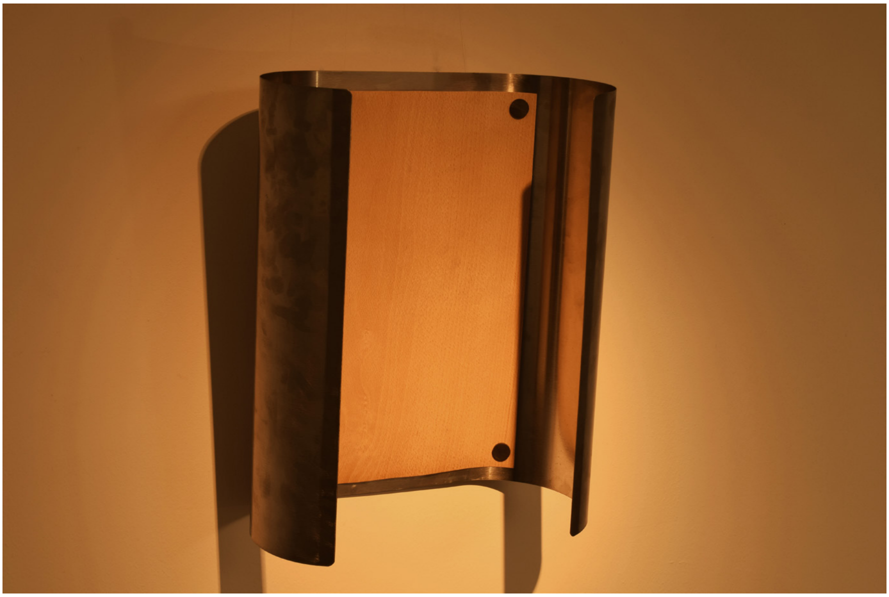
This installation in the form of a suspended bell was a sound and motion amplification to perform "Live" the piece *Ezkil*. Created to be an object to manifest the presence/absence of the interpreter, a first attempt to "unstage" the performance and the performer.

The plastic elements that emerge from the speakers were my first ideas of fixed sounds in time and space. This plasticity of sound in the form of protuberances, reverberations, came from the sound research I made on the classical guitar together with composer Ramon Lazkano while working on the piece. It was a special playing technique that I learnt from Zoran Dukic and that creates a crescendo on a single note in one attack.

This exploration in Porto gave me the first tools to think about a new methodology of interpretation that would allow me to create more "performances" and create a new practice in music performance, so I decided to study artists that worked on this sound-to-visual exchange and researchers that were trying to create alternative performances.



unexpected stammerings (2016) [At the workshop]
© Bertrand Chavarría-Aldrete



unexpected stammerings (2016) [Detail]
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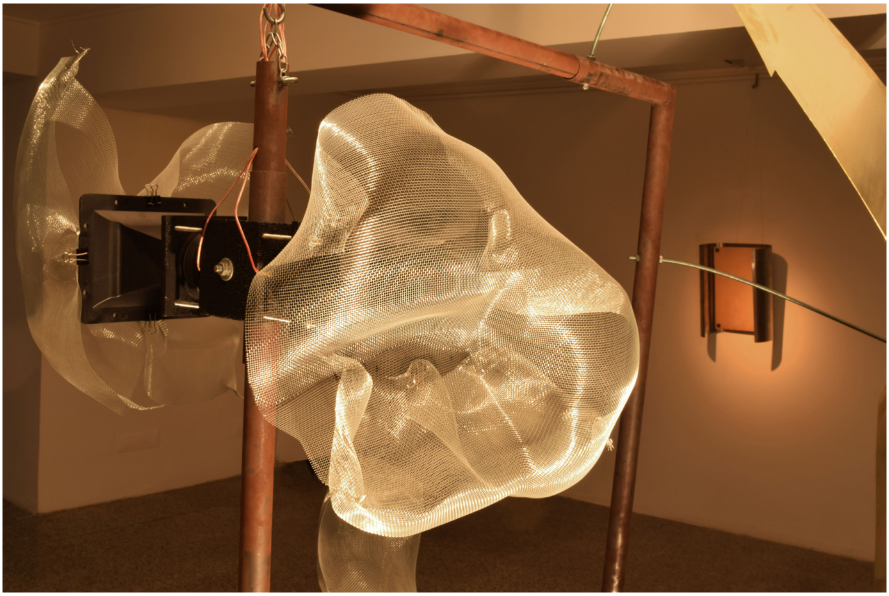


unexpected stammerings (2016) [Detail]
© Bertrand Chavarría-Aldrete

Chapter 2 - Stretching music

Introduction

After the first proto-plastic extensions, and with the objective of creating an artistic methodology of this practice, I started to investigate other artists searching for similar ideas, operating in exchanges between music or sound into visual art.

- inspiration (n.)

c. 1300, “immediate influence of God or a god,” especially that under which the holy books were written, from Old French *inspiracion* “inhaling, breathing in; inspiration” (13c.), from Late Latin *inspirationem* (nominative *inspiratio*), noun of action from past-participle stem of Latin *inspirare* “blow into, breathe upon,” figuratively “inspire, excite, inflame,” from in- “in” (from PIE root **en* “in”) + *spirare* “to breathe”).

> *And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.* [Genesis ii.7]

The sense evolution seems to be from “breathe into” to “infuse animation or influence,” thus “affect, rouse, guide or control,” especially by divine influence. *Inspire* (v.) in Middle English also was used to mean “breath or put life or spirit into the human body; impart reason to a human soul.” Literal sense “act of inhaling” attested in English from 1560s. Meaning “one who inspires others” is attested by 1867.

(O.E.D. n.d.)

2.1 Source of inspiration

The number of visual works inspired by music is vast, but some cases can be mentioned that have opened a near-to-hybrid aesthetic between image and music, from the Cubists passing through Nicolas de Staël (1914-1955), Maria Helena Vieira da Silva (1908-1992), Eduardo Chillida (1924-2002), Gerhard Richter (b. 1932), or Jacques Pourcher (b. 1950), who developed his own visual language based on music, to mention very few.

But, there are some cases that are relevant to my research, like Henri Matisse (1869–1954), who, besides his visual art practice, studied violin until he was 50 years old, allowing him to understand, develop and integrate in his technique an interesting correlation of gestures, or transposition between the violin bow and the gouge in linocut:

> I have often thought that this very simple means is comparable to that of the violin with its bow: a surface, a gouge - 4 stretched strings and a lock of horsehair. The gouge, like the bow, is directly related to the sensitivity of the engraver. And it is so true that the slightest distraction while drawing a line involuntarily causes a slight pressure of the fingers on the gouge and unfortunately influences the line. Likewise, you only need to squeeze the fingers holding the violin bow a little tighter for the sound to change character – from soft to loud.
>
> (Matisse 1972, p. 213 Trans. BCA)

This transposition of gestures was a very important aspect for developing a new performance methodology that would offer me a less arbitrary method than in my previous works: “[It is] not a question of an emotional, arbitrary creation, which would be the reflection of a personal expression, but of the scientific transposition of one writing system into another (Nouveau 1960, p. 8-10 Trans. BCA). This “scientific transposition,” I felt, could be studied to transpose the gestures of a score-based music performance, exactly like Matisse.

In conclusion, the list of painters and artists inspired by music is monumental, and this practice is still creating beautiful works. But in most cases, this approach is purely aesthetic; the taste of the artist is above the music, and often music becomes an ornament, a still life or a justification. Nevertheless, I agree with Jean Cocteau (1889-1963): “My dream in music would be to hear the music of Picasso’s guitars” (Bosseur 2015, p. 134 Trans. BCA).

2.2 On seeing sound

Cocteau wanted to hear Picasso's guitars, but German physicist and musician Ernst Florens Friedrich Chladni (1756-1827) wanted to see sound, discovering that Herztian-controlled waves could produce images over a metal plate (*The Chladni Plate*) with sand.

Other examples that are based on a colour-equals-music-tone approach, are the *Clavecin pour les yeux* (Ocular harpsichord) by French mathematician Louis Bertrand Castel (1688-1757) and the *Tastiera per luce* by Russian composer Alexander Scriabin (1871-1915).

Many visual artists like František Kupka (1871-1957) or Auguste Herbin (1882-1960)—that proposed his beautiful *alphabet plastique*—have worked on transcribing music into colours—and/or geometrical figures in the case of Herbin—working with the contrast of the music notes/colour tones. Wassily Kandinsky (1866–1944) had the ambition—without musical knowledge—to create a theory of sound and colour; this lack of knowledge didn't stop him from creating his famous series *Improvisations* and *Compositions*. Lately, artist Jack Ox (b. 1948) has been working on a system based in transcriptions of tonal harmony of orchestral music to colour tones, achieving recently "The Virtual Color Organ," a system for translating musical compositions into visual performances, producing 3D visual images.

Nevertheless, these approaches become almost systematic. I knew that if I was to conceive a new performance methodology, it had to open new ways without narrowing it to a system or theory. My ambition was to conceive of an alternative approach that would allow the performer to create and imagine new methods for music performance, much more intuitive and less or barely systematic. In a letter to Kandinsky on 14 December 1911, Arnold Schönberg wrote:

> If I understood you correctly, what you would have preferred is an exact theory. I don't think this is currently necessary. We search and search again with intuition (as you say yourself). However, let us ensure that this intuition is never lost in a theory!
>
> (Schönberg 1984, p. 27-28 Trans BCA)

More than one hundred years ago, Schönberg saw that those exact theories—in this case of music transcription to visual art—were already unnecessary. I strongly agree.

The idea of transforming music performance into a different format needed a well-defined difference from traditional/canonical performance; da Vinci constantly whispered in my ear: "Auditory sensations are ephemeral, they are born and die, as quickly in being born as in dying." (da Vinci 1997, p. 117). I needed to find a concept that would allow me to treat time in this new methodology of music performance differently; I became very interested in the approach of colour and music by Robert Delaunay (1885–1941) and the "simultaneous contrast" in perception. In 1933, he wrote:

> I imagined a painting which, technically, would be based on colour contrasts, but which would also unfold over time and could be perceived at a single glance. I then used Chevreul's scientific term, simultaneous contrasts. I played with colours in the way we might express ourselves in music through the fugue of auditory coloured phrases.
>
> (Bosseur 2015, p.56 Trans BCA)

This "simultaneous contrast" in Delaunay's painting would be an important aspect to study in order to help me develop tools for displaying "anachronism" as a new concept issued from the "simultaneous contrast" in the new music performance I was imagining.

- plastic (adj.)

1630s, “capable of shaping or molding a mass of matter,” from Latin *plasticus*, from Greek *plastikos* “fit for molding, capable of being molded into various forms; pertaining to molding,” also in reference to the arts, from *plastos* “molded, formed,” verbal adjective from *plassein* “to mold”.

Hence “capable of change or of receiving a new direction” (1791). The surgical sense of “remedying a deficiency of structure” is recorded by 1839 (in *plastic surgery*). Meaning “made of plastic” is from 1909; this was picked up in counterculture slang and given an extended meaning “false, superficial” (1963). *Plastic explosive* (n.) “explosive material with a putty-like consistency” is attested from 1894.

(O.E.D. n.d.)

2.3 Neo-plasticism

In 1922, Dutch artist Piet Mondrian (1872-1944) wrote a text in the French magazine *La Vie des lettres et des arts* under the title *La manifestation du néo-plasticisme dans la musique et les bruiteurs futuristes italiens*, (The manifestation of neo-plasticism in music and Italian futurist noisemakers), where he considered Italian futurists' "near to sound-noise" musical art as a departure point to start thinking of music as a plastic art since "through plasticity alone, we arrive at true art." (Bosseur 2015, p.104 Trans BCA)

With neo-plasticism, Mondrian wanted to imprint the plasticity of music through the rhythm and its mechanical control by replacing "the dependence of the sounds of nature" in music, which was too subjective for him:

> …the dominant idea consists in particular of aiming to overcome animality and individuality in favour of minerality and universality. The music of the past had remained, according to him, too dependent on the sounds of nature to which it had subjected all kinds of filtering through its preferred harmonic models.
>
> (Bosseur 2015, p.105 Trans BCA)

It was through this idea of controlling the rhythm that Mondrian wanted to unveil the plasticity of speed transposed in the "line":

> "Absolute speed expresses in time what "what is straight" establishes in space. It annihilates the domination of the individual, that is to say the oppression of time and space. [...] By the force of speed, the plastic expression of music can be internalised not only by the measure, but also by the composition and the means of expression."
>
> (Mondrian 1986, p.142)

This control of speed in the plasticity led Mondrian to associate geometry with dance—similar to Kandinsky's description of ballet in Point and Line to Plane from 1926—and how modern dance (foxtrot, tango, boogie-woogie…) could manifest the spirit of the time, where the individual is erased through its realisation and stripped from its "animality and individuality" (Bosseur, 2015, p. 105 Trans BCA).

One can deduce that Mondrian needed direct contact with sound instead of music; this approach led him towards preferring mechanical sounds issued from machines instead of those in nature or produced by the human being. In a way, he wanted to erase the interpretation and "animality" of the performer to have a direct contact with the music or sound at its origin. I believe that his honest interest in the rhythmical articulation in musics like foxtrot, tango or boogie-woogie would make him feel that the narrow rhythmical space inside the articulation of these musics would erase or reduce the "animality and individuality" from the performers, and he was partially right; I still hear a huge difference between Astor Piazzolla (1921-1992) and those who perform his music—including myself—although in both cases it is still tango… or *Tango Nuevo*, as Piazzolla named his music.

This unique approach opens infinite paths to explore music performance through its plasticity. Mondrian understood that the music he was receiving was biased by the "animality and individuality." Music came as second-hand knowledge that was already digested by the plasticity of the performer. Mondrian's frustration points to an important parameter that would allow Plastic Extension to become a practice for the score-based music performer. In the research project of Plastic Extension, I would be by considering "animality and individuality" as the embodied knowledge issued from performance and direct contact with the music score. I would presume that score-based music performers could detect, explore, and measure the plasticity of those parameters and transpose them directly and unbiasedly into other art worlds, unveiling canonical performance through its plasticity as an extended interpretation/performance.

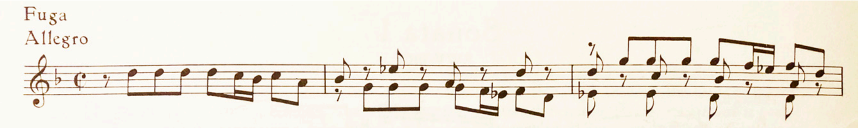
2.4 Paul Klee

The Swiss painter Paul Klee (1879–1940), who was an accomplished and active violinist during his life, found that the exchange between music and visual art was becoming too academic, less intuitive and anchored in tradition:

> A rhythm can be seen, heard, felt in the muscles. (Paul Klee). This third term definitively distances us from any comparative aim, from any more or less arbitrary system of correspondences; his observation is undeniable: what Klee underlines here is the physical part of the gesture, whether it is linked to an action of an instrumental, vocal, graphic or choreographic nature; whether the tool is a bow to be rubbed on a string, a brush to be moved on a canvas, or whether the origin of the act is confused with breath, respiration, apparently without an external intermediary, we find elementary principles of energy anchored in the muscular components of the body.
>
> (Bosseur 2015, p.74 Trans BCA)

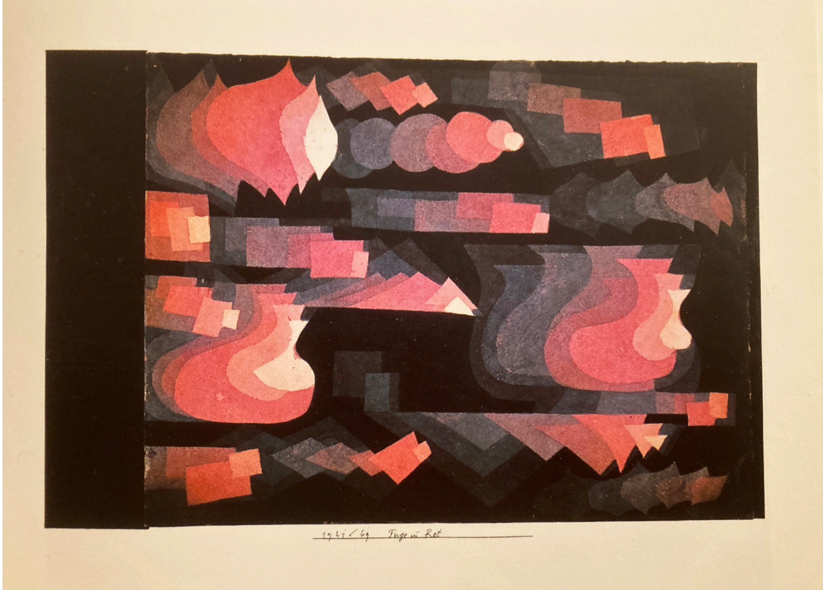
Klee's approach to music is clearly understood from the audio-visual-tactile (*seen, heard and felt*) perspective of the "animal and individual," considering all the "muscular components" of the performer and its instrument. Here the perspective is completely new; now music and its performance are finally observed from the interpreter's perspective, considering its "animality" as a creative aspect and parameter for a visual art creation.

The first time I saw Paul Klee's *Fuge in rot* (Fugue in red), knew that I was watching an abstraction of the first four notes of the theme in Bach's violin Fugue in G minor from the first violin Sonata BWV 1001. This fugue starts with a D note, repeated four times in quavers, concluding at the 3rd beat of a four beat measure:



First measures of Fugue in G minor for violin BWV 1001 by J. S. Bach © Barenreiter

In *Fuge in rot*, we can observe a similar rhythmic intensity displayed in the colour; see how the sixth figure becomes more intensely red and then disappears. My personal interpretation is that that the first two figures in black/green represent the preparation of the note on the instrument and the first silenced beat of the quaver, the third being the first Ré (D). In this particular painting we see a revolutionary approach: a score-based music performer, Klee the violinist, imprinting and transposing his embodied knowledge issued from the score and the violin into a visual art work.



Fugue in Rot (1920) by Paul Klee © Public Domain

This is of course my personal interpretation, although issued from experience and a perfect knowledge of this fugue, since my father used to perform it on the guitar (transposed to A minor) at least once a day. As an interpreter and a visual artist searching for references in this new performance methodology, I want to see this unique similarity in both works; however, it could of course have been a totally unconscious act on Klee's behalf. If so, it would still be interesting from a psychological perspective.

This interpretation is indeed very personal and without any specific prove. Pierre Boulez (1925-2016), would grab me by the shoulder, and warn me about my claim:

> …when we encounter the title Fugue in red we can't help but make the connection with Bach. But we must be wary of comparisons that are too literal. We saw the word runaway written under a painting, good. Joyce also declared that a certain chapter of Ulysses was composed according to the pattern of the fugue. This always leaves the musician a little skeptical, and for good reasons: the fugue is a very restrictive form…
>
> (Boulez 1989 p. 87-88 Trans. BCA)

THE PARATAXIS JOURNAL : Some friends that had the chance to be conducted by Boulez, told me that he never scolded the musicians in public during rehearsals, he would "ask for a word", grab the musician by the shoulder take him/her away from the rest of musicians and "advise" him/her with a gentle tone: you need to revise measure/passage X, is not very clear what you are playing…

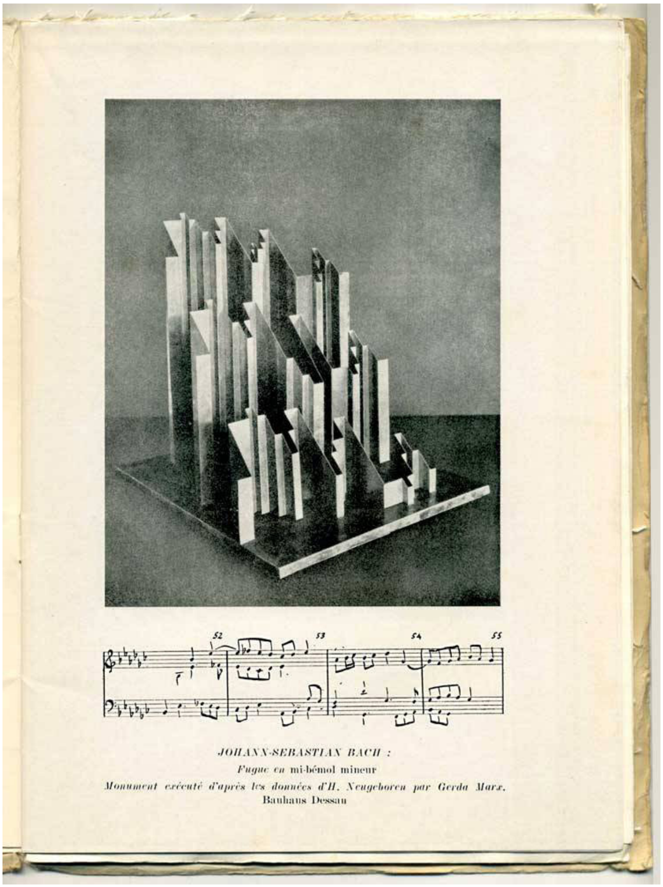
I once heard that *Kammerkonzert* for 13 instruments by Ligeti was inspired by Chemin principal et chemins secondaires by Paul Klee, in particular the first movement, and specifically from section D until the end.

2.5 Stereometric fugue

Taking this recommendation of scepticism by Boulez, I will nevertheless continue with Romanian-born French artist and composer Henri Nouveau (1901-1959), who proposed an approach to relate music with tridimensional artworks. Student of Ferruccio Busoni (1866-1924) and Nadia Boulanger (1887–1979) until 1927, he decided to approach visual art in 1923 in parallel; at the end of his life, he had created nearly seven hundred paintings and fifty music scores.

His most celebrated work, and extremely important for this research because it shows how to represent pitch outside the music instrument, was a design project (this project would be concretised in 1968, nine years after his death) for a monumental work on Bach's *Fugue in E flat minor BWV 853* (bars 52-55), in which the notes would be "scientifically transposed from one (music) system to another (metal in space)" (Nouveau 1960, p. 8 Trans. BCA).

The French music journal *La revue musicale* decided to publish this monumental project in 1960 (a year after his death), with a description of the project by Nouveau himself and images of the design. In this project, Nouveau was searching for a"scientific transposition of one writing system into another" to "not only to hear, but to see the flow of music in time and space more distinctly than through conventional writing, which brings together all the data useful for understanding a score but fails in this particular case" (Nouveau 1960, p. 8-10 Trans. BCA).



JOHANN-SEBASTIAN BACH :
Fugue en mi-bémol mineur
Monument exécuté d'après les données d'H. Neugeboren par Gerda Marx.
Bauhaus Dessau

Stereometric Fugue [project] by Henri Nouveau
Image from *La revue musicale*

The purpose of this project was:

> …to show the construction of Bach's work without resorting to classical expedients, no clef, no connection, no end-of-line interruption, no page turning. We thus see appear on a spread-out strip, the development of each voice in all its continuity, in a coloured line, rising and falling, the horizontal part of which is accentuated. The eye will then become capable of recognising music with the same extent [in spatial time] as the ear, because the set of sounds is not only indicated by symbols but translated optically in its entire extent and because nuances specifying the rhythm can be added to the different colours of the lines, which provides a possibility of increased understanding.
>
> (Nouveau 1960, p. 8-10 Trans. BCA)

The visual and conceptual similarities between the works of Klee and Nouveau rely on the visualisation in space and the plasticity of the fugue. Both as visual artists and musicians, we need to consider their works from a different perspective and almost from a different field of visual art, that of an intuitive but also "scientifically" measured transposed plasticity of the instrumental praxis into the their visual artworks. This is something I believe Matisse also understood and was able to clearly associate and state.

- artificial (adj.)

late 14c., “not natural or spontaneous,” from Old French *artificial*, from Latin *artificialis* “of or belonging to art,” from *artificium* “a work of art; skill; theory, system,” from *artifex* (genitive *artificis*) “craftsman, artist, master of an art” (music, acting, sculpting, etc.), from stem of *ars* “art” + *-fex* “maker,” from *facere* “to do, make” (from PIE root **dhe-* “to set, put”).

The earliest use in English seems to be in the phrase artificial day “part of the day from sunrise to sunset” (as opposed to the natural day of 24 hours). The meaning “made by man, contrived by human skill and labor” is from early 15c. The word was applied from 16c. to anything made in imitation of, or as a substitute for, what is natural, whether real (light, tears) or not (teeth, flowers). The meaning “fictitious, assumed, not genuine” is from 1640s; that of “full of affectation, insincere” is from 1590s.

Artificial insemination dates from 1894. *Artificial intelligence* “the science and engineering of making intelligent machines” was coined in 1956.

(O.E.D. n.d.)

2.6 Spontaneous vs Artificial

I have always been curious of how Gustave Doré (1832-1883) was able to create more than 700 images from the texts of François Rabelais (1483?-1553). How did the poiesis/praxis of Doré function between the text of Rabelais and the creation of the images? Which are "personal expressions" and which are "a scientific transposition of one writing system into another" (Nouveau 1960, p. 8-10 Trans. BCA).

Today, we have "text-to-image models" of artificial intelligence that can generate images from text; these images are issued from the precise databank that we have been feeding since the birth of the internet. Nevertheless, my interest is about the performance of human inaccuracy, the artistic errors/errands, the "animality and individuality", the "muscles", and the intuition that allows art to be art.

All these examples of seeing music, embodying music, creating images issued from music, and transcribing music into colour, shapes or installations are "a personal expression" or a "scientific transposition of one writing system into another" (Nouveau, 1960, p. 8-10 Trans. BCA). As such, they are beautiful examples of artistic errands of creative minds in the search for giving music or sound a form, a colour or an image. In my view, they are extremely important as a departure point towards creating a new performance methodology to see music differently.

In the research project of Plastic Extension of Music, one of the aims is to find and describe methods that can function as tools for performers to be able to imagine (poiesis) 700 alternative performances in the form of Plastic Extensions (praxis) from one single music score. That is to mediate the score, like Doré with Rabelais, between "science"—the unveiled epistemic parameters—and intuition—the individuality of the performer.

All these artists have opened the path of representing music differently, a path where the parameters of musical performance and interpretations can be used differently towards a new practice, a new art form issued from the performance of music.

2.7 New perspectives in Music Performance

An important part of my life has been synchronised with artistic research. After finishing my first master's degree studies at Den Haag Conservatorium in 2004, the school proposed I apply for the doctoral program docARTES. I remember my application had some similarities with my current research; however, at that time, it was quite focused on staged performances. As it turned out, my proposal was not even accepted for an interview. Instead, I went to Spain and started the SMASH ensemble the following year, 2005. Today, twenty years later, I'm conducting my PhD project at one of the first Swedish institutions that awarded art-based PhDs.

Below I will describe some artistic research projects that I consider important for the exploration of new ways to perform music and relate to my ideas inside Plastic Extension of Music.

MusicExperiment21 (ME21), was a five-year artistic research program (2013-2018), based at the Orpheus Institute Ghent, and directed by Paulo de Assis. The group of researchers were Paulo de Assis as principal researcher, Michael Schwab, Juan Parra C., Lucia D'Errico, Paulo Guidici, Heloísa Amaral and Jan Michiels.

> The programme explored notions of "experimentation" in relation to the performance practice of Western notated art music, proposing a move beyond commonly accepted codes and conventions of musical interpretation. In this new approach—corresponding to an artistic practice supported by reflections and research—the performance of past musical works is not regarded in its reiterative, reconstructive, or reproductive function. On the contrary, it insists on performance as a locus of experimentation, where "what we know" about a given musical work is problematised. The performative moment becomes both a creative and a critical act, through which new epistemic and aesthetic properties of the musical work emerge.
>
> (MusicExperiment 21, n.d.)

de Assis' artistic research project "Con Luigi Nono unfolding waves" (2013) drew my attention to the changing and collaborative roles he took as a musicologist, pianist, composer, and pedagogue in one single work *…sofferte onde serene…* from 1975–77 by Luigi Nono. In the project, seven interesting modules in the form of different angles of approach to Nono's piece were presented. Even though I found the project interesting mainly from a traditional musicological perspective, I found Assis' approach inspiring as a tool to unveil and unfold the infinite parameters of a music piece, this collaborative role changing creates an interesting multiperspective exploration of the music score.

In the same research program, Lucia D’Errico conducted the project “Powers of Divergence” (2018) which held an interesting approach to music performance. The aim was to achieve “a move beyond commonly accepted codes and conventions of musical interpretation […] founded on a strong creative and practical component, presenting a new approach to the performance of Western notated art music.” (D’Errico 2018, p. 7). This led to a series of outputs and staged performances issued from a “minoration” and “abstraction” that erase the original source, the “primary work”:

> In the first place, the “matter” of performance (sounds, gestures) should not be moulded ahead of time by the pre-given semiotic units of its score. In other words, the new performance should relate to the primary work without—potentially—containing any element of its score.
>
> (D’Errico 2018, p. 34)

Even though I found the project interesting from a creative perspective, my idea in Plastic Extension of Music was to avoid a staged live performance or a verbal presentation of the outputs to the listeners or spectators. My idea was to extend and represent parameters, or elements, directly related to the music score and its performance as an extension of the music, not as an instrumental divergence or a composition of sounds and gestures.

From my perspective the artistic research project Watch the sound – listen to the gesture (2024) by Kerstin Frödin takes a step forward in music performance by studying the embodied and tacit knowledge of chamber musicians and how this is articulated through gestural interaction during performance. In her study of musical gesture she explores how such qualities can be used as creative resources in interdisciplinary collaboration:

> decomposing – deconstructing – the materials into musical and choreographic objects, followed by a reconstruction to its choreomusical form concept […] these processes in no way overshadow the original works; the concert form and the staged context are two different worlds, each requiring its own dramatic strategy.
>
> (Frödin 2024, p. 159-160)

This deconstruction and transformation of the music material into a choreography is interesting from an interdisciplinary perspective that relates to my research project, since it avoids “overshadowing” the original work which can then easily be considered as an extension of the musical work into the body of the dancer. However, the focus in my project is on how a performer avoids the staged performance. Also, I wish for the performer to create his/her own performance without outsourcing or transforming the interpretation material in collaboration with other artists. What I mean, is that this kind of collaboration placed in my research, would affect directly the approach I wish to explore of the music score and its performance by positioning the score-based music performer in collaboration with a different performative body that has her/his own background, sources and embodied knowledge—Mondrian's "animality and individuality"—, creating what I consider in my research, an interference on the interpretation of the music performer.

Chapter 3 - Towards an alternative performance practice

Introduction

Coming back to the ephemeral aspect of the "auditory sensations" (da Vinci 1997, p. 117), I knew that it was necessary to search for new ways to become less ephemeral in our practice as performers and avoid traditional documentation such as video or audio recordings. These formats are easily copied and have today very little impact.

> ...it's sad to watch the decline of this industry, it didn't necessarily needed to happen that way [...] Consumers turn to piracy by and large. When they can't get the product through legitimate channels. So there needed to be a legitimate market offering coming from the record labels, and they couldn't get their act together for years to put that in the market. It was frustrating to watch this long deleterious collapse of an industry that was producing something that I love so much, that was never our intention, we never wanted to see that happen […] There is a big difference between the artists who these days make primarily money by touring by doing ancillary things, they get a certain amount of money from subscription services, downloads services aren't doing so well for them these days; they get a little trickle from YouTube, which is really nothing.
>
> (Parker, 2016)

Nevertheless, a personal story made me understand that there are alternative ways of documentation and recording that still need to be explored.

- mock (v.)

mid-15c., *mokken*, “make fun of,” also “to trick, delude, make a fool of; treat with scorn, treat derisively or contemptuously;” from Old French *mocquer* “deride, jeer,” a word of unknown origin. Perhaps from Vulgar Latin **muccare* “to blow the nose” (as a derisive gesture), from Latin *mucus*; or possibly from Middle Dutch *mocken* “to mumble” or Middle Low German *mucken* “grumble.” Perhaps ultimately it is imitative of such speech. Related: Mocked; mocking. Replaced Old English *bysmerian*. The sense of “imitate, simulate, resemble closely” (1590s, as in mockingbird) is from the notion of derisive imitation.

- mock (adj.)

prefixed to a noun, “feigned, counterfeit, spurious; having a close (but deceptive) resemblance,” 1540s, from mock, verb and noun. *Mock-heroic* “counterfeiting or burlesquing the heroic style or character” is attested from 1711 (Addison), describing a satirical use of a serious form; *mock-turtle* “calf’s head stewed or baked and dressed to resemble a turtle,” is from 1758; as a kind of soup by 1783.

(O.E.D. n.d.)

3.1 Centzontle

In the hometown of my parents (Monterrey, Mexico), there are many *centzontles* (from the Náhuatl *centzontotol* meaning bird of 400 voices), mockingbirds in English. The *centzontle* is a songbird from North America that mimics and learns songs from other birds and animals, building up a unique and personal repertoire of hundreds of songs in their brains. A certain mystery lies in why mockingbirds prefer to imitate others instead of creating their own songs.

> Part of the mockingbird's advantage over other avians is physical; it uses more of the muscles in its vocal organ, the syrinx, than most other passerines do, many more than non-passerines like raptors or waterfowl. But the mockingbird also has a mind for music. It's been theorised that this species has more brain matter devoted to song memory than most other birds do. Why does the mockingbird sing? The vocal mimicry trait seems to indicate that lyrical flow is an especially potent aphrodisiac in mockingbird circles, although some lonely males warble and whine the whole night through when unable to find a mate.
>
> (Corey, 2007)

Around the year 2011, my father started to learn on the guitar a little *Minuet* by Domenico Scarlatti (K. 73), originally for harpsichord and transcribed for guitar. During that time, there were large amounts of birds living around the house due to a small microclimate my father created in the garden. This garden was an uncommonly humid and fresh site, a little oasis in a city that has a yearly average of 29°C. My father used to work the guitar with the windows open, hearing the birds while he played, and often recording himself with that unique soundscape, a way to enjoy that place that he fully created on his own from scratch. During the process of learning that piece, he started immediately to ornament and change the rhythmical patterns, adding along his own personal *rubato*. During that learning period with the piece (he played it each day infinite times in order to learn it by memory since he was not a very good sight music reader), he noticed that a *centzontle* was also learning parts of the *Minuet* by Domenico Scarlatti. He immediately called me and told me the story; I thought that he was delusional. A couple of days later, he decided to record the bird's song and send it to me, and to my surprise, it was indeed true: the mockingbird not only learnt the pitches of Scarlatti but also copied the unique and very own rubato and ornamentation that my father was doing to the piece.

This experience was quite important in my development of the practice of Plastic Extension. Not only was my father able to find an alternative recording device, the *centzontle*, but he was also able to communicate with a "different audience" and create a genuine reaction through the imprint of his gestures and embodied knowledge in this device, which was the mockingbird.

- record (v.)

c. 1200, *recorden*, “to repeat, reiterate, recite; rehearse, get by heart” (senses now obsolete), from Old French *recorder* “tell, relate, repeat, recite, report, make known” (12c.) and directly from Latin *recordari* “remember, call to mind, think over, be mindful of,” from *re-*, here probably with a sense of “restore”, + *cor* (genitive *cordis*) “heart” (the metaphoric seat of memory, as in learn by heart), from PIE root **kerd-* “heart.”

The meaning “set down in writing, preserve the memory of by written or other characters, write down for the purpose of preserving evidence of” is by mid-14c. The sense of “put sound (later pictures, etc.) on disks, cylinders, tape, etc.” is from 1892.

(O.E.D. n.d.)

This personal story has a certain beauty with a delightful outcome: nature is capable of learning and transmitting our embodied knowledge, meaning that a certain channel of communication, understanding, and knowledge can possibly be established between birds and humans.

In *The Little Flowers of Saint Francis of Assisi* by Ugolino Brunforte, chapter XVI tells us about the moment when "St Francis lifted up his eyes, and saw on some trees by the wayside a great multitude of birds; and being much surprised, he said to his companions, *Wait for me here by the way, whilst I go and preach to my little sisters the birds*". (Brunforte 2000, p. 38) After the sermon, asking the birds to praise God for retribution of their life, surroundings and natural qualities, "the birds began to open their beaks, to stretch their necks, to spread their wings and reverently to bow their heads to the ground, endeavouring by their motions and by their songs to manifest their joy to St Francis. And the saint rejoiced with them." (Brunforte 2000, p. 38)

If we can imagine that mockingbirds and other oscine birds are copying, documenting and transmitting fragments of sound history since the first ages of the earth, before the human being developed a language or its oral tradition, we are indeed missing a very important aspect of our history. Historical patterns in the form of birdsongs that could help us understand better the past, our surroundings, and our environment, a language being sung at us each and every day that we are not able to understand.

When Saint Francis preached to those birds, we do not know how nor in what way the message was transmitted; being conscious of the capacity of oscine birds to learn and finally transmit songs, we could imagine that the descendants of those birds in the presence of Saint Francis, still today carry the message of Saint Francis in their repertoire, the same as that mockingbird at home and its descendants who are probably sharing my father's *Minuet* of Scarlatti.

This experience showed me two important aspects: first, discovering an alternative way to record a performance and second, the reproduction of this recorded performance. The *centzontle*, when singing the version of Scarlatti that my father played, repeats fragments and unites them randomly, this recording, which is the living mockingbird, creates a natural and living anachronism of the original score and its canonical performance. Being aware of this anachronism made me create what I consider my first *Plastic Extension of Music*.

- anachronism (n.)

1640s, “an error in computing time or finding dates,” from Latin *anachronismus*, from Greek *anakhronismos*, from *anakhronizein* “refer to wrong time,” from *ana* “against” + *khronos* “time”. The meaning “something out of harmony with a specified time” is recorded by 1816.

(O.E.D. n.d.)

3.2 Anachronism - *coyote*, a first Plastic Extension

In the two previous attempts of creating Plastic Extensions *…pas digun ne vedèva sa cara (uma vontade de foder)* (2016) and *unexpected stammerings* (2016), I did not feel that I fully created a methodology that can be developed further. The ideas and concepts were interesting; both extensions had synesthetic qualities but said very little about my embodied knowledge and the transformation of the music itself; it felt quite arbitrary, like "a reflection of a personal expression" (Nouveau 1960, p. 8-10). So, I decided to try a new attempt by considering a parameter, the number of left hand (LH) positions in a music piece. This aspect could be displayed in space but is almost impossible to detect in a time-based canonical performance. This particular display of the LH positions unveiled a new character that would become essential in Plastic Extension, which is *anachronism*.

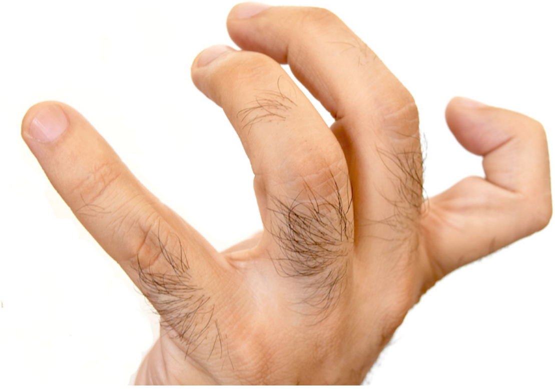
The idea of anachronism in music—changing the order of the notes or phrases of a musical piece—came from the previous experience with the *centzontle*, but also from the experience of training myself to perform complex musical pieces from memory.

My technique has always been to isolate phrases and passages to learn them separately by memory. In the learning phase, these passages are often triggered in the wrong order when similar gestures are present in the phrases and passages. This phase is not long, but it is very intense (and dangerous if parasite movements in the form of bad gestures are included) since the memory and the fingers are working to allow the entire fragments of the piece to be entirely performed by memory. These situations are often the result of the little time we have and the assimilation of scores that are too difficult to read and perform at the same time.

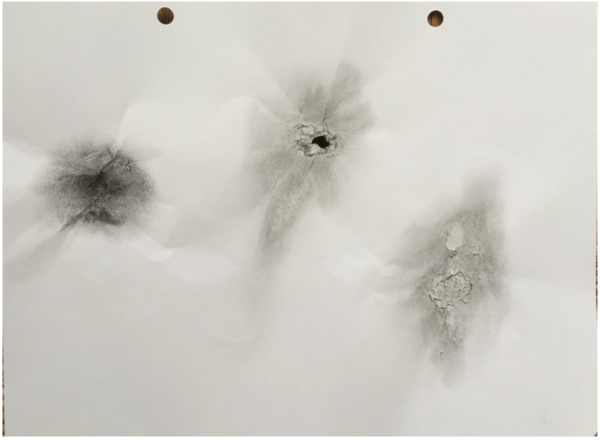
In 2017, I started working on *Pièce pour guitare seule* (2016) by French composer Elisabeth Angot (b. 1988). During the study of this piece, I became aware that the piece had 66 position changes on the left hand with a long transition of a harmonic field (between four and five minutes) from an E to an F#; these characteristics became immediately very appealing and interesting to display.

This plastic extension, coyote, was born from budget and space limitations. The cornerstone of the extension was to associate it with foldable maps, the practice of *mudras* (a *mudra* is a symbolic or ritual gesture or pose in Hinduism, Jainism, and Buddhism—while some *mudras* involve the entire body, most are performed with the hands and fingers), and the way we access both maps and mudras in a book format.

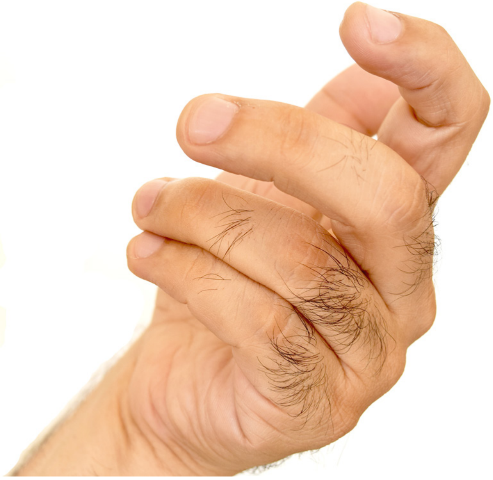
The first step was to isolate each position and assign a visual identity to each finger of the left hand (1, 2, 3, and 4—index, middle, ring, and little finger); in this case, it would be the different graphite grades. This association would create a first contradiction in the muscle memory when displayed on the visual output. I associated the graphite from harder to softer depending on the strength and independence of my fingers on the guitar: the index would be my strongest and more independent, so the graphite associated was an HB (hard), the middle finger would follow 2B (medium), the ring with a 4B (soft), and the less strong finger, the little finger, with a 6B (extra soft). The visual paradox and the muscle memory contradiction were that the softer the graphite was, the darker the print would be, so the traces of the weaker fingers would be darker and more intense.



Hand position nº 4 from *Pièce pour guitare seule* by Elisabeth Angot
© Bertrand Chavarría-Aldrete



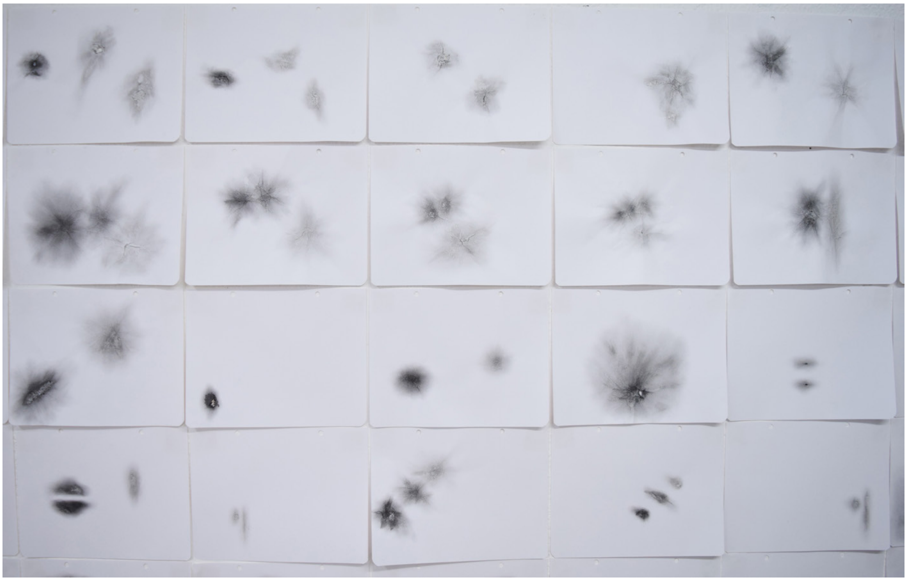
Mudra nº 4 from from *coyote* (2017) © Bertrand Chavarría-Aldrete



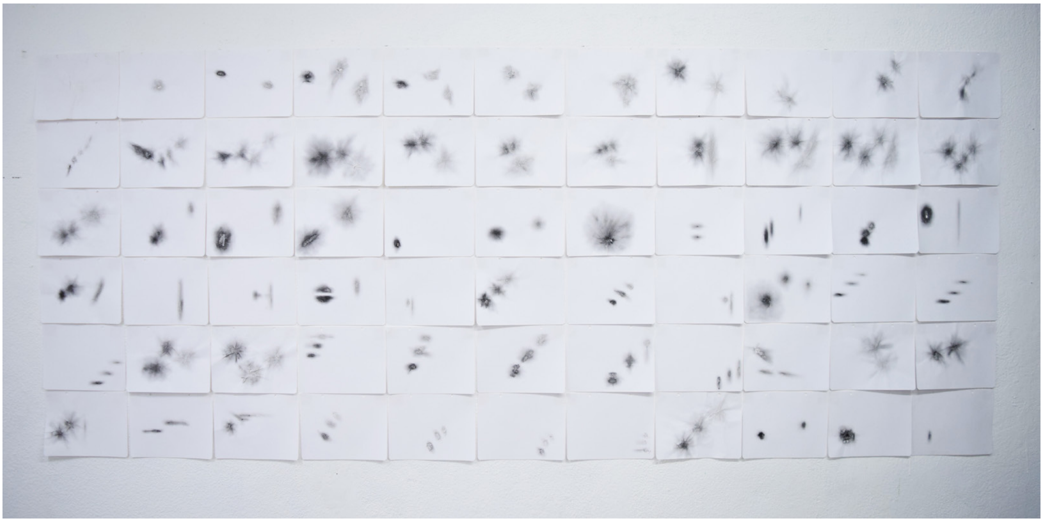
Hand position nº 31 from *Pièce pour guitare seule* by Elisabeth Angot
© Bertrand Chavarría-Aldrete

Mudra nº 31 from from *coyote* (2017) © Bertrand Chavarría-Aldrete

I decided to transpose the 66 fixed positions to a small format paper with a 120g density, not by drawing the hand, but by tracing the fingers on the left hand position and rubbing the graphite an amount of time defined by the duration of the position on the score to create a sensation that time equals weight on the imprinted traces.



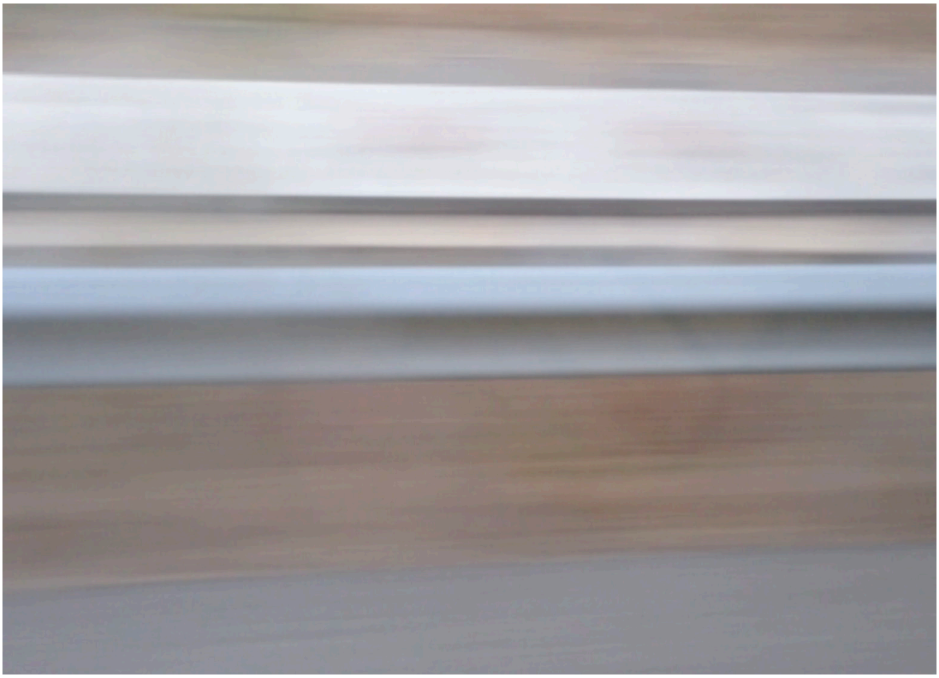
Detail from *coyote* (2017) © Bertrand Chavarría-Aldrete



coyote (2017) © Bertrand Chavarría-Aldrete

Since the piece, when displayed entirely, was not too big, the idea of visual anachronism, error and errand inside the piece and its gestures as a creative interaction for the viewer/performer, became appealing. I decided to display the ichnography of the piece as a topographic visual map on a wall made with the traces of my left hand going through from beginning to the end with the perception of a time parameter associated with the gesture imprinted on the paper. I consider coyote my first Plastic Extension of Music due to the possibility that I was able to extend a parameter in space and let the viewer/performer create its own version of the absent music.

less motionless is a second plastic extension in video format of *Pièce pour guitare seule*, an audiovisual extension of a more synesthetic aspect. The video is made by a series of videos of train rails in motion, a metaphor of the strings of the guitar in motion with a sound synthesis from E to F#.



Still image from *less motionless* (2017) © Bertrand Chavarría-Aldrete

3.3 The new performance

The *performance* (*per-* "forward, toward," *per* "through, by means of," *form* "semblance, image, likeness, shape") and display of these two parameters inside the piece—the left hand positions and the transition of a harmonic field from an E to an F# in this first Plastic Extension—formed the basis for developing a methodology based on the study of the music score and finding alternatives to its canonical performances. I saw that the creative process would result not only in a new artwork but that it also would represent the performance without the performer, and inside this process, new knowledge would be developed through the study of the plasticity of the piece, thereby contributing also to the traditional performance of the score. The idea of imagining the possibility of a Plastic Extension would completely change the way the piece is being performed and practiced by adding a new perspective and awareness of details that can take place in space.

With this new methodology, I wanted to find ways to study and investigate the music score from different perspectives and renovate its performance—canonical and in Plastic Extension—by allowing the performer to create and develop new tools for himself/herself, to recycle the performance with new perspectives and alternative approaches to the music score.

I understood that if the role and perspective of the performer are slightly expanded by keeping and transposing the canonical practice and tools given in music education, the music performer can use them in a "transductive" way: "the human being has the capacity to modify the forms of the problems to solve" (Simondon 2024, p. 214), and easily become a creative critic:

> The singer or the player on lute and viol is the critic of music […] for the critic is he who exhibits to us a work of art in a form different from that of the work itself, and the employment of new material is a critical as well as a creative element.
>
> (Wilde 1991, p. 35)

Automatically, I knew that the outputs that could emerge from Plastic Extension of Music would not be a canon of technique nor an artwork of the different art worlds in which a Plastic Extension could emerge, but the transductive human capacity "to modify the forms" (Simondon 2024, p. 214) and "exhibits to us a work of art in a form different" (Wilde 1991, p. 35). Plastic Extension would use and impregnate the material and techniques of other art worlds to "actualise" (Simondon 2024, p. 213) canonical performance, achieve it and construct it in a different and parallel music performance ground.

For this very reason, Plastic Extension of Music could not be the fruit of a collaboration between the score-based music performer and an expert of the art world in which the Plastic Extension is emerging. Plastic Extension would need to remain an honest and metaphorical work—honesty as a quality of artistic expressiveness—that is made from the same hands, ideas, practise and knowledge (embodied knowledge) of the interpreter/performer, using the techniques and media from other disciplines as metaphorical vehicles to new art worlds beyond the staged performance and traditional documentation: a multilayered object built of new conceptual metaphors of the score and its performance, creating new degree-zero performances of music.

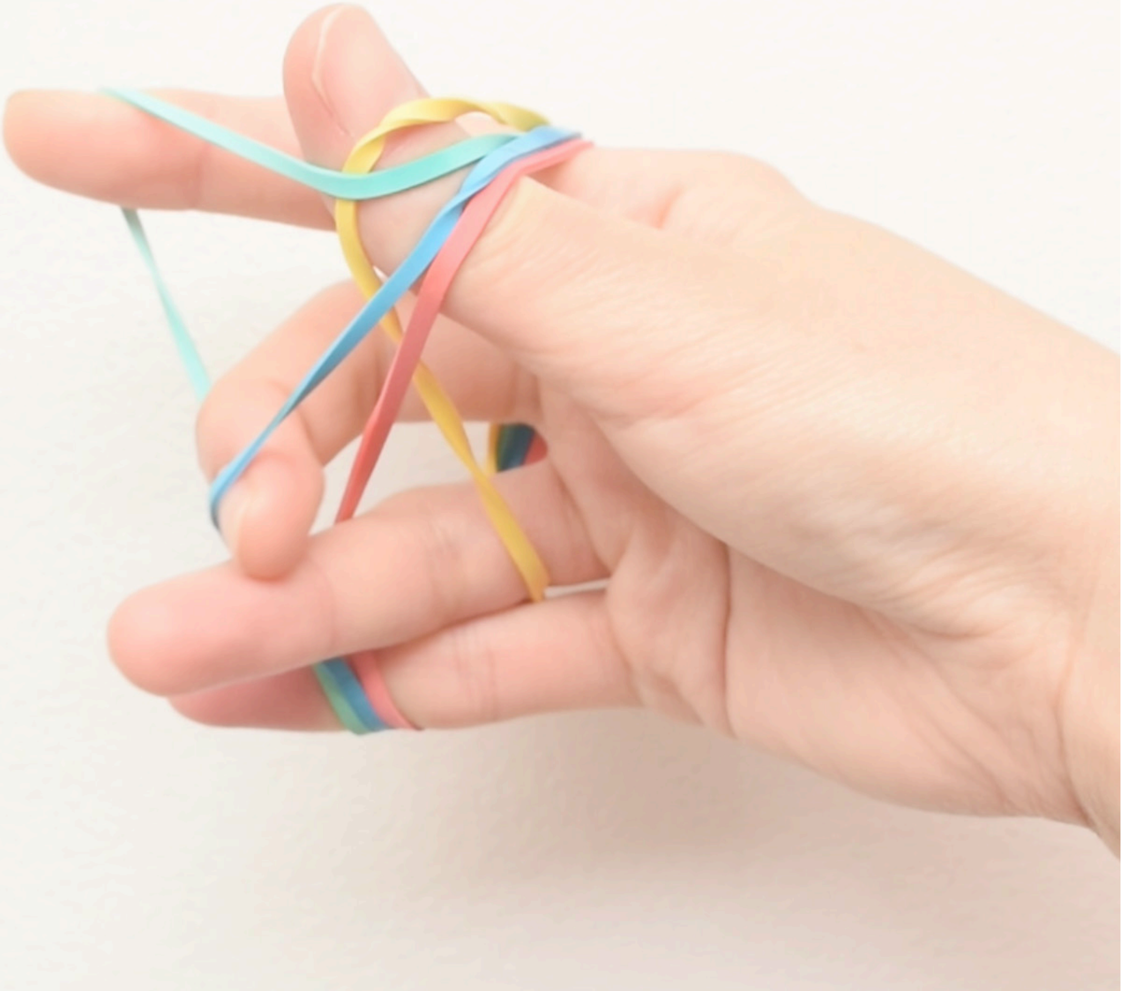
In this expansion of the performer/interpreter, there would neither be the need to outsource the performances of score-based music with collaborations, nor to use its traditional documentation formats. Furthermore, there would be no need to change our roles by becoming composers or improvisers, or to keep live performances only on stage. It would be possible to create our own performance universes and become less ephemeral as performers of score-based music.

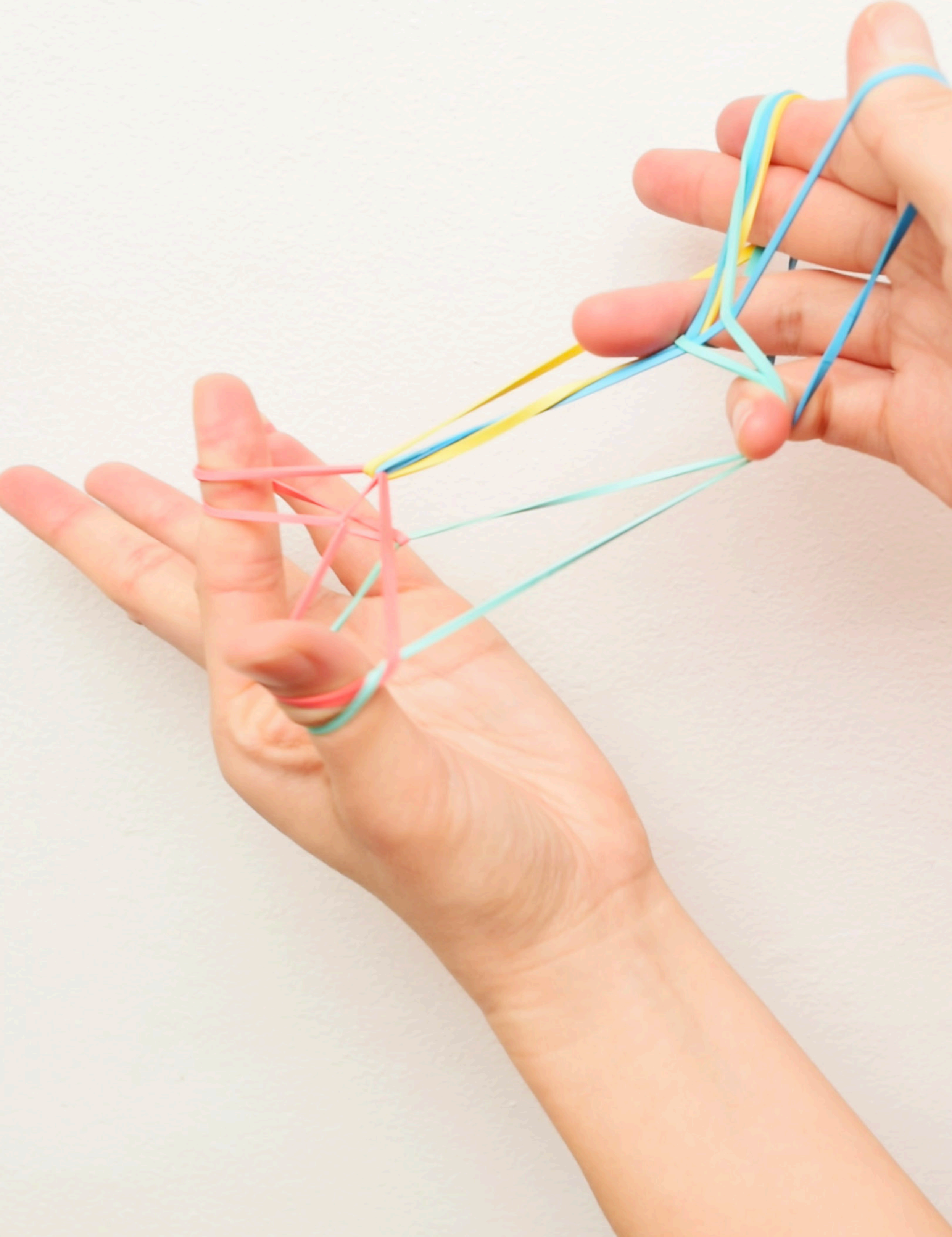
PART 2

…the work of each artist is a different facet of each stage and functions as an accretion that serves as a corollary to the preceding stage. It is in the terms of these plastic laws alone that art preserves a continuous, logical, and explicable picture. We thus see the artist performing a dual function: first, furthering the integrity of the process of self-expression in the language of art; and secondly, protecting the organic continuity of art in relation to its own laws. For like any organic substance, art must always be in a state of flux, the tempo being slow or fast. But it must move.

(Rothko 2004, p. 14)

Plastic Extension of Music





Chapter 4 - Plastic Extension of Music

4.1 Introduction

As mentioned in the introduction, this research is based on the artistic significance of the living performer. In this chapter I will explain how the *animality and individuality* that Mondrian refused to hear and the *energy anchored in the muscular components of the body* that Klee saw in the painting gestures are created in the score-based music performances. I will also describe how to decompose it and turn it into a series of potential plastic parameters, ***data***—"a fact given or granted, (thing) given, numerical facts collected for future reference" (O.E.D. n.d.)—to imagine the creation of Plastic Extensions.

After explaining the creative process, I will share some reflections and speculations about the public exposition and reception of the artworks created through Plastic Extension, becoming *metaphorical containers* of a live performance, and their ability to trigger a co-creative process (a poietical space) by denying the traditional sonic rendering—its *presence/absence*—of the music performance, thus inviting the past listener/new spectator to co-create and imagine that present/absent music performance created through Plastic Extension of Music.

4.2 Performative etymology

Looking back at the mockingbird experience and what I consider to be my first Plastic Extension, *coyote*, I concluded that if I wanted to create a new artistic practice, an alternative method for future score-based performances to perform music in a different way, I would need to establish certain concepts and guidelines for this practice.

I began by analysing the etymological meanings and possibilities of specific keywords, which would be a starting point for my practice.

I started with the word ***perform***, and decided to consider it in the sense of "carry into effect , fulfill, discharge, carry out what is demanded or required" (O.E.D. n.d.),

but also deconstruct this word into its components: ***per-***

> "through, by means of, forward" (O.E.D. n.d.),

and ***form***

> "semblance, image, likeness" (O.E.D. n.d.).

In direct relation to *form* and *per-*, the polysemic sense of ***plasticity***

> "property of giving form or shape to matter" (O.E.D. n.d.),

landed within my keywords, which is a word issued from *plastic* that, besides its culturally conditioned sense (the synthetic material made of polymers), is also an adjective:

> "capable of shaping or moulding a mass of matter" (O.E.D. n.d.).

Thanks to *Sémiotique Plastique: Propositions pour une recherchelcréation* (2021) by French composer and visual artist—and good friend—Frédéric Mathevet, I came into contact with the concepts of *plasticity* by French philosopher Catherine Malabou (1959-), who describes *plasticity* as a condition that *suffers* the *lack of form* or structure, *demanding thought* to *emerge* as a *form* (Malabou, 2005).

This *lack of structure, capacity to shape, and ability to carry into effect* by the means of image became a series of capacities I could attribute to the ***extended***

> "stretch out, extend, increase, lengthen or extend in time, cover an area, have a certain extent in space" (O.E.D. n.d.)

role of the performer, an ***elasticity***

> "ductile, flexible, having the power of returning to the form from which it is bent" (O.E.D. n.d.)

inside this new practice.

At the same time I knew that these capacities could also belong to the score as another plastic living entity that could be *carried into effect* (as in traditional performance) but also integrate it inside this new *elasticity* of and between the score and the performer, to *per-form* it and extend it by *stretching out* a *semblance*, *image*, *or likeness* of it.

This extended image of the score needed to be ***imagined***

> "to form a mental image of" (O.E.D. n.d.)

inside the mind of the performer, so I decided that in order that this *stretched likeness* of the score had the personal ***sign***

> "gesture or motion of the hand, identifying mark, token, indication, symbol; proof" (O.E.D. n.d.)

of the performer, this phase could only be issued from instrumental ***praxis***

> "practice, exercise, action", mid-13c., opposite of theory" (O.E.D. n.d.),

inside a ***poietical***

> “the process of emergence of something that did not previously exist” (Polkinghorne 2004, p. 115)

intervention

> “intercept, to come between, intervene; interrupt; stand in the way, oppose, hinder” from inter “between” + venire “to come” (O.E.D. n.d.).

This *poietical intervention* would not only *form* a *mental image* of the *sign* that the performer had processed and *intercepted* in his/her instrumental action, but would also contribute to the ***transformation***

> “change of form, nature, or appearance” (O.E.D. n.d.)

thought to let that *mental image* be ***imprinted***

> “mark by pressure, stamp, impress on the mind or memory, to stamp, engrave, compress” (O.E.D. n.d.),

shaped

> “Old English *scapan*, past participle of *scieppan* “to form, create, make out of existing materials; bring into existence; destine”. (O.E.D. n.d.)

or ***concretised***

> “to render (the abstract) concrete,” (O.E.D. n.d.)

and ***emerge***

> “to rise from or out of anything that surrounds, covers, or conceals; come forth; appear, as from concealment,” (O.E.D. n.d.)

as a new music performance.

This deconstruction created what I decided to call a *meaning-landscape*, in which I could ***err***

> "go astray, lose one's way; make a mistake; transgress, wander, be in error" (O.E.D. n.d.)

and ***explore***

> "investigate, search out, examine" said to be originally a hunters' term meaning "set up a loud cry", from *ex* "out" + *plorare* "to weep, cry" (O.E.D. n.d.)

all the possibilities that each word carries inside Plastic Extension of Music.

After unveiling this *meaning-landscape* I decided to travel inside it and think, how could I proceed to *figure out* something from this vast landscape?

4.3 (Per)form

Conscious of the heritage carried by the tradition of score-based music performances, my first question was: Do such performances, that is, staged performances where the principal aim is to ingest and make the music score disappear by *trans*-forming, *de*-forming and *in*-forming it in front of a live audience, really belong to the music performers? Classical music interpreters always have certain liberties in the performance to play and negotiate parameters in the score. And even if I consider my way of performing music to be very liberal, I still feel closer to a disposable puppet for music performances, engineered by the orders of the score, the inherited muscle memory, and the organology of plucked instruments; a puppet dressed in the costumes of the music scores, where tradition and history pull the strings in order to be approved by the oligarchic societies and political institutions of the art world.

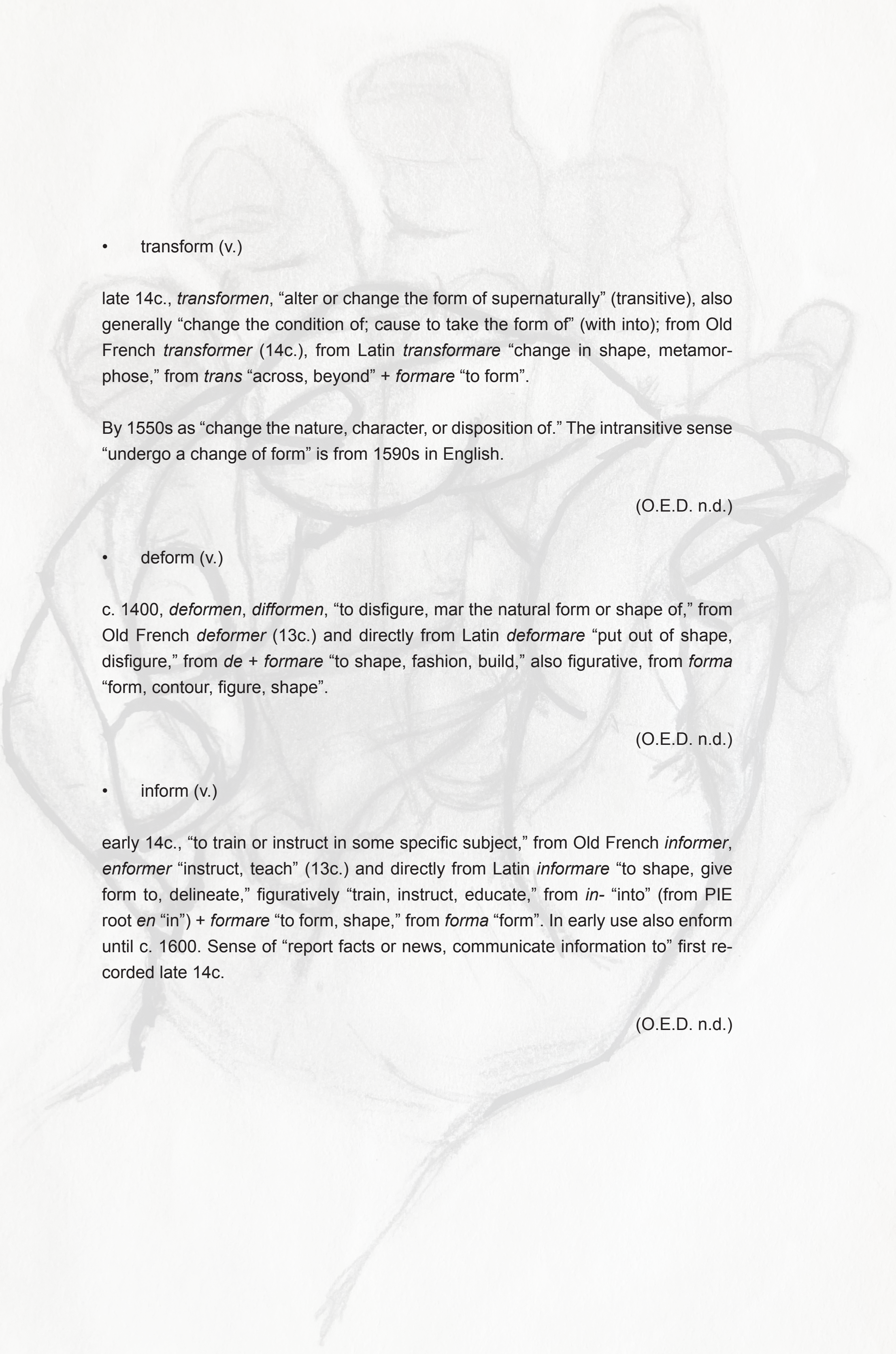
As traditional score-based music performers, we,

Trans-form the musical score into body gestures and/or movements.

De-form a visual sign, the note, into a sound signal.

In-form the musical score emerging through the hands.

These three forms constitute the foundation for canonical per-formance, by bringing forward the accomplishment of the music score with a combination of the performative body, the instrument and the score.



- transform (v.)

late 14c., *transformen*, “alter or change the form of supernaturally” (transitive), also generally “change the condition of; cause to take the form of” (with into); from Old French *transformer* (14c.), from Latin *transformare* “change in shape, metamorphose,” from *trans* “across, beyond” + *formare* “to form”.

By 1550s as “change the nature, character, or disposition of.” The intransitive sense “undergo a change of form” is from 1590s in English.

(O.E.D. n.d.)

- deform (v.)

c. 1400, *deformen*, *difformen*, “to disfigure, mar the natural form or shape of,” from Old French *deformer* (13c.) and directly from Latin *deformare* “put out of shape, disfigure,” from *de* + *formare* “to shape, fashion, build,” also figurative, from *forma* “form, contour, figure, shape”.

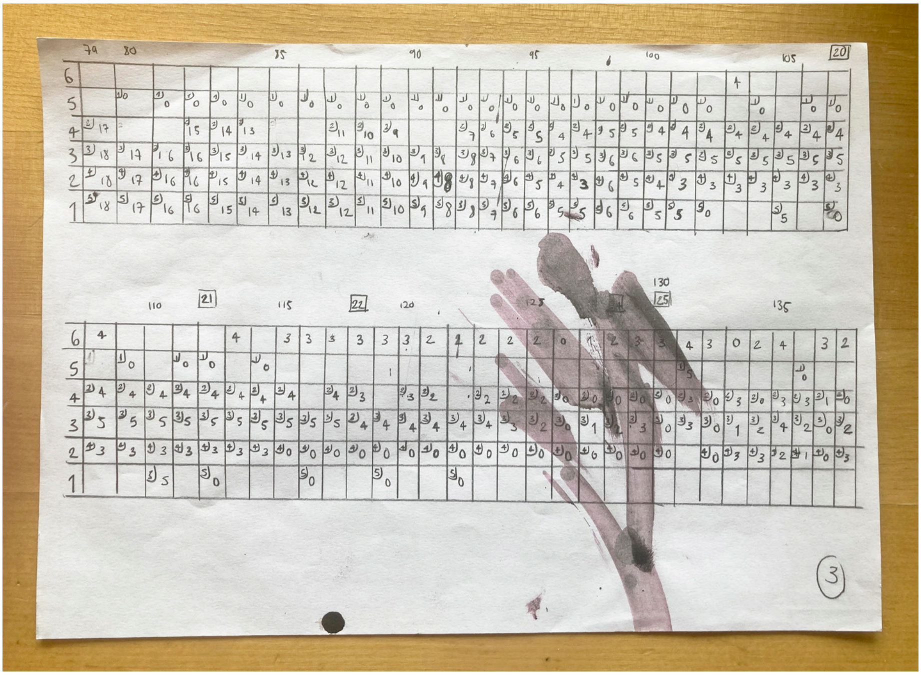
(O.E.D. n.d.)

- inform (v.)

early 14c., “to train or instruct in some specific subject,” from Old French *informer*, *enformer* “instruct, teach” (13c.) and directly from Latin *informare* “to shape, give form to, delineate,” figuratively “train, instruct, educate,” from *in-* “into” (from PIE root *en* “in”) + *formare* “to form, shape,” from *forma* “form”. In early use also enform until c. 1600. Sense of “report facts or news, communicate information to” first recorded late 14c.

(O.E.D. n.d.)

4.4 (De)construction



Chord deconstruction of *Étude IV* by Heitor Villa-Lobos © Bertrand Chavarría-Aldrete

These entities (the performative body, the instrument and the score) then start to interact, communicate and reproduce, a symbiotic act where the performer develops its *animality and individuality* and generates an *energy anchored in the muscular components of the body*, a new motricity that will become the embodied knowledge. A new ***costume***, tailored by the musical text, will be worn by the performer, putting in motion the body and instrument, both contracted and liberated by the data written in the score.

- costume (n.)

1715, “style of dress,” but also more broadly “custom or usage with respect to place and time, as represented in art or literature; distinctive action, appearance, arms, furniture, etc.,” from French *costume* (17c.), from Italian *costume* “fashion, habit,” from Latin *consuetudinem* (nominative *consuetudo*) “custom, habit, usage.” Essentially the same word as custom but arriving by a different path.

Originally it was an art term, referring to congruity in representation. From “customary clothes of the particular period in which the scene is laid,” the meaning broadened by 1818 to “any defined mode of dress, external dress.” Costume jewellery, made to be worn as an accessory to fashionable costume, is attested by 1917.

(O.E.D. n.d.)

These infinite symbiotic combinations in canonical/traditional score-based music performances are the knowledge acquired, developed, and created during the music performers' lives, an embodied knowledge that finally captivates the performer in a costume that she/he cannot get rid of himself/herself. I decided to study this embodied knowledge from its roots by analysing the score and the performer, deconstructing them into their constituent parts, their parameters, such as:

> (in the music score) pitch, intervals, dynamics, counterpoint, silences, harmony, rhythm, tempo, indicated phrasing, articulation, tonality, consonances, dissonances, text, timbre, beat, metric, accents, structure, fingerings, tablature, finger positions, mouth positions, hand positions, musical gestures…
>
> (in the performer): instrument, years of instrumental practice, muscle memory, instrumental technique, instrumental practice, experience with the music score, with the composer, or the style of music, parasite movements and habits in performance; physical or technical limitations; particularities of the performative body such as hands, feet, mouth, lips, fingers or nails; personal style of attacking the notes; personal phrasing; personal legato; personal fingerings; personal hacks…

But also including external parameters that could affect this knowledge, like the origin of the score, suggested fingerings by the editor, references, conversations or exchanges with the composer…

I was interested in learning from these parameters and how I could handle them in ways that differed from traditional implementation by using them as tools, not to perpetuate tradition but to destroy the *costume*. "[T]he destructive character sees nothing permanent. But for this very reason he sees ways everywhere. Where others encounter walls or mountains, there, also, he sees a way..." (Benjamin 1973, p. 161). This alternative implementation would automatically unveil different information that could be considered as the plastic parameters directly issued from the *animality and individuality* (Mondrian) and the *energy anchored in the muscular components of the body* (Klee) of the performer.

Knowing that this unique kind of information would be created in the individuation of the music score inside my body, where the parameters start to interact, communicate and reproduce, I decided to install this as the first imperative step in a practice that would allow me to always be linked to the score and serve as a new performance/interpretation of the music. This way, this practice would become an alternative performance of music by keeping the traditional but alternative implementation of the *trans-de-in-* formation as an exploration phase towards a new performance, "an accretion that serves as a corollary to the preceding stage". (Rothko 2004, p. 14) A performance that could be shaped in space and fixed in time as a natural evolution, "the organic continuity of art in relation to its own laws" (Rothko 2004, p. 14) of an economically decadent art form, that would reincarnate my praxis on different platforms and art worlds.

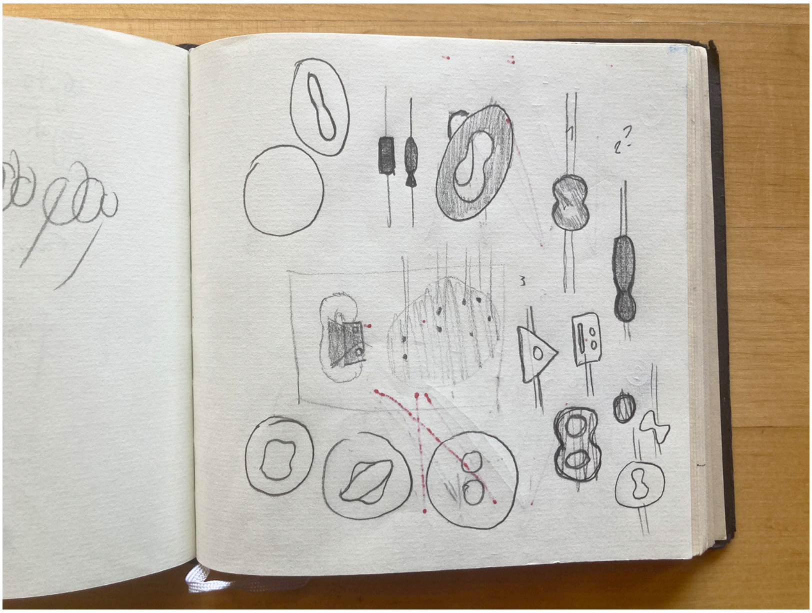
To better understand the transformation processes of this practice, I considered taking information from a different concept. Previous studies like Descartes' wax argument (Descartes 1911, p. 413) or Husserl's "eidetic reduction/variation" (Britannica n.d.) already considered a similar "transformative" idea: an intervention or "digestive" process of the human body, similar to traditional music performance. So, I searched for an earlier and probably more "animal" and artistic way of thinking—like Antonin Artaud (1896–1948) in his essay *The Theatre and its Double* from 1938—with the alchemical concept of *putrefaction* by Paracelsus:

> Putrefaction is the beginning of all emergence... It transforms figure and essence, forces and virtues of Nature. In the same way that putrefaction inside the stomach transforms all foods and forms a paste, it also occurs outside the stomach... Putrefaction is the midwife of great things! Many things multiply through it so that a noble fruit is born; because it is the reversal, death and destruction of the original essence of all natural things, rebirth and new birth arise from it in multiple improvement... But this is the greatest and maximum mystery of God, the deepest secret and miracle that He has revealed to mortal man.
>
> (Paracelsus 2001, p. 182)

Since I was deconstructing the performative act into parameters and then combining them towards a new *likeness*, the concept of destruction of the original essence to be reborn through putrefaction became more appealing and closer to the transformation process that I was aiming for, in order to investigate alternative implementations of the potential plastic parameters.

4.5 Poietical intervention

> In the work progress there were musical moments I couldn't hear, that finally I heard and even unravelled through movement.
>
> (Dembelé, 2019)



Sketch for Plastic Extension of *Étude VI* by Heitor Villa-Lobos © Bertrand Chavarría-Aldrete

In order to study and use these parameters and their putrefaction, they would need to be acknowledged, studied, imagined and ***recollected*** from their origin in the score and analysed in the form they take (the plasticity) inside each performing body. This new mental state, where the performer is thinking of something that did not previously exist, is the *poietical intervention*, the first step in Plastic Extension of Music as a practice.

This new mental state would trigger the recollection of the parameters, a gleaning phase that I will call *plastic awareness*, a phase taking place in the instrumental praxis that involves examining the gestures, the performer's body, the production of sound, and the relationship these parameters have with the organology of the instrument, which is the symbiosis between the music score and the performer.

- recollect (v.)

“to recover or recall knowledge of, bring back to the mind or memory,” 1550s, from Latin *recollectus*, past participle of *recolligere* “to take up again, regain,” etymologically “to collect again,” from *re-* “again” + *colligere* “gather”. Related: *Recollected*; *recollecting*. In form and origin identical with re-collect, but the pronunciation and sense depend upon the noun recollection.

Remember implies that a thing exists in the memory, not that it is actually present in the thoughts at the moment, but that it recurs without effort. *Recollect* means that a fact, forgotten or partially lost to memory, is after some effort recalled and present to the mind. *Remembrance* is the store-house, recollection the act of culling out this article and that from the repository. He *remembers* everything he hears, and can *recollect* any statement when called on. The words, however, are often confounded, and we say we cannot *remember* a thing when we mean we cannot *recollect* it. [Century Dictionary, 1895]

Beasts and babies *remember*, i. e. *recognize* : man alone recollects. This distinction was made by Aristotle. [Southey, “Omniana”]

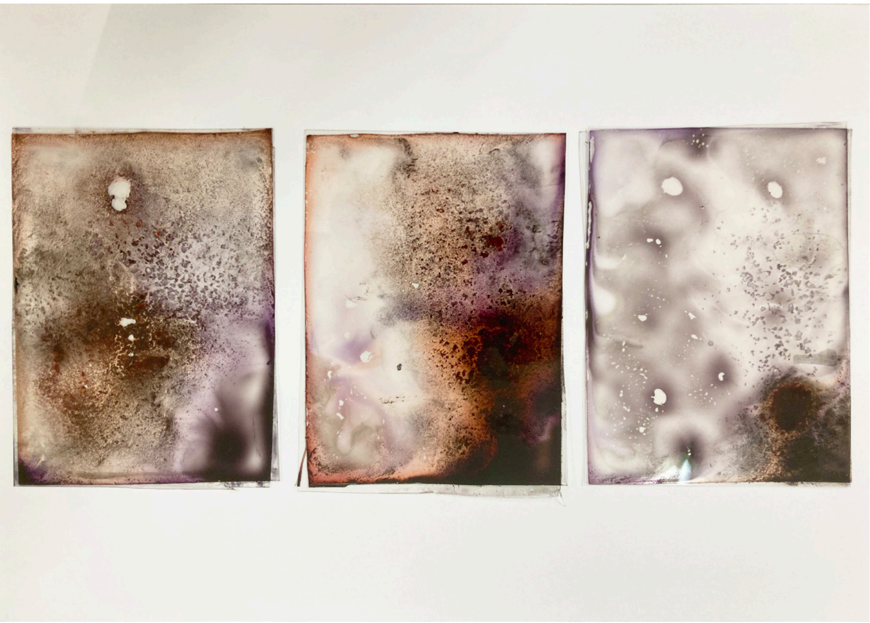
(O.E.D. n.d.)

This phase would give the possibility to harvest the putrefaction of the parameters inside each performative body, to seek and imagine their plasticity, shape them and finally display them in a new and different performance that could transcend the *ephemeral condition*, to open the impossibility of fixating music performance in time and space.

Plastic awareness would aim to unveil and accentuate the infinite differences and the uniqueness (the putrefied parameters) that each performative body has created in their performance of the music score, allowing latent visual potentialities of music to emerge by *forcing the door of thought*:

> I propose to characterise this instance (plasticity) as a conceptual symptom. The signs are present, today, of what plasticity requires to access to the concept. To access, in other words, the status of a condition of intelligibility. I would like to mark or notice this critical moment where a simple predicate, "plastic," of simple nouns, la plastique (the plastic form), le plastique (the plastic flexibility), or le plastic (the plastic material), are in some way lacking/suffering of structure, and demanding a generic imprint, the "ity" of "plasticity," which seals their community, which it transforms into a point, into an offensive stylus capable of forcing the door of thought. To the extent that plasticity designates everything relating to the emergence of form in general, it is extremely interesting to witness the emergence of the form of plasticity itself, its metamorphosis into a concept.
>
> (Malabou 2003, p. 31, Translation by BCA)

4.6 Transgeneric symbiosis



First test of colour “translation” of 3 chords from *Étude IV* by Heitor Villa-Lobos © Bertrand Chavarría-Aldrete

The richness and uniqueness of the plastic parameters lie in the ***symbiosis*** of both singularities, that is, the music score and the performer, who, with their differing ethnographies, allow for an exponential number of new putrefied parameters.

A multiplication of parameters inside each symbiosis of both singularities to create new data through their alchemical putrefaction that can be recollected inside *plastic awareness*. Once the potential plastic parameters are acknowledged, studied, imagined, recollected and finally chosen, the poietical intervention will trigger a next step: the thought of where this new mental image of the plasticity of the parameter(s) will emerge and take form: the *transgeneric practice* at the core of *creative criticism* (see Landeroiun).

> …the critic reproduces the work that he criticizes in a mode that is never imitative, and part of whose charm may really consist in the rejection of resemblance, and shows us in this way not merely the meaning but also the mystery of Beauty, and, by transforming each art into literature, solves once for all the problem of Art’s unity.
>
> (Wilde 1991, p. 32)

This alchemical phase is where the performer imagines the creative methods of transformation, alternative platforms and possible structures for those chosen—and *suffering of structure*—plastic parameters to emerge outside the instrumental practice and be ***imprinted***.

This phase, full of new ideas and liberty for the performer, opens the door for a multidisciplinary artistic research outside their music instrument. By testing new inventions to associate, transpose, shape and extend their own plasticity issued from their alchemically putrefied parameters on the different materials issued from other disciplines, *forcing the door of thought*, so the performer can leave a trace/sign of their *animality* in a new art form originated and shaped by their own and unique bodies.

This transgeneric poietical phase is built upon a new ground that would become the virtual plinth of the future Plastic Extension; creating a new timeline and degree zero performance of the music score issued from this phase. A step that impels the creative process of the transposed plastic parameters in the materials *towards* their new *image*, their *performance*.

> …the invention of the arts has not come to an end, and that is why no one who has found something new or undertakes the enterprise of searching for something unknown should shrink from the attempt... Attention must be paid to those who seek and daily find something new, be it what it will: in the arts or in the revelations of natural wisdom. Because it is the sky that produces it. Thus, new doctrines, new arts, new regulations, new diseases, new medicines follow each other, because... at every moment heaven exercises itself in this practice. And the sentence has been given to humanity as to what the human being should take from it and what not…
>
> (Paracelsus, 2001 p. 171 Trans. BCA)

- symbiosis (n.)

1876, as a biological term, “union for life of two different organisms based on mutually benefit,” from Greek *symbiosis* “a living together,” from *symbioun* “live together,” from *symbios* “(one) living together (with another), partner, companion, husband or wife,” from assimilated form of *syn*- “together” + *bios* “life” (from PIE root *gwei*- “to live”).

Given a wider (non-biological) sense by 1921. An earlier sense of “communal or social life” is found in 1620s. A back-formed verb *symbiose* is recorded from 1960. Either of the two organisms is a *symbiont* (1887; earlier in German).

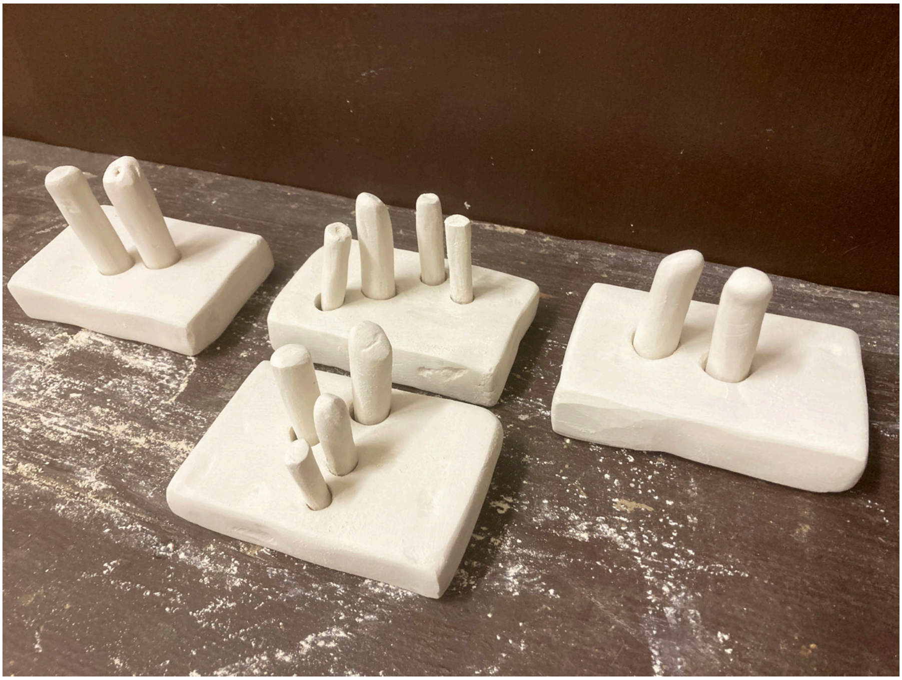
(O.E.D. n.d.)

- imprint (v.)

formerly also *emprint*, late 14c., *imprenten*, *emprenten*, “to mark by pressure, stamp; to impress on the mind or memory,” from Old French *empreinter* “to stamp, engrave, imprint,” from *empreinte* “mark, impression, imprint” (13c.), noun use of fem. past participle of *eimpreindre* “to impress, imprint,” from Vulgar Latin *impremere*, from Latin *imprimere* “to impress, imprint,” from assimilated form of *in*- “into, in, on, upon” (from PIE root *en* “in”) + *premere* “to press, hold fast, cover, crowd, compress” (from PIE root *per*- “to strike”).

(O.E.D. n.d.)

4.7 The concretisation of music



sempre mordiba (2021) First four chords in clay from *Étude I* by Heitor Villa-Lobos © Bertrand Chavarría-Aldrete

How, then, could the parameters emerging in the symbiosis of the score and the performer be applied to a material, to concretise their motion and *witness the emergence of the form of plasticity itself*? My expectation was that the association of these putrefied parameters with a material that was possible to imprint would create a new poietical step. A transgeneric poietical process of the ephemeral into the concrete, that would imagine the imprinting and shaping of the *intercepted* parameters. A series of parameters that are often hidden or in motion, therefore almost impossible to perceive from the perspective of traditional practice and performance.

This concretisation of the plasticity would emerge in materials or objects that can be imprinted or shaped by the performer, that is, drawings, sculpted objects, video, photography, installations, or any other media able to contain the imagination and plasticity of the parameters.

This new and unique contact with music is a moment that extends the performer towards the exploration of different art worlds, an artistic research phase when the entire plasticity of the brain, hands, music score, parameters and media connect and coordinate, a multisensory and multidisciplinary experience towards the transposition, transmutation and creation of the music performance into the materials.

With this approach, I wanted to investigate if this concretisation phase could also, potentially, develop a series of epistemic outcomes for the traditional instrumental performance, thus creating an alternative symbiotic act between the score and the performer, a transductive condition of the performer where the instrumental and the plastic aspects communicate and evolve together.

These newly manufactured objects would become "metaphorical containers" (Lakoff & Johnson, 1980, p. 29), models of music interpretation and performance that are manufactured with the same hands that also perform the music. This means a metamorphosis of the parameters induced by the performer that would assign a different life to each Plastic Extension, an extension of the score and its performance in a parallel timeline through the plasticity imprinted or shaped in these new metaphorical containers.

This approach allows one to imagine infinite transgeneric performances of the same music score by considering the diversity of the always-evolving parameters in the symbiosis and also the always-in-motion poietical intervention, a plastic awareness that constantly detects, imagines and analyses new potentialities towards the manufacture/concretisation and their emergence in form imprinted on any media that the performer considers, and in a way, similar to the 700 etchings that Gustave Doré was able to create from the texts of my hero François Rabelais.

4.8 Auratic splitting

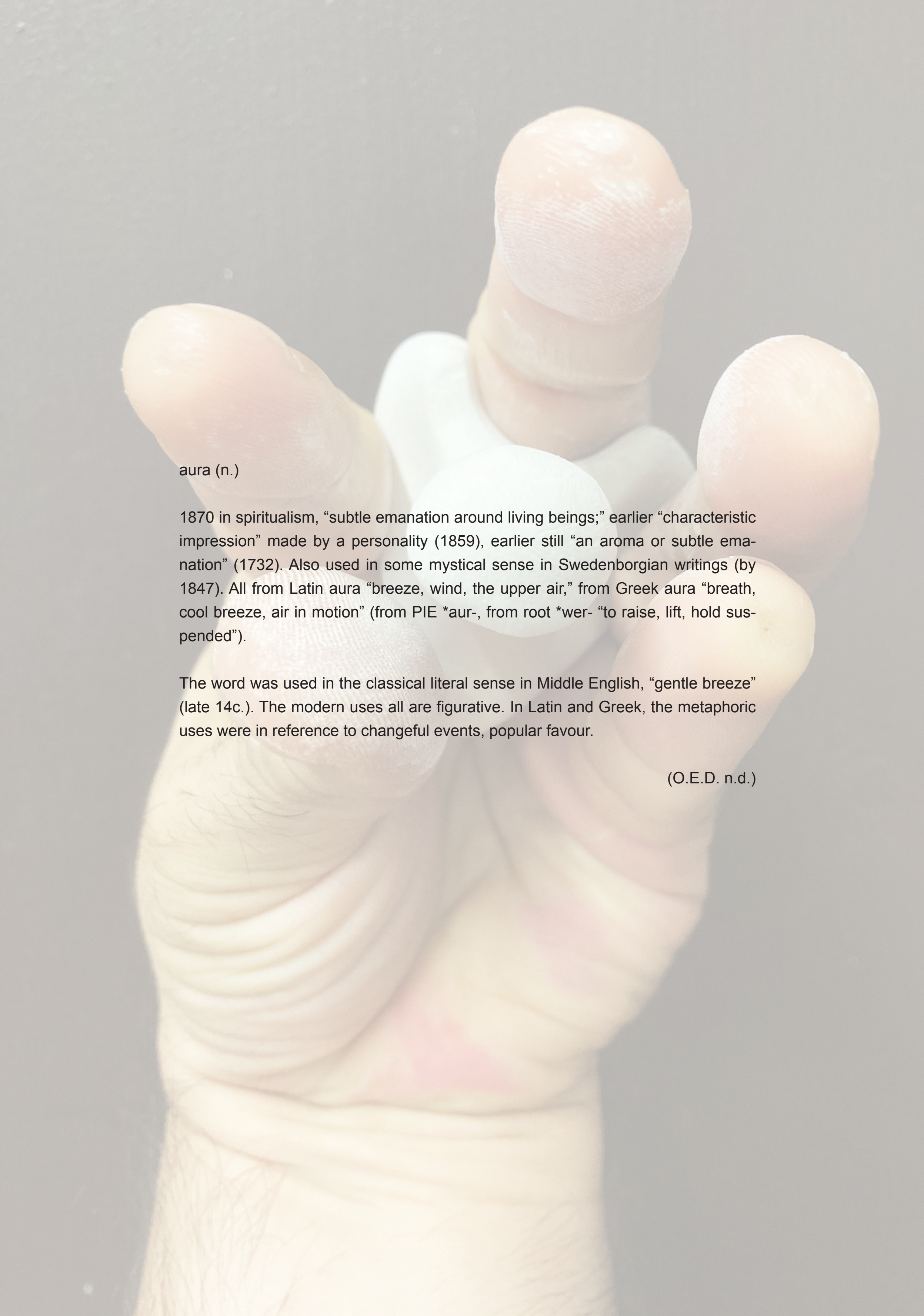
Through the fabrication and manipulation of the imprinted material, I became aware that those objects carried physical traces of the performer.

> The earliest writing he learned to read was that of traces: it was a kind of rhythmic musical notation that had always existed; It was printed spontaneously on the soft ground, and the man who read it associated with it the noise of its origin.
>
> (Canetti 2003, p. 91)

These personal plastic parameters took form and emerged in the objects that would conceal not only the plasticity of the performance but also carry the memory, body, and experience of the performer. This act of imprinting the plasticity would infuse life and breath into the object, an ***auratic*** *splitting*, and a dehiscence of the performer.

> Every visual something, as individual as it is, functions also as a dimension, because it is given as the result of a dehiscence of Being.
>
> (Merleau-Ponty, 2021, p. 85)

This act allows the performer to disappear from the performance, a *right to be forgotten*, which I believe is where the extension and elasticity of the performer are revealed in this practice. It is through her/his absence that the living present material is activated to express itself in a metaphorical state. A new presence/absence—the metaphors—of the traditional performing act, for the spectator to interpret and trigger the next step in Plastic Extension: the co-creation, a symbiotic act between the concretised parameters imprinted in the living objects of Plastic Extension of Music and the spectator.



aura (n.)

1870 in spiritualism, “subtle emanation around living beings;” earlier “characteristic impression” made by a personality (1859), earlier still “an aroma or subtle emanation” (1732). Also used in some mystical sense in Swedenborgian writings (by 1847). All from Latin aura “breeze, wind, the upper air,” from Greek aura “breath, cool breeze, air in motion” (from PIE *aur-, from root *wer- “to raise, lift, hold suspended”).

The word was used in the classical literal sense in Middle English, “gentle breeze” (late 14c.). The modern uses all are figurative. In Latin and Greek, the metaphoric uses were in reference to changeful events, popular favour.

(O.E.D. n.d.)

4.9 Co-creation

Exhibition of *coyote* at Retramp gallery in Berlin, Germany © Bertrand Chavarría-Aldrete

When presenting my first Plastic Extensions and engaging in a dialogue with the spectators, I always had the same question: "How does it sound?" To this reiterative question, I always answered, "this represents this… this was issued from…those are…". I started explaining the metaphors and would see how the spectators started to imagine and interpret what I was explaining; some of them even choreographed certain guitar gestures with their hands during my explanation. I understood that these metaphors, besides representing a music performance, have no particular laws or rules of interpretation to be rendered or recreated; at the same time, they are open to any physical, cultural or mental interaction.

These experiences led me to speculate about the ability to trigger a new virtual plinth for the music performance with Plastic Extension: the mind of the spectator. Here, the imagination and creation of the present/absent music performance could take place inside and during a new poietical phase.

This led me to explore the possibility of Plastic Extension to become a new living space, a habitat where the traditional listener could wander and become a spectator of the performance, inhabiting and interpreting the performance instead of being a passive witness. These spaces would inspire other perspectives and interpretations than the unidimensional canonical performance. The spectator would become a new performer of the absent original music contained in the metaphors, acting similarly to Barthes's description of modern poetry:

> "In modern poetry, on the contrary, words produce a sort of formal continuum from which it gradually emanates an intellectual or sentimental density impossible without them; speech is then the thick time of a more spiritual gestation, in which "thought" is prepared and installed little by little by the fluke of words. This verbal fluke, from which the ripe fruit of a meaning will fall, therefore presupposes a poetic time which is no longer that of a "fabrication", but that of a possible adventure, the encounter of a sign and an intention."
>
> (Barthes 1972, p. 34-35, Trans. BCA)

If Plastic Extension could become an inhabitable space, I could imagine a situation where the past listener, now spectator, could constantly create new and evolving "musics" and "performances" of the extended work, this time in a different space and timeline, which is the mind of the spectator, a poietical phase triggered by a "system of signs" (Baudrillard 2010, p. 11-12) of the absent music performance of the piece, "the erasure of the thing" (Baudrillard 2010, p. 11-12) present in the metaphorical containers.

> However, what really interested me was not so much the manufactured object itself but what the objects said to each other, the system of signs and the syntax that they developed…It was entering the reign of the sign where nothing happens so simply, because the sign is always the erasure of the thing. "The object designated the real world and also its absence
>
> (Baudrillard 2010, p. 11-12, Trans. BCA)

The creative process that I was designing for the Plastic Extension in combination with its reception—the visual representation of the absent traditional music performance—and its original sonic qualities disposed in an inhabitable but also anachronic/catachronic space for the spectator, allowed me to imagine that Plastic Extension could open the way for infinite and heterogeneous autopoietic methods of self-creation for the score, besides its canonical rendering.

This new format and physical/auratic condition of music performance made me speculate that Plastic Extension of Music could make music performance impossible to copy. It would become irreproducible and un-recordable due to its co-creative quality triggered by the metaphorical containers: "These symbols, which indicate what one might call philosophical states of matter, already put the mind on the path to this ardent purification" (Artaud 1997, p. 49)

Metaphorical containers with symbols that only human beings are able to perceive, interact and finally record, away from the machine, with the objective to redesign music performance for its irreproducibility, by forcing a symbiosis and collaboration from the spectator "to rethink and reconstitute the solids following this spiritual line of balance where they have finally become gold again" (Artaud 1997, p. 49) to see and hear the performance.

When recapitulating this entire process, I could see that the steps taken in Plastic Extension of Music are heading towards a liberation from the canonical/traditional praxis. Plasticity is not only present in the parameters, the practice or the material but also in the performer. Here, the performer is allowed to extend his/her capacities beyond the instrument and the rules of score-based music to expose her/his artwork created with his/her own plastic data in a new universe where there is no tradition.

This extension of the performer liberates her/him from their costume by reaching and communicating with/and other practices, a *metamorphic emancipation* path towards singularity.

The metamorphosis is unique.
The masks are many.
What am I?
I am.
I am the "what".
And so, with the heart beating,
I create myself
Until I arrive to the seed.

Extract from the film *Obscuro Barroco* by Evangelia Kranioti

Chapter 5 - Artistic works: Six Plastic Extensions of Music

5.1 Introduction

The following six artistic works were made following the concepts that were exposed in the previous chapter.

In this chapter I will expose different methods of performance of six different music scores. I will then proceed to analyse and reflect upon each output with the objective of collecting data that will help me to design a shareable creative process, based on material and artistic outputs, instead of theoretical concepts. This will be presented in the description of the public workshop (Chapter 6).

The extended music scores are by Manuel M. Ponce, Heitor Villa-Lobos, and Domenico Scarlatti. Each artistic output will be analysed in the following structure.

Type: In this section I mention the genre of artwork that the Plastic Extension took its form from and also the type of Plastic Extension. During this research project I was able to create thirteen Plastic Extensions of Music and two works-in-progress. This practice-based research allowed me to identify three types of extensions with different qualities.

- The first type, A. Integral, displays an entire parameter of the performance inside a coherent structure, in which the material, as a representation of the extended characteristics, can relate, identify and distinguish itself by displaying the alterations of the material in direct relation with the measurable parameters from the performance.

- The second type, B. Partial, exposes specific fragments of the performance; these fragments are fixed fractions of time inside the performance, metaphorical containers of those fragments that become a unique object with its own particular structure and materials.

- The third type, C. Representative, represents the mental imagery created from and through the embodied knowledge developed in contact with the score.

Details and material: Here I mention the materials in which I decided to imprint the plasticity and their size once placed in space.

Date and place: The date and place where the Plastic Extension was created.

Source: The music score that is extended.

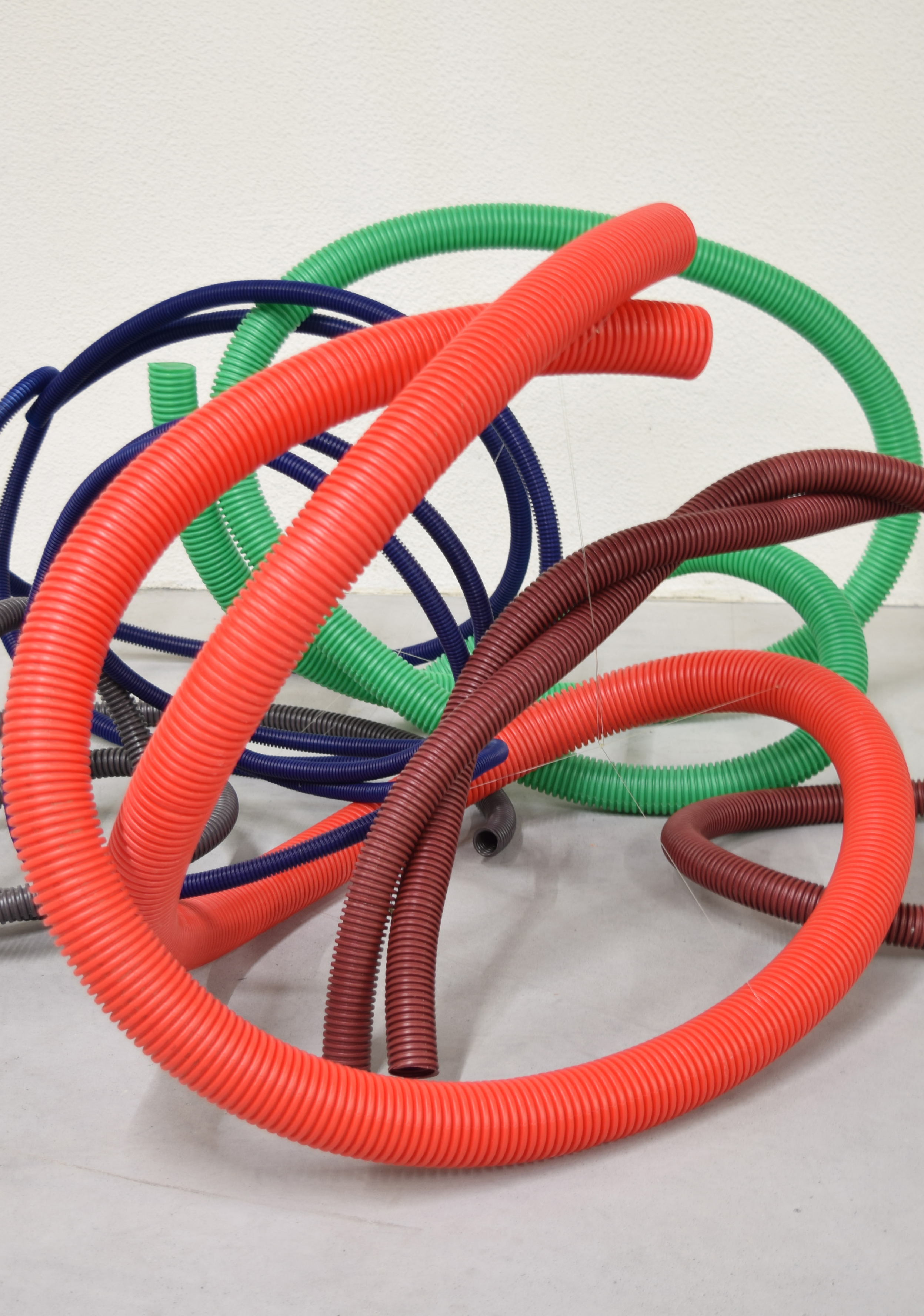
About the music: A section where I give a general description of the music.

Background: In this section I describe my personal approach to the music and stories of how I started working on the pieces.

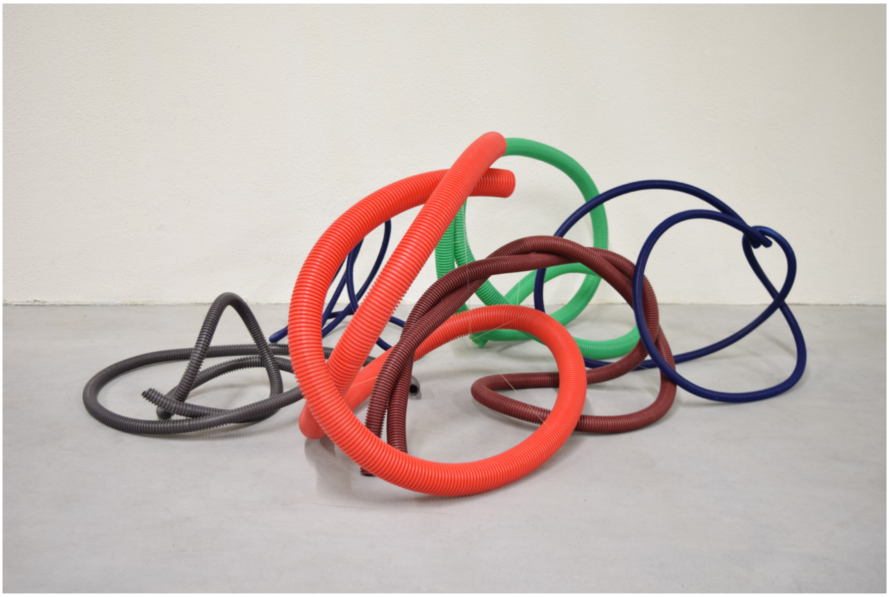
Plasticity parameters: Here I mention which the chosen plastic parameters of the piece are (see chapter 4.6 Transgeneric symbiosis)

Methods and process: A section that explain the creative process of each extension in detail,

and finally a **Reflection** part, with my conclusions and personal thoughts about each extension.



5.2 *forced ergonomics [six strings for improvisation]*



forced ergonomics [six strings for improvisation] © Bertrand Chavarría-Aldrete

Type: Plastic Extension of Music Type B (Partial) - Modular installation

Details and material: 6 plastic tubes of different diameters bent, fixed and attached with fishing string. The size of the installation and display are undetermined.

Date and place: October-November 2020, Castelo Branco, Portugal

Source: 6 Preludios cortos [1947], by Manuel M. Ponce [Mexico, 1882-1948]

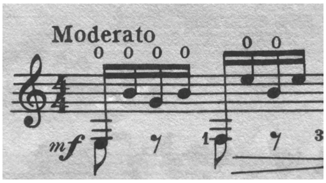
About the music: This collection of preludes forms part of the few works for guitar that Manuel M. Ponce did not write for Andrés Segovia. The work is dedicated to the daughter of composer Carlos Chávez (1899-1978), Juanita Chávez, who was learning the guitar. The fingerings and edition were made by Mexican guitarist Jesús Silva (1914-1996).

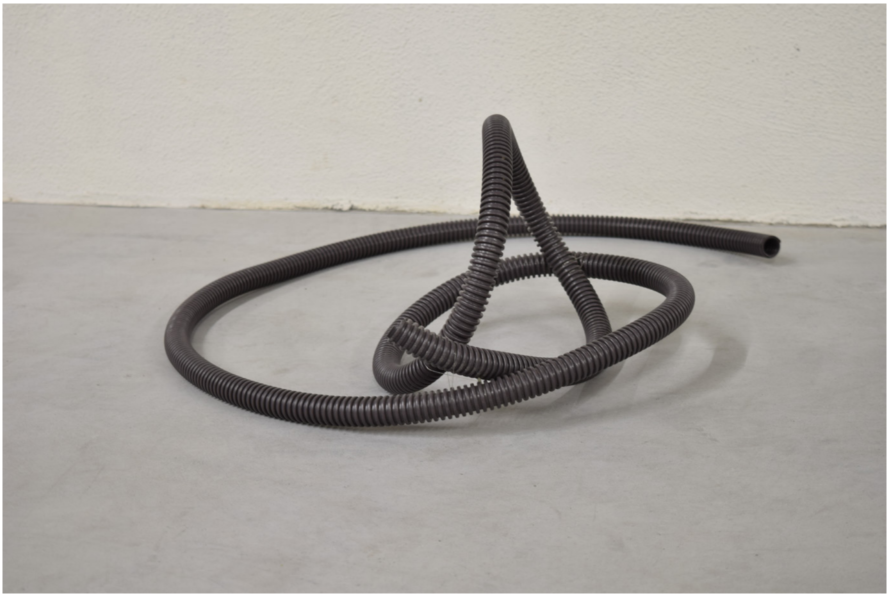
Background: These preludes were some of the first pieces I worked on by Manuel M. Ponce. In my first year at the Escuela Superior de Música y Danza de Monterrey in Mexico, I remember starting to learn some of these preludes in secret since my teacher, Pedro S. Salcedo (who is today a very good friend), wanted me to exclusively work on a non-exhaustive amount of guitar technique methods before working on these or any other pieces. After a heated discussion with him about me playing these preludes in class instead of the exercises of guitar methods, he got me expelled from the school. Many years later, I recorded these preludes on the album *[p]ers[on]a mis[ce]llanea* at Odradek Records [ODRCD393] in 2019.

Plasticity parameters: Finger movements from left and right arms

Methods and process: Thinking about the methods of guitar technique that I avoided with my teacher Pedro S. Salcedo, I wanted to know if it was possible to capture and arrange all those technical flaws and parasite movements that I had created in my first years as a semi-autodidact guitarist, from a different perspective and with another method. So, I decided to choose one gesture from each prelude, capture it, and unveil it in space by fixing it in time and space and analysing the results. At that time I knew that I would be working with motion capture technology at the Humanities Lab of Lund University, but I wanted to see if I could make my own kind of analogue motion capture technology and capture my gestures. I imagined I could do this by tracing the plasticity of my performance on my own and concretising it in the plastic tubes by shaping them into the motion/plasticity of my performance. In a way, I wanted to create a proto-3D printer with my own body and technology.

First gesture:

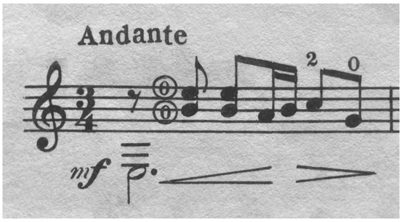


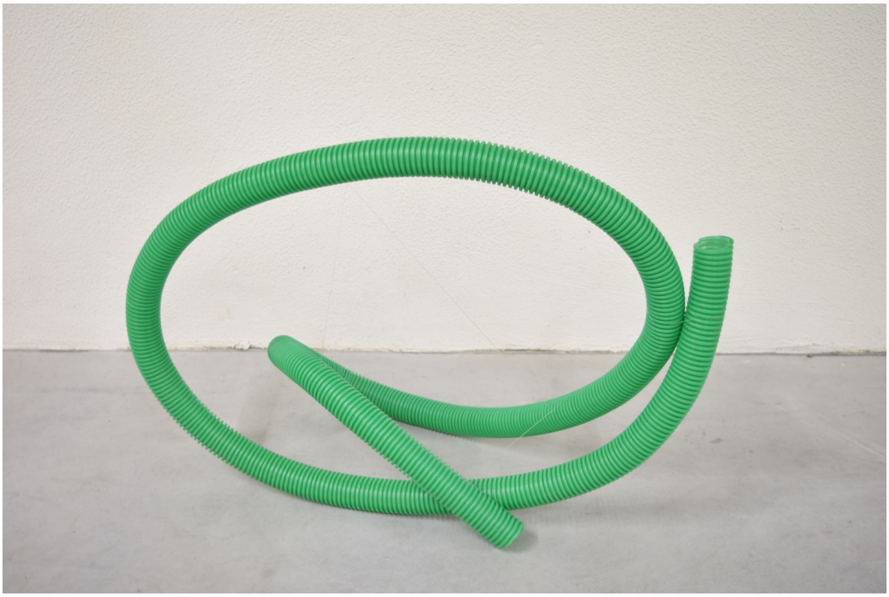


Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

The thumb of my right hand (RH) has a very particular movement when plucking, a movement that combines the finger abductor and both proximal and distal phalanx, creating often so called parasite movements that have absolutely no use for the music or playing the guitar. In this first "printed" gesture, I wanted to display and learn the most effective thumb attack (using only the abductor muscle), a gesture (plucking the open sixth string) that is also the first note of this first prelude. I started to observe, analyse, trace and finally recollect the plasticity of how to do that first movement more effectively, which was a semi-preparation of the finger over the string, a slight move to take a distance from the string, then plucking the string and coming back to the string to cut the resonance indicated by the quaver rest. This first sculpture imitates that "effective" thumb attack from my perspective and is represented in this proto-motion capture in space.

Second gesture:

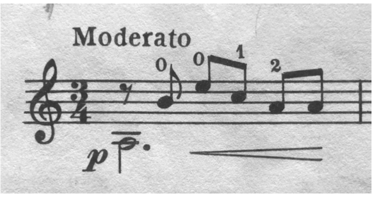


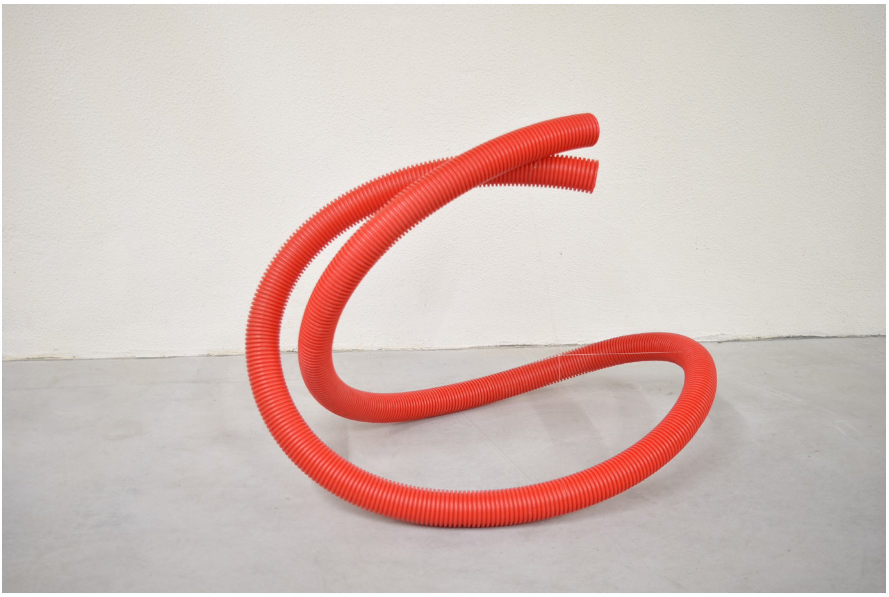


Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

In this circular sculpted gesture, I wanted to show the mental image of the left hand (LH) movement in the first measure of this second prelude. Here the A note is pressed with finger 2 (middle), followed by the open second string of B, to then press C with finger 1 (index —there is an "errata" in the score indicating finger "2"—), while releasing finger 2, to leave G to pluck the open string. This phrase had created a mental image of a circle to have a good legato in the phrase, a mental image of the circular gesture that finishes on the release of the second finger to pluck the third open string.

Third gesture:

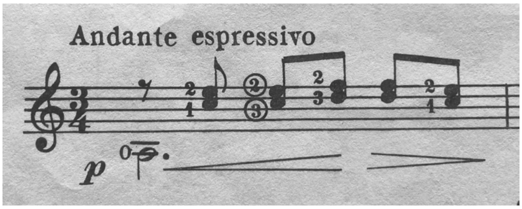


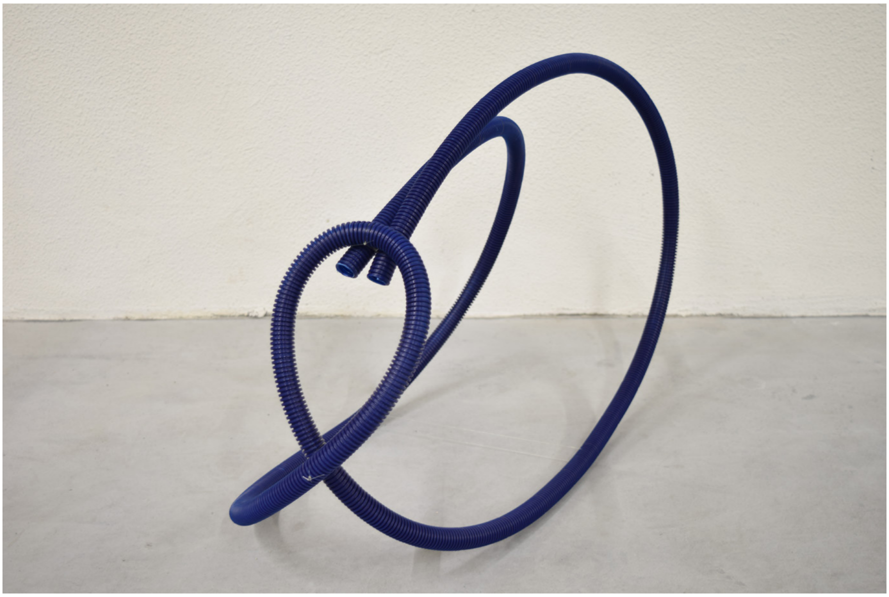


Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

In this sculpted gesture, I experimented with creating a motion capture of the movement in the fingers on the LH and the attacks from the RH. My mental image was again of an open space (the base), which are the first three notes that gradually close with the pressed C with finger 1 (index) on the second string to finally conclude in two A notes (the top of the sculpture) attacked by the RH and pressed with finger 2 (middle) of the RH on the third string. Curiously enough, in the score the position of the notes also opens and closes the space.

Fourth gesture:

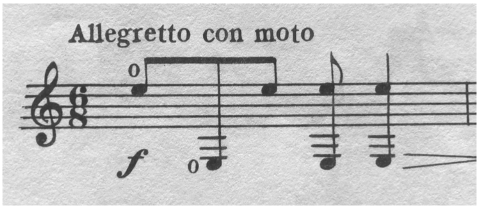


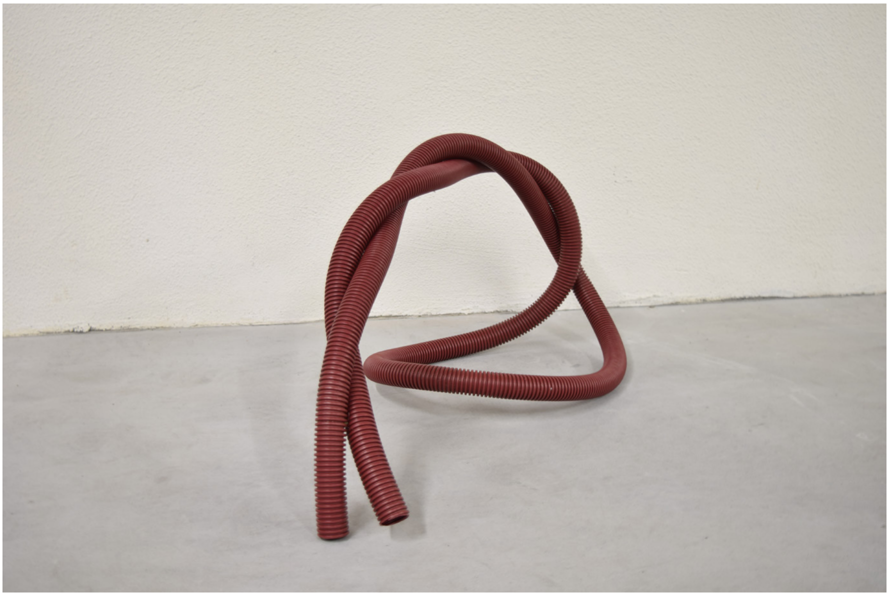


Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

In this sculpted gesture, I wanted to represent the finger and hand movement and the very particular sensation of having a finger 1 bar (index) over the strings and landing fingers 2 and 3 (middle and ring). In this measure I start with a 1/2 finger 1 (index) bar (instead of 2 and 1 as indicated on the score and certainly an "errata") to press E and C that I represent in the sculpture with the frontal open space in the picture, where then fingers 2 and 3 land easily on D and F, "over" the first finger bar, represented by the two endings of the tube entering the frontal open space.

Fifth gesture:

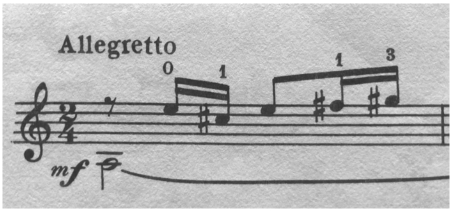


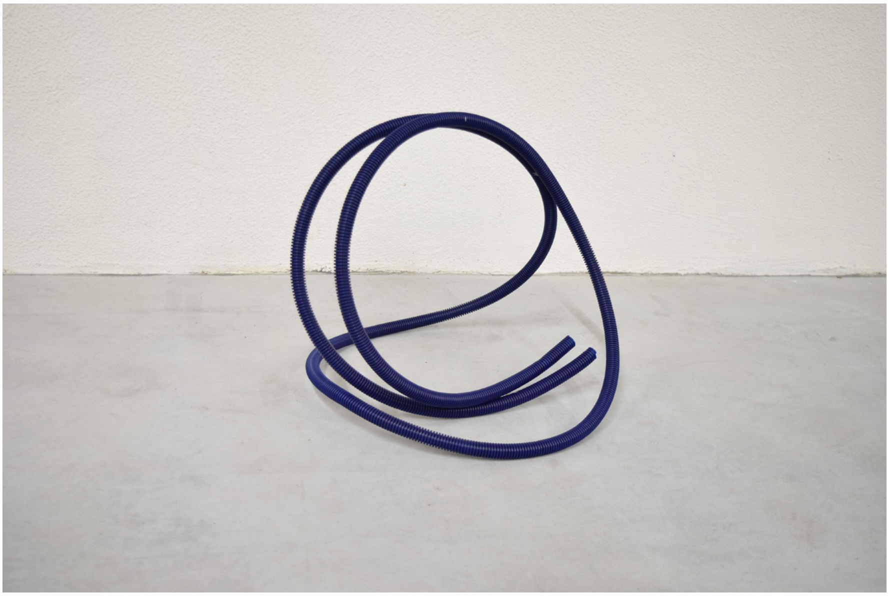


Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

In this sculpted gesture I wanted to capture the RH playing the open 6th and 1st strings. This gesture is the most open position for the RH in a classical guitar that creates a void in the hand (represented by the open space in the base of the sculpture), this void keeps open, but then it closes when the notes are plucked together (represented by the twisting).

Sixth gesture:





Detail from *forced ergonomics [six strings for improvisation]* © Bertrand Chavarría-Aldrete

In this sculpted gesture I wanted to create a mixture of a mental image and physical gestures. This gesture represents the void between the palm on the LH and finger 2 (middle) pressing the C#, while medium and index fingers on the RH play E and C# inside the negative space created by the hand, represented by the two endings of the tube inside the void.

I created these sculptures by twisting the tubes in the resulting shape and finally attaching segments of the tube with fishing string to keep all the sculpted gestures fixed. The title comes from the physical ergonomic gesture that is fixed (forced) in time and space. The six strings are those of the guitar, and the improvisational aspect is its free spatial display in the space of the six elements that are the piece.

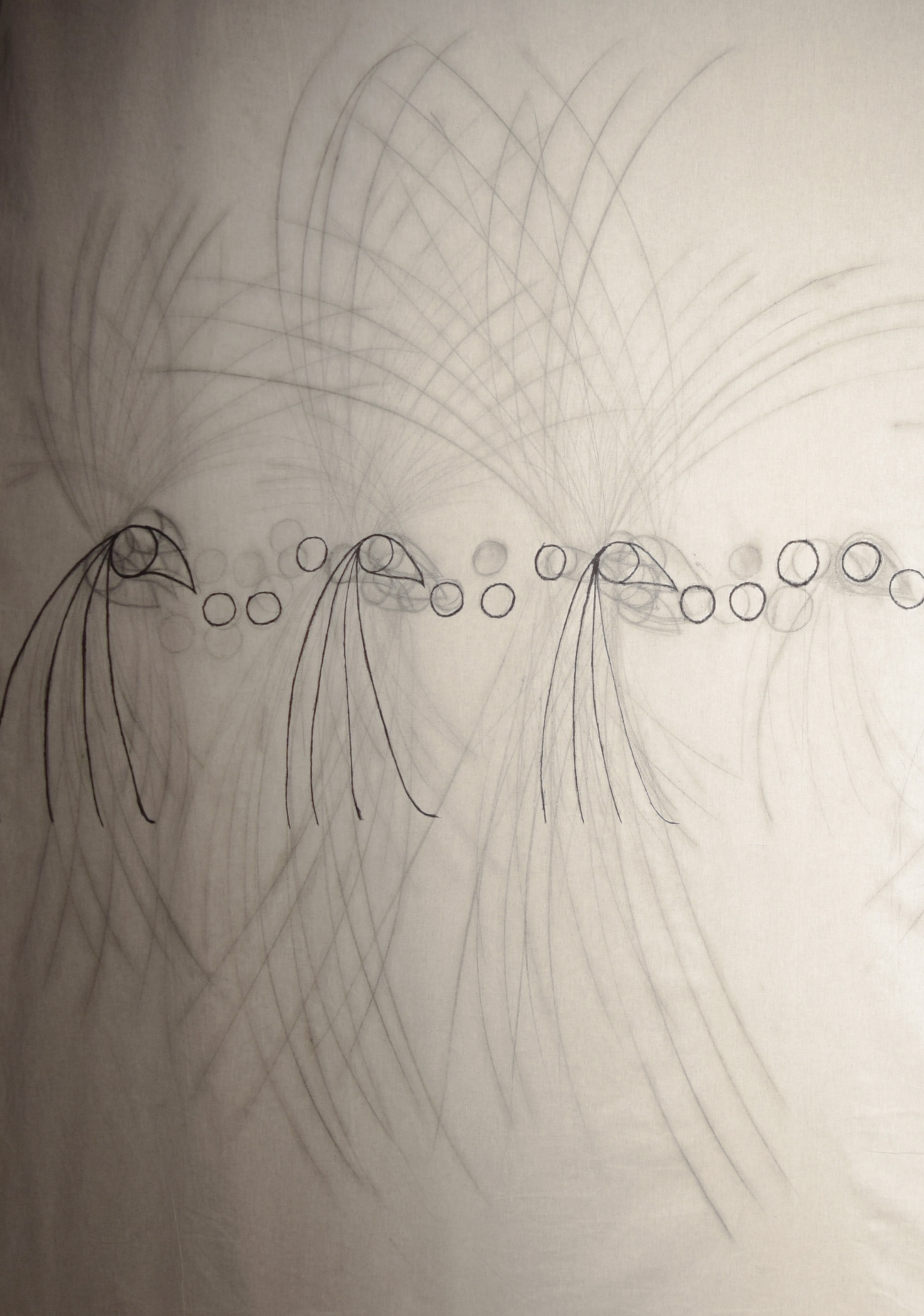
All these figures/sculptures are what I call proto-motion-captures of the gestures. These concretisations of plasticity do not have a fixed position when placed in space nor a direct plasticity relation between them, besides belonging to the same prelude collection. This piece came as an attempt to represent the gestures and mental images of these preludes in my mind as a performer. Inside this Plastic Extension I wanted to experiment with an artwork in the form of modules that could be constantly in motion, similar to the mind when performing the music, by letting a curator of an exhibition place the objects in any order or position.

Reflection: The poietical intervention of detecting the movements and isolating them had a huge positive outcome that led me to eliminate parasite movements in the instrumental performance of the preludes but also in my general playing technique.

It was through the extraction of these basic gestures that are in these pieces, and basically in almost all the classical guitar literature, that that I became fully conscious of my movements, not only on the attacks but also on their preparations and their release.

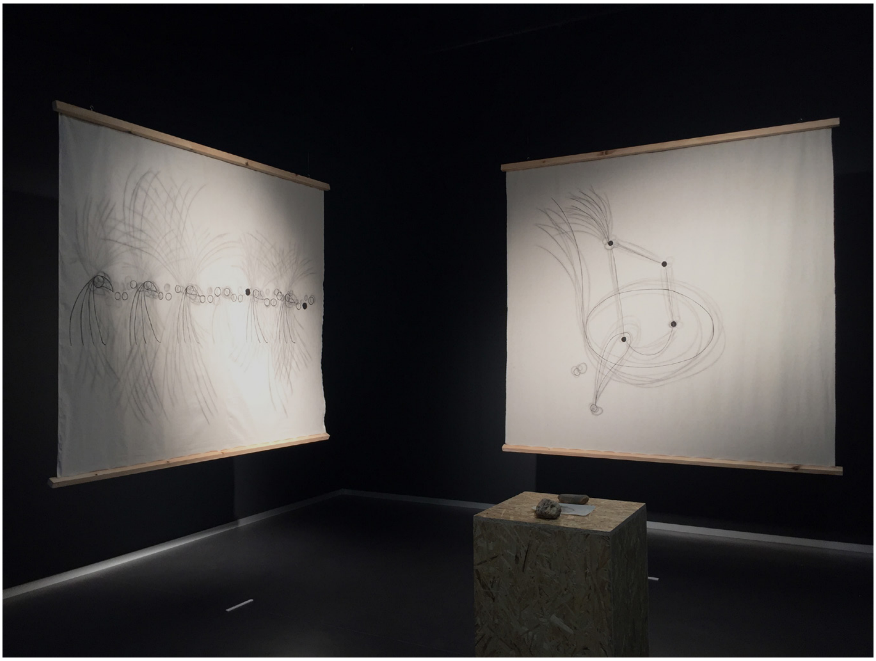
Although these sculpted gestures were mainly issued from finger movements, I may say that there was also an autopoietic aspect that unfolded once the objects were in space. By acknowledging that the objects are captured fragments of a music performance fixed in space, the object automatically triggers a symbiotic disposition that allows the creation of infinte sound identities in the imaginary of the spectator that is experiencing the work.

The undetermined disposition of the objects in space allows the spectator, the curator, and even myself, the creator, to improvise freely and recreate a different music performance with these proto-motion-captures. This Plastic Extension is a fragmented representation of the music performance of the six preludes, which creates an interactive, collaborative and regenerative performance between the performer, the objects, and the spectators.



5.3 *phantom errand [muscle memory]*

> …the most familiar object to our eyes becomes completely different if we apply ourselves to drawing it: we realise that we were unaware of it, that we had never really seen it.
>
> (Valery 2018, p. 77, Trans BCA)



phantom errand [muscle memory] © Bertrand Chavarría-Aldrete

Type: Plastic Extension of Music Type B (Partial) - Drawing Installation

Details and material: The installation consists of two parts:

1 Two canvases (200 x 200 cm, 200 x 180 cm), graphite and ink
2 Two stones, paper (20 x 15 cm), graphite and ink.

Date and place: October-November 2020, Castelo Branco, Portugal

Source: *Preludio* [1925], by Manuel M. Ponce [Mexico, 1882-1948]. Manuscript provided by Corazón Otero [Mexico, 1944-2013]

About the music: This prelude was written for Andrés Segovia in 1925 in Paris. Apparently (according to a letter from Segovia to Ponce in 1926) there was a fugue that was going to be written with this prelude. In a second letter from 1927, Segovia seems to abandon the fugue and suggests in the same letter the idea of adding a *capotasto* in the second fret of the guitar: "The capo softens a bit the sound of the guitar, and it wins in subtlety and poetry" (Alcázar, 2000, p. 41). The piece was edited at the *Segovia Collection* in Schott in 1928 with the *capotasto*.

Plasticity parameters:

1) Tension in the left hand (LH) and finger movements issued from a bad muscle memory in two passages.

2) Right hand (RH) movement to highlight a middle note in a "plaqué" chord.

Background: I learnt this prelude in 1998 for a competition in Paracho, Mexico, where it was part of the set-pieces. Like in any other music competition, there was a lot of stress from the pressure of performing faultlessly the best we could. The set-piece character of it in the competition created a lot of tension in my body and particularly in my LH when learning and performing the piece. Added to this pressure, I have to mention that the *capotasto* (as proposed by Segovia) automatically reduces the space in the fingerboard, and thus the strings have more tension than usual. As a result, the LH movements are more constrained, adding, at the same time, more string resistance for the RH attacks and LH pressure. I made it to the final, performing this prelude among other pieces, but in the final I did not receive any prize; probably by a rookie mistake, I performed Bach in the final of a music competition. More than 20 years after I took up this piece again for a recording. My technique, my musical intentions and my connection with the instrument were more mature; nevertheless, while starting to work on the piece, I saw and felt the bad muscle memory from 1998 emerge in 2019, and plenty of bad gestures from my old technique came afloat each time I would go through the piece.

I solved most of the problems by changing fingerings, which often helps a lot, and working without the *capotasto*. I managed to make a good recording (*[p]ers[on]a mis[ce]llanea* at Odradek Records [ODRCD393]), but still felt that there were three passages, two concerning the left hand and one concerning an attack of a chord with the right hand, where I still needed to free myself from that bad muscle memory.

Some guitarists, like Pavel Steidl, exchange the actions on the hands by changing the side of the guitar: the RH on the fretboard, the LH plucking; this action also inverses the strings automatically and helps to break free from bad muscle memory by practicing in this new perspective. This particular practice would become a departure point for my research in this Plastic Extension.

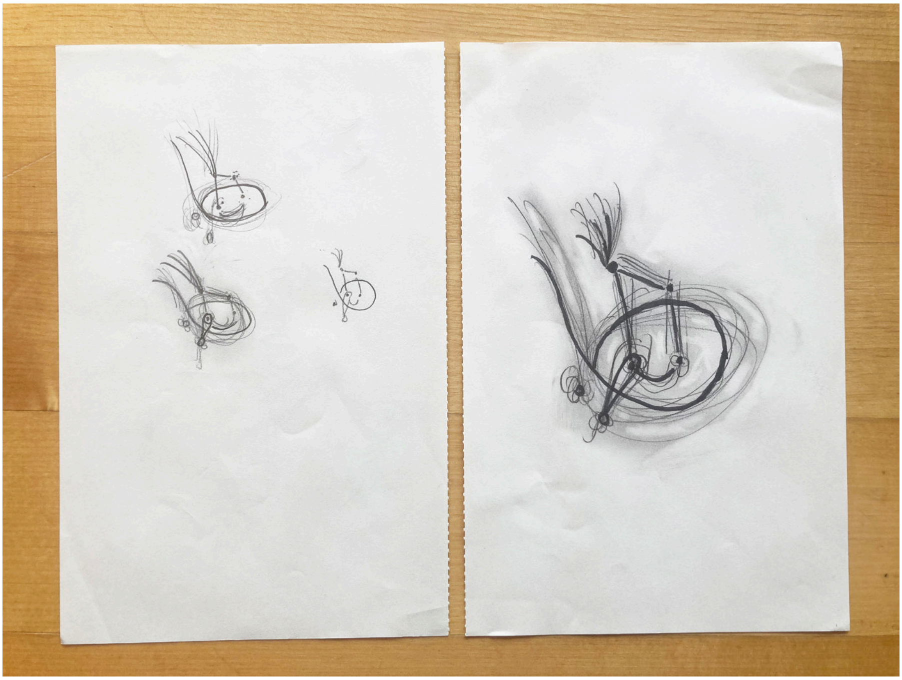
Method and process: I started by trying the technique of Pavel Steidl for the LH passages by exchanging hands and actions, but my RH nails (I play with long nails) don't allow me to use this method, so I decided to search for something similar following new neurological experiments. I wanted to investigate if the bad muscle memory could instead be released by inventing a similar experimental process as the *Phantom Limb Mirror Box* of Vilayanur S. Ramachandran (1951-):

> (About phantom limb pain) One answer might be that the brain is sending signals to the arm and trying to clench it, but in you and me (with both arms), there's messages going back from the muscles of the hand telling you you're clenching too much or too fast and this damps the command signals so you can slow down. But the patient has no feedback, because he doesn't have an arm, so the brain says "send more signals" and this goes on until you get into a sort of positive feedback loop, so I said, if you give him (the patient) some other source of feedback, such as visual feedback, maybe that'll trick the brain into thinking that the hand is clenching or unclenching and maybe you can interrupt this loop, so I said, why don't we put a mirror there and have James look inside the mirror, it's as though you have visually resurrected the phantom limb, and of course the patient knows it's an illusion but it's very very compelling.
>
> (Secrets of the mind, 2001)

Being fully conscious that this kind of tension, in the form of bad muscle memory, could be associated with a future focal dystonia (many of my colleagues have developed serious injuries due to these kinds of tensions). I searched for similar links in neurological experiments and practices that I could integrate in a new emancipation process for these particular passages. I found similar studies to Ramachandran's box, mentioning the *intermanual skill* transfer (training one limb induces embodied knowledge in both the trained and the opposite untrained limb) and the experiments on "unilateral movement disorder" (see Perez et al., 2007), a practice for patients with split-brain syndrome that have a damaged *corpus callosum*; and learnt that focal dystonia has been considered a symptom for a damaged *corpus callosum* (see Ibrahim, Fadhil, Ali, Kader, Khalid, Kumar, Kumar, and Sirsat, 2015).

Following these studies, I understood that the embodied knowledge, along with the bad muscle memory in the form of tension from the LH, was also semi-imprinted on my RH (the untrained limb) and was indirectly provoking tension in it. Even if I only felt the tension in the LH when acknowledging it, I suddenly discovered when revisiting these LH passages that I was unconsciously creating tension also in the RH. So, I decided to apply this insight to create a different method of emancipation through the creative process of a new Plastic Extension.

I wanted to study if it was possible to communicate and transpose new emancipated gestures for the LH with the RH, and if this could free me from the automatisms of the bad muscle memory in the LH by exploring them on a different surface, outside the guitar.



First sketches of the visual metaphors for *phantom errand [muscle memory :]* © Bertrand Chavarría-Aldrete

In both *phantom errand [muscle memory ·]* and *phantom errand [muscle memory :]*, the process started by creating and drawing emancipated visual metaphors—new mental images—of the two passages issued from my original LH fingerings on a paper. My instinct made me wonder what the consequences would be if I was able to enter those passages physically by zooming in or shrinking myself, to practice and solve those gestures as an artisan would do, crafting them with a different hand, format, position and perspective. So I decided to transpose the new emancipated visual metaphors of the two passages with ink over two canvases (200 x 200 cm and 200 x 180 cm), both placed on the ground. These passages on the guitar take place in an area of 1-2 centimetres approximately, but in the canvas they would take place between 50 to 90 centimetres.

These working surfaces became a transposition of the guitar fretboard, a construction site of my own size that will allow me to arrange, practice and trace the new emancipated gestures by drawing the visual metaphors with graphite in order to visually identify and trace the entire emancipative process.

Each visual metaphor was drawn in ink, serving as a guide for the process of the RH to err, unravel and emancipate the tension created on the LH. Each gesture was traced with a wide RH gesture on the canvas by simultaneously singing and imagining the real LH passage. Both the vocal sound and wide gesture traces of the graphite trajectories traced over the printed metaphors—representing the two passages issued from my original LH fingerings—would serve as a transposed physical and mental stretching of the clustered tension in my LH movements by using this variation of the intermanual skill transfer.

For *phantom errand [muscle memory ··]* the process was different. Here the muscle memory was installed on the RH, so I wanted to explore in drawing the choreographic process, a visual parataxis of the RH gesture with the same RH, with the manipulation of a tool (pencil and pen), and observe if I would be able to better understand this precise gesture.

My musical objective was to hear a middle voice (the G#) inside a chord louder than the rest of the notes. With my old technique, I was playing the highest note louder, a D. The technique of playing a middle note louder I learnt from Zoran Dukic years after the competition, who is a specialist in this particular technique on the guitar. The process starts by semi-preparing the RH finger (in this passage the middle finger) that plucks the note by going slightly deeper into the string and releasing the hand. This gesture allows all the notes to sound at the same time (called *plaqué*) but with the G#, in this case, slightly louder than the rest.

I started by taking pictures of my hand performing the gesture and visually analysing the entire transition. Once I had the decisive steps that allow this technique to happen, I started drawing them in a superposition of events; the gesture was visually completed with the two stones that are identical to the shapes of the hand of the first and final gesture, a complete visual parataxis of this technique.

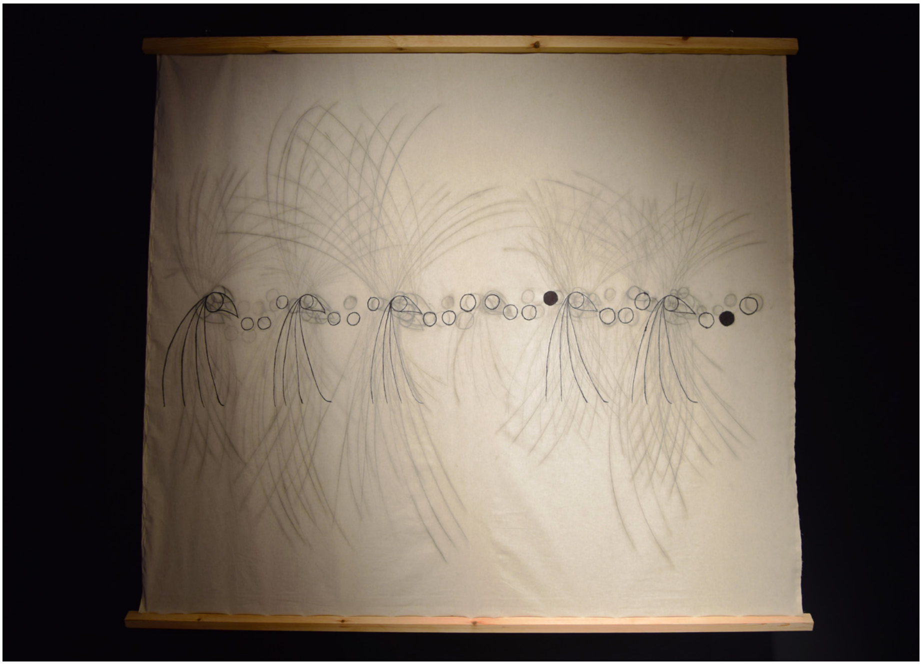
Reflection: I understood that this creative process allowed me to visualise and project the mental image of my own ideal performance of those emancipated passages for the first time. This was a mental image that was transposed, enlarged and printed as a visual metaphor on the canvases that, after the emancipating process through the canvases, came back to the instrumental performance relieved from the bad muscle memory, habits and tension in the three passages.

This variation of the intermanual skill transfer proved to be an interesting transductive solution that unfolded into emancipated gestures for the instrumental performance, three works of visual art, and a Plastic Extension of the prelude; that, with all its visual qualities, allows the performance of a musical work, in this case the prelude, to go beyond its sonic existence and become a sound-music suggestion for the past listener/new spectator to freely recreate, as I have insisted previously.

In *phantom errand [muscle memory ··]*, drawing a gesture was as revealing as Paul Valery says. I became aware that I had never really seen nor understood the motion of my hand in all its details, until I was able to fix the motion in time through the drawing, a unique perspective that is impossible to observe or analyse with the instrument or with the use of any other common media such as photography or video, but can be suggested through motion capture.

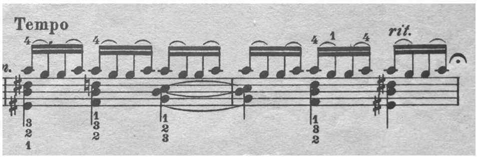
It was through this process of drawing with the same hand—the lines that become that same hand that plucks—that unveiled a hermeneutic circle where a unique sensation of autopoiesis took place. Knowing-how to draw those lines of the fixed motion of my hand became a visual parataxis that allowed me to really see and understand not only Zoran Dukic's technique but also to unveil through those same lines, movements and fragments of the performance that I was not aware; unnoticed fragments that were taking place in space, outside the instrument and unfolding infinite methodologies to approach and perform this prelude.

phantom errand [muscle memory ·]
Ink and graphite drawing on cloth (2Mx1,60M)

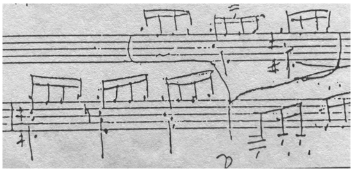


© Bertrand Chavarría-Aldrete

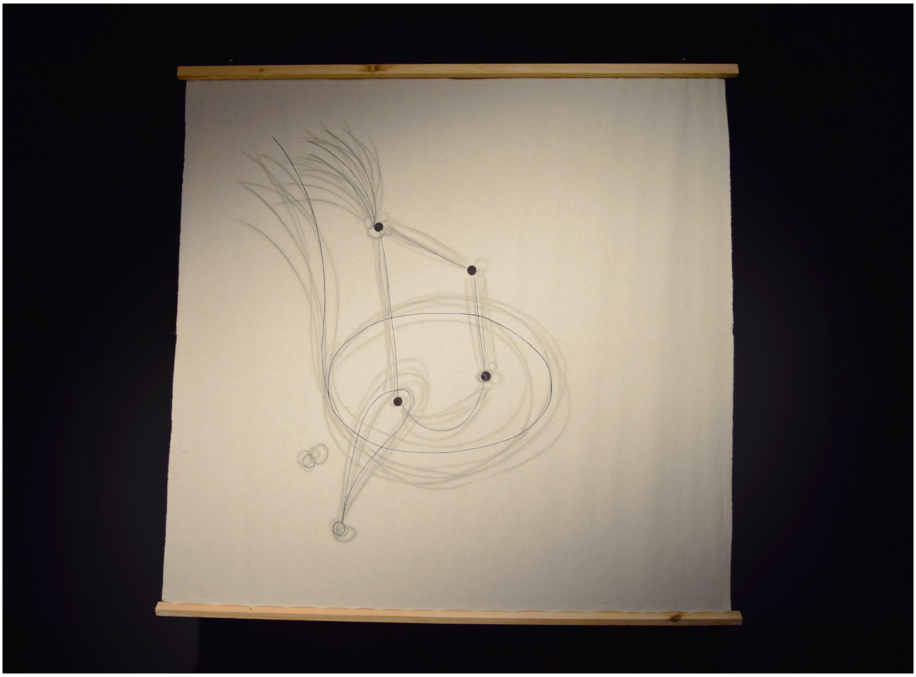
Segovia Edition
(with *capotasto*)



Original manuscript
by Ponce



phantom errand [muscle memory :]
Ink and graphite drawing on cloth (2Mx2M)



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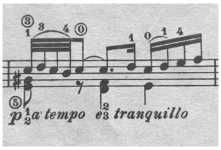
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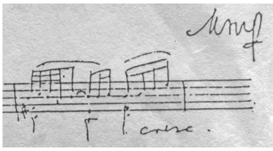
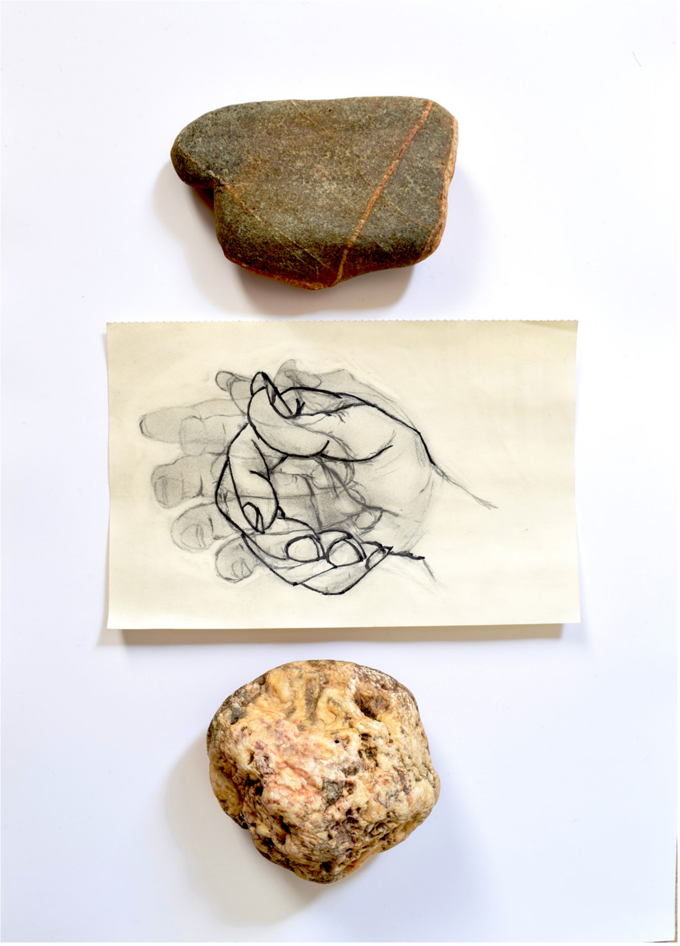
Segovia Edition
(with *capotasto*)



Original manuscript
by Ponce

phantom errand [muscle memory ··]
Installation: stones and graphite and ink drawing on paper (70cmx30cmx30cm)



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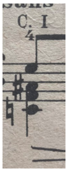
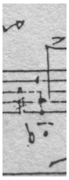
Segovia Edition
(with *capotasto*)



Original manuscript
by Ponce



5.4 *bullseye*

Still image from *bullseye* © Bertrand Chavarría-Aldrete

Type: Plastic Extension of Music Type C (Representative) - Video [4:19 min]

Details and material: Video and sound recording (one take), sound recording of *Étude V* by Heitor Villa-Lobos remixed and treated

Date and place: Filmed in July 2020, Paris, France, edited in November-December 2020, Malmö, Sweden

Source: *Étude V* [1925, according to the Tomás Terán manuscript] (Zigante 2011) for guitar by Heitor Villa-Lobos [Brazil, 1887-1959]

About the music: This study has the characteristics of an *ostinato* or perpetuum mobile that is incorporated in the middle voice of the guitar. The technical purpose of this study is to maintain higher and lower voices "detached" (*en dehors*, outside) from the *ostinato*, all events in the right hand (RH) plucking, differentiating each voice and without interfering with the dynamics or musical phrases; i.e., a RH finger independence and balance of the plucking strength in each of the fingers during the whole study.

Plasticity parameters: The mechanicity of the *ostinato*

Background: During all my summers in Paris, outside the windows of my apartment, a 14 m² *chambre de bonne* on the 7th floor without a lift, the air was filled with screams from morning until midnight. These screams came from the visitors at *Fête des Tuileries*, who took a ride on the main mechanical amusement ride of the summer that was installed in front of my windows. The screams were always accompanied by images of the mechanical ride and sporadic fragments of sound and images that were quite peculiar. This yearly experience always made me think of a series of poems (satires) by Nicolas Boileau (1636-1711) about Paris that Louis de Funès recorded in 1964 (Funès 1964); the beginning of *Satire VI* of *Les embarras de Paris* described, from a certain point of view, this summer phenomenon.

Qui frappe l'air, bon Dieu ! de ces lugubres cris ?
Est-ce donc pour veiller qu'on se couche à Paris ?
Et quel fâcheux démon, durant les nuits entières,
Rassemble ici les chats de toutes les gouttières ?
J'ai beau sauter du lit, plein de trouble et d'effroi,
Je pense qu'avec eux tout l'enfer est chez moi :
L'un miaule en grondant comme un tigre en furie;
L'autre roule sa voix comme un enfant qui crie.
Ce n'est pas tout encore : les souris et les rats
Semblent, pour m'éveiller, s'entendre avec les chats,
Plus importuns pour moi, durant la nuit obscure,
Que jamais, en plein jour, ne fut l'abbé de Pure.

Extract of *Satire VI - Les embarras de Paris* by Nicolas Boileau

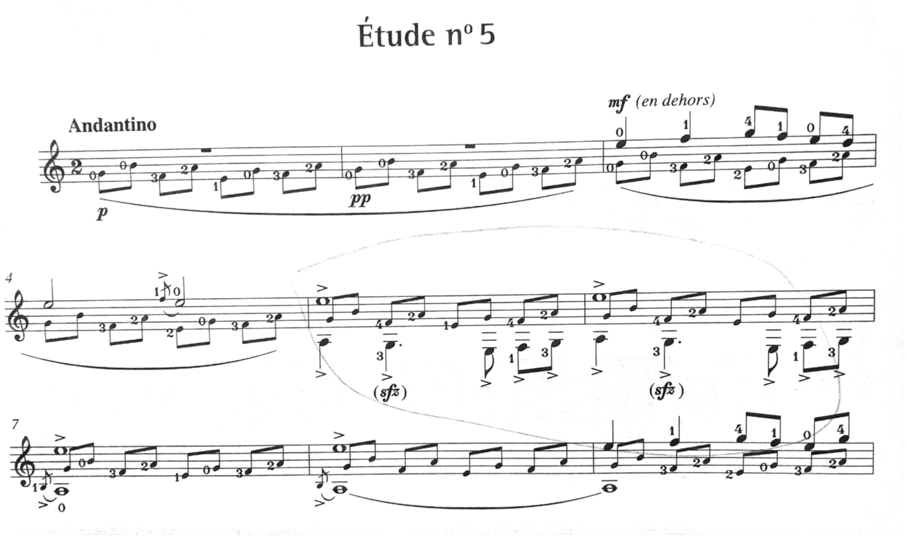
Who hits the air, good God!
With these mournful cries?
Is it then to rest awake that we go in Paris to bed?
And what an annoying demon, all night long,
Gathers the cats from all gutters here?
I jump out of bed, with confusion and fear,
I think that with them all the hell is my home:
One meows growling like a furious tiger;
The other rolls his voice like a screaming child.
That's not all yet: the mice and the rats
Seem, to wake me up, to get along with the cats,
More annoying to me, during the dark night,
That never, in broad daylight, was the Abbot of Pure.

(Translation by BCA)

In 2020 I posted a little video on Instagram of the mechanical attraction from my window. My Portuguese roommate from Porto, Diana Cunha, commented on the video suggesting that I should record it and make music, so a Plastic Extension immediately came to mind. During the first COVID-19 confinement, I studied daily the 12 Studies by Villa-Lobos, so a Plastic Extension of these studies became appealing. These mechanical rides prompted me to make a spiritual analogy between the daily discipline of the classical music performer behind the technique studies and the mechanical circular movement of the pendulum in this particular ride. A real-life ostinato in the mechanical ride that would be the perfect metaphor of the *ostinato* in the 5th study by Villa-Lobos.

The name *bullseye* is an homage to my roommate Diana Cunha, who gave me the idea. In Spanish, Diana besides being a name, is also the name for the centre of a target in archery or darts, probably etymologically inspired by the myth of Diana, the hunt goddess represented with a bow and arrows.

Methods and process: During the COVID-19 lockdown, I focused on refining my guitar technique through pieces that I hadn't played before, added to a daily 2-3 hour dose of the 12 Villa-Lobos studies. This daily discipline of learning brought me the idea to explore and develop my guitar technique in parallel with my know-how (also technique) of the different basic materials from other art disciplines so I could learn and understand two different technical aspects from the same source. I decided to associate each study with a basic material and explore the instrumental technique, its plasticity parameters and its transformation into an alternative art form, exploring new creative hybrid processes and analysing the results.



First measures of *Étude V* by Heitor Villa-Lobos © Durand Salabert Eschig

I decided to associate the mechanicity of the *ostinato* with the mechanical ride to analyse each in their context. This *ostinato* has eight notes that are (mainly, not always) grouped by four pairs of thirds (from low to high note) that start from a higher pitch in the first beat and keep going down until the third beat; the fourth beat (mainly, not always) goes up, using the same notes as the second beat. This means that we have a curved figure that starts up, goes down and, in the last instance, goes up to start again in the next measure, the repeating figure, the *ostinato*. The mechanical ride was exactly the same, by moving the riders in circles on the same spot onwards but also backwards, which would be a very important aspect of this Plastic Extension.

Visually, these mechanical aspects that were repeating themselves the entire day through my window created a real-life experience of a loop, very similar to the already old video loop server Vine, but also to the reverse motion photography technique, used already in the 19th century by the Lumière brothers (*Démolition d'un mur*) and by Jean Cocteau (*La belle est la bête*) in 1946.

I started to record a series of complete rides of four minutes with a fixed camera position. When watching and analysing the videos, I became aware that these videos once framed in a video projection, the mechanicity of the ride and cries from the riders would create an infinite loop inside a loop. So, the idea of editing the video in a way that the spectator does not know when the video starts and ends became tiring and annoying to me. Instead, I decided to frame it with a clear start and an end.

For the sound, I recorded the *Étude V* and reversed the sound to evoke the backward movement/reverse motion photography. This reversed version of the *ostinato* unravelled a very unique sound that was similar to barrel organs/ hand organs we hear at fairs; a perfect aesthetic fit for a mechanical ride in the heart of Paris. I also stretched certain fragments of my recording to add a kind of melodic layers imitating the same *en dehors* character of the original melodic lines in the study.

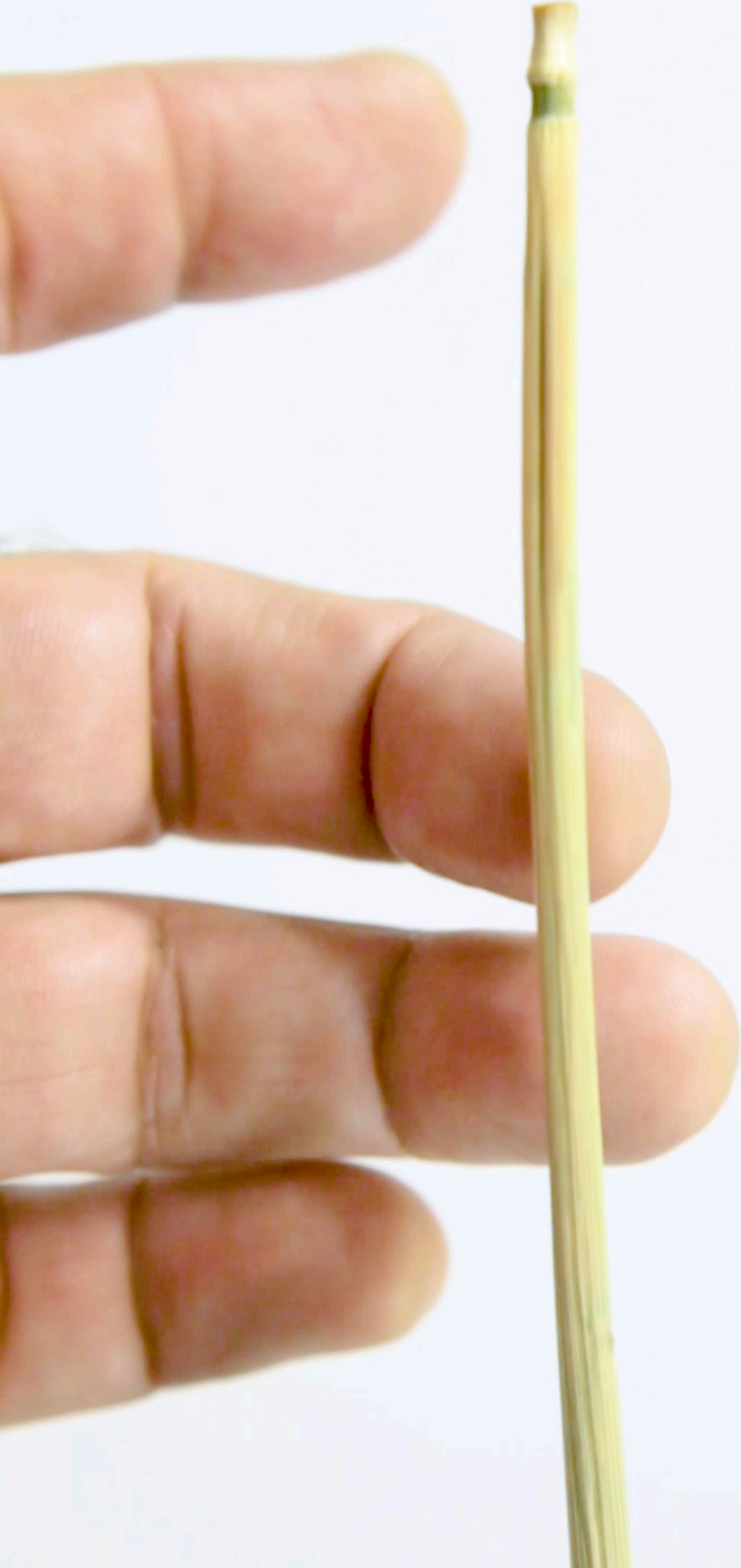
Reflection: Since the first creative steps of this Plastic Extension, the image and mechanicity of the ride were semi-embodied in my *ostinato*; the curve of thirds inside it started to become the mechanical ride in my fingers and its metaphor. The circular mechanicity created a motion and finger behaviour that can be almost completely independent from the other *en dehors* melodic layers of the study, which is the technical objective of the Villa-Lobos study as mentioned before, an objective of finger independence that I reached through mental image, a very different path from the traditional once.

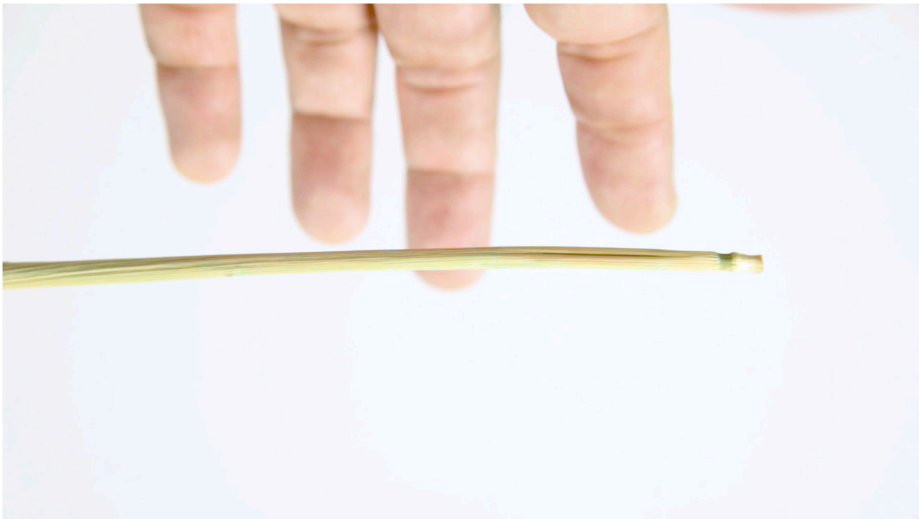
The nature of this type of Plastic Extension does not allow me to see a specific passage (besides the *ostinato*) or hear a fragment that I can relate directly to the music itself as in other Plastic Extensions. Nevertheless, the pendulum images of the ride and its impulse and acceleration created a healthy metaphor for my fingers when performing the study in concert, similar to a clock mechanism that I'm able to control.

The result of this experience has created my own mental image and a completely different mindset of the performance from the one I had in the past. It also allowed me to explore the instrumental technique outside the instrument and associate it with a metaphor that I created by exploring a material that I ignored, a know-how (*ostinato*) to create a different know-how (loop video).

As an artwork in itself, the piece has been very well accepted by audiences and curators; I can only imagine that the real-life loop in the video with its natural reversed image and sound are capable of evoking in an original metaphorical way, my idea and interpretation of the piece. This performance, an alternative to its canonical version, allowed me to open and again create a hermeneutic circle to explore different methods, not only of its performance but also of its perception and reception. This alternative interpretation is one of many that can be made once the music score is open to creative explorations. This is an autopoietic method that allows for a transformation and evolution of what music interpretation and performance mean to musicians and spectators.

From a technical point of view in relation to associating a study with a material, I understood that I was able to find (and capture) temporal lines in common life that are already loops and reverse motion photography. This was an important aspect and visual awareness that was revealed through the music analysis and instrumental practice of the *ostinato* in Villa-Lobos.





Still image from *(in)habit* © Bertrand Chavarría-Aldrete

5.5 *(in)habit*

Type: Plastic Extension of Music Type A (Integral) - Video [2:17 min]
Details and material: Video and sound

Date and place: Sound recording in 2011 (Monterrey, Mexico), video recording in 2022 (Malmo, Sweden), edited in 2022 (Paris, France)

Source: Minuet I from *Sonata in C major K. 73* for harpsichord by Domenico Scarlatti, transcribed for guitar by Peter Greenwood (Greenwood 1972)

About the music: This transcription is published in the book Pieces for Classical Guitar by Peter Greenwood. For classical guitarists, there is a long tradition of ornamentation, an inherited practice from the lute and the vihuela. Ornamentation comes with infite possibilities and may mean, for example, to shorten certain notes and even changing the rhythm. There is a vast amount of ornaments, mordents, trills and even grouped notes in the form of *appoggiaturas*. These traditional liberties in music performance have, in a way, faded out for many performers today.

Plasticity parameters: LH fingerings and ornamentations of my father for the video and the embodied knowledge transferred from my father to the centzontle (see chapter 3.2 Centzontle).

Background: As mentioned in Chapter 3.2 Centzontle, this piece was originally performed by my father and transferred to the centzontle (mockingbird).

Methods and process: I wanted to re-explore mimicking (see chapter 1.1 Mimicking) from a different perspective. Already influenced by the centzontle in 2011, I wanted to investigate the mimicking mechanisms of embodying sound through listening and explore the consequences they could have on my perception of sound and my physical reaction during the creative process.

I started by listening to the recording and then performed on the guitar at the same time as I was listening. This process became intriguing and at the same time interesting; during the exercise of visualising the LH fingerings while mimicking the recording, I could intuit (and revisit) the plucking RH of my father through the differing timbre qualities between us. This was a very nice experience and an interesting contrast, but it was not what I wanted to investigate at that moment.

The difference between our timbres became a real coordination obstacle for the mimicking since the RH articulation was always staggered when trying to precisely mimic the LH fingerings. This constraint led me to work with separate hands by starting with the LH fingerings on a stem. In this way, I could embody the gesture without any sound consequence produced by the fretboard. The stem was large enough to deploy my four fingers of the LH to practise and mimic with the recording anywhere, listening to it and mimicking in public places or at home.

When the fingerings were embodied enough, I decided to keep the stem and make the video of my fingers bouncing on the stem, a visual effect which is similar to the one of a stem after a bird flies away. This close-up on the bouncing stem displayed the rhythm of my father perfectly during the piece through the precise mimicked fingerings and ornaments he recorded. In a way, this reenacted the mimicking made by the centzontle in 2011.

Using the original recording of my father performing the *Minuet K.73*, I created a video in which my left hand mimicked his. This display was very interesting, but there was a certain magic in the recording of the centzontle that I also wanted to show, so I explored the possibility of creating an audiovisual counterpoint: I used the sound from the recording of the centzontle "performing" the *Minuet K.73* and displayed the mimicked fingerings of my father's version on the stem in order to understand the connection between both mimics acting together, (mine and the centzontle's). They both came from the same absent source, my father.

Reflection: It was a very particular situation to mimic the recording of my father; I was able to recreate his hand movements and see, six years after his death, his perspective of the guitar and hand performing the *Minuet*. This creative process was like a reincarnation act, where mimicking invoked a new way to explore and communicate with the dead, similar to tablature scores.

This very uncommon way of communicating with my father made through the mimicking of his recording was revealed to me as an interesting practice to detect and become aware of the inheritance of muscle memory in tablature. Tablature in guitar, vihuela, or lute indicates precisely the left finger position on the fretboard, while a guitar score, if not clearly indicated by the composer (or the editor), allows the performer to choose and create their own fingerings.

The precise gestures in tablature scores do not belong to the performer; the code, fingerprint or image of its creator directly inhabits the body of the performer. The tablature is a unique communication device that allows composers, dead or alive, to possess and move the performer at their own will. The performer is a puppet pulled at through the instructions in the score, by strings that may be as long as a millennia.

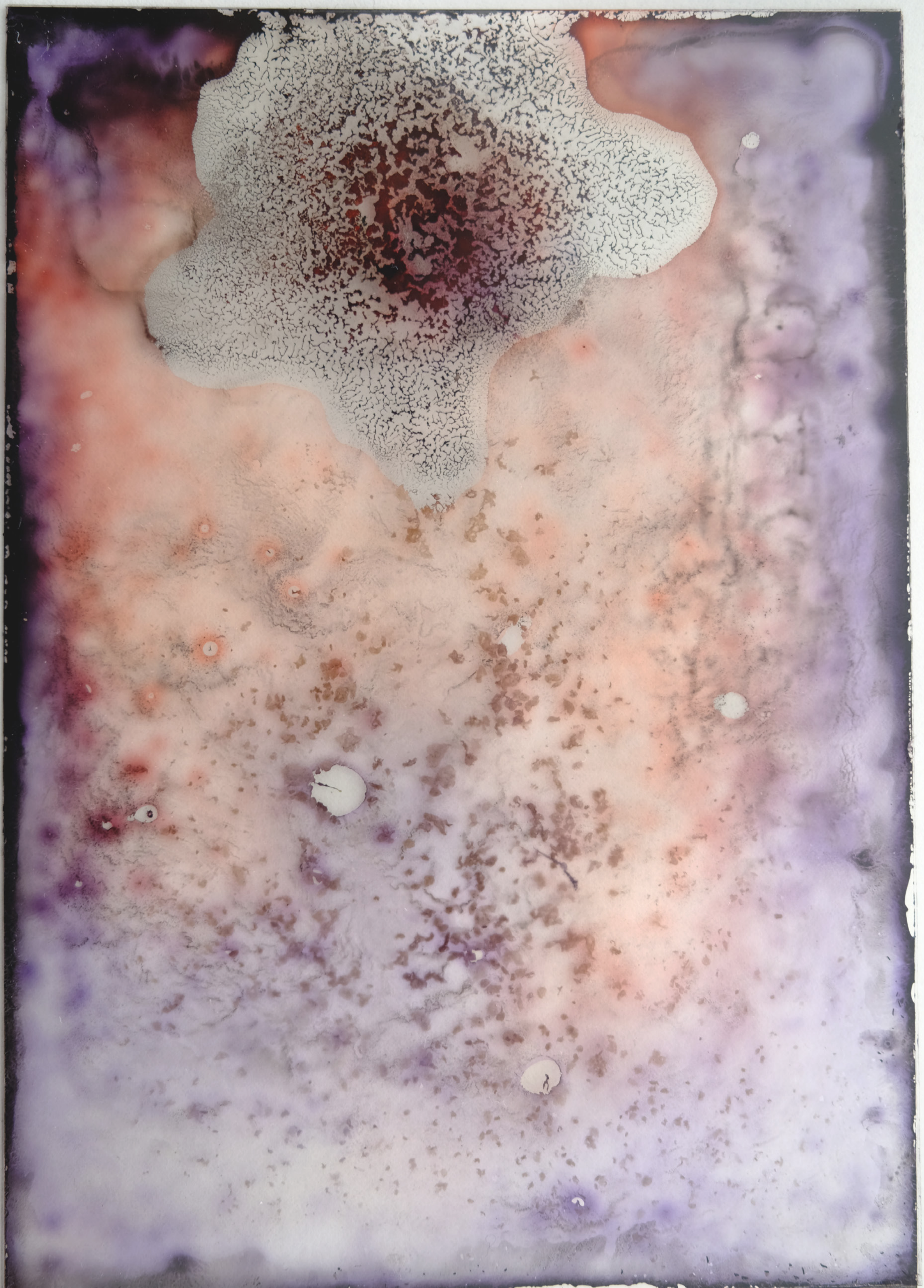
Tablature might be the first prototype of a video recording and time-travelling machine, a device that is able to record a precise image to be seen by the translating performer in front of the tablature score.

This time-travelling sensation and communication with the dead occurred to me again when playing the first measures of the famous prelude of the first suite for cello (BWV 1007) by J. S. Bach on the cello. Even though the source here is not the tablature but the score, I was able to see a glimpse of the original compositional act of J. S. Bach, happening through the simplicity of his finger gestures improvising over the open strings of the cello.

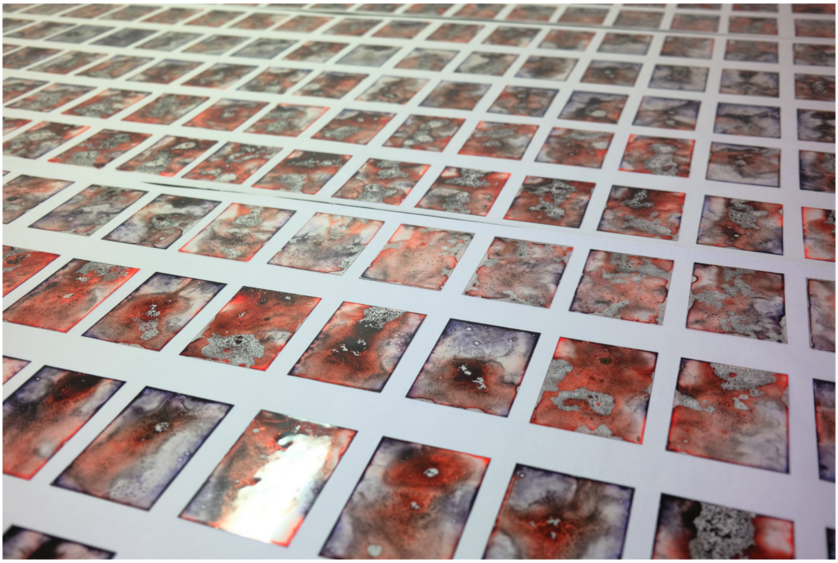
I was intrigued of how unconscious I was that since my first contact with a score or tablature I had been dealing with and handling a time-travelling device. I was also amazed by the recording capacities of the centzontle to mimic and embody the sounds of its surroundings, in this particular case my father's version of Domenico Scarlatti's *Minuet K.73*, with all its alterations of rhythm and ornamentation. Who knows what other messages and stories lie behind each mockingbird in the world?

This plastic extension allowed me to explore these time-travelling/communication-with-the-dead qualities through the fingerings and tablature, prototypes of an advanced communication technology that have been unnoticed as such; a two-way communication device made through the inhabiting of someone else's body through their gestures.

As an artwork, this piece reinforced the particularity of the absence/presence of the interpreter inside Plastic Extension. Although my fingers are present in the video, the real interpreter, which in a way, is my father, is not physically present but evoked through the mimics of his fingerings and the recording capacities of the centzontle, allowing the spectator to recreate its own version of the *Minuet K.73* by Domenico Scarlatti. A liberty of choice, without the imposition of the canonical version of the piece performed by an interpreter, but an interpretation created through a series of creative and inhabited filters, the mimics, that on a stem expose a complete parameter of the piece, which are the fingerings of the LH, open for the spectator to recompose and imagine with the help of the centzontle singing.



5.6 *carminic tensor*



carminic tensor © Bertrand Chavarría-Aldrete

Type: Plastic Extension of Music Type A (Integral) - Painting installation

Details and material: 292 paintings of 10.5 x 14.8 cm each; installation of 160 x 300 cm. Red pigment, ink, other materials and A6 acetates.

Date and place: October 2022 in Saint-Etienne (France) during the artistic residency "Le cerisier"

Source: *Étude IV* [1928] for guitar by Heitor Villa-Lobos [Brazil, 1887-1959]

About the music: This study is mainly characterised by four-note chords that are repeated four times in semiquavers during the whole piece. The study constantly uses the four plucking fingers of the RH—the thumb, index, middle and ring fingers—to pluck the chords at a moderate speed.

The technical aspect to develop in this study is to strengthen the RH and balance the plucking strength. Some chords also include open strings and high finger positions. These kinds of chords may result in an unbalanced relation between the notes in the chord due to the differences in string tension. The fingers on the RH "learn" the tension of the strings to adapt and create a balanced plucking gesture for each chord to ensure that all notes in a chord are sounding at the same level.

Plasticity parameters: Pitch and string tension sensation in both left and right hands

Background: The first image I had of this piece was of a continuous line that evolved with different densities according to the pitch. I immediately felt the need to balance the chords that had open strings and high finger positions to create a good balance in the sound, which requires special attention when the RH is constantly and instantly plucking the strings without any time of preparation for the fingers. This movement and continuity in the gestures create a *legato* (a continuous line), guided by the subtlety of the chord changes on the LH and the continuous semiquavers plucked in the RH.

This exercise of plucking semiquavers without a break is an interesting stamina challenge for the RH. The muscles are constantly repeating the gesture (very similar to the grasping gesture), during the entire piece. This continuous effort and fatigue (especially towards the end), which I associated with the colour red, is, without doubt, a direct analogy to the sensation of blood being pumped inside this RH workout.

During a trip to Oaxaca in Mexico, we had the chance to visit a rug workshop that created its own fabrics and used natural pigments for their colours. During the visit they showed us the complete process of the cochineal dye pigment and its origin. The cochineal insect lives and reproduces on the cactus that gives birth to nymphs; it’s the bodies of both these insects (cochineal and nymphs) that produce this peculiar red pigment known as cochineal dye. This pigment reacts differently when mixed with:

Water: keeps its original red colour, called *carmine.*
Baking soda or another alkaline: turns to purple.
Lemon or other acids: turns to orange, almost yellow.

After learning these aspects of the cochineal dye, the idea of a Plastic Extension of *Étude IV* using this pigment, mixing it and filtering it with other materials, became an interesting idea to explore, associating the red pigment and the other mixed materials with the with the string tension and balance of the RH fingers plucking on the six strings.

Methods and process: I wanted to explore the possibility of representing the string tension and pitch in colour intensity. I knew that this parameter would only be perceived if it was within a coherent structure that would allow me to display, visualise, understand, and analyse this entire parameter of the piece in a surface of a logical structure.

The first step was to create and establish this coherent structure in which the pitch would be displayed. I found that the piece consists of 292 chords. The neck of the classical guitar has a fretboard that (normally) is divided into 19 frets, indicating the perfect semitone division of the string. The higher the position is on the fretboard, the higher the note is, and the higher the tension will be; this resistance and tension are perceived in both the LH positioning the fingers and the RH plucking the strings.

So, I decided to give an A6 acetate frame to each chord that will display the strings and finger position, exploring new visual and colour representations of the transcribed parameters of the chord, with a precise mix of ink, pigment and other materials.

All these precise drops would be placed over the acetate and then covered with another clean acetate. This action would close, distribute and partially inert the material between both acetates, creating and manifesting infinite visual results, although keeping a very clear logic of red intensity equal to pitch. Curiously, most of the 292 objects are still evolving and have developed different tone colours and intensities.

Working on *carminic tensor* © Frédéric Mathevet

Reflection: As in *coyote* (see chapter 3.2 Anachronism - coyote, a first Plastic Extension), the anachronic aspect of the music inside the Plastic Extension was present.

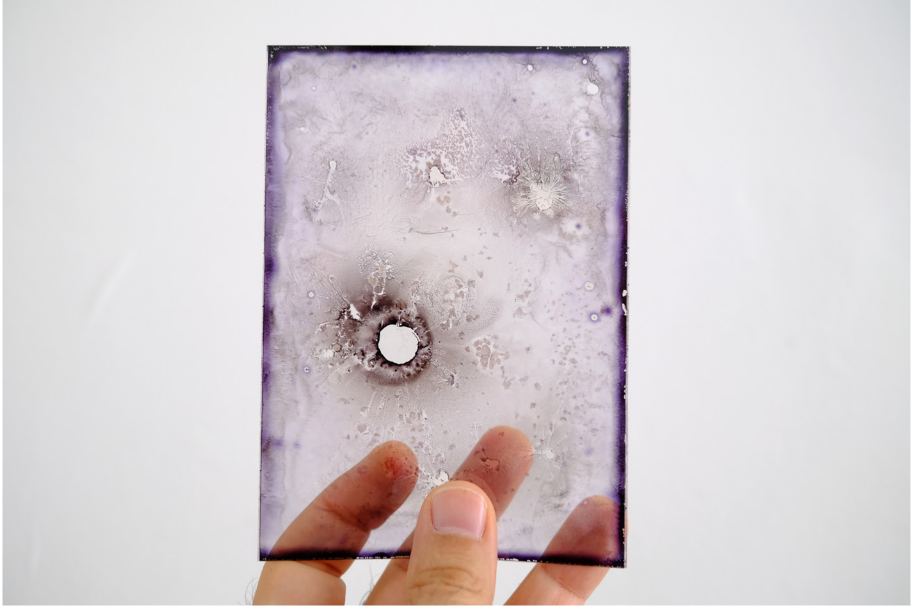
The eye can travel through the represented sound events in any order, by contrasting (Delaunay's simultaneous contrasts, see chapter 2.2 On seeing sound) the different intensities of the red colour and "unfold over time" (Delaunay about painting, in Bosseur 2015, p.56 Trans BCA). My idea was to suggest with the title carminic (red) tensor (tension) an association of higher tension represented on the intensity of the colour. This way, the spectator can freely recompose the piece in any order and imagine the pitches and actions he/she wishes, without the presence of the performer to impose an authority of the traditional rendering.

Unravelling the entire parameter of the string tensions in space made me understand how to distribute my RH stamina better during the piece. I concluded that the tension sometimes might be quite low even if the finger positions are higher. The colour intensity showed that in this piece, several chords with open strings and high finger positions do not require systematically more strength than others in lower positions where more strings are being pressed on the LH. This particular display became extremely interesting since it detected precisely where the real tension was occurring during the piece, besides its pitch.

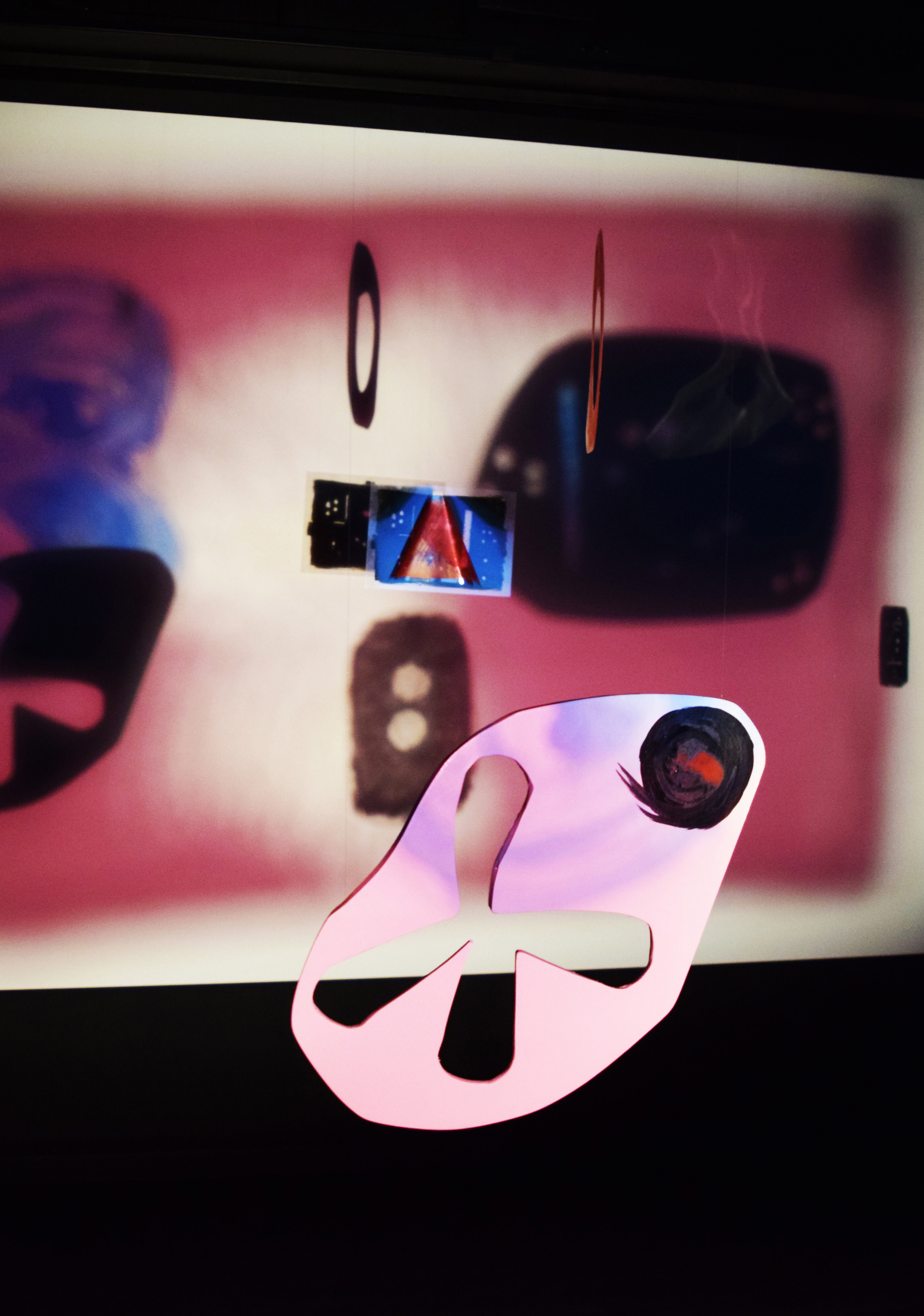
This creative process within the given coherent structure allowed both music and materials to manifest themselves and be displayed under a new audiovisual presence and representation.

It was with this alternative interpretation of the performance that the chords identified themselves iconographically without the intervention of the performer; I understood that the traditional performer might be an interference cluster of technical habits for the music to manifest itself, exactly what Mondrian meant (see chapter 2.3 Neo-plasticism). The inherited technique of the classical guitar revealed itself as an intervention that filters and blocks aspects of the written music in the score and the singularity of the performer. This is an aspect that I will discuss later as muscle memory.

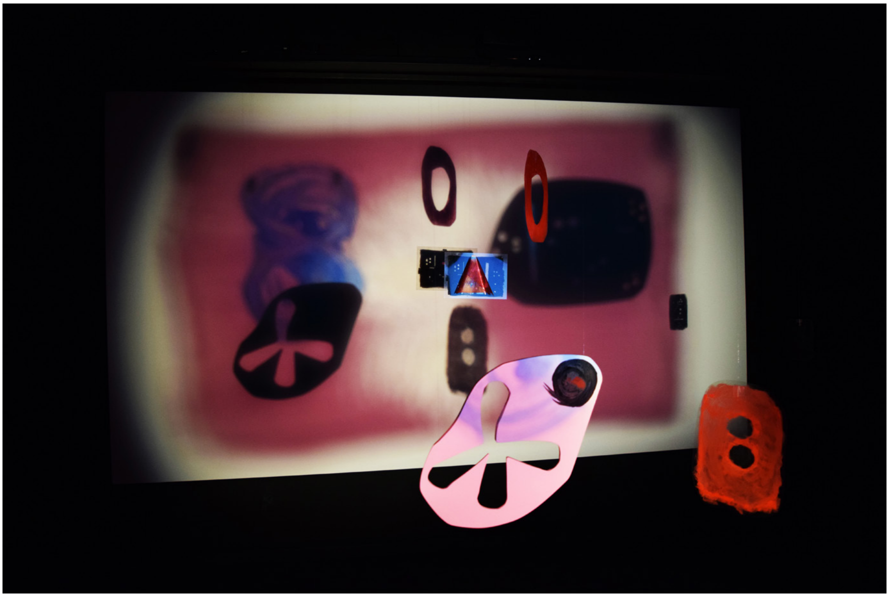
When trying to classify the Plastic Extension as an artwork, I came to the conclusion that in this work I was neither creating a painting, nor an art installation. I was creating something new that was a Plastic Extension. This new creative process unconsciously allowed me to emancipate from the history of painting, art installations and guitar performance and to create a new point of departure for this piece as a musical object. At this point, there is no sound but only its representation through its absence, which deactivates the historical weight in visual art and music and provides the liberty to freely create a new hybrid object without previous references. This is another aspect that I will discuss later in Chapter 10 - The Kléndinsky Test.



Chord nº 124 (four open strings) *from carminic tensor* © Bertrand Chavarría-Aldrete



5.7 *Le geste et son double*



Le geste et son double © Bertrand Chavarría-Aldrete

Type: Plastic Extension of Music Type C (Representative) - Shadow installation

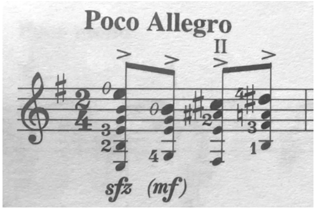
Details and material: 7 objects in space projected over a white screen. Acetates (24 x 35 cm, 21 x 30 cm, 20 x 14 cm, 19 x 13.5 cm, 10.5 x 14.8 cm), cardboard (26 x 32 cm, 20 x 15.5 cm), acrylic painting, ink, fishing string, light projector, and white screen.

Date and place: December 2023, Inter Arts Center (Malmö, Sweden)

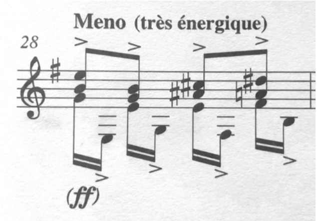
Source: Étude VI [1928] for guitar by Heitor Villa-Lobos [Brazil, 1887-1959]

On the music: This study establishes a series of chord progressions in quavers that, in a second part, repeat the same chords divided in semiquavers:

> This study is, among all the twelve, one of the most contradictory from the point of view of comparison with the various sources. This is due to the state of Ms-Gui (1928 Manuscript of VillaLobos). In fact, in this draft, the piece is written on hardly six lines, containing, with a large number of abbreviations, only the first part of the piece (bars 1-27), bar 28 (presented as a model for the whole of the second part) and bars 55-60.
>
> (Zigante 2011, P. xxxii)

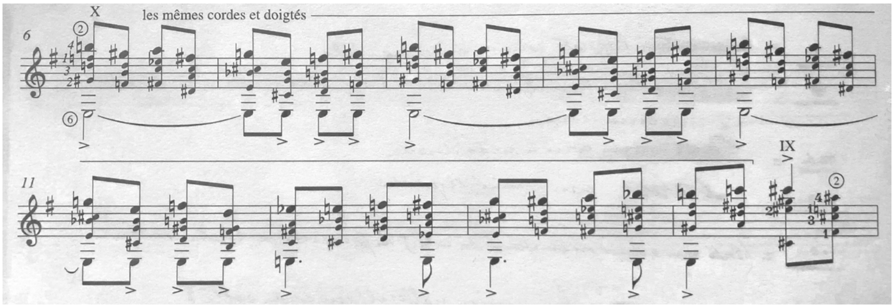


Bars 1 and 2 (*Étude VI* - H. Villa-Lobos)
© Durand Salabert Eschig



Bars 28 and 29 (*Étude VI* - H. Villa-Lobos)
© Durand Salabert Eschig

In this study, as in many others, Villa-Lobos uses a series of chords that are fixed positions of the LH that shift on the fretboard of the guitar, a glissando-like gesture that moves on the different frets of the guitar. This kind of composition, with fixed positions shifting in the fretboard, immediately triggered a time-travelling/communication feeling with the dead; when reading the score, I could "see" a glimpse of history, when Villa-Lobos was improvising on the guitar during the composition of the study.



Left hand fixed positions, bars 6 to 14 (*Étude VI* - H. Villa-Lobos)
© Durand Salabert Eschig

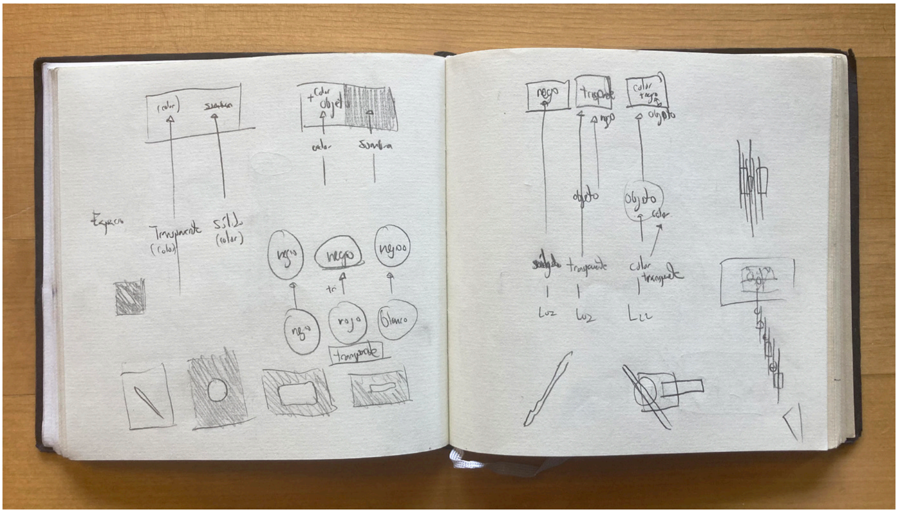
Plasticity parameters: Fixed positions of the LH in quavers and its "division" in semiquavers

Background: This piece was never part of my repertoire until I started to work on it during the COVID-19 lockdown. Being probably one of the easiest studies in the whole series, I never cared to learn it by memory, so while working on it I would always do a *Déchiffrage par cœur** since I knew that most of the fixed positions in the piece allowed me to "sight read by memory" without pause to play the study from beginning to end in my daily COVID routines.

---

*sight read by memory: an expression that I take from my friend Atahualpa Ferly, who is an excellent guitarist and sight reader; often makes jokes about musicians who claim to sight read but already know the piece by memory…

After a while, I understood the difficulty of the study, which lies in creating a perfect legato with a certain subtlety in the chord changes of the LH to place it at the exact moment that the RH will pluck; this exercise was very fruitful and pleasant to do. It made me discover a new difficulty and technique refinement in something that would seem, at first sight, very easy.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Skectches for light casting, shadow and objects © Bertrand Chavarría-Aldrete

Methods and process: My first question was if it was possible to reproduce in space that unique sensation of "sight read by memory" mindset I had during that period of performing the study with the score. I knew that in my head, certain positions were imprinted in my brain when thinking about the study, and in structure, very similar to the rhythm in Chopin's piano study no. 4 Op. 25.

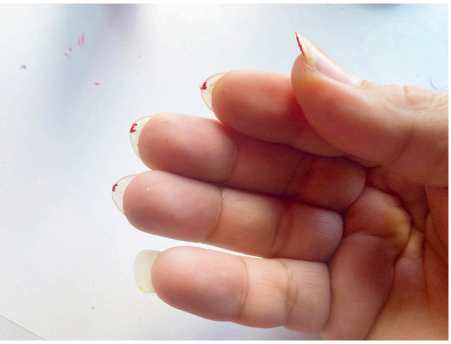
The first step was to draw the fingerings of those common chords with points on paper and see if it made sense visually and if they would easily relate to the different represented chords; most of these fixed chord positions of the left hand fingerings in the study use the four fingers of the hand, but their position (needless to say) is different. When drawing the points, I wanted to represent my personal mindset, so I started to naturally represent them from my own perspective when playing, which means that the position of the points would be the one I see with my hand in front of me, the same as when placing the hand, while the usual chord tablature represents an external frontal view of the chord.

These chords of fixed positions follow the same progression in the second part but with semiquavers. I wanted to find a visual way to imprint that mental image I had of this established chord progression in semiquavers, being exactly the same LH material repeated once again. I figured that by casting a light upon the objects (the visual metaphors of the chords), I would see both the object and their shadow and probably create a sensation of a doubled figure, the original and its "copy," when projected. I then needed to decide which kind of materials would let the light go through and those that would only cast a shadow or become part of a projection.

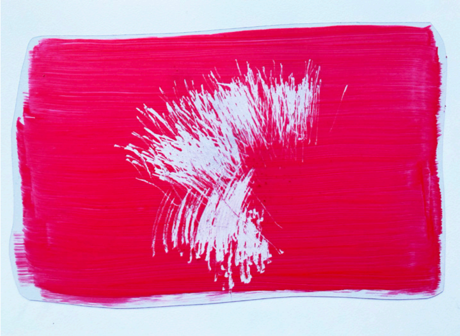
This led me to associate both the object and its shadow or shadows inside the installation to create the representation of the repetition—with their shadow—of the fixed positions of the LH's chords in semiquavers of the second part of the study, similar to the mindset I had while working on the piece.

Those LH positions were very clear in my mind (the six objects in the installation are the visual metaphors of the LH fixed position chords), but not in a specific order (exactly like their placement in the space). The seventh object, which is the red background on the screen where the objects and shadows are projected, is the memory trace of the entire right hand plucking gestures in the piece. This disposition was an exact reproduction of my *sight read by memory* mental image.

As mentioned before (see chapter 5.4), the centzontle, the tablature, and Bach's fingers on the prelude made me aware of the possibility to record in an alternative way, so I wanted to know if I was able to experiment with the process of "recording" my gestures on an object. My father used to talk about the "memory of the material." He believed that every material could be impregnated by information and that there could be a way to read those objects, to extract images and sound from them with a mechanism that would be able to recreate the exact atmospheric conditions in which the event took place. So, I decided to experiment by "recording" the plucking gestures of the whole study, "performing" all the RH gestures from beginning to end and leaving their trace over a dried red pigment acetate.



RH after performing over the acetate
© Bertrand Chavarría-Aldrete



Acetate after performance
© Bertrand Chavarría-Aldrete

Once all the objects were designed, I decided to use a light weight material to imprint the plasticity of the LH chords, such as acetates and cardboard, to attach them to the ceiling and place them in a way so that they could be experienced as "alive" and in motion, as in my head. The air, always present in one way or another (from spectators to windows or doors), created a nonstop movement that gave life to the objects and their shadows, an image of the mindset I have while performing the piece.

Reflection: The experience of the creative process of the material and its disposition in space made me aware that the result was very similar to a traditional self-portrait. This was a self-portrait in which my body was not visible, but a self-portrait of my mind performing *Étude VI* by Heitor Villa-Lobos. It was a self-portrait with the motion of the mind that included all my gestures and fingerings from left and right hands positioned in space, an installation of the mental image of the study ready to be performed.

This transposition of my "know-how" to perform *Étude VI*, that was associated with a technique that I had never practiced before—to project a light over the "know-how" and create a double (the shadow), representing it in the form of an "echoed" semiquaver—allowed me to explore a different artistic methodology of the performance of this study. Opening, as in previous Plastic Extensions, the possibilities for the performer and the spectator to recreate score-based music and its performance.

The disposition of the material in space made me understand a basic difference between a music score and a Plastic Extension. The latter does not have defined rules of interpretation as in a music score; in Plastic Extension, the material is evoking an absent source that is open for interpretation as a liberating act from the traditional performance not only for the performer and the spectator but also from the composer itself.

> Interpretation must itself be evaluated, within a historical view of human consciousness. In some cultural contexts, interpretation is a liberating act. It is a means of revising, of transvaluing, of escaping the dead past.
>
> (Sontag 2009, p. 7)

This *escaping from the dead past* happened at the moment I started corroborating the possibilities inside the Plastic Extension praxis and methodology, experimenting with the different autopoietic methods in this new performance practice. In this particular process, I was able to revise, transpose, and therefore transvalue, inside this self-portrait, the embodied elements of the study and how they manifest themselves in my mind. This was a disposition of the elements that made them open and ready to be perceived, interpreted, and performed by the spectator, outside the canonical and unilateral staged performance.

This Plastic Extension allowed me and my performance to become an imaginary of sound and images that could create a symbiosis inside the mind of the spectator (see chapter 4.9 Co-creation), a habitat of metaphors framed as the performance of this study. It is by projecting my embodied knowledge in the form of physically moving metaphorical containers that the exposed material becomes ready to be interpreted in each mind and open for symbiosis, and provoking autopoietic methods for the performance of the same music piece to both the performer, the composer, and spectator.

Chapter 6 - Share the research. A Plastic Extension of Music workshop

6.1 Introduction

The purpose of this workshop, in direct relation to the research questions (see Introduction), was to share new ways to perform score-based Western art music with the concept of Plastic Extension of Music, in a course for professional musicians and music students in the city of Malmö which took place over an academic year.

The proposed material, design and aimed learning outcomes of this workshop, were issued from my practice and creation of the artistic works of Plastic Extension of Music (see chapter 5), by presenting a practice instead of a theoretical concept (see chapter 4).

The artistic works in chapter 5 constitute the practice-based research of the concept of Plastic Extension of Music. This creative-reflective period of time, allowed me to find shareable and accessible learning tools for musicians to understand and apply the concept behind Plastic Extension of Music in a based-on-practice exploration.

One of my personal objectives in this workshop was to gather the necessary material and experience for designing an independent course with an official syllabus of Plastic Extension of Music at the Malmö Academy of Music (see Appendix 1 - Course syllabus Plastic Extension of Music).

The workshop had an open call and was presented along with a video as it follows on social media:

> Plastic Extension of Music Workshop
>
> -Open call for musicians-
>
> Plastic Extension of Music is a new form of interpretation beyond the canonical or classical performance of music.
>
> Plastic extension considers the musical performance as an incompleteness, a previous step, that creates a recollection and awareness of the different elements and codes issued from the score, the performance and the interaction with the instrument. To then extend with the same hands; those elements, codes, ideas,

> practise and embodied knowledge on different media (painting, sculpture, performance, installation, film, engraving, printing…etc), creating new models and methodologies for music interpretation and plastic-visual art creations.
>
> So, if you are interested in exploring and creating new art forms with your instrument but also unveiling information hidden in the score and your own performance, this is the place to begin.
>
> Plastic Extension Workshop 23-24
>
> I propose you to organise a series of collective and individual sessions to help you create a "Plastic Extension" of a solo piece of your repertoire during the next academic year and have an exhibition and concert of all the pieces and their respective "Plastic Extensions" in April/May 2024.
>
> (Facebook, 24/05/23)

Eleven participants subscribed to the course, but only eight finished.

During the workshop, the participants were able to reflect, collaborate, discuss and finally analyse multiple creative methods for developing new artistic outcomes in the form of Plastic Extensions of Music.

Below I will describe the design of the workshop, possible learning outcomes and the program of activities that took place during the academic year of 2023-2024.

6.2 Workshop design

The teaching/guidance was based on seminars, a visit to the Skissernas Museum in Lund (The Sketch Museum), an object-based learning session, group discussions, and collective and individual sessions with me. The teaching of the course was based on students' active participation in the collective development of knowledge by sharing experiences, reflections, interpretations and perspectives on their own learning process and that of their fellow peers.

The course was divided into two semesters. The first semester included a self-presentation, three lectures, two visits to Skissernas Museum, individual teaching and the project 'Finish a draft from an artist'. The second semester included group discussions, individual teaching, and a final presentation.

The second semester included group discussions, individual teaching, and a final presentation.

Towards the final output, the Plastic Extension, each participant would extend a piece of their repertoire in other media, such as painting, video, sculpture, installation or any other form of art outside of their practice of performing with a musical instrument. The participants would analyse the score and the embodied knowledge they had developed with it, together with technical difficulties, memory gaps and any other aspects that could be contrasted, translated and displayed into a different form of art, while avoiding the canonical practice of musically performing the piece on stage.

During the workshop, the participants were invited to choose one of the exposed sketches from Skissernas Museum and propose a finished version in a different art form of the sketch. This aimed at activating the idea of interconnecting and relating elements in different media by creating alternative versions of the artist's sketch in other forms.

To conclude the workshop, there was a public exhibition and performance at the end of the course, where the participants co-organised a presentation, public performances and exhibitions of their extended works.

6.3 Learning outcomes

I established a series of possible learning outcomes for the workshop:

1. Develop a multidisciplinary practice issued from the embodied knowledge of music performance
2. explain verbally and textually the creative methodology applied on the Plastic Extension
3. create and develop different ideas for music performance
4. understand the creative concepts inside Sound art

And two outcomes for the Skissernas project:

5. understand from a visual and tactile perspective how a visual and plastic art work is conceived through sketches and object-based learning
6. transform an idea, a sketch, into an achieved output

6.4 Course content and Planning

- ### First semester

First meeting and introduction to "Plastic Extension of Music"

In this first meeting, we briefly introduced ourselves, our personal backgrounds and our instruments. This presentation was followed by a presentation of Plastic Extension of Music, its origins, influences and its function as a tool for performing music in alternative ways by using materials from other disciplines and avoiding the traditional staged music performance. This presentation was followed by a series of questions from the participants.

Self-presentation of participants

The participants presented the works they had chosen to extend. This was followed by the performances and discussions to explain the physical relationship between the score and the instrument. After the performance, a musical and performance analysis was conducted between myself and the participants in order to detect and suggest potential plastic parameters in the score and the instrumental performance of each work and performer.

Sound Art conference

Sound art was presented as a medium for any sound/noise—once organised—to become art. This expression of sound as an artistic output of its own has a close relationship with Plastic Extension of Music, by exposing sound in space, although the outputs are not the results of instrumental praxis. Nevertheless, I consider sound art to be a valuable knowledge for musicians at any stage or level of their practice. In this conference I presented and discussed works and performances from the last 20 years by artists like Nam June Paik, Martin Creed, Paul DeMarinis, Susan Philipsz, Céleste Boursier-Mougenot, Paul Mccarthy, Heiner Goebbels, Pierre-Laurent Cassière and Rebecca Horn.

Finish a draft from an artist: Visit to Skissernas Museum in Lund and Object-based learning

This visit was the first step for the participants to reflect on the use of different materials. The exercise had the objective to observe specific works that belong to a collection made of more than 30,000 sketches at Skissernas Museum from a critical perspective. Here the participants activated the poietical intervention issued from Plastic Extension in order to finish a draft —perform (take form and concretise the sketch)—by analysing the plasticity of the source and developing an alternative outcome. The exhibited drafts and sketches are in different materials, such as paper, clay, miniature, wood and metal. Here, the practice is to interconnect different media, transform from sketch to sculpture, from sculpture to sound, from drawing to sculpture, or from painting to installation; any creative transformation process may be proposed.

In order to deepen the knowledge of certain sketches from their collection, Skissernas Museum offered a session called "Object-based learning", that allowed the participants to touch, handle and learn about the plasticity and concepts of the sketches and in some cases the artistic outputs of those sketches.

> Object-based learning (OBL) is an educational method in which students physically handle objects to stimulate deep learning. The method is well-founded in research and can be applied in a wide range of disciplines. OBL involves an inclusive approach that breaks down classroom hierarchies, provides scope for critical thinking and leads to increased student well-being. It is an excellent tool for those who are interested in educational development and want to promote their students' social interaction and welfare.
>
> (Skissernas Museum, n.d.)

This exercise had two options as part of the workshop: a theory exercise, based on writing about how to finish the sketch, and a practice exercise, finalising the sketch. I offered sessions for the participants to help them finish the draft, with the use of contemporary art practices and tools for the manipulation of different media from other disciplines and discussions of the methodology.

Only one participant did this exercise, a drawing made from Atti Johansson's (1917-2003) sketch of *Hommage à Ivar Lo-Johansson* (1970).

> When I thought about the crayons I saw scattered colourful letters forming a word: child. Later, I realised that human also consists of five letters. So I tried to put that together, with one colour per letter and appropriate size. After all, every child is human and they grow to become a 'real' one (in the process of thinking that human = adult).
>
> (Hanna Komorowska)

The rest of the participants visited the museum and took ideas for their Plastic Extensions but couldn't assist the OBL.

• Second semester

First ideas of Plastic Extensions

I organised a series of group and individual sessions to discuss the participants' ideas of Plastic Extensions in detail. At this point, some of the projects had changed radically after the Skissernas experience and new knowledge acquired in our sessions and presentations. In this first phase, my objective was to encourage the participants to identify and recollect the plasticity parameters (hand positions, music form, pitch, musical phrasing, music material, musical gestures, timbre, air pressure and title of the piece) of their performances and the music score.

Project of Plastic Extension proposal

In this phase, the participants submitted their proposals and the material they wished to work on, which included the music parameters, their plasticity and a theory of the concretisation of the chosen parameters. This constituted the conclusion of the poietical intervention leading to the praxis.

Creation of the Plastic Extension with individual sessions

In this phase, I organised individual sessions with the participants, in order to give them keys and help them with the concretisation of their parameters. These sessions included the choice of materials to encourage a *degree zero of the performance* (see 4.6 Transgeneric symbiosis) and analyse their choices according to the parameters they wanted to *imprint* (see 4.7 The concretisation of music).

We discussed the format of the pieces so the spectators could wander and interact, and analysed how their choice of media better could trigger the symbiotic act towards a co-creation phase with the spectator (see 4.8 Co-creation).

During this period the exchanges included some raw material that would be included in the participants' Plastic Extensions and a theory of how this material could be present. In these exchanges my role was to help them refine the material (change the placement, use different media, teach them to fail and create again…). In some cases, I would suggest adding more material or less (*less is more*, but sometimes *more is simply more*) and even leave ideas on the side due to their complexity or meaning inside their project.

Exhibition, presentation and live canonical performance

At this point, only three participants were able to achieve and concretise their Plastic Extensions. The preparation for this exhibition was mainly focused—with the final material— on the placement of their works with their final material. My duty was to act as a curator of their original ideas and Plastic Extensions to trigger the symbiosis of their works with the spectators. I helped them with the placement so that the objects could come alive and interact better with the visitors and better provoke the absence/presence of their performances and chosen music scores.

The opening of the exhibition included a presentation of the workshop to the audience from the participants and myself and a live performance of the original works that were extended. The exhibition was opened for four days and took place at the Inter Arts Center in Malmö, Sweden.

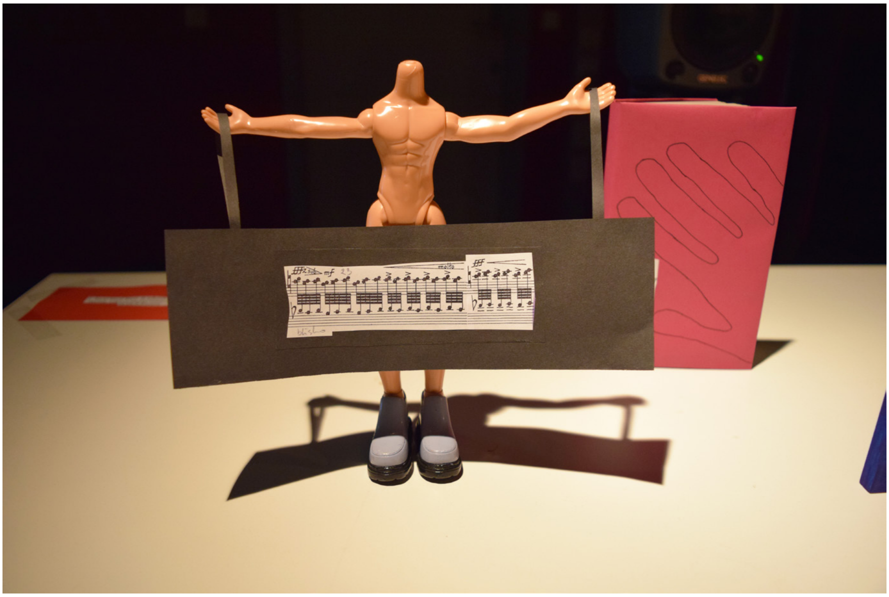
the insatiable and multiple fear of always being the same person and being someone else
Plastic Extension of Music by Sofia Vecchiato

6.5 Plastic Extensions by participants

6.5.1 *Faces of Tora*

by Hanna Komorowska

Plastic Extension of *Tora! Tora! Tora!* By George Crumb



Faces of Tora Plastic Extension of Music by Hanna Komorowska

Pianist Hanna Komorowska created a Plastic Extension of Music of *Tora! Tora! Tora!* By George Crumb (1929-2022), which was a visual transcription of the score and her performance.

> The exhibition delves into the origins and significance of the word tora, revealing its multiple meanings. Through a deeper exploration of Crumb's work, one can discern the freedom and connection within the structure of patterns. Inspired by Japanese culture, the exhibition explores the interplay between numbers and words, all while immersing visitors in the resonant sounds of the title.
>
> (Hanna Komorowska's text for exhibition)

The creative process started by acknowledging the sections of the piece and differentiating them with colours.

> The colours came from… Actually, this was the first thing I made when I tried to read the piece, because it felt quite difficult to read, but when I started to use the colours, I realised it's not that difficult, that there are some elements that are repeating. And when I learn one of them, I can play the rest as well, and it's not that difficult.
>
> Since we can find patterns in the piece that are repeated, it's easy to show it visually using the colours.
>
> (Hanna Komorowska in interview)

In these sections, Hanna decided to represent the music material with visual metaphors issued from her hand positions. These metaphors were crafted by her and represented with different objects directly associated with her hand gestures and sensations in the hand while playing the keyboard. These objects were placed in the space following the order of the piece.

> The objects I used, I was thinking about how this pattern feels to play, and how one can hear it, and what I maybe imagine when I play it. Everything that was in the pattern was what came to me, to find exactly this object […] transposing the objects, was kind of doing variations on the piece.
>
> (Hanna Komorowska in interview)

> The Plastic Extension was accompanied by a 5-channel recording with the word "tora."
>
> Another idea was to record different people saying "tora" (which is shouted at the end of the piece), so there could be a speaker from which we could hear it looping. The purpose was to show how differently (depends on the origins) everyone pronounces it. Especially "r" sounds different in many languages. I know there are some people who did research about how to say some Latin words from other pieces in *Makrokosmos*.
>
> (Hanna Komorowska's text about her project of Plastic Extension of Music)

The Plastic Extension included an open book where people were able to write, which came from her interest in the word tora.

> For sure, I started from the genesis of the word. Even though I know it was all about Japanese, I wanted to find out if "tora" means something also in other languages. From the translation, I wanted to create haikus based on other words to connect them somehow. I want to have them physically as well, to show the meaning of words with some props.
>
> The other idea was to create a "map"—the props would be suited as the places of the languages. Unfortunately, it's quite difficult to check the real translation of some (rare) languages, and I'm not sure if the Google translator worked well. So my idea might not really work (languages such as: kannada, kurdu, ruanda-rundi, sesotho, shona, sundai, tamili, urdu). From ca. 16 languages, I have 3/4 for sure, so maybe I can just work with that.
>
> Besides my haikus (which refers to the Japanese culture and the numbers in the piece), where I want to include my relation with the piece, I have an idea to put the book where people could write their haikus and try to create words (in any language) from the letters T, O, R, A.
>
> (Hanna Komorowska's text about her project of Plastic Extension of Music)

The creative process was an enriching experience for Hanna although she had experienced something similar.

> I feel like I made something similar because I did a small exhibition of paintings which were made of or inspired by music. But the difference was that I didn't play these pieces, and now I played, so we can say it was a bit similar, but it was different because I didn't only think about the music and get some inspiration and created the piece, but I also had to use my emotions sometimes, sometimes the feeling I have in me when I play that piece, and what happens with me, with my body, when I play that piece, and also, that's how it came to create this extension.
>
> (Hanna Komorowska in interview)

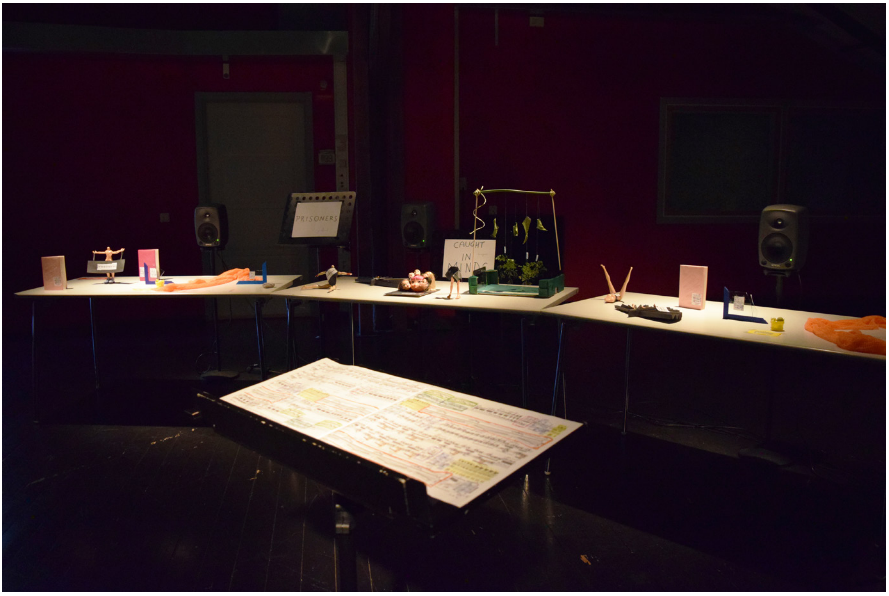
One of the objectives in my research project was to observe any epistemic consequences for musicians on their instrumental canonical performance after extending the music score and its performance inside Plastic Extension of Music. Therefore, I asked the participants if they experienced any differences with their instrumental performance during and after the creation of their Plastic Extension.

> The piece I extended was *Tora! Tora! Tora!* by George Crumb from the second book of *Makrokosmos*. And it felt quite nice to work with the piece I play and to be able to really see it. Because when we play, we can see, we can hear the piece, of course, but also we can see how we play the piece and how the scores look

> like. But when we don’t have these elements, we can’t really imagine the music. And here, I had this possibility to see the music, not really in music.
>
> I think it’s a really nice thing to work with music, because it’s still working with music, but in a different way. So it’s really interesting to see also what will happen after the whole process…
>
> …I can say it’s really worth it to try and to find a new perspective of the piece we’re playing. And also when we do something like this, then we can play the piece a bit different.
>
> (Hanna Komorowska in interview)

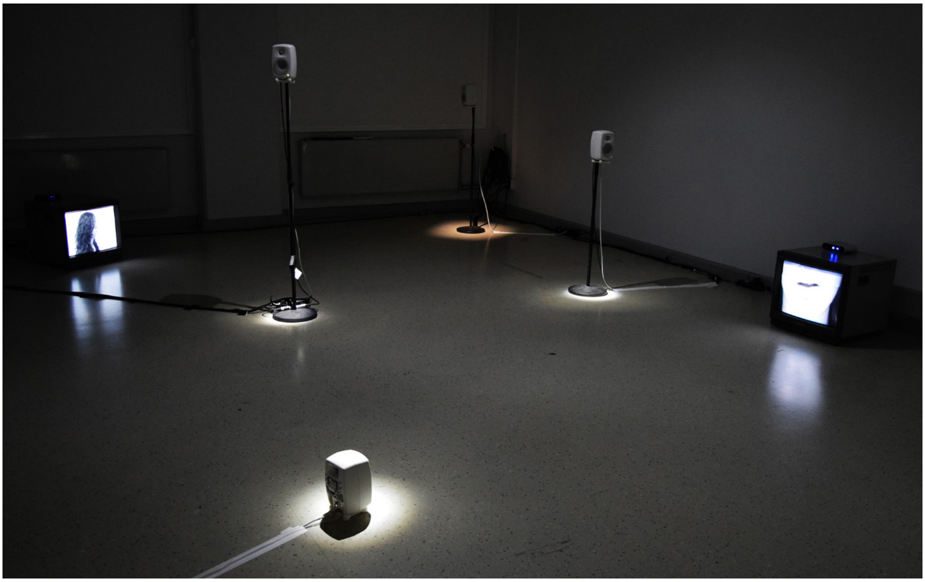
Hanna had some thoughts about Plastic Extension as an artistic practice:

> …it was a long process, but in between, we had the possibility to see other works and to work on different works as well, and to see what people have done already with extensions in general and using different arts together, which is really interesting for me. How one can put dance and art, visual art, together, or, any kind of art, that’s really interesting! And I think it’s really nice to do it, not to separate the categories of art, but to try to do something together.
>
> (Hanna Komorowska in interview)



Faces of Tora Plastic Extension of Music by Hanna Komorowska

6.5.2 *the insatiable and multiple fear of always being the same person and being someone else*
by Sofia Vecchiato
Plastic Extension of *Caprice No. 3* by Eugène Bozza



the insatiable and multiple fear of always being the same person and being someone else
Plastic Extension of Music by Sofia Vecchiato

Bassoonist Sofia Vecchiato, attended the workshop out of pure curiosity:

> I was just curious about this thing, because I never thought about other ways of performing a piece. You just perform it, maybe you change some dynamics, you change some tempo. But I've never thought about creating a new thing, starting from a piece.
>
> (Sofia Vecchiato in Interview)

Sofia created a Plastic Extension of *Caprice No. 3* by Eugène Bozza (1905-1991). This piece by Bozza made her feel a certain connection to her "dissociation from the self and identity crisis" (Sofia Vecchiato's text about her project of Plastic Extension of Music) in the melodic lines of the *Caprice*.

> …in this particular caprice that is number three from this collection of 12 "capricci" for solo bassoon, you see a melody that is calm, actually, that is presented several times during the piece, but then this calm melody is disturbed by virtuoso

> passages. So there is the demanding character in the piece. But what inspired me was the contrast from the melody to this other elements. And it inspired me, because I was thinking about home at the moment, coming here, such a different country from Italy, made me think about home and longing for home.
>
> (Sofia Vecchiato in Interview)

This sensation was also attached to her readings of Fernando Pessoa's *The Diary of Restlessness*.

> …in this particular quote "the insatiable and multiple fear of always being the same person and being someone else," he said like that, he is the same person, but actually is he also is another person at the same time. And it's actually super interesting for me, this ambivalence.
>
> (Sofia Vecchiato in Interview)

Her creative process was based on associating these feelings by taking the "identity crisis" as the departure point of what she wanted to express through the Plastic Extension.

> I am planning on placing different microphones in different areas of the room, looping the music and the voiceover I will record. People in the room will have to move around it to grasp all of the words and music, and will feel over stimulated for all of the sound they will hear.
>
> (Sofia Vecchiato's text about her project of Plastic Extension of Music)

This fragmentation of the space and looping sound came from her musical analysis of the piece and a symbiotic approach towards the spectators: "In fact, the goal is to make the people coming feel disoriented and lost, as I have felt." (Sofia Vecchiato's text about her project of Plastic Extension of Music) That resulted in a creative process of collecting fragmented recordings from her journal (herself talking) attached to fragments of the *Caprice* (herself performing these fragments)

> I've cut the piece in seven pieces, and each piece of music is related to a voiceover, like a dialogue. So when you walk through the performance, you can hear music and then words. The same speaker as the music and the words, for me, are saying the same thing. So it's like music and words, but they are the same thing, actually. […] If you keep a diary of all your thoughts, it's just interesting to see how you are. Different people every day, because you have different thoughts every day.
>
> (Sofia Vecchiato in interview)

> …each part is connected to some thoughts I had, in this way the structure of the *Caprice* is not the author's one anymore, whereas its order following feelings and thoughts.
>
> (Sofia Vecchiato's text about her project of Plastic Extension of Music)

The installation also exposed fragmented self-portraits in video recordings.

> In addition to all the sound, I would also like to record a video of me and project it on the walls, or at least attach some photos. I want to do this because all the thoughts and doubting start inside of a person, but on the outside the person is always the same.
>
> (Sofia Vecchiato's text about her project of Plastic Extension of Music)

Due to the fragmented nature of the Plastic Extension and Sofia's symbiotic wish "to make the people coming feel disoriented and lost, as I have felt," I suggested giving an individual duration to each fragment (audio and video), so when projecting them together, the audiovisual content would be in constant evolution and never repeating, giving an autopoietic condition to the installation. "…the cool thing about this project is that it is always changing" (Sofia Vecchiato in interview) The Plastic Extension became an audiovisual installation of 7 individual audio channels interacting with 3 individual video channels in the form of a journal:

> …since it's so much information there, every time I go there, and maybe I hear a piece and I'm like, "oh yes, that's a part of me!", and then another, "oh yes, that's part of me!" […] the cool thing about the project that I've done is that doesn't give you an answer to the question, "Who am I?" It's just a lot of answers, because the answer is that there's no answer. So I really like it, it's really more about making people feel uncomfortable through this experience, making make them question themselves more than giving an answer.
>
> (Sofia Vecchiato in interview)

The experience with Sofia proved very interesting when focusing on the qualities of emancipation in Plastic Extension, not only from classical music tradition but also as an exercise to express inner feelings.

> This is exactly what I want people to see. And I think it's interesting working with other media, like the visual media and also the speakers. It's interesting because I feel like I have more control of what I want to tell people like this, because

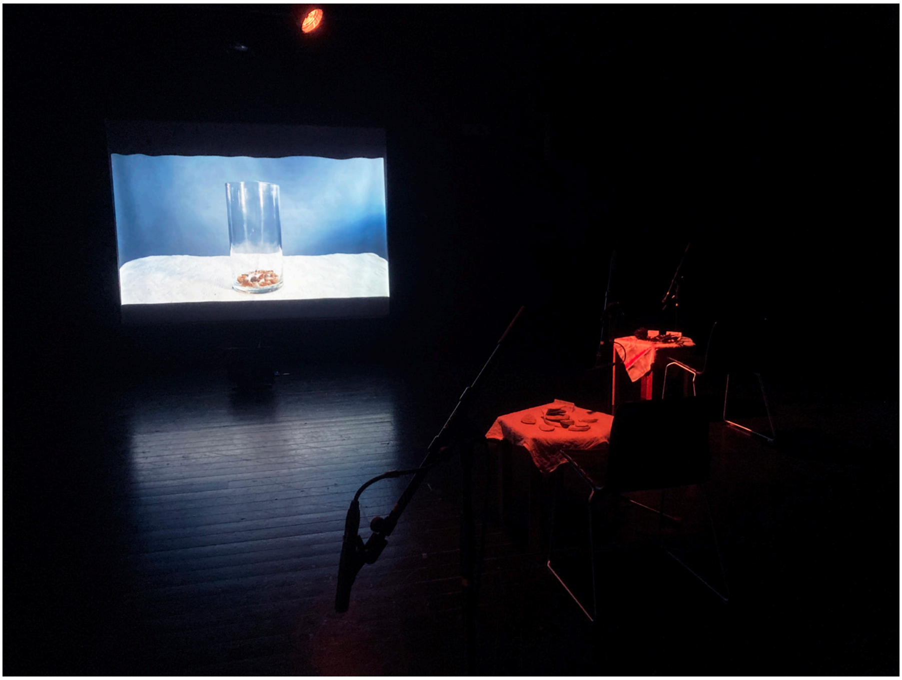
> when you perform classical pieces, you have mostly a tempo that you have to follow, you have a pianist, maybe you have an orchestra, and that is interesting, but I don't know, it was just another way like this. I could play whatever velocity I wanted, and I cut the piece, and then I pitched it, and so, yeah, it's not a piece anymore, but it's still the piece.
>
> I think all of the thoughts that I wrote were thoughts that I had, of course, because I wrote it. But now, every time I go there, I listen to and sometimes they're like "oh, wow, that's true!", like I feel that. So it's like every time I learn something more about myself that I already know, but maybe I put apart. So it's more a continuous discovery of what I think and what I feel.
>
> I've never done this before, so I didn't know where to start, but I think the final project is amazing. And, yeah, without this whole path, it would have been difficult to think…I think also, to believe in myself, because at the start I was like "No, I can't do this because I don't know how to use Logic, I don't know how to work on myself". But in the end, I did it.
>
> (Sofia Vecchiato in interview)

And I was happy to see and prove that there were also some epistemic consequences on the instrumental performance after creating a Plastic Extension:

> Well, I think I have a clearer idea of what each fragment is telling me. And of course, it was super interesting to say, "Oh, this thought can be linked to this music." Because, we're not used to analyse so deeply and so accurately every note of a piece, so it was more the general feeling, because now, when I perform it, I'm like, "Yes, I know what I want to say to people". I know how I want to feel. I know how I want them to feel.
>
> I think sometimes we are too stuck in interpretation. "It must be like this." "Oh, I heard this master doing this". "Maybe I can copy it," and it's okay, of course. But I think this [Plastic Extension] can really open your mind and give you more time to explore.
>
> (Sofia Vecchiato in interview)

6.5.3 *Strandfynd - Beach Findings*

by Rebell Gitarrkvartett + Lisa Holström and Petra Nilsson
Plastic Extension of *Havet* (The Ocean) by Alice Klint



Strandfynd Plastic Extension of Music by Rebell Gitarrkvartett + Lisa Holström and Petra Nilsson

The project had two outputs, a Plastic Extension and a new mix performance with dance, both issued from the same source: the transcription for guitar quartet of *Havet* by Alice Klint (b. 1996) made by Jonathan Bernhardsson, member of Rebell Gitarrkvartett. This project involved not only a chamber music group of four guitarists (the initial idea was a piece for solo performers) but also two dancers. The entire formation took part in the workshop but was mainly represented by guitarist and artistic leader of Rebell Gitarrkvartett Hannes Wikström and choreographer/dancer Lisa Holström.

> Hannes Wikström
> I came across the open call about the Plastic Extension idea to make something cross-disciplinary using different materials, different way of expressing yourself, deriving from a piece of music. And I thought this is interesting for the quartet. Then you (Lisa Holström) and me had an idea to work together with dance and guitar.

> Lisa Holström
> Yes, we started talking about different themes, and we had some ideas, but we didn't know for sure. Then we had the first workshop at the Skissernas Museum in Lund, and then we started finding some common thoughts about the beach, the ocean, water, stones, different beach findings.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

After the first sessions, members of the group came to the planned visit to Skissernas Museum to see material that could be used for the Plastic Extension and performance "Look for any water, movement or interdisciplinary works" ("Strandfynd" - Plastic Extension Project Plan). Their approach, inspired by the title of the piece to extend (*Havet* - The Ocean), had an environmentalist/sustainability theme and would be visually based on water and beach findings, so I suggested Gabriel Orozco's (b. 1962) work *Asterisms* as an example of doing art with beach findings. After the visit, the project established certain guidelines in a project plan:

> Project description: "Strandfynd" - an interactive, kinaesthetic-audiovisual performance
>
> - Interactive - visitors/audience as participants
> - "Strandfynd" (Beachfindings) - centre of the "stage" - audio amplification
> - The role of the ensemble (sextett) - "acting on signal"
> - The "rules" of "Strandfynd" - a practical, artistic method
> - Movements (dance) and music (guitars): Plastic Extension of the piece "Havet"
> - Not only Orozco have been known to use "Strandfynd" in a sustainability context...
>
> Results (hypothetical):
>
> - Participating visitors "conducts" a "collective, ongoing scene of movement, soundscape and investigation"
> - Every performance is unique
> - Kinaesthetic, audio/musical and visual experiences
>
> The "double role" of the "Strandfynd":
> - Its practical, visual and kinaesthetic function
> - "Strandfynd" as symbol for the environmental-sustainability-movement
>
> ("Strandfynd" - Plastic Extension Project Plan)

The working sessions with the group started with rehearsals of the arrangement made by Bernhardsson with dance and movement explorations, which became the living concretisation of the music in Lisa Holström's body and choreography. The project had a synaesthetic approach, meaning there was no specific embodied knowledge from the instrumental performance that was transposed into the material; instead, the material (beach findings) was directly associated with the title and became the cornerstone of the project that would trigger a degree zero performance in the Plastic Extension.

> By exploring beach findings collected at the local beach Ribbersborgsstranden, the team investigates how these objects can inspire new artistic paths, as well as how the interplay between music and choreography can be built around organic everyday objects that are found in the local marine environment.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson's text for exhibition)

> LH: …the ideas where the different beach findings would make sounds, we talked about water and water dripping, if you would touch it, like it would make some nice sounds. And that started off like more the extension part of it.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

These beach findings also had an interesting effect on the performance, first of all on the dance; both dancers embodied movements from the findings, creating an alternative embodiment, a plasticity that would originate directly from the title by considering it as an image from which we can borrow elements such as the beach findings, and secondly on the music performance and arrangement.

> HW: I think for the choreography, some of your movements (Lisa and Petra) are very inspired by some of the beach findings, like stones seaweed, so you kind of incorporated that into the dance." And then for us playing it, we also talk about phrasing, maybe this is the feeling of a wave or seaweed. And we even did some movements playing, trying to imitate these organic swells or swaying. So in our rehearsal process that has been incorporated in that way, I think.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

In addition, the beach findings would also become live objects that would allow the spectator to collaborate/recreate the Plastic Extension and interact and influence during the live performance:

> Jonathan Bernhardsson: We tried to use all these materials from the beach and this synthesised the live performance of the actual music itself. So our idea was to make these objects create soundscapes of sorts with the interaction of an audience, and in the extended version taking off the music and just performing

> these sounds as the extension, but it works in a synthesised way as well, together with the live music.
>
> HW: And also, I think for the choreography, some of your movements (Lisa and Petra) are very inspired by some of the beach findings, like stones seaweed, so you kind of incorporated that into the dance. And then for us playing it, we also talk about phrasing, maybe this is the feeling of a wave or seaweed. And we even did some movements playing, trying to imitate these organic swells or swaying. So in our rehearsal process that has been incorporated in that way, I think.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

The Plastic Extension had an interesting autopoietic approach: "The exhibition takes the form of an installation of sonic and kinaesthetic sculptures—intentioned to play with and investigate!—and mixed media recordings." (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson's text for exhibition) that was suggested by the interactive audiovisual set-up, made with one video projection and audio that could interact live with three different sets of beach findings placed on three different tables that were amplified and synthesised. The live performance was integrated inside this installation:

> Rebell Gitarrkvartett and dancers will also present an interactive live performance where the coordinated movements of dancers Lisa Holström and Petra Nilsson meets the acoustic world of four guitars. As an audience you will be invited to add to the scene by exploring the sounds of physical beach findings like stones, shells and seaweed, as well as movements of your own choice.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson's text for exhibition)

Due to the nature of the project, a collaboration with dance and a chamber music formation, I was intrigued about the post-relation with the score after the creation of the Plastic Extension.

> JB: at least for me, my relationship with the pieces of just listening to the music or playing the music has changed. Maybe emotionally, it has more significance when you've been working so thoroughly with interpreting it in different objects, regardless of the objects being there or not.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

I was also interested in the dancers' perspective.

> LH: For me, it has been eye opening how to use, technical stuff and how to make the performance take a step beyond, not just the like live dancing, but how you

> can work with both technical elements, video, microphones and take the performance further. I guess it's been nice. I've never worked like that before.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

My objective in this Plastic Extension workshop was to observe if the participants (musicians and dancers) were able to rethink performance, so I was happy to hear their reactions.

> JB: I think it's been really inspiring for all of us. For an upcoming show later, we built around the plastic extension, and that is something we've never done before. So I think it's a very creative way of exploring new artistic expressions and ways to perform music and together with dance and other objects, which is really fun. […] it's a great way of finding new ways to make a performance, to take a step away from the traditional live music performance…
>
> L.H.: I think we have a new medium now. We don't, like have a pure dance performance, we don't have a pure music concert. We have some mixture of everything. And it's great, because I think we have left some conventions within the typical dance performance, we have left maybe some conventions in the typical music performance, and we have made our own kind of performance, and that has been great to also not get stuck within the frames of what you usually do in a dance performance. For me, that has been hard sometimes, but also great.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

Another aspect that was very interesting for my research was considering Plastic Extension of Music as a new artwork format with its consequent deactivation of the historical weight of visual arts and traditional music performance.

> HW: I think also most of us, or everyone was likely to be creative with our hands, that we had this session where we made these little things with the shells and the stones, and that was very fun in itself.
>
> But also, you wouldn't be confident to do that if you didn't have the music as a fond or as a background, I think that would have felt like "Okay, I'm pretending to be an artist". But now, since we have the music, and we know we can play, you know you can dance, we have that. So we can be all this together with our performance, and it feels that I can be, well, maybe proud of it. I can stand for it and I don't feel ashamed or anything. I feel this is nice. So I don't think we would have had that arena if we didn't use the framework.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

•How tall a tower can you build?
•What is the sound of collapse?

Strandfynd Plastic Extension of Music by Rebell Gitarrkvartett + Lisa Holström and Petra Nilsson

6.6 Plastic Extension of Music course syllabus

This experience allowed me to reconfigure the workshop by adding more learning outcomes that issued from the workshop and present them as an official "Independent course" (Fristående kurs) at the Malmö Academy of Music. (see Appendix 1 - Course syllabus Plastic Extension of Music)

Chapter 7 - Feedback and Afterthoughts

Introduction

This chapter concludes my exploration process of Plastic Extension of Music as a personal practice-based research, focused on imagining new ways to perform score-based Western art music and by sharing Plastic Extension of Music as a new tool for music performers.

This path of personal exploration (Part 1), to design an artistic theory (Chapter 4), to develop a personal practice (Chapter 5), and to design it into a shareable creative tool for music performers (Chapter 6) gave an important amount of feedback, consequences and speculations that I consider important to share and reflect upon to conclude this second part.

7.1 Epistemic consequences on the instrumental performance and the performative body

One of the most interesting consequences of Plastic Extension, was the possibility to create, trigger and visualise the mental image of my ideal instrumental performance.

These new visual metaphors allowed me to understand, detect and assign a plasticity to the parameters that made it possible to "practice" the works with different materials and dispositions in space instead of time. Therefore, and as illustrated by the described artistic works, Plastic Extension of Music can consequently be seen as a new form of "instrumental practice" where practice happens without the instrument, and personal feedback is given without external assessment.

From a personal perspective and focusing on guitar technique, the creation of these visual metaphors also resulted in a process that made me aware of my movements while performing (such as preparation, attack and release) and made me detect certain parasite movements in my general technique (see chapter 5.2) and deactivated bad muscle memories acquired in the past (see chapter 5.3).

After studying different therapies (Byl & McKenzie 2000; Byl, Archer, & McKenzie 2009), exercises (Chiles 2022) and studies on focal dystonia (Détári, 2022), I hoped that the variation made on the intermanual skill transfer in *phantom errand [muscle memory] ·* and *phantom errand [muscle memory] :* (chapter 5.2) could be an exercise to prevent focal dystonia. I believe that the creative process proved to me that the instrumental practice transposed to a canvas in the form of a visual metaphor became a process to release tension in both my hands and deactivate the bad muscle memory in the performance of those particular passages.

This new transductive condition of the performer between practice and creation inside Plastic Extension of Music has a direct influence on instrumental performance. When the instrumental practice becomes "a margin of indetermination between both domains" (Simondon 2024, p. 212), the instrumental and the plastic, the body and the instrument become epistemic tools, thus unveiling a different perspective that could not be observed in traditional practice. I believe that the transductive performer, when practising music, has a hearing perception that is altered (see chapter 4.4 Poietical intervention) by the awareness of the plastic parameters that will become Plastic Extension; a new hermeneutic circle where the ear creates the image, and the eye replies to the ear.

The creation of metaphors and objects by using the body and hands of the performer develops an alternative know-how that cannot be acquired in traditional performance and, at the same time, an interesting paradox: the (re) creation of the—our own—performance with other gestures and materials is a paradox that results in an amplification of the embodied knowledge and our perception.

However, it is not only through the creation but also with the display of these newly crafted metaphors of the performance that their multidisciplinary creative process creates a positive influence on the instrumental technique, a transductive quality of Plastic Extension that allows both "potentialities" (the plastic and the instrumental) to be "actualised" (Simondon 2024, p. 212).

These speculations on the instrumental feedback were only based on my personal approach and sensations with the pieces after extending them, so I was surprised (and happy) to hear about these transductive qualities of Plastic Extension of Music in the creative process from the participants after the workshop:

> …it felt quite nice to work with the piece I play and to be able to really see it. Because when we play, we can see, we can hear the piece, of course, but also we can see how we play the piece and how the scores look like. But when we don't have these elements, we can't really imagine the music. And here, I had this possibility to see the music, but not really in music. (Komorowska, see Chapter 6.5.1)

> …I have a clearer idea of what each fragment is telling me. And of course, it was super interesting to say, "Oh, this thought can be linked to this music". Because, we're not used to analyse so deeply and so accurately every note of a piece, so it was more the general feeling, because now, when I perform it, I'm like, "Yes, I know what I want to say to people". I know how I want to feel. I know how I want them to feel. (Vecchiato, see Chapter 6.5.2)

7.2 Poiesis/Autopoiesis

During the workshop, it was interesting to witness the poietical intervention of Plastic Extension for the participants and the consequences this intervention had on their perception of the score. The participants demonstrated that they were able to create their own coherent structures under the umbrella of "music performance" in each Plastic Extension. These structures formed new ecosystems for the music score and its performance, where the materials became alive and communicated with each other, without the intervention of the live performer.

Hanna Komorowska (see Chapter 6.5.1) was able to rethink and shape her instrumental performance of the score by transposing the gestures of her hand into objects and placing them in space as a landscaped performance. Inside this installation, the spectator was able to perceive the music material at a single glance, very similar to Delaunay's idea of "simultaneous contrast" (see chapter 2.2).

Sofia Vecchiato associated her own literary metaphors with fragments of the original score. This association and fragmentation of both the score and her thoughts allowed her to imagine and create a different format of her performance that was better adapted for her to express the ideas she had about the score: "This is exactly what I want people to see." (see chapter 6.5.2)

This new self-knowledge activated by Plastic Extension, becomes autopoietical for the performer opening the path for infinite methods of music performance. It is by assembling the two autopoietical qualities of the score and the performer, that an unlimited hermeneutic circle for artistic expression is created inside score-based music performance.

The project of Rebell Gitarrkvartett with dancers Lisa Holström and Petra Nilsson (Chapter 6.5.3) was focused on exploring the title of the piece *Havet* (The ocean). This exploration was triggered by the poietical intervention of concretising their performance in space, generating an action of environmental activism by recollecting beach findings in Malmö, integrating the sounds, images and mimics of the seaweed and other beach findings in their extended performance.

Another example of the infinite methods of performance in Plastic Extension is the drawing of the motion of the hand with the hand that plucks (chapter 5.3), where details and fragments of the moving hand are delineated. This autopoietic exercise where the hand unveiled itself through its own drawing revealed new perspectives of myself and my hand, creating a visual parataxis of the plucking movement, a transmutation of the drawing hand into its own movement:

> Painting is a superior mental discourse and of greater artifice and wonder than sculpture, since necessity forces the painter's mind to transmute itself into the mind of nature itself and to be an interpreter between nature and art, commenting with it on the causes of its figurations obedient to its laws; and how the images of the objects that surround us coincide with the true simulacra in the pupil of our eye.
>
> (da Vinci 1997, p. 117, Trans. BCA)

The mimicking originally triggered by the centzontle and practised by retracing the fingerings of my late father in *(in)habit* (chapter 5.5) not only unveiled the muscle memory stocked in the performative body but also pointed to tablature and certain music scores as prototypes of time-travelling machines. A prototype device for communication with the dead, allowing the performer to inhabit someone else's body through the imprinted gestures in the score or tablature.

This awareness allowed me to perceive music scores and tablature as open gates from which the absent (dead or living composers) are able to pull the strings attached to the performer. The research in Plastic Extension of Music revealed this condition of the score and naturally triggers a poiesis in the performer to emancipate from the costume by searching and creating alternative performances.

7.3 Emancipative actions for the spectators

During the exhibitions of the Plastic Extensions, spectators are prompted to interpret and translate what they perceive, transforming the experience into a dynamic act of meaning-making. By engaging with the extension, they can reconstruct the performance in their imagination, co-creating a unique and personal interpretation of the work.

> The power common to spectators does not stem from their quality as members of a collective body or from any specific form of interactivity. It is the power that each person has to translate in their own way what they perceive, to link it to the singular intellectual adventure which makes them similar to any other as long as this adventure does not resemble any other.
>
> (Rancière, J. 2008, p. 23, Trans. BCA)

By co-creating a performance that is fixed in time and space, an anachronic/catachronic aspect of the music score and its performance is immediately unveiled for the spectator. A disposition of the performance where the timeline of the music performance ceases to exist, allowing the spectator to inhabit the entire performance in a single instant or to recreate it without any limits.

> In the figuration of corporeal things, poetry and painting differ as much as dismembered bodies differ from united ones: when the poet describes the beauty or ugliness of a body he shows it limb by limb and at different times; the painter makes it seen in its entirety in a single instant.
>
> (da Vinci 1997, p. 102, Trans. BCA)

The public disposition of the performance in objects and metaphors in space and fixed in time helped me understand the basic difference between a music score and a Plastic Extension. A Plastic Extension is not a transcription, nor is it an object that, besides being a music performance, has certain rules of interaction or interpretation. A Plastic Extension is an open source for spectators where they can "authorise"—from the etymological root of mid-14c. auctor, autour, autor "father, creator, one who brings about, one who makes or creates" someone or something (O. E. D. n.d.)—their own performances of the work and trace their own creative paths without the imposition of the canonical version, performed and interpreted by a musician.

Through this authorisation of the spectators, the performer is transmuted into the imagination of the spectator. In a symbiosis between the Plastic Extension and the spectators, the absent/present music score may be performed in as many limitless versions as the spectators can imagine. This co-authorisation of the spectator (re)activates the autopoietical potential of the performer and the score.

7.4 New artwork

When I started shaping and investigating this new method, I thought that Plastic Extension could create a new iconography of the performed music; nevertheless, the infinite symbiosis of the score and its hypothetical interpreters that could practise Plastic Extension would be so heterogeneous that an iconography would be impossible to establish. But I understood at the same time that this heterogeneous and multidisciplinary praxis is the richness inside this practice and the possibility to become a never-ending fluid source of creativity for score-based music performance. As Schönberg would say: "let us ensure that this intuition is never lost in a theory" (Schönberg 1984, pp. 27-28, Trans BCA).

Although these new music performances emerge as installations, paintings, drawings, sculptures, video works or any other similar artistic manifestation, I understood that Plastic Extension does not belong to these art disciplines. It is through the poietical intervention of Plastic Extension, that the music score and its performance are able to explore and borrow different tools and materials to perform in different grounds but without being part of them. The performance is veiled by the plasticity of the extended parameters that allow its adaptation to the new environment; these parameters facilitate the manipulation of the tools that belong to other disciplines to finally imprint the performance outside its common traditional ground.

> …I think we have a new medium now. We don't, like have a pure dance performance, we don't have a pure music concert. We have some mixture of everything. (Holström, see chapter 6.5.3)
>
> This is exactly what I want people to see. And I think it's interesting working with other media, like the visual media and also the speakers. It's interesting because I feel like I have more control of what I want to tell people like this… I could play whatever velocity I wanted, and I cut the piece, and then I pitched it, and so, yeah, it's not a piece anymore, but it's still the piece. (Vecchiato, see chapter 6.5.2)
>
> How one can put dance and art, visual art, together, or, any kind of art, that's really interesting! And I think it's really nice to do it, not to separate the categories of art, but to try to do something together. (Komorowska, see chapter 6.5.1)

These Plastic Extensions in the form of multidisciplinary self-portraits of the performing bodies and minds correspond to the alchemically putrefied parameters and their plasticity as performances that create new paths for music expression and are reborn as new artworks, opening a parallel universe for the music score and the performer beyond their traditional praxis.

But are the outputs new artworks or simply music performances? I guess that question will always remain open. But we should not forget that Plastic Extension of Music is based on the creative criticism of the music score. Although the artistic outputs emerge as new artworks—the creative process of the performer, and the spectator, which gives a certain authority over the artistic output and claims on authorship—these outputs will always be attached to the source, which is the music score.

Therefore, a Plastic Extension is a co-creative artwork that is fully activated as a performance with the interpretation and interaction of the spectator.

7.5 Afterthoughts

- **The three E's for the performer today: Elastic, Extended, Emancipated**

During this research project, Plastic Extension of Music unveiled itself to me as a natural extension of score-based music performance; an intervention triggered inside tradition that manipulates alternatively the tools of score-based music to imagine new methods to perform the score. An opening of a path for elasticity and extension towards an emancipation from the traditions in score-based music performance, for both the performer and the past listeners/ new spectators.

The development of this method established:

Elasticity in the performers

A new transductive condition inside the traditional symbiosis between the score and the performer, by adding a poietical intervention to detect, analyse and choose parameters towards an alternative performance based on their plasticity and concretisation. A transductive condition and *creative criticism* attached to traditional performance, where the musical instrument and the body become the epistemic tools for the creation of a new performance.

> …the æsthetic critic rejects these obvious modes of art that have but one message to deliver, and having delivered it become dumb and sterile, and seeks rather for such modes as suggest reverie and mood, and by their imaginative beauty make all interpretations true, and no interpretation final. Some resemblance, no doubt, the creative work of the critic will have to the work that has stirred him to creation…

(Wilde 1991, p. 31)

Extensions of the performers

The artistic outputs and the workshop in this project point to how the objects/metaphors—created by the same performing hand of the performer—may carry traces of the performer and the performance, a dehiscence for a new symbiotic process between the Plastic Extension and the spectator.

Plastic Extension is an alternative performance that is fixed in time and space, open to be inhabited by denying the traditional time-based performance of the score, but at the same time inviting the spectators to enter a space to interpret and create the absent but framed music performance in their own minds, a degree zero performance of the score, triggered by the performer's metaphors. A new autopoietical condition of the music score to generate and imagine infinite and extended methods of performance for both the performer and the spectator.

Emancipation for the performers

An emancipation can only take place when the subject is freed from a controlled environment. So, do I consider score-based music performance a controlled environment? I believe so, and this control is not only made from the reiterative traditional praxis of score-based music, but from other factors that I will discuss in the third and last part of this project.

During this research project, Plastic Extension has been explored and proposed as a poietical intervention for the performer to become transductive, and this condition is indeed new and emancipatory. But, I believe that the visualisation and creation of alternative mental images of the music performance have even a stronger emancipatory aspect; why do I believe this?

As traditional score-based music performers, we have a very narrow, precise and focused approach on how to perform the music score in front of us, but when we are able to liberate those mental images and start to imagine an open-ended landscape of performances, suddenly the approach becomes wider. A landscape that allows the performer to perform music in space instead of time, similar—as mentioned before— to our daily practice, where the motion of music stops to ***rehearse*** (from *re-* "again" and Old French *herse*, formerly *herce* "large rake for breaking up soil, harrow; portcullis," O.E.D. n.d.), practise and correct the music passage.

How many times do I have heard my students say after playing poorly a piece: *at home it sounded better!* How many times we have made perfect flawless versions during practice and there was no one to witness that performance. Plastic Extension allows any performer to create a *flawless* live performance of every parameter imprinted in the objects/metaphors, an emancipation from the *Sisyphean effort* of recreating each time the music from nothing in canonical performance, resulting in a newly crafted and self-made performing and performative mental image.

7.6 Conclusion

During this project I was happy to create a new tool for music performance . I never thought that my first experience in music, by mimicking the *Chaconne*, would unfold into doing a method on how to perform music with materials from other disciplines. But possibly, everything was issued from that first mimicking practice (see chapter 1), when I was trying to copy, shape and transpose that visual parataxis of the hands of my father performing the *Chaconne* that created a certain adaptation capacity (mimicry) to think music the way I do.

After searching all the possible ways I had at my reach as a professional musician (see Part 1), Plastic Extension of Music came as a way to communicate differently, and probably better, in the world we live today. Analysing how I practised this method and analysing the outcomes of the participants in the workshop, I clearly understood that I was not the only one in need of finding different and alternative ways to perform music.

I believe that tradition in score-based music creates a heavy burden on the new generations today. We live in a very particular era where digital technology is forcing us to live among the dead—an aspect that I will expose in the following part—, Plastic Extension helps to break up with tradition and liberates the performer by creating an alternative physical and mental contact with the score to express the performance with the different tools of Plastic Extension and help the contemporary performer attain "exactly what I want people to see" (Sofia Vecchiato in interview, see chapter 6.5.2).

I assume that many musicians and traditional music lovers would say that in Plastic Extension of Music the performer is "cheating" their way into music behind this practice and avoiding the canonical stage performance. And I can partially agree; this tool is indeed an inclusive practice that enables music expression for any music performer at any stage, capacity or musical knowledge. These music performances are part of an open-ended universe where every performance is valid and unique, establishing their own ground and rules. This unique object has a singularity and personal statement that do not belong to any other discipline or tradition, because Plastic Extension of Music is a new and exclusive domain for music performers. A method that goes beyond any established music practice by exposing the animality and individuality as an aesthetic quality that is imprinted on the artworks issued from our score-based music tradition.

I was happy to see how the participants of the workshop were able to imagine new and different interactions within the design of their Plastic Extensions to communicate with their public, alternative approaches that do not exist in canonical score-based music performance, like Hanna's "book where people could write their haikus and try to create words (in any language) from the letters T, O, R, A." (Hanna Komorowska's text about her project of Plastic Extension of Music) or get lost in the personal thoughts of Sofia where "it's really more about making people feel uncomfortable through this experience, make them question themselves…"

These multidisciplinary and transgeneric experiences give a new degree of self-confidence to the contemporary performer. A self-confidence to work and express every detail of their performances in a new creative and innovative format of music performance that allows to explore—with the plastic parameters of the performance—infinite materials and disciplines to imprint and display their own performative parameters as an alternative music performance for the audience to co-create.

It's important to mention that this multidisciplinary practice is a unique path in music performance that opens paths towards an artistic and aesthetic singularity issued from music, creating radical new perspectives of what score-based music performance traditionally means, enabling a unique confidence in the performer that resides in her/his elastic capacities and allowances with the Plastic Extension of Music tools, a medium to explore contemporary art practices and other disciplines with music:

> I've never done this before, so I didn't know where to start, but I think the final project is amazing. And, yeah, without this whole path, it would have been difficult to think…I think also, to believe in myself, because at the start I was like "No, I can't do this because I don't know how to use Logic, I don't know how to work on myself". But in the end, I did it.
>
> (Sofia Vecchiato in interview)

> I think also most of us, or everyone was likely to be creative with our hands, that we had this session where we made these little things with the shells and the stones, and that was very fun in itself.
>
> But also, you wouldn't be confident to do that if you didn't have the music as a fond or as a background, I think that would have felt like "Okay, I'm pretending to be an artist". But now, since we have the music, and we know we can play, you know you can dance, we have that. So we can be all this together with our performance, and it feels that I can be, well, maybe proud of it.
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview)

This approach to music performance vanishes the audience etiquette and traditional behaviour of score-based music performances. When dealing with the artistic outputs of Plastic Extension of Music, here the emancipated spectator establishes a new and direct communication with the performer, liberating the costumes of both entities inside this co-creative experience.

Plastic Extension of Music belongs to an undefined and non-traditional format where there is no reference, judgement or comparison, no rules to follow, and a new and unique format where the physical capacities are not anymore a constraint to express or perform the music we want to be in contact with:

> …because when you perform classical pieces, you have mostly a tempo that you have to follow, you have a pianist, maybe you have an orchestra, and that is interesting, but I don't know, it was just another way like this. I could play whatever velocity I wanted, and I cut the piece, and then I pitched it, and so, yeah, it's not a piece anymore, but it's still the piece.
>
> (Sofia Vecchiato in interview)

> Curiously, it's the traditional attachment to the score that triggers the liberty and self-confidence of the performer in Plastic Extension of Music: "You wouldn't be confident to do that if you didn't have the music as a fond or as a background"
>
> (Rebel Gitarrkvartett, Lisa Holström and Petra Nilsson in interview).

7.7 New perspectives

Besides the positive results of the workshop, I believe that any person is able to transpose and extend their embodied knowledge and release or recreate it in a different format; a transgeneric capacity that every human being has, a practice that has its origin when attributing words to feelings. Plastic Extension of Music is not far from this common practice.

My following research question is, what if we allow everyone to practise the poietical intervention of Plastic Extension of Music and start to detect and analyse certain parameters and their plasticity inside their daily activities so that these parameters can be consciously transposed into an original and unique artistic expression?

Believing that everyone is able to express with different and alternative means of communication, I will explore in the third and last part of this artistic research project how children and the visually impaired and blind community can use and practise the concepts of Plastic Extension of Music.

PART 3

In art, as in biology, there is a phenomenon that can be described as mutation, in which appearances radically change at a tempo much more rapid than that at which they normally proceed. As in the case of biology, we have no means to determine the process by which this radical change occurs. Yet we do know that it is a reaction to a form of congestion. It is a desperate change due to the arrival at a point where the corollaries to a situation are exhausted, when the stimulus to additional growth is sluggish and a rapid rejuvenation is needed so that art, through disuse, does not atrophy in much the same way as an unused human organ. Here art must attain a new start if it is to survive. Then, assiduously, it renews its traditions by marriage with alien traditions, by the reexamination of its own processes, and by those means reestablishes contact again with its own roots. It is in this way that new plastic worlds are born. For art, like a race, cannot inbreed very long without losing its incentives to continue; it needs the rejuvenation of new experiences and new blood. These mutations, it must be clear, however, do not constitute a change in properties, or mean that art has discarded its past. On the contrary, mutation involves a more conscious evaluation of art's inheritance and the redirection of that inheritance into channels where it can be continued with greater force.

(Rothko 2004, p. 17-18)

Plastic Emancipation of Music

Plastic Emancipation of Music

Introduction

After proposing Plastic Extension of Music as an emancipation tool for score-based music performers and exposing all the consequences this methodology can have as a new music performance and an artwork by itself. I will expose how can two hypothetical tools issued from the concept of Plastic Extension of Music be applied in society and outside the purely artistic praxis.

This part has to be considered as open-ended thoughts and discussions in the form of two obstacles that I was able to detect, observe, analyse to finally ideate some solutions as conclusions from the perspective of Plastic Extension. This is what I consider my real artistic research, a critical process that allowed me to deconstruct and understand the basic concepts of Plastic Extension of Music, to detach them from me and my practice, and apply them openly in society.

These solutions, the hypothetical tools issued from Plastic Extension of Music that I propose here, are works in progress and partially finished. However, my conclusion and hopes are on how to apply my artistic research beyond artistic research; by considering art as a vector that if processed through the (artistic) research methods, can be emancipated and practiced beyond our artistic discipline.

Welcome to the jungle

Since the beginning of my career, I have never felt that my practice was completely open. I have always experienced it as protected under the veiling words of “classical guitar,” “conservatory,” “contemporary music,” “contemporary art practices,” and today, “artistic research”. All these layers of protection have been necessary for me in my artistic work and they have protected me from the outside world, “the jungle”.

As a classical guitarist, I have always tried to distinguish myself from the rest of the guitarists; I always avoided playing at parties since I felt that it was beneath my dignity to entertain the attendees with my classical formation and knowledge that I had acquired at Royal conservatories. I would constantly refuse the typically untuned guitar at parties by cleverly saying “tonight I don’t work!”, passing the guitar to the next person while gently asking for a refill of my drink.

This “clever” phrase established a certain distance towards the other attendees and gave me a veil of professionalism that would not allow me to perform under such conditions.

Later, I became a professional performer of contemporary music. This meant a certain delimitation both of my repertoire and my audience. I covered myself with another layer, that of the “contemporary,” therefore too intelligent or complex for the common people to understand. I remember performing concerts with exclusively contemporary repertoire, where friends and family would come to listen. Most of them were shocked by the music and, after a brief “congratulations,” left immediately. Some of them sincerely asked me, ”but why do you play the guitar like that? I remember you used to play very beautifully”. My childhood friends made jokes about me going to Europe to ”learn how to hit the guitar” and said that if I wanted to be a carpenter, I should have stayed in Mexico.

I laughed at all these situations, and why not? I knew that government grants supported me and my experimental performances, and that they were fully appreciated by other specialists, who were no more than 20 friends and colleagues. The story goes on and on, covering my practice and profession with more and more layers.

Today, I’m doing a PhD in artistic research and ask myself: How can I get rid of my layers and start sharing all that I have learnt inside those safe spaces of “classical guitar”, “contemporary music,” “contemporary art,” and now “artistic research”?

I have realised that my entire artistic life has been based on finding ways to communicate and reach more people with my music. I tried the traditional ones, such as composition, recordings, collaborations with composers, performing new music, creating an ensemble and a festival, imagining musical activities for children, exploring visual arts, teaching, workshops and now Plastic Extension of Music. However, I have not understood until now that all those communication attempts were made in a close circuit, a safe space. Therefore, they had a very limited outreach.

Satellites

This study and research project, led me to ask myself if there was a possibility of using the concept of Plastic Extension of Music to explore and study new ways to communicate and contrast my ideas and their performance beyond my practice.

I gradually became aware that this could only happen if the concept of Plastic Extension of Music was stripped and detached from me and my layers. By communicating outside of my safe space the concept would naturally be detached and emancipated from me and my layers, to wander and roam free, similar to a satellite leaving the atmosphere.

I decided to imagine and design two artistic research tools, as "satellites" of the concept of Plastic Extension of Music that would give new feedback outside my domain. The first tool is the idea of an audio-visual-tactile toy for children, and the second tool a workshop for the visually impaired and the blind.

In order that these "satellites" could roam easier, I had to study and detect from my perspective—my ground—, which were the obstacles that the concept of Plastic Extension of Music and its satellites would encounter once beyond my control and find a way through those obstacles; again, as Walter Benjamin would say, Plastic Extension of Music has a *destructive character*:

> The destructive character knows only one motto: make room. And only one activity: clearing away. His need for fresh air and open space is stronger than any hatred…The destructive character perceives nothing lasting. So he finds ways everywhere. Where others collide with walls or mountains, he sees a way.
>
> (Benjamin 1973, p. 159-161 Trans. BCA)

I presumed that the main obstacles would be technology and the digital reproduction of music, the muscle memory stocked in score-based music performers, and how does these obstacles affect music and its performance in our current socio-economic environment. I decided to study each obstacle from the perspective of my personal experience, in order to be able to foresee what I was going to encounter in the "jungle".

These obstacles will be discussed in the following chapters.

THE PARATAXIS JOURNAL: I have spent so much time playing a series of RPG's (Role-playing games) called *Fallout*, this game is based on a Post-apocalyptical scenario where in the first volume, the main character grows up inside a vault, starting the adventure starts when the character has to go out vault into that post-apocalyptic world. The game is full of encounters and dialogues that are based on the radical cultural differences between your character that was born and raised inside a vault and the outside characters that have been for generations exposed to the horrors of a hypothetical post-apocalyptic world. I wonder if classical music is a bit similar today…I wonder if I'm like that…?

Chapter 8 - Technology: The musical work in the age of digital reproduction

8.1 Introduction

How does digital technology for music distribution and communication interact with musicians? Has the manipulation of digital technology tools become the tools to manipulate its users? What happens when music as an artistic expression becomes digital content? Today, musicians have to contribute and create content for the digital universe of the World Wide Web in order to exist inside this parallel world. How are these contributions by musicians understood by the world of digital technology and communication?

In this chapter, I will share and reflect some of my personal experiences as a musician surrounded by digital technology as a communication tool. These experiences and references are observed from my perspective and seen as obstacles that have pushed me to search new ways and paths as a performer of score-based music but also as a composer, using technology differently or create my own. It is with the hope of applying the concepts of Plastic Extension of Music outside my domain that I'm discussing the following ideas.

- technology (n.)

1610s, “a discourse or treatise on an art or the arts,” from Latinized form of Greek *tekhnologia* “systematic treatment of an art, craft, or technique,” originally referring to grammar, from *tekhno-*, combining form of *tekhnē* “art, skill, craft in work; method, system, an art, a system or method of making or doing,” from PIE *teks-na-* “craft” (of weaving or fabricating), from suffixed form of root *teks-* “to weave,” also “to fabricate.”

(O.E.D. n.d.)

- -logy

word-forming element meaning “a speaking, discourse, treatise, doctrine, theory, science,” from Greek *-logia* (often via French *-logie* or Medieval Latin *-logia*), from *-log-*, combining form of *legein* “to speak, tell;” thus, “the character or deportment of one who speaks or treats of (a certain subject);” from PIE root *leg-* “to collect, gather,” with derivatives meaning “to speak (to ‘pick out words’).” Often via Medieval Latin *-logia*, French *-logie*. In philology “love of learning; love of words or discourse,” apology, doxology, analogy, trilogy, etc., Greek *logos* “word, speech, statement, discourse” is directly concerned.

(O.E.D. n.d.)

- manipulation (n.)

by 1730, a method of digging ore, from French *manipulation*, from *manipule* "handful" (a pharmacists' measure), from Latin *manipulus* "handful, sheaf, bundle," from *manus* "hand" (from PIE root *man-* "hand") + root of *plere* "to fill" (from PIE root *pele-* "to fill"). Sense of "skillful handling of objects" is attested by 1826; extended 1828 to "handling or managing of persons," especially to one's own advantage.

(O.E.D. n.d.)

- manipulate (v.)

1827, "to handle skillfully by hand," a back-formation from manipulation. As "to manage by mental influence," especially for one's own purposes, is by 1864. Financial sense is from 1870. By 1949 it served as a euphemism for "masturbate".

(O.E.D. n.d.)

- manipulative (adj.)

1816, in literal sense "of or pertaining to physical manipulation," from *manipulate* + *-ive*. In the sense of "tending to manage by mental influence," especially for one's own purposes, by 1909.

(O.E.D. n.d.)

8.2 Ouija*

> Divination is not permitted to anyone, under penalty of decapitation by the executioner's sword.
>
> (Insistoris & Sprenger 2009 p. 110)

> Whoever questions fortune tellers to know the future reveals, without knowing it, an intimate knowledge of what is to come a thousand times more precise than anything he can hear from their mouths. He is guided more by inertia than by curiosity, and nothing is less like the resigned clumsiness with which he witnesses the revelation of his destiny than the swift and dangerous manoeuvre with which the brave man faces the future. For presence of mind is the quintessence of this future; Capturing exactly what is happening in the space of a second is more decisive than knowing in advance very remote futures.
>
> (Benjamin 2015, p. 82)

Back in my childhood, together with my neighbours, we often gathered to ask questions to the Ouija. The spirits would come and take control of our hands to guide us letter by letter to the answers of our questions. In these mystical sessions, there was always the fear of knowing who that spirit was and what our relation to that guiding spirit was. This very imprecise, archaic search-engine was the only communication tool we had when asking for advice on our existential questions, questions that were possible to ask to the adults.

One day during a session, the Ouija asked for me. I was not playing on the board that day but simply seeing the session on the side. The spirit guided my neighbours' hands on the board and told us letter by letter that in a past life I used to be a sheriff that died on the Texan border doing his job. We were all immediately afraid—me in particular—and after the intrusive revelation of this unknown voice behind the search engine, I never again played with the Ouija. This is the only memory I keep from my experiences of ***divination***.

---

*a flat board marked with the letters of the Latin alphabet, the numbers 0–9, the words "yes", "no", and occasionally "hello" and "goodbye", along with various symbols and graphics. It uses a planchette (a small heart-shaped piece of wood or plastic) as a movable indicator to spell out messages during a séance. Participants place their fingers on the planchette, and it is moved about the board to spell out words. (Wikipedia)

- divination (n.)

late 14c., *divinacioun*, “act of foretelling by supernatural or magical means the future, or discovering what is hidden or obscure,” from Old French *divination* (13c.), from Latin *divinationem* (nominative *divinatio*) “the power of foreseeing, prediction,” noun of action from past-participle stem of *divinare*, literally “to be inspired by a god,” from *divinus* “of a god,” from *divus* “a god,” related to *deus* “god, deity” (from PIE root *dyeu-* “to shine,” in derivatives “sky, heaven, god”).

(O.E.D. n.d.)

Although those experiences always had a certain degree of danger and fear of the unknown, I do remember them with a certain nostalgia. There was a ritual to have an answer to an existential question, and when that happened, we systematically said, *"Let's ask the Ouija!."* This phrase came out of pure spontaneity, it would trigger and organise a collective choreography full of actions and layers to finally see our hands over the planchette moving through the ouija board. The sessions would be full of hesitations, wanderings, and arabesques of the planchette between each letter or number. We were a group of children fully concentrated on our search for answers and guidance from *The Beyond*, and this was a search that always created doubts, imprecise answers, and even intrusions.

Today, these questions are answered with amazing precision by Google Siri, Alexa, or ChatGPT, and we instantly receive precise and seemingly correct answers, based on the information and facts that reside within the internet. The mystery and fear of the unknown have been replaced by precision and accuracy.

The wandering timeframes of imprecision, along with their attached experience, have almost disappeared today. These timeframes included a predisposed mindset and a determination to do a series of improvised gestures: *the choreography of searching for something*. A series of wandering gestures that allowed us to find something by chance or by accident, gestures that were also present while searching for precise information like a subject in Encyclopaedia, a word on dictionaries, or an LP or CD in a store: "Capturing exactly what is happening in the space of a second is more decisive than knowing in advance very remote futures." (Benjamin 2015, p. 82)

8.3 No time to wa(o)nder

At home we had, and still have, a very large collection of LPs. I remember when searching for an Al Jarreau LP, I ***accidentally*** came upon the album *Tarkus* (1971) by Emerson Lake & Palmer and the immersive and immediate contact I had with the object and its art cover when opening the cardboard of the LP and seeing a painted landscape before me.

I drew out the vinyl, chose the speed of the record player, cleaned the vinyl with the brush, took out the static, put the disc on the turntable, and carefully put the needle at the edge of the disc—a mechanical choreography that I had mirrored from my father—then suddenly, after the typical vinyl crackle, I heard that unique 5/8 beat *ostinato* of the first track. A beautiful *accident* !

> …the accident has a speed that I would say is virtual, because the accident is what happens unexpectedly. There you have it, the definition of accident is what happens unexpectedly, accident is what happens without one being able to predict it.
>
> (Virilio 1991 p. 13 Trans. BCA)

That *ostinato* sounding while looking closely at that amazing character called *Tarkus*, a sort of armadillo in the shape of a war tank, was a unique and unpredictable audio-visual experience. A colourful landscape displaying a parataxis of juxtaposed images of the life of *Tarkus* until his rebirth into *Aquatarkus*. *Tarkus* suffered a metamorphosis suffered after being killed by a manticore's needle in the eye, the only weak point of *Tarkus* (that I would later and unconsciously relate with the death of *Smaug* in *The Hobbit* and years later with the beginning of the film *Un chien andalou*). This visual parataxis stayed in my head for months, at school I would draw extracts of the landscape while still hearing that 5/8 beat in my head.

This discovery in this unplanned event I fell upon would lead to discussions with my father about other songs like *Lucky Man* (my father would say that Emerson Lake & Palmer copied the second voice style in that particular song from the style of the first Beatles), or hearing for the first time Alberto Ginastera's (1916-1983) *Toccata* (1961) performed by Emerson Lake & Palmer, a piece that would greatly influence my performance of Alberto Ginastera's *Sonata for guitar* (1976) many years later.

- accident (n.)

late 14c., “an occurrence, incident, event; what comes by chance,” from Old French *accident* (12c.), from Latin *accidentem* (nominative *accidens*) “an occurrence; chance; misfortune,” noun use of present participle of *accidere* “happen, fall out, fall upon,” from *ad* “to” + combining form of *cadere* “to fall” (from PIE root *kad-* “to fall”).

The sense has had a tendency since Latin to extend from “something that happens, an event” to “a mishap, an undesirable event.” Latin *si quid cui accidat*, “if anything should happen to one,” was a euphemism for “if one should die.” In Middle English the word is met usually in theology (in reference to the material qualities in the sacramental bread and wine), medicine (“something out of the ordinary, disease, injury”), or philosophy (“non-essential characteristic of a thing”).

From late 15c. as “the operations of chance.” Meaning “an unplanned child” is attested by 1932. Accident-prone is from 1926.

(O.E.D. n.d.)

What I'm trying to share is that these heterogeneous and illogical unfolding events—which I recall here with nostalgia—were part of the unpredictability that resided inside the wandering timeframes, a series of uncertainties to which I believe people were often more exposed before. A series of random timeframes full of learning experiences and spontaneous reactions inside these accidents; and even if I try to recreate such spontaneous moments and experiences in my life now by wandering in libraries and music shops, today's environment doesn't seem to allow it that easily. Why?

> Dromology is the science, or better, the discipline, the logic of speed…Ancient societies, like modern societies, are built around wealth, something we have known since the economists and even before them; but we forget that wealth is linked to the acquisition of higher speeds which make it possible to dominate populations, territory and production.
>
> (Virilio 1991, p. 3)

The dromology in which we live today does not allow us to wander and have these *accidents*, the speed and precision in the automatisms of modern technology have removed the essential nature of human experience, errands, and ground knowledge. Today, we believe that speed is richness, but inside that richness we are poor in experience:

> We have become impoverished. We have given up one portion of the human heritage after another, and have often left it at the pawnbroker's for a hundredth of its true value, in exchange for the small change of "the contemporary."
>
> (Benjamin 1973, p. 173)

A huge amount of experiences, often heterogenous and illogical unfolding events, that were created inside the wandering choreographies we had in the past have been removed from us. We live in a constant state of immobility, a "resigned clumsiness" (Benjamin 2015, p. 82) issued from the digital divination of certainty. The choreographies of "the swift and dangerous manoeuvre with which the brave man faces the future" (Benjamin 2015, p. 82) are forever lost.

Experiences happening between a two point trajectory that would extend an alternative, parallel and unpredictable learning phase, provoking all kinds of events and unfolding infinite possibilities, have, through digital technology, been replaced by shortcuts and precise information that cancels the necessity of curiosity.

Dromology has forced the musician to enter and be accessed through the digital format of communication where the art becomes information, a database added to a catalogue made of precise similar products for users and audiences to choose from, based on their personal algorithms.

This availability and precision dictated by our communication devices creates biased communication between the artist and the audience by deconstructing the artistic output into a series of auto-generated algorithms, a deconstruction that exposes and destroys the artistic output to become a database, a very different format from the one it was extracted.

My CD *[p]ers[on]a mis[ce]llanea* is available on Spotify. I was intrigued to see that my recording had a very disproportionate number of streams of the tracks. The CD has tracks that have been streamed near to 2000 times (I know, it's an incredibly low number) and some just 20 times, but this recording was made to be heard in its entirety, with a certain structure and time interval between each piece, movement, or variation and accompanied by a booklet for the auditor to read and see. But when the recording was placed on streaming platforms, the concept of the CD was completely obliterated. The format was deconstructed into bits and pieces in a database for auto-generated algorithms that place certain tracks in different playlists or make them available as soundtracks for a post on social media.

Musicians, recordings as well as potential audiences have been distorted in the process of dromology. The moment when they became data also became "the small change of the contemporary." (Benjamin 1973, p. 173)

8.4 I hear dead pianists

A few years ago, while talking about *Kreisleriana* (1838) by Robert Schumann (1810-1856) with my wife, I promised her to find the version of Heinrich Neuhaus (1888-1964), the teacher of Sviatoslav Richter (1915-1997). I recalled that in the book "Notebooks and Conversations" (2002) edited by Bruno Monsaigeon (1943), Richter writes that the best version he heard of *Kreisleriana* was by Neuhaus. So, I went to YouTube to find that version, which was quite easy. After hearing it, I wanted to know if I could find other versions, so I came upon recordings by Alfred Cortot (1877-1962), Vladimir Horowitz (1903-1989), Claudio Arrau (1903-1991), Yves Nat (1890-1956) and others, until, in a moment of clarity, I asked myself: *"Am I only hearing dead pianists?"* With a certain fear of doing so, I searched for more recent versions and found Martha Argerich's (1941) 1985 version on Deutsche Grammophon, a live version also by Argerich, recorded in 1982 in Milan, a very good version of Murray Perahia (1947) from 1997 on Sony Music that became my favourite, and a recent and very athletic live video recording with Yuja Wang (1987) from 2016 at Carnegie Hall.

When I looked at the photos from the albums of those pianists still alive, I realised that these persons are now already 30-40 years older—except for Yuja Wang, who was just five years older at that time. So, my question was: Are those pianists from 1982, 1985, 1997 and 2016 the same as they are today?

> Pascale Ogier:
> I'd like to ask you something, do you believe in ghosts ?
>
> Jacques Derrida:
> That's a difficult question…The cinema is the art of ghosts, a battle of phantoms. That's what I think the cinema's about, when it's not boring. It's the art of allowing ghosts to come back…what Kafka says about correspondence, about letters, about epistolary communication, also applies to telephonic communication… Whereas I believe that ghosts are part of the future and that the modern technology of images like cinematography and telecommunication, enhances the power of ghosts and the ability to haunt us…Whether I believe in ghosts or not I say: "Long live the ghosts". And you, do you believe in ghosts?
>
> Pascale Ogier:
> Yes, certainly, yes, absolutely, now I do, absolutely.
>
> [Extract of *Ghost Dance*, 1983, Ken McMullen]
>
> (Derrida & Ogier 2007)

Derrida said *Vive les fantômes* (Long live the ghosts). But he probably never expected a world like today, in which, added to the telephone, photography, cinema, literature, recordings and thought, there would exist devices and communication networks like smart phones and social media: a depository of ghosts, and artificial intelligence, a new Ouija to communicate and establish a relationship with the dead.

YouTube, Siri, Alexa, social media, LLMs and so on, are the new devices to deal with and communicate with the dead. Each time I type my question on a search engine or any device, I get an answer to my question. If I ask the ghost of Heinrich Neuhaus how to perform *Kreisleriana* by Robert Schumann, I take out the phone in my pocket and immediately get an answer, instead of looking for a hidden Ouija under cloths and pillows, waiting for a friend to assist me, and finally invoking Neuhaus's name to see if I can communicate with him before even asking the question.

Today, there is no need to go to a music store—the few that are left—and wander on the street, arrive, look at the new arrivals and ask the clerk about old piano recordings, probably discuss with the clerk and learn something more, then search in the section, look at other recordings and lose some time, possibly buy the alternative recording, fail to find my Neuhaus recording, go to another music store, and repeat the same process until I find that recording to go back home and prepare the moment to listen to that version with my wife.

The easy and immediate access to Derrida's ghosts, should, when considered carefully, be more terrifying than it seems. These ghosts now possess and control all the derivatives of artificial intelligence. They have tied our bodies, leaving us with no wandering movement, no more rituals for invoking them, and no more choreographies for calling them. The door is now wide open; they are already living among us, haunting us and talking to us. The nostalgia for times we never lived or saw and the lack of ritual to invoke the dead created an open gate for ghosts to live among us. We are afraid to seek information without their opinion. They guide us, teach us, and tell us how to act and how to assess knowledge. We become nostalgic puppets, possessed by ghost spirits, manipulated to think and live like them.

When the space is occupied by the past and the garments, statues and decorations that remind us of their presence, it is difficult to wander. We live in the comfortable chamber suite of history where the ghosts are the tenants, and each time we take a step, we stumble upon the dead and get punished by the hammer they hold. The tool for punishment is called Legacy.

English writer and critic Mark Fisher (1968–2017) pointed to the power of the ghosts that live inside our nostalgia and how they manipulate and cancel the future with this clever experiment:

> It was through the mutations of popular music that many of those of us who grew up in the 1960s, 70s and 80s learned to measure the passage of cultural time. But faced with 21st-century music, it is the very sense of future shock which has disappeared. This is quickly established by performing a simple thought experiment. Imagine any record released in the past couple of years being beamed back in time to, say, 1995 and played on the radio. It's hard to think that it will produce any jolt in the listeners. On the contrary, what would be likely to shock our 1995 audience would be the very recognisability of the sounds: would music really have changed so little in the next 17 years? Contrast this with the rapid turnover of styles between the 1960s and the 90s: play a jungle record from 1993 to someone in 1989 and it would have sounded like something so new that it would have challenged them to rethink what music was, or could be.
>
> While 20th-century experimental culture was seized by a recombinatorial delirium, which made it feel as if newness was infinitely available, the 21st century is oppressed by a crushing sense of finitude and exhaustion. It doesn't feel like the future. Or, alternatively, it doesn't feel as if the 21st century has started yet. We remain trapped in the 20th century.
>
> (Fisher 2013, p.7-8)

Mark Fisher would be happy to know the following personal story: A couple of years ago, my mother and brother had a strong discussion about The Beatles. During a dinner at a restaurant in Mexico, there was a TV showing music videos. Suddenly we recognised and heard the first measures of *Come Together*, and a new digital video version appeared on the screen. My brother started to sing along and suggested I look at the new video, which was trending at that time (the video has been watched over 120 million times on YouTube). We all watched the video together with the amazement of my mother. When we went back to the car, we felt that my mother was not happy; she started to complain about the video and the aesthetics of the images, arguing with my brother, who was arguing that great music has always been there and that the video, in his own taste, was really good. After that answer, my mother almost shouted to my brother: "But why do you listen to The Beatles? When we were young, we never listened to old music like Elvis. Don't you have better music of your own generation to listen to?"

As musicians, we must study the ground in which we'll deploy our art, or in "start-up" language, make a market study. If the clients have replaced the wandering timeframes of curiosity with speed, precision and certainty, the distribution and content of the product need to change. No time at all to experiment with contents that are difficult for the clients to understand in the recommended ad timeframe of 15 seconds of attention in social media. Therefore, we play it safe and make a cover of the Beatles.

> THE PARATAXIS JOURNAL: Around the year 2012, I met with a friend who was part of my first and unique rock band in my adolescence in Monterrey, Mexico. We haven't seen each other for almost 20 years so we knew nothing about each other's life. While he became a good architect and was still playing guitar as an amateur, I told him that I became a musician, living and performing all over Europe. He was amazed and extremely happy for me, and said: "It must feel amazing to perform your music all over the world", I stopped him and told him that no, I was not playing my music, I was playing classical music and music composed by other composers; immediately his face changed and enthusiasm disappeared by replying: "so you only play covers?"

The cohabitation with ghosts has created and limited the options for living musicians to wander/wonder. Creativity is turned to the past or simply cancelled. We keep entertaining our ghosts because they make us understand that the digital world is theirs, and if we want to be part of it, we must pay tribute to them by sacrificing ourselves. The older they are, the bigger their database is; the bigger their database is, the bigger their influence is, and the easier they can obliterate you.

But, how did we create these ghosts?

- doppelgänger (n.)

“apparition of a living person, 1826 (from 1824 as a German word in English), from German *Doppelgänger*, literally “double-goer,” originally with a ghostly sense.

(O.E.D. n.d.)

8.5 Doppelgänger in Music

Still ist die Nacht, es ruhen die Gassen,
In diesem Hause wohnte mein Schatz;
Sie hat schon längst die Stadt verlassen,
Doch steht noch das Haus auf demselben Platz.

Da steht auch ein Mensch und starrt in die Höhe,
Und ringt die Hände, vor Schmerzensgewalt;
Mir graust es, wenn ich sein Antlitz sehe, -
Der Mond zeigt mir meine eigne Gestalt.
Du Doppelgänger! du bleicher Geselle!
Was äffst du nach mein Liebesleid,
Das mich gequält auf dieser Stelle,
So manche Nacht, in alter Zeit?

The night is quiet, the streets are still,
In this house my love lived;
Long ago she left town
But yet here the house stands still.

A person standing there, staring up to the sky,
He wrings his hands from the violence of pain;
In horror I shudder - when I see his face, -
The moon reveals me my own shape.
You doppelganger! you pale fellow!
Why do you mock my love suffering,
Which tormented me here,
so many nights, in days long past?

Heinrich Heine
(Trans. BCA)
(Wikipedia, 2023)

I will never forget the first time I heard myself on a recording. My grandfather was obsessed with recording all the members of the family; he used to work at a local radio station for a couple of years, where he learnt some basic recording techniques. At home he had many devices and tape recorders of all sizes for making and listening to those recordings and he always carried one in his pocket.

This first recording was at my grandparents' home; I was probably around 5-6 years old. At that time, I had a big collection of Disney's Read Along books that each came with a 33 1/3 vinyl. That day I brought *Pete's Dragon* (*Mi amigo el dragon* in Spanish), and we went up to his studio to play the vinyl. I observed a similar choreography as my father's when taking out the LP, but my grandfather had a faster and less careful manner to treat the discs, probably more natural. His gestures while cleaning the discs were much faster and rougher, probably a muscle memory he developed while working at the radio.

After hearing and seeing the book with my grandfather, he stood up, opened a box that had a microphone inside, took the tape recorder from the shelf, grabbed some batteries, inserted them into the recorder, opened the packaging of a new virgin cassette, inserted it into the recorder, connected the microphone to the mini-jack, connected his headphones to the recorder while simultaneously pushing the buttons "REC-PLAY" and said: "read from this page to this page." I read the three pages he asked me to. He stopped the recorder and rewound the tape with that particular hiss sound. We heard the crack of the sound when the tape stops at its beginning; he pushed the PLAY button and after the crackle, I heard someone's voice reading exactly what I just read… and asked to my grandfather: "is that me?"

This phenomenon is called voice confrontation.

> Because we normally hear our own voice while talking, we receive both sound transferred to our ears externally by air conduction and sound transferred internally through our bones. This bone conduction of sound delivers rich low frequencies that are not included in air-conducted vocal sound. So when you hear your recorded voice without these frequencies, it sounds higher – and different.
>
> (The Guardian, 2018)

This confrontation immediately raises the question of our identity and how we are perceived, a self-doubt of who we are. But the phenomenon also carries deep information about ourselves that is finally unveiled only through the recording: the extra-linguistic cues.

> "In 1966, Philip Holzman and Clyde Rousey concluded from their studies that voice confrontation also arises from differences in "extra-linguistic cues" that reveal aspects of personality which are only perceivable through recordings, such as anxiety levels, indecision, sadness, and anger."
>
> (Wikipedia, 2024)

Some years later I did my first recordings with the guitar, and indeed I had the same feeling. I would hear noises that my ear was not able to hear while concentrating on performing the music, but most prominently, my breathing. My breathing was loud, too loud (pianist Claudio Arrau also had this "problem" in all his recordings) so my first recordings were consciously made trying not to breathe too loud. It was not easy to record at that time. Today I have accepted my breathing as part of my performance and recordings, but apart from the breathing, the confrontation is still there. Each time I listen to myself, I know that the person performing was me, but at the same time, I know that the person performing is already "dead"; he won't change, and the trace will stay, a recorded final statement from a ghost.

Years after, as a professional musician, I did many recordings in studios, where the conditions were very different from those at home. Immaculate studios, where there is not a single noise, where a sound engineer approaches me, analyses my position, my instrument, installs all the sound surgery material needed to grasp each and every sound I'm about to make. This ritual in which a part of me will be left there, in that immaculate space, passing through that microphone that once the red light is ON will immediately start sucking my soul, my breathing, my nails, my left hand, the new—and noisy—bass strings, my mistakes, my voice covered with extra-linguistic cues when I say "again", the voice of the sound engineer, trying to hide his extra-linguistic cues and saying "OK, wait…take 2", my wrath when I miss a passage, my vanity, my pride, my fear of missing a note, my tension, my doubts, all those extra-*musical* cues which I'm fully conscious of are leaving a trace and being heard by a person who's job is to build something out of the mess I'm doing.

Once the recording session is done, a new layer is to be added: the editing of the recording, a conversation with the sound engineer that echoes the dialogue between Brigitte Bardot and Michel Piccoli in *Le mépris* by Jean Luc Godard:

> BB: Do you see my feet in the mirror?
> MP: yes
> BB: Do you find them pretty?
> MP: Yes, very much
> BB: And my ankles, do you like them?
> MP: Yes
> BB: Do you like my knees too?
> MP: Yes, I really like your knees

[Extract of Le Mépris, 1963, Jean-Luc Godard]
(Godard 1963, Trans. BCA)

In this editing phase, we start by listening and choosing the best version and then start working on it, hearing details, taking a passage from another version, replacing it, and continuing to listen until finally arriving at a collage made out of chunks of life full of extra-musical cues and recorded choreographies to create a phantomatic perfect version of ourselves that we were never able to grasp, which never existed before, nor will be reproduced again in the future. A perfect golem that reveals my own shape, an imaginary self-image: the doppelgänger, the pale fellow built out from different moments of vital energy, an imaginary entity that we create like the Dompna soiseubuda (Borrowed lady) of Bertran de Born (1140-1215):

[...]
And since I could not find a peer to you,
Neither one so fair, nor of such heart,
So eager and alert,
Nor with such art
In attire, nor so gay
Nor with gift so bountiful and so true,
I will go out a-searching,
Culling from each a fair trait
To make me a borrowed lady
Till I again find you ready
[...]

(Born 2011, p. 215 Trans. Ezra Pound)

Today I have a healthier relationship with my doppelgängers, these imaginary selves built like Bertran's *Borrowed Lady*. Lately the process of creating them became easier. Now that I'm completely surrounded by digital technology, the act of injecting life to create a lifeless object seems to be part of our daily practice as musicians. But I often ask myself if these ghosts that we as musicians have created and who are working for us 24 hours a day in worse-than-slave conditions will not come to haunt us.

8.6 Fear of ghosts

> …to exterminate means to deprive something of its proper end, to deprive it of its end. It is to eliminate its duality, the antagonism, of life and death, to reduce everything to a sort of single principle - one could say a "single thought" - of the world which would be reflected in all our technologies - today , especially our virtual technologies.
>
> (Baudrillard 2010, p. 64)

Today, musicians cohabit with these doppelgängers, or eternal slaves, to help us survive as performers. Musicians grow up hearing and seeing the ghosts of other performers and eventually also contribute by creating their own doppelgängers, ghost slaves that live in a parallel world, inside the machine, a purgatory-like universe where we deposit these entities.

Young, and also not so young, people today suffer severely from self-doubt and anxiety: "Teens who have created idealised online personas may feel frustrated and depressed at the gap between who they pretend to be online and who they truly are." (Child Mind Institute n.d.) These doppelgängers, carefully curated in social media platforms, are fast-expiring digital golems made to please the "clapping/liking" crowd formed by consumers of superstitious information in the form of entertainment. But these ghosts are not harmless; they carry a curse of self-doubt and anxiety.

- superstition (n.)

early 13c., *supersticioun*, “false religious belief or system, worship of pagan gods; ignorant fear of the unknown and mysterious, irrational faith in supernatural powers,” from Latin *superstitionem* (nominative *superstitio*) “prophecy, soothsaying; dread of the supernatural, excessive fear of the gods, religious belief based on fear or ignorance and considered incompatible with truth or reason,” literally “a standing over,” noun of action from past-participle stem of *superstare* “stand on or over; survive,” from *super* “above” + *stare* “to stand” (from PIE root *sta-* “to stand, make or be firm”).

There are many theories to explain the Latin sense development, but none has yet been generally accepted; de Vaan suggests the sense is “cause to remain in existence.” Originally in English especially of religion; the weakened sense of “tenaciously held unreasonable notion” is from 1794.
also from early 13c.

(O.E.D. n.d.)

- accursed (adj.)

also *accurst*, early 13c., *acursede* “being under a curse,” past-participle adjective from obsolete verb *acursen* “pronounce a curse upon, excommunicate” (late 12c.), from *a-* intensive prefix + *cursein* “to curse”. The unetymological -*c*- is 15c., a mistaken Latinism in imitation of words in *acc-*. The weakened sense of “worthy of a curse, damnable” is from 1590s.

(O.E.D. n.d.)

This situation is increasingly acknowledged and studied by psychologists due to its serious consequences on young generations that use their image as a product. But similar self-doubt and anxiety have been present for a long time in interpreters of classical music, who have suffered from music performance anxiety at least since the 19th century, with a degree of demand comparable to elite athletes today: “Musicians report three main causes for MPA (Music Performance Anxiety): pressure from self, excessive arousal and inadequate preparation for performance.” (Skoogh 2021, p. 64) This anxiety is often treated with several methods, so the performer is able “to handle, withstand and adapt to the situations and traditions of the classical performance culture” (Skoogh 2021, p. 64).

This anxiety in music performers has been accentuated in the 20th century with commercial ***recordings***. The *mechanical reproduction* of the image, sound, movement and choreography of their own doppelgänger, inserted in a unique form of distribution that assigns ubiquity and omnipresence to the performer is a proto-social-media device from the 19th century.

- record (n.)

c. 1300, “testimony committed to writing, fact or condition of having been recorded,” from Old French *record* “memory; statement, report,” from recorder “to record”. Also in part from Medieval Latin noun *recordum*, *recorda*.

The meaning “a written account of some fact, event, or proceeding for the purpose of preserving the memory of it” is from late 14c., as is the sense of “official document of a government department or municipal office.” Hence the meaning “fact or condition of being preserved as knowledge, especially by being put into writing” (late 14c.).

The meaning “disk on which sounds or images have been recorded” is attested from 1878, originally also of Edison’s wax cylinders, later extended somewhat to other forms of sound storage. *Record-player* is attested from 1919; *record-album* “ audio recordings issued as a collection” is by 1936. Earlier it was “an album in which to store Edison cylinders.” “The man who owns Blue Amberol Records only, ought to have albums in which to keep them instead of scattering them around or keeping them in old boxes, etc., under the piano or the sofa.” [advertisement, Edison Phonograph Monthly, July 1913]. *Record-store* is attested by 1933; *record-shop* from 1929.

The meaning “best or highest official achievement in a sport, activity, etc.” is by 1883; the verb to go with it might be break (1924) or beat (1884). The sense of “aggregate of known facts in a person’s life” is by 1856, American English.

The journalist’s phrase *on the record* is attested from 1900; adverbial phrase off the record “confidentially” is attested from 1906. *For the record* “for the sake of having the facts known” is by 1930 in congressional testimony. *To keep* (or set) *the record* straight is by 1949. The legal phrase *matter of record* was in Middle English as “matter that has been formally recorded or documented” and “legal issue that can be resolved by existing record.”

(O.E.D. n.d.)

Commercial recordings are made to sell—and let us not forget the polysemic meanings of the word record. These recorded traces constitute the best versions approved and curated by their creators; optimal images of their artistic personalities, carefully built ghosts that need to sell and amaze classical music amateurs but also to haunt their fellow professionals.

> THE PARATAXIS JOURNAL: I once heard that Claudio Arrau had already started the project to record the complete cycle of Hungarian Rhapsodies by Franz Liszt until the day he heard György Cziffra's famous recording of the same Rhapsodies; Arrau immediately interrupted his personal project, leaving us with only part of the cycle recorded by him.

These magnificent recordings artfully created, carefully curated, ready to sell and performed by these ghosts: carry *pride*, provoke *envy*, passed through *wrath* when failed attempts occurred, pushes the performer to *sloth* by removing him/her from the Sisyphean task of the live performance, enhances *greed* by entering and selling in the market, opens a path for more productions: an artistic *gluttony* and *lust* for repeating the same process again, a mass production of data golems to wander in the digital purgatory. These ghost performances, are also part of the MPA (Music Performance Anxiety).

During the recording session, not only did we have the optimal conditions for performing: silence, instrument in optimal conditions, ideal temperature and humidity for our body and instrument, a previous work done towards a flawless performance, with a high definition material that is able to record and edit anything, the possibilities are infinite today, *deepfake* is an old friend in the music world. These conditions and methods of edition are indeed very similar to the ones practiced today by "influencers" on social media.

The inadequacy between the doppelgänger and the IRL (In Real Life) is haunting young users of social media, a gap that naturally provokes anxiety towards self-doubt and depression. The same depression Horowitz, Gould or Argerich had when they stopped performing live, the same Arrau felt when hearing the ghost of Cziffra, the same I have when I go to a studio in the company of all the ghosts I heard in my life, haunting me and telling me: *I did it better!*

Once the recording is done, the record is set: a flawless doppelgänger that will work 24h/24h without missing a single note, always available, always perfect, ready to perform immediately when invoked.

Ghosts of ourselves carrying our sins and performative limbs, living in their assigned existential loop inside this overpopulated digital purgatory, haunting us and whispering to our ear: *I am and was better than you, I can play now, I'm ubiquitous, I'm ready, I can perform everywhere in the world, I'm perfect, I'm flawless, I sound great, that passage you always miss, me? I never miss! Go ahead, take your instrument and perform the piece, you'll see I'm right, I'm always right. You cannot beat the record.*

> We would already be in an abstract, disembodied state, where things continue through simple inertia and become a simulacrum of themselves, without being able to put an end to it. They are nothing more than an artificial synthesis, a prosthesis. Certainly, it is to assure them of an existence and a sort of immortality and eternity - that of the clone, of a clone universe.
>
> (Baudrillard 2010, p. 59)

Since the birth of the record companies and with today's social media, doppelgängers have to be considered as competitors. A possible listener submerged in dromology and precision may prefer to hear the doppelgänger rather than taking the risk of seeing the performer in real life, off the record. The live performer might not be as perfect and not able to break the record.

But to musicians, recording is a natural and canonical path fully integrated in their practice. Nevertheless, the doppelgängers can be used to sell, convince organisers and audience of how good we are and how good would it be to perform live and get paid for it. But, today's market is broken for music performers; the majority of live performances are being paid miserably, recordings simply don't sell and videos are visit cards. This may be compensated if, by any chance, the recording or video sticks to a trending algorithm that allows for a decent number of streams and views on different platforms. This may lead to future live performances, but the chances are scarce. Today, many musicians mainly make recordings for themselves as personal goals. I am one of those musicians, and I believe that it is the healthiest way to deal with the poor results and outcomes of producing and creating a work of this stature nowadays.

8.7 From chocarrero to advisor

As any person born and bred in a Mexican family and Mexican society, I am used to living with ghosts.

Besides the Holy Ghost, which is at the core of Catholic religion, Mexican culture holds a rich cultural blend of Catholicism and pre-Hispanic cultures. An event like the famous *Día de Muertos* (Day of the Dead) is a clear example of this unique blend that has created a long list of traditional ghosts in public culture, like *La llorona* (The weeping lady) and *El charro negro* (The black horseman) to mention a few.

The cohabitation with these ghosts is a healthy one because each ghost has a purpose or significance: the weeping lady is a sign of repentance, and the black horseman appears to punish the greedy. The Catholic religion also instructs us to pray to different saints for intercession. You pray to San Judas Tadeo for business and work, San Antonio de Padua to find a lost object, or San Cristóbal for a safe journey. There is a long list of saints who can be evoked with a purpose or mission in this world. But there are also lesser kinds of ghosts in Mexico, those commonly known as *chocarreros*.

Espíritus chocarreros are ghosts that create loud noises and physical disturbances without purpose. These ghosts are considered dangerous, and the way to get rid of them is to find out what they want. We can ask the Ouija about it or even communicate directly with the *chocarrero*. But the official practice is a particular ritual made by a *curandero* or *curandera* who, in a mixture of Catholic and pre-Hispanic traditions, inquires about what that spirit wants. The *curandero's* or *curandera's* task is to help these ghosts to find their purpose and consequently leave in peace.

All the ghosts created by digital technology, who live among us in the form of digital data, are omnipresent in our dromocratic experiences and shout so loud that we are not able to see or hear the muses. The transformation of the ghost—and all the humanity inside it—into data has removed their purpose and distorted our relationship to them; our doppelgängers become recyclable and remixable entities without a specific purpose, living in the digital purgatory "where things continue through simple inertia and become a simulacrum of themselves, without being able to put an end to it. They are nothing more than an artificial synthesis, a prosthesis." (Baudrillard, 2010, p. 59)

However, the current situation in which there is "no present to grasp and articulate any more" (Fisher 2013, p. 9) can be beneficial if treated differently. As described above, the ancient rituals to invoke and visit the dead, the choreography to hear a recording, the wandering errands of the *flâneur*, and the beautiful uncertainty of imprecision are experiences that have been removed from today's culture and replaced by the logic of speed: dromology. If these experiences are acknowledged and contrasted with today's dromocratic lifestyle, we can start to understand the impoverishment of our experience.

Ghosts should not haunt us; it is our fear of not knowing their purpose that haunts us. We need to start a dialogue with them, find their purpose and relationship with us and finally put them to rest. The gate will always be open.

8.8 This way, please

In my view, music performers of all genres need to consider the recording (audio or audiovisual) as a different art form. The recording should be an object beyond the recreation of a live performance or a proof of our IRL capacities, not a simple enhanced image of ourselves without a purpose, which can come to haunt us in the future. It should be an object able to live by itself. However, the way the object will be distributed and its potential or unavoidable transformation into data also needs to be reconsidered. From my point of view, Plastic Extension of Music allows to control and handle better these aspects.

Considering this perspective, I believe that conceiving the recording as an art form would be an important step in our field. This is a step that has already been taken and experienced in pop music post-production (Geoff Emerick and George Martin with *Sgt. Pepper's Lonely Hearts Club Band* album by The Beatles) and in a similar way by Glenn Gould in his recording of the Op. 57 Preludes by Alexander Scriabin:

> Bruno Monsaigeon:
> What kind of technological means can you apply to different music?
>
> Glenn Gould:
> Well, I think that there are certain kinds of musics that cry out for technology in a way perhaps that I think Bach does too in many ways; but there are certain kinds, we are for instance, tomorrow, going to do a sequence of Scriabin preludes and were going to try something which may not work at all, it may fall flat in its face and experiment because we've never done it before. It will involve a sequence of different mic perspectives, I suspect but I don't know yet: one very close to the piano, almost like a Jazz pickup, you know that kind of thing that you put the microphone right inside the piano instead of in the lower strings, as Oscar Peterson

> will do. Another at the sort of discrete Deutsche Grammophon perspective, you know a nice view from the balcony, and then a more distant perspective still one possibly which will pickup just resonance, just reverb from the back of the walls of the room and mix all of these perspectives together so that just as in cinema you would have the possibility of the long shot at a very tight shot, you know a wide-angle shot close-out and you can intercut. And the music that we're going to do this, for, with, to, whatever… is Scriabin, because I don't think that any other composer has ever needed that help from technology as badly as Scriabin does. A man who writes basically in his mature years using one chord; his magic chord again and again and again, until you think, enough! You know? And yet a man who wanted perfume, colour, only the application of every sensual aspect applied to the perception of the music, so we're going to apply the sonic one and see what happens.
>
> B.M.
> This means that you're going to do something which couldn't be done except through recording techniques?
>
> G.G.
> Absolutely not
>
> [Extract from Glenn Gould - The Alchemist, 1974]
>
> (Ribadeau 1974)

After the recording session, we see Gould in the studio conducting the sound engineer who is performing with the four recorded channels through the recording of the piece, creating a new performance that would be impossible without technology, an original mix recording created *for*, *with*, and *to*, Scriabin's preludes Op.57.

But, how are music performers today trying to avoid a collision with technology?

The first tools for performance—besides the instrumental organology evolution—were the use of fixed electronic sounds and live electronic sounds in the performance. Today, fixed video and live video are also often part of the performances. The Acousmonium of François Bayle created a different use of electronics by allowing the performer live control of the space and volume of 80 speakers during the playback of a fixed piece of electronic music. Telematic performance uses technology to distribute performers in several locations or unite several performers in one virtual location. Lately there are several projects working on developing telematic performance, such as the ones coordinated at the Zosimos group in Norway (Zosimos, n.d.) and the project "Music of the Indeterminate Place: telematic performance and composition intersecting physical and networked spaces" carried out by members of the research cluster GEMM at Luleå University of Technology in Sweden.

Jean Michel Jarre is an active performer in Virtual Reality (VR), using virtual environments (a Jean Michel Jarre is an active performer in Virtual Reality (VR), using virtual environments (a virtual space imitating Notre-Dame) and diverse venues or formats to expose his recordings and performances. Augmented Reality (AR) adds new layers of digital content to real-life performances, like 3D holograms in the audience, visual effects and interactive experiences on screens, and through smartphone companies like YORD or Medium, which specialise in producing these hybrid live performances.

Today, musicians work on content such as video-recorded performances, rehearsals, bloopers, classes and instrumental technique tips to create a trending algorithm using the communication technology of social media platforms and DSP (digital service providers).

An original and beautiful idea in social media, came from violinist Hillary Hahn, who made a project in her Instagram account where she committed to posting her practice for 100 days in a row to see what it would reveal about her artistic practice.

> Though she's always evaluating her technique, Hahn focuses her practice sessions on fine-tuning the repertoire she's currently performing and working on upcoming performance repertoire. "I was often listening for tonal and phrasing details," she says, and used her practice videos as tools to better understand not only what she sounded like, but what her practicing looked like. "I would set [my phone] up and just do my practice session until it felt like there was something I was curious to see played back—something I was particularly working on that I wanted to see. Maybe I did it three different ways and I wanted to hear it." She would then select a one-minute portion of her practice video that she felt best represented the spirit of the session, edit it down, and post it to Instagram. Hahn spent about a half hour on every one-minute video she posted.
>
> (Westberg 2021)

8.9 From each a beautiful trait - a first attempt

De chascuna un bel semblan (from each a beautiful trait). This phrase belongs to the poem *Dompna soiseubuda* (Borrowed lady) by Bertran de Born quoted above. Inspired by the idea of a “borrowed/built/artificial” object with a “collection” of different “traits” (parts), I decided to use this concept to create something with video editing based on the classical music format of “theme and variations”, a direct analogy to Bertran’s borrowed/built and collection/culling aspects in the poem.

This first attempt to use technology differently was in 2015; at that time, I considered this an act of emancipation to liberate audiovisual content from the one created by classical music performers on social media.

I chose the monumental piece *Variations et fugue sur La Folie d’Espagne* for classical guitar written by Manuel M. Ponce. The structure and variations were the departure point for my creative work, that aimed to give a visual and sonic particularity to each segment of the piece. In canonical staged performance, this is impossible and not part of the liberties allowed to a performer. For me, this was an opportunity to show the guitar from a different point of view, and to let the piece go beyond the common video of classical music where the camera is forced to show that the performer is not cheating or editing the performance.

The objective was to create an audiovisual object purely made for the YouTube format, a video that would only be appreciated on small devices with headphones and that could not be reproduced as it is shown in a live staged situation.

I wanted to avoid the passive hearing and visualisation by:

- Creating a portable (to be held in the hands) audiovisual video for smartphone or tablet
- The spatialisation of the sound of the guitar in the headphones at each segment
- Changing the location of each of the 20 variations, theme and fugue.
- Use the consequent sound recording space in which was filmed each segment
- Use a different camera angle for each variation
- Display different texts for each segment in different languages

The texts used for the video are in different languages in their original source; all texts have the word "crazy" (Folia) or talk about "madness". I wanted to create a second thread of variations (besides the musical one) of the word "Folia" in different languages and polysemic meaning during the whole piece.

8.9.1 *Fuga (soiseubuda)*

For the final part of the piece, which is the Fugue, I created a video that shows the anthropomorphic character of the guitar's body, deconstructing its different "traits" in image and sound, to build a "borrowed/built/artificial" *soiseubuda* audiovisual object.

Each of the takes of the extracts is made in the different spaces with its own original acoustic, creating a sound and visual spatialization of the guitar and the space in which it was recorded, which was my borrowed (rented) apartment in Salamanca, Spain.

8.10 Crafted artificiality

This first attempt to create something different with digital technology in classical music was also my first step to expand my practice into what I do today in Plastic Extension. I investigated the importance of algorithms on the internet and how our content is placed and transformed in the World Wide Web. At the time I expected an important impact due to the originality, content and concept; I published the video in October 2015, and since then it has been viewed (YouTube statistics) 897 times with 9 likes.

Despite the imbalance between the impact and the amount of work behind this "borrowed/built/artificial" doppelgänger, I'm happy that this ghost is very different from the one recorded on my album *(p)ers(on)a mis(ce)llanea*, where the same work is recorded, but in the canonical way. This audiovisual object does not whisper to my ear; this object belongs to a different universe, far away from the reality in which I perform on my guitar that has a defined, different purpose than me. There is an assumed crafted artificiality in this object that is not pretending to be real nor enhanced, therefore singular and completely disassociated from my reality, therefore emancipated from me.

We may have to start contemplating the idea that anything that is crafted, once it is unveiled into the open world, will automatically emancipate and belong to a different universe than the one we live in. I believe that this healthy distance between what we are and what we produce can help us understand our practice and outputs as music performers better.

8.11 Conclusion

In conclusion, I believe it would be irrational to think that technology is not subordinating music performers and their audience. Not being able to fully control or understand how artistic outputs become information data, we become unaware of what purpose or direction they have in the digital world. This unhealthy relationship, based on ignorance, establishes a disproportionate relation of power between the machine and the artist. We are blindly creating content, but we don't really know what this content's use or purpose is inside the machine.

Today, AI gives instructions to an important part of our society and leads us to a resigned clumsiness inside a digital divination of certainty that we have created by exclusively feeding the machine with our thoughts and creations. This path leads to a ghostly nostalgic existential loop where historical contents manifest themselves without purpose in our daily lives like spectres coming from a source that is hierarchically upon us, and that we are not able to control nor fully understand. As music performers, we are trying to subsist by feeding canonical contents in the form of fast food into the machine so they become available to the audience. These contents will be re-used by AI, thus cancelling the swift and dangerous manoeuvre with which the brave man faces the future by the repeating canon. Let us not forget what canon means in music:

> Strict counterpoint in which each voice exactly imitates the previous voice at a fixed distance. A melody that can be sung against itself in imitation. Also called a round. literally, "rule"; a technique in which one line is repeated in its entirety by another following a pre-established rule.
>
> ("Canon" | Definition on FreeMusicDictionary.com, n.d.)

As we continue to feed covers, imitations and doppelgängers into the machine that manipulates our paths and bodies, we are collapsing and destroying the possibilities for new experiences and new knowledge that emerge from paths of going astray and from mistakes: the errand and the error. The flâneur, the wandering street spectator with its elegant gestures, died at the beginning of the 20th century. Today not even "the traces of its paths are left to errand" (Benjamin 2008, p. 121). The time-saving philosophy of the technique, the technology, and its dromology has removed an amount of experience: time-saving is also experience-saving. A person lacking experience is inexperienced: callow, naive, unpractised, and unskilled, and, therefore, also vulnerable and manipulable.

- experience (n.)

late 14c., “observation as the source of knowledge; actual observation; an event which has affected one,” from Old French *esperience* “experiment, proof, experience” (13c.), from Latin *experientia* “a trial, proof, experiment; knowledge gained by repeated trials,” from *experientem* (nominative *experiens*) “experienced, enterprising, active, industrious,” present participle of *experiri* “to try, test,” from *ex* “out of” + *peritus* “experienced, tested,” from PIE *per-yo-*, suffixed form of root *per-* “to try, risk.” Meaning “state of having done something and gotten handy at it” is from late 15c.

(O.E.D. n.d.)

Today, 90% of the world’s population live their lives with whispering ghosts veiled as data in their pockets (Howarth, 2024). The music performer has to find new ways to use technology and break the algorithm, wander and create new unexplored paths, get lost in order to create new experiences without the traced path of certainty (see Morozov, E.). Inside that uncertainty of the unexplored path, there might be new unknown ways where the body and the mind feel comfortable. There might be unpredicted ways that can be explored with the precision tools issued from our technology, to further our ideas, capacities and experiences created on the unknown path of ***singularity.***

I believe that singularity is the only available tool for breaking the automatisation of the machine. Singularity is also the speciality of artists. Consequently, I decided to feed singularity in the form of incomprehensible information data into the machine with my tools of exploration and, thereby, to try to hack its system.

- singularity (n.)

early 13c., *singularite*, “unusual or exceptional behavior;” mid-14c as “singleness of aim or purpose, devotion to a single thing;” late 14c. as “individual or particular things,” from Old French *singulerte* “peculiarity” (12c., Modern French *singularité*) and directly from Late Latin *singularitatem* (nominative *singularitas*) “a being alone,” from *singularis* “single, solitary, one by one, one at a time; peculiar, remarkable,” from *singulus* “one, one to each, individual, separate”.

The meaning “fact of being different from others” is attested from c. 1500. The mathematical sense of “point at which a function takes an infinite value” is from 1893. Astrophysics sense, “point of space where the density of matter or the curvature of space-time becomes infinite” (as in a black hole), is attested from 1965.

(O.E.D. n.d.)

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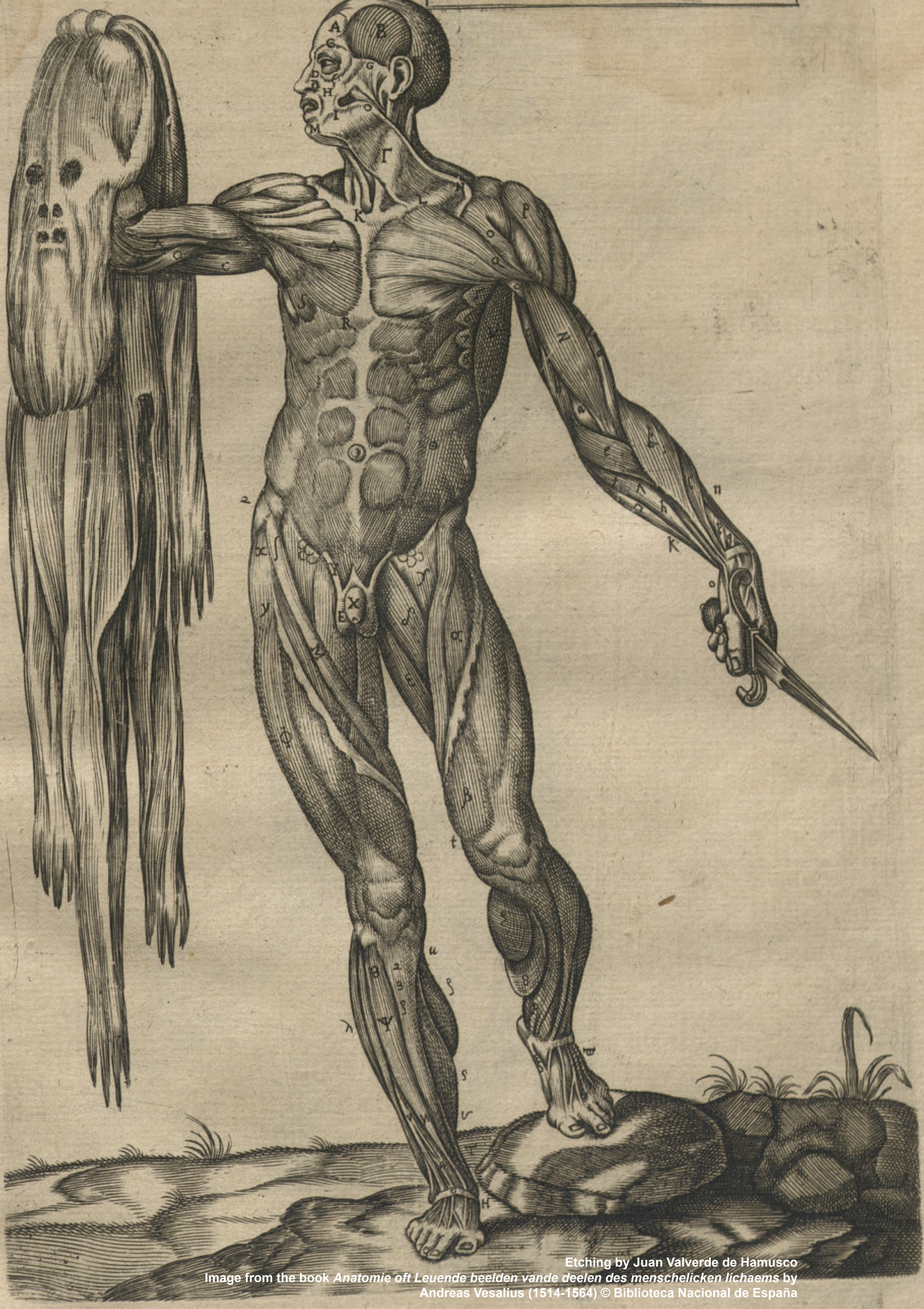
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Etching by Juan Valverde de Hamusco
Image from the book *Anatomie oft Leuende beelden vande deelen des menschelicken lichaems* by
Andreas Vesalius (1514-1564) © Biblioteca Nacional de España

Chapter 9 - Muscle Memory

In this chapter, I describe the background to the concept of muscle memory in Western tradition of score-based musical performance.

- muscle (n.)

“contractible animal tissue consisting of bundles of fibers,” late 14c., “a muscle of the body,” from Latin *musculus* “a muscle,” literally “a little mouse,” diminutive of *mus* “mouse”.

(O.E.D. n.d.)

- memory (n.)

late 13c., “recollection (of someone or something); remembrance, awareness or consciousness (of someone or something),” also “fame, renown, reputation;” from Anglo-French memorie (Old French *memoire*, 11c., “mind, memory, remembrance; memorial, record”) and directly from Latin *memoria* “memory, remembrance, faculty of remembering,” abstract noun from *memor* “mindful, remembering,” from PIE root *(s)mer-* “to remember.”

Sense of “commemoration” (of someone or something) is from c. 1300. Meaning “faculty of remembering; the mental capacity of retaining unconscious traces of conscious impressions or states, and of recalling these to consciousness in relation to the past,” is late 14c. in English. Meaning “length of time included in the consciousness or observation of an individual” is from 1520s.

Meaning “that which is remembered; anything fixed in or recalled to the mind” is by 1817, though the correctness of this use was disputed in 19c. The word was extended, with more or less of figurativeness, in 19c. to analogous physical processes. Computer sense, “device which stores information,” is from 1946.

(O.E.D. n.d.)

9.1 Introduction

The research on Plastic Extension of Music and the unfinished project by Aby Warburg (1866-1929)—*Mnemosyne Atlas*, a cluster of images that included photos, reproductions, sketches, postcards and even advertisements and newspaper clips—sparked my curiosity about the image of the performative musician; this curiosity led me to identify and analyse the series of gestures issued from the inheritance of embodied knowledge in the practice of music and its performance. Gestures that have not only been transmitted by image—as in *Mnemosyne Atlas*—but also through different media, such as narratives, music scores, and instrumental techniques.

These inherited gestures applied over the organology of the musical instrument create an instrumental technique and develop a series of mechanical automatisms to enable and facilitate the practice, the score reading and the performance, establishing a general mental image of music performance through the perpetual display of the gestures and behaviours of music performers in history.

This cluster of information is the muscle memory that musicians carry in their bodies. I believe that muscle memory is transmitted from three different sources:

- Documentation (methods, narratives, scores, videos)
- Oral tradition (professionals, mentors, family, friendship, anecdotes)
- Academy (Schools, private teachers, master classes)

If we consider the importance of movement and gestures, that "[o]ur only way to interact with the world around us is by generating movements; therefore, motor learning can in a sense be regarded as the most fundamental form of learning process" (Petersson 2003, p. 9), we can ask ourselves as music performers: *Are music performances really interpreted (digested) through the singularity of the performer, or are they a series of traditional inherited gestures in motion?*

This chapter has the objective of exposing and understanding the many physical and mental influences, such as history, mythology, the performative body, instrumental technique, practice, sound perception, instrumental organology, oral tradition, mimicking, mirroring and mental images, that encompass muscle memory and which are the consequences in Western tradition of score-based performance and the body of the performer.

- Mnemosyne

in Greek mythology, the name of a titaness, mother of the Muses, from Greek mnēmosynē, literally “memory, remembrance,” from mnēmē “memory, a remembrance” (from PIE root *men- “to think”) + -synē, suffix of abstract nouns. Sometimes translated into Latin as Moneta

Moneta “place for coining money, mint; coined money, money, coinage.”

This is from Moneta, a title or surname of the Roman goddess Juno, near whose temple on the Capitoline Hill money was coined (and in which perhaps the precious metal was stored). The name is said to be from monere “advise, warn, admonish” (on the model of stative verbs in -ere;), by tradition with an etymological meaning “admonishing goddess,” which is sensible, but the etymology is difficult.

(O.E.D. n.d.)

- mnemonic (adj.)

1753, “aiding the memory, intended to assist the memory;” 1825, “pertaining to the memory,” a back-formation from mnemonics, or from a Latinized form of Greek mnēmonikos “of or pertaining to memory,” from mnēmōn (genitive mnēmonos) “remembering, mindful,” from mnēmē “memory, a remembrance, record, an epitaph; memory as a mental faculty,” from base of mnasthai “remember,” from PIE root *men- (1) “to think.” The noun meaning “mnemonic device” is from 1858.

(O.E.D. n.d.)

9.2 Lorca and the lyre of Hermes

The guitar has always been considered an anthropomorphic instrument; in Spanish the names we give to the parts of the guitar are: *cuerpo* (body), *cuello* (neck), *boca* (mouth), or *corazón* (heart), *cabeza* (head), *costilla* (rib) or *nervio* (nerve), *hueso* (bone), *alma* (soul), *tacón* (heel), and *cejilla* (eyebrow). Many luthiers even give individual names to the instruments they build.

Two bodies are intertwined when playing the guitar, one over the other. The rib and nerve rest on the legs and open chest of the performer, whose hands instinctively embrace the guitar. The left hand grazes the heel, neck and soul that hold the guts (strings), attached and tensed from bone to head that reach the splitting eyebrow. The right hand pulls those bowels while the left stretches them to find the harmony in between, a sound that emerges from the heart and mouth and resonates in both attuned and breeding bodies.

La guitarra
(from *Poema de la siguiriya gitana*)

Empieza el llanto
de la guitarra.
Se rompen las copas
de la madrugada.
Empieza el llanto
de la guitarra.
Es inútil
callarla.
Es imposible
callarla.
Llora monótona
como llora el agua,
como llora el viento
sobre la nevada
Es imposible
callarla,
Llora por cosas
lejanas.
Arena del Sur caliente
que pide camelias blancas.
Llora flecha sin blanco,
la tarde sin mañana,
y el primer pájaro muerto
sobre la rama
¡Oh guitarra!
Corazón malherido
por cinco espadas.

(García Lorca 1997, p. 307)

The cry begins
in the guitar.
The dawn cups
break.
The cry of the guitar
begins.
It is useless
to silence her.
It is impossible
to silence her.
Cries monotonously
as water cries
as wind cries
over the snow
It is impossible
to silence her,
It cries for things
faraway.
Hot sand from the south
yearning for white camellias.
Cries a targetless arrow
an evening without morning,
and the first dead bird
over the branch.
Oh guitar!
a wounded heart
by five swords.

(Trans. BCA)

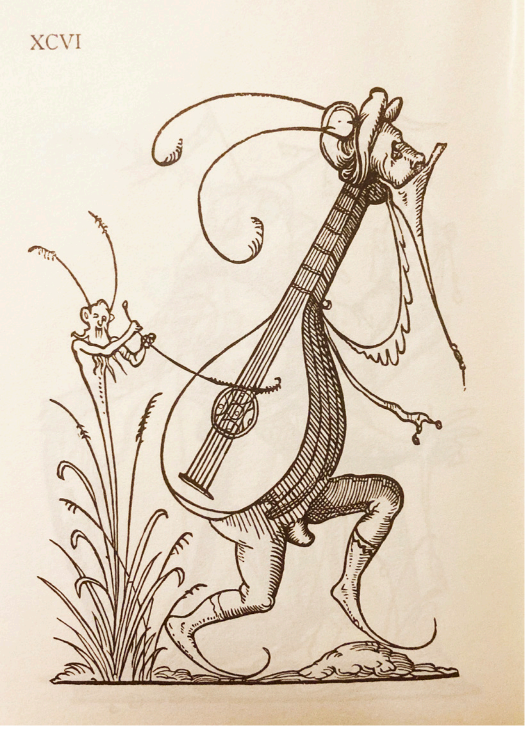

Image from *Les Songes Drolatiques de Pantagruel* (1565)
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I propose to retrace the origins of the guitar to the first plucked instruments. Homer (8th century BCE) describes the origins of the lyre (phorminx) and how a myth surrounding plucked instruments was created and attached. An episode in mythology that can help us also understand why Lorca's guitar has a wounded heart that yearns for white camellias.

> He took up the tortoise in both hands and went back into the house carrying his charming toy. Then he cut off its limbs and scooped out the marrow of the mountain-tortoise with a scoop of grey iron. As a swift thought darts through the heart of a man when thronging cares haunt him, or as bright glances flash from the eye, so glorious Hermes planned both thought and deed at once. He cut stalks of reed to measure and fixed them, fastening their ends across the back and through the shell of the tortoise, and then stretched ox hide all over it by his skill. Also he put in the horns and fitted a cross-piece upon the two of them, and stretched seven strings of sheep-gut. But when he had made it he proved each string in turn with the key, as he held the lovely thing.
>
> (Homer, n.d.)

- instrument (n.)

late 13c., “musical instrument, mechanical apparatus for producing musical sounds,” from Old French *instrument*, *enstrument* “means, device; musical instrument” (14c., earlier *estrument*, 13c.) and directly from Latin *instrumentum* “a tool, an implement; means, furtherance; apparatus, furniture; ornament, dress, embellishment; a commission, authorization; a document,” from *instruere* “arrange, prepare, set in order; inform, teach,” literally “to build, erect,” from in- “on” (from PIE root *en* “in”) + *struere* “to pile, build” (from PIE *streu*-, extended form of root *stere*- “to spread”).

The word in other Germanic languages also is from French. In English the meaning “a means, an agency” is from mid-14c. The sense of “hand-tool, implement, utensil, something used to produce a mechanical effect” is from early 14c. “Now usually distinguished from a tool, as being used for more delicate work or for artistic or scientific purposes” [OED]. The legal meaning “written document by which formal expression is given to a legal act” is from early 15c. Formerly also used of body parts or organs with special functions.

(O.E.D. n.d.)

This “lovely thing,” made of tortoise, ox and sheep limbs—an echo of the borrowed lady of Bertran de Born—belongs to the history, myths and traditions attached to the plucked instruments we play today. Today, classical guitars are made from different kinds of wood, a *synthesis of the forest*, as Andrés Segovia said in the documentary Segovia at Los Olivos (Nupen, 1967). Each time we pluck a string on a guitar, there is a sealed memory of its origin, tradition, organology and material is triggered—a cluster of narratives emerging from void and silence.

In the hymn by Homer quoted above, we learn that Hermes, the luthier, sacrificed three animals to create his lyre. Immediately after building the instrument, his first gesture was to pluck the ox-horn tensed sheep-guts and tune limbs and body, his own vocal cords, and the sheep bowels of the lyre, to sing about the love of his parents, Zeus and Maia, and his procreation.

Hermes created a tool to express intimacy, an expression transmitted through animal limbs and the vocal cords, a hybrid output of flesh made from guts bowels and spleen. This cluster of flesh and intimacy is a myth and tradition we have been inheriting and mirroring between generations as string-plucking instrumentalists, a heritage that every individual that has played a plucked instrument shares (in)directly with Hermes, an intriguing “metaphorical manipulation of the guts” that resonate inside an anthropomorphic structure, which is today’s guitar.

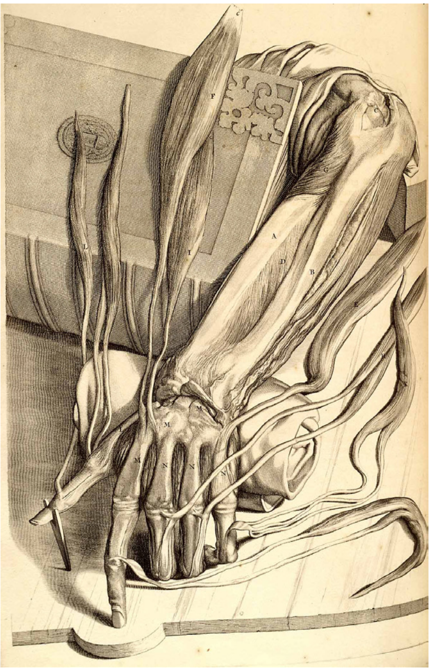
Playing the guitar, evolved consequently into an artistic profession and created methods to fully benefit and enjoy the instrument’s potential and capacities, a technique adapted to the instrumental organology that carries an important amount of history that has been shared through documents, institutions, instructors and oral tradition.

9.3 Grasping guts, pulling bowels

As a right-handed guitarist, the RH—*the five swords* (García Lorca 1997, p. 307)—needs to understand how to pluck the strings and make them in vibrate. This is a process which holds a complex set of decisions and actions: the shape of the nail; the control of its density to produce the tone; finding the right angle of the nail for plucking the string; deciding which finger will pluck; establishing the duration of contact between the nail and the string; deciding how long the flesh will stay in contact with the string; considering the attack in the position of the length of the string; evaluating how long the note or string will vibrate; cutting a resonance or letting it resonate with other strings along the plucked note; preparing a finger on a different string to pluck immediately after a note. All these decisions, technical possibilities and gestures have the purpose of deploying and exploiting the sound possibilities of the guitar.

These almost infinite possibilities of sound, produced through the "educated" fingers, are all issued from the "grasping gesture" (Artz 2009). This gesture, or ability of the limbs, has been traditionally attributed to the primates and tetrapods, such as rodents, marsupials and carnivores that also have this ability of grasping to acquire food, move and climb. This simple gesture, "the ability to grasp and manipulate is common to all primates" (Pouydebat, E. Bardo, A., 2019), is an instinct that every human being in the first days after being born has, which is a deep connection with primates and other tetrapods that we carry also in our string-plucking performances.

On the LH (as a right-handed guitarist), there is also a manipulation of the strings—issued also from the grasping gesture—not only to press down the string on the fretboard, give the pitch, and maintain the resonance of the plucked note, but also to create an expression through movement: *vibrato*. Vibrato that can be subdivided into two different aspects, speed and amplitude. In turn, these may be divided into four basic combinations: fast and narrow, fast and wide, slow and narrow, slow and wide (Pearlman, 2012). This manipulation of the strings with the LH has also a vast possibility of fingerings—which is quite unique on the guitar—to decide on which string to play a note (the guitar, due to its organology, allows to have the same note on different strings; these strings also have a different density and the position of the note exists in different parts of the guitar, generating more or less tension on the string), creating a unique palette of tone colours and the possibility to clearly perform a four-voice counterpoint; Segovia would say the "only string instrument really polyphonic" (Nupen, 1967).



Anatomical drawing from *Anatomia Humani Corporis*, 1685
Etching by Gérard de Lairesse © Public Domain

Once all these decisions are made, the fingers of each hand need to synchronise in the creation of a single note. Open strings on the guitar, which are traditionally plucked only with the right hand don’t need to consider the information of the left hand.

All this information, when learning the guitar (if the instructor is patient, which is not always the case), is deconstructed for the student to make this set of mechanics clear and understandable. Guitar methods also explain carefully, with text and images, how to perform these actions. The various methods of playing the guitar have created several guitar “schools” (disciplines) over the years that, until today, can be easily spotted simply by watching the guitarist tune the guitar.

As guitarists, we have inherited a vast number of methods, guitar studies and technique compendiums that have shaped the way we perform the guitar today. Our technique is a synthesis of nearly 500 years of documents. These documents carry intrinsically and transmit a latent and important amount of oral tradition that can be traced back to Hermes’ lyre or Lorca’s guitar—a particular instrument shaped and adapted through bodily gestures clearly originated and inherited from primates and tetrapods—an embodied cluster of history that establishes a heritage, a secret protocol to acquire an instrumental technique.

- technique (n.)

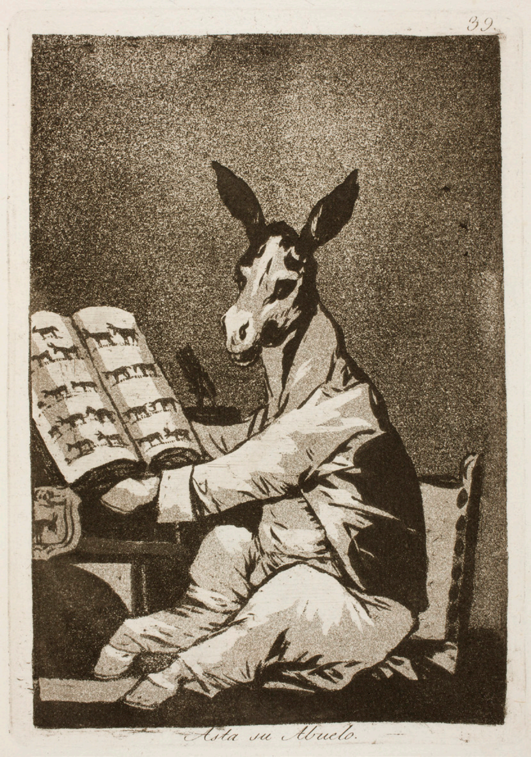
1817, at first especially in criticism of art and music, from French *technique* "formal practical details in artistic expression" (18c.), noun use of *technique* (adj.) "of art, technical," from Greek tekhnikos "pertaining to art," from *tekhnē* "art, skill, craft in work"

- techno-

word-forming element meaning "art, craft, skill," later "technical, technology," from Latinized form of Greek *tekhno-*, combining form of *tekhnē* "art, skill, craft in work; method, system, an art, a system or method of making or doing," from PIE *teks-na-* "craft" (of weaving or fabricating), from suffixed form of root *teks-* "to weave," also "to fabricate."

(O.E.D n.d.)

9.4 Secret Protocol



Capricho nº 39 - *Asta su Abuelo*
by Francisco de Goya y Lucientes © Museo del Prado

In his essay "On the concept of history," Walter Benjamin warns us about the secret "protocol" [*Verabredung*: also appointment] between generations (Benjamin 2006, p. 433), in the form of a debt amount for the knowledge experienced in the past that future generations have inherited. This knowledge (experience) is claimed by these past generations, leaving the future with a "weak messianic power." Indeed, oral tradition carries a great amount of experienced knowledge but also a heavy burden and responsibility, Benjamin's "secret protocol."

The knowledge carried by oral tradition is easier and faster to assimilate; it narrates and performs an important quantity of information, acquired through experience (practice-based), that can take a lifetime to acquire with other sources. In music and other motor learning activities, oral tradition employs the mirroring technique.

> Young children mirror the movements and behaviours of the adult without formulating evaluations of their own performance or making conscious decisions about how to improve it. This is known as implicit learning and combined with the malleable neural networks and rapid neuroplasticity typical at this age, it is a very effective way to produce automatised movement patterns, supported by a stable and robust neural network (Altenmüller et al., 2014; Zhu et al., 2014)
>
> (Détari 2022, p. 161)

Mirroring can be used as a teaching tool to faster transmit embodied knowledge—the secret protocol—issued from experience and the gestures that created an instrumental technique. However, inside the gestures to be copied, reside an important amount of intrinsically veiled parameters of the performative body that the one copying is openly receiving and assimilating without knowing where those parameters originally come from. The secret protocol has been established centuries ago and can be traced back to Apollo, when he mirrored Hermes' gestures in order to perform music on the lyre.

This long and secret protocol between the primates, Hermes, Apollo, Lorca and ourselves: grasping guts with *five swords* and pulling bowels that are tensed with ox horns, resonating inside the skin of an ox, the shell of a tortoise and the synthesis of the forest—all these myths attached to the organology of the instrument leave us, as Benjamin says, with a "weak messianic power" to freely perform music as guitarists, and to become *interpreters* from Susan Sontag's perspective:

> Interpretation must itself be evaluated, within a historical view of human consciousness. In some cultural contexts, interpretation is a liberating act. It is a means of revising, of transvaluing, of escaping the dead past.
>
> (Sontag 2009, p. 7)

Being a guitarist today means walking through a narrow and crowded landscape, struggling with the weight of history on our backs and the inability to use our hands, which, on the one hand carry the hammer of legacy, on the other hand, are a compass pointing at history. That is the degree of liberty we have today as music performers.

As teachers applying mirroring, we start by clearly showing the image of how we sit, which includes a chair and a foot stool when playing the classical guitar. Then we place the guitar between our legs and arms, with the curve of the lower rib over our left leg while placing the LH behind the neck to press the strings and, at the same time, lightly equilibrate and balance the weight of the guitar. We pass our right hand over the body and rest it on the upper rib so the fingers can reach the strings to finally pluck a string. This way of demonstrating the mechanics of the guitar establishes a narrow path for the child to explore the instrument from a personal perspective. As teachers in educational institutions, we need to follow the curricula and keep a rhythm of work to complete our duties and objectives by the end of the year if we want to keep our jobs and avoid discussions with the parents (who expect their children to play "Asturias" or "Romance" as soon as possible). In this way, we are forced to continue the secret protocol: by saving time and being immersed in dromology, we imprint ourselves into our students and guide them to become copies of ourselves.

> THE PARATAXIS JOURNAL: I once had a particular experience in which a right-handed child "mirrored" me so well that he was placing the guitar on his right leg and plucking with the left hand.

When children learn to play flamenco guitar, and sometimes classical guitar as well, and are too young to hold the guitar we usually put them on our legs between our chest and the guitar. We grab each hand of the child as if it were our own, and start performing with their fingers. This experience, like a reincarnation ritual, directly transmits the movement by coating the hands of the child with our own hands, inducing the finger movement with all the muscle memory that we have acquired and embodied. This perspective and relation with the instrument provoke a situation way beyond mirroring. This secret protocol establishes a much closer and natural experience for assimilating the performance and inducing the muscle memory, creating again a much narrower path for the child to explore or wander with the instrument.

This form of transmission, by inducing the embodied knowledge of our muscle memory, determines the way we perform and dwindles the self-determination we have to emancipate from tradition. A tradition, that if we are conscious about it, can be a great tool for a criticism that can evolve into creativity, as some performers have already done in the past and, as I wish to propose, as the creative criticism in Plastic Extension of Music.

- imprint (v.)

formerly also *emprint*, late 14c., *imprenten*, *emprenten*, “to mark by pressure, stamp; to impress on the mind or memory,” from Old French *empreinter* “to stamp, engrave, imprint,” from *empreinte* “mark, impression, imprint” (13c.), noun use of fem. past participle of *eimpreindre* “to impress, imprint,” from Vulgar Latin *impremere*, from Latin *imprimere* “to impress, imprint,” from assimilated form of in- “into, in, on, upon” (from PIE root *en* “in”) + *premere* “to press, hold fast, cover, crowd, compress” (from PIE root *per-* “to strike”).

(O.E.D. n.d.)

9.5 Reincarnation

> The unconscious memory of images is, according to him (Aby Warburg), activated by the gesture, this one being what survives from myth and what can emerge in the present. The identity of the body is constructed, expressed and lost through these reminiscences of archaic gestures, these survivals of myth. Because, Do we really know what concerns the body, what nature the gesture is and which forms the myth takes? There is nothing more natural and affectual than a gesture.
>
> (Creissels 2019, p. 12 Trans BCA)

Martial arts, in the tradition of self-defence, also rely on oral tradition and mirroring to transmit an art of movement, an art and myth that can be traced back almost as far as the myth of Hermes, and I believe a different way to communicate with the past is by performing it or recreating it.

I was lucky to start Karate at a very young age. The movements were instructed in a space full of mirrors, allowing us to see and correct every angle of ourselves. When learning Karate, the movements are initially performed by the instructor (*Senpai*, *Sensei*, or *Shihan*) and the students copy these movements. Once the movement is imitated, the instructor corrects each student, not only by showing the student but also by coating the arms in order to induce the natural movement and inertia of the body and its weight. This experience allowed me to embody knowledge and muscle memory from the island of Okinawa in Japan, influenced by Chinese Kung Fu and an evolution of Indian martial arts. When performing and embodying a Kata (individual training forms), we activate "the unconscious memory of images" (Creissels, 2019, p. 12) and the aesthetic roots of Kung Fu, in particular in katas like *Papuren*, *Nipaipo*, and *Haffa*, or even evoke Indian mudras inside a kata like *Kururunfa*.

In Karate, as in tablature (see chapter 5.5), these gestures have a latent time-travelling capacity that can flashback the "performer" to the origin of the protocol, times we never lived, but are capable to glimpse, seize, experience and incarnate through the inherited gesture. These reminiscences of archaic gestures in Katas and tablature are indeed the Warburg myths of the *Atlas Mnemosyne*; in karate, Indian deities reincarnate our bodies through the gestures; in music, composers that reincarnate our bodies through tablature music and fingerings.

Incarnation is part of the oral tradition in Balinese dance. In the 1937 documentary "The Island of Bali" by Miguel Covarrubias, it is described how the *Legong* dance is not an artistic expression but considered a behaviour.

- incarnation (n.)

c. 1300, “embodiment of God in the person of Christ,” from Old French incarnacion “the Incarnation” (12c.), from Late Latin incarnationem (nominative incarnatio), “act of being made flesh” (used by Church writers especially in reference to God in Christ; source also of Spanish encarnacion, Italian incarnazione), noun of action from past-participle stem of Late Latin incarnari “be made flesh,” from in- “in” (from PIE root *en “in”) + caro (genitive carnis) “flesh” (originally “a piece of flesh,” from PIE root *sker- “to cut”). Glossed in Old English as inflæscnes, inlichomung. As “person or thing that is the embodiment” (of some quality, deity, etc.) from 1742.

(O.E.D. n.d.)

- behavior (n.)

“manner of behaving (whether good or bad), conduct, manners,” late 15c., essentially from behave, but with ending from Middle English havour “possession,” a word altered (by influence of have) from aver, noun use of Old French verb aveir “to have.”

(O.E.D. n.d.)

- behave (v.)

early 15c., reflexive, “conduct or comport” (oneself, in a specified manner), from be- intensive prefix + have in sense of “to have or bear (oneself) in a particular way, comport” (compare German sich behaben, French se porter). The cognate Old English compound behabban meant “to contain,” and alternatively the modern sense of behave might have evolved from behabban via a notion of “self-restraint.” In early modern English it also could be transitive, “to govern, manage, conduct.”

(O.E.D. n.d.)

A behaviour that is assimilated and taught from the earliest age, to acquire a unique elasticity, body shape, movement coordination and physical condition to mimic the "general representations of nature, birds, insects, or plants" (Davies 2006, p. 1), but also for inheriting the muscle memory and mirrored gestures of the teachers.

This behaviour is to be performed in childhood. In *Legong*, dancers used to stop performing around 12-13 years old; even today, someone 14 years old is already considered too old to perform *Legong*.

> The main reason for using young dancers in legong is not because they must be pure (that is, virgins) but, instead, because of the need to shape and form their bodies to the required positions and degree of flexibility (Dibia, W. 2004:15,113). Old dancers lack the beauty of form and face, and lose the necessary flexibility and stamina…
>
> (Davies 2008, p. 202)

Considering someone who is 14 years old is already too old to perform, "[a]t the age of ten, with the approach of adolescence, [legong] dancers have become "too heavy." Their haunting, sexless charm, their swift, miniature virtuosity suddenly vanishes." (McPhee 1948, p. 195), creates a unique life experience with tradition, and a behaviour that exclusively belongs to children.

This behaviour becomes a natural stage of life in which, through mimicking, unique knowledge is induced, experienced and performed to absorb, portray, embody, incarnate and finally commune with nature. Benjamin's secret protocol in this particular case is with nature, a direct communication created through mimicking and mirroring. A tradition established to allow the Legong dancer to wander and explore life and art with the embodied knowledge of nature and the induced muscle memory of its movements living inside the body of the performer, but also to naturally emancipate from it, as when approaching and during adolescence.

The story of the *centzontle* and my father (see chapter 3.1) has a certain connection with the *Legong* dance tradition; the mockingbird was able to embody knowledge from us. If we are able to understand *Legong* behaviour, this means that direct communication with nature can be further developed.

9.6 Mimicking/Mirroring

> "Mirroring, also known as mimicking or Gauchais Reaction, is a nonverbal technique where a person copies the body language, vocal qualities, or attitude of another person. It is usually done subconsciously and can indicate interest or even attraction. Mirroring can occur many times throughout a social interaction and often goes unnoticed."
>
> (Van Edwards 2024)

When a person wishes to approach music or a musical instrument, this means that this person has been in contact with music and specifically, with the means that produce music. As a guitar teacher, I realised that all the new students wanted to play the guitar because they saw videos of guitar performances, a family member is a musician, or simply because they liked the image or gesture of performing the guitar as visual culture has established. The idea of themselves performing as... was the appealing drive and mental image for them to start to learn an instrument.

The future music performer has already been influenced by the mental image issued from the iconography and the body language and behaviour of interacting with the instrument. Visual elements issued from tradition, documentation and education that have clearly established how to mechanically produce the sounds on the instrument. The aspiring musician is attracted by the idea of performing the instrument and has decided to learn and achieve that mental image by copying and mirroring the gestures, a choreographic language that activates a well-established mental image that reproduces the sounds and body gestures interacting with the musical instrument.

This established inherited mental image of the performative body interacting with the organology of the instrument belongs to a tradition that we have been mimicking and mirroring through centuries, and these images are the point of departure for almost every musician in Western music; as in sport and dance, these practices also have the mental image as a point of departure, a mimicked and mirrored tradition to become and reincarnate past musicians, athletes and dancers.

The gestures copied/borrowed and created through mirroring incubate (im)personal habits, "an implicit learning […] that produces robust, and rapidly automatised movement patterns" (Détári 2022, p. 140), inside an accumulative series of body and mechanical adjustments between both bodies (the guitar and the performer) to create sound and reproduce the mental image, while at the same time creating basic gestural information gaps inside those borrowed mirrored gestures.

These mirrored mechanical adjustments create the information gaps that go from the way we should sit, the amount of force and speed needed in each gesture, the distance between the interacting body parts, the ideal position of the instrument in relation to our always evolving body, the form and size of the instrument, to finally influence the actual hearing of the performance. It is the drive of the established mental image—the iconography of the performative body—that latently manipulates these and other mechanical adjustments of the beginner. A mirrored mental image and incubator of borrowed gestures attached to the muscle memory that will be transformed in personal habits that the performer can carry the entire life.

Music education is constantly working to fill those information gaps in performance and detect wrongly mirrored gestures. Many brilliant performers, professors, and theorists created extensive documentation with very specific information about the body of the performer, like the wonderful and revolutionary work of Marie Jaëll (1846-1925) or the lecture series in "The Unanswered Question" (1976) by Leonard Bernstein (1918-1990). I was very lucky to have three brilliant guitar teachers (Martín Madrigal, Judicäel Perroy and Zoran Dukic) who are still searching for ways to develop the physical interaction with the instrument and fill the many gaps in the classical guitar tradition.

> The constant evolution of music brings with it the progress of instrumental technique. It is the new step, the new form, the magnetic attraction of tomorrow that develops, preserves or destroys all the principles of yesterday. Each resurgence in the history of our instrument has left behind new discoveries that expanded the domains of its technique. Each artist left, throughout his time, traces of his personal talent, and time took care to sift, over the centuries, the useful procedures that lead to perfection.
>
> (Pujol 1956, p. 11 Trans. BCA)

9.7 Creating singularity through the instrumental technique

In the quest for perfection in score-based music performance, instrumental technique has become an obsession, a prime objective and standard of classical music performance—and in most score-based music—in the last century. The "pressure from self, excessive arousal and inadequate preparation for performance." (Skoogh 2021, p. 64) is issued from this obsession associated to MPA (Music Performance Anxiety).

An early example of trying to overcome this anxiety was Robert Schumann, who injured his fingers with a machine supposed to improve the independence of his fingers when playing the piano, but instead it destroyed his fingers and career as a pianist. Another example is a friend of mine who attached AA batteries to the fingers of his right hand to increase speed. He probably copied a situation from the anime *Dragon Ball* with *Goku* and his boots by Akira Toriyama (Toriyama 1988, Chapter 177), and developed a temporary tendinitis.

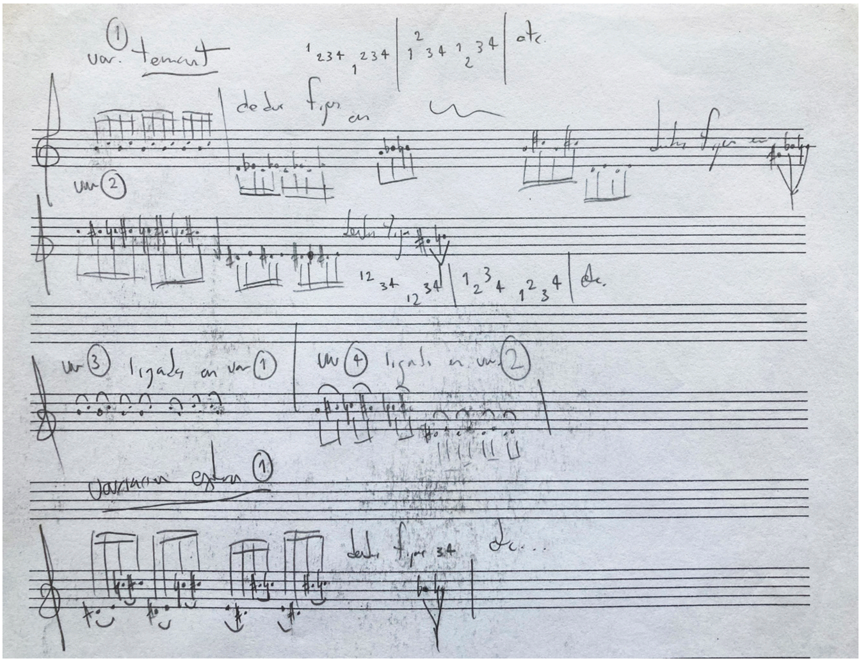
As of today, we continue to develop and create more and more precise methods to perform with technical perfection what is written in the score as precisely as possible—a Sisyphean effort to transmit the idea of the composer and, sometimes even surpass the indicated pace in the score—to project a "virtuoso" image of ourselves, a singularity by contrasting our abilities with the rest of the world of classical music—and to get enough gigs in order to survive. The development of methods that focus on technical exercises started almost at the same time as the era of Paganini (1782-1840), when the virtuoso became an ideal, in music performance. These studies and technical exercises were invented to educate the fingers and solve basic technical problems when performing the instrument.

When I started to study with Zoran Dukic at Den Haag Conservatorium, instrumental technique became my obsession too, and during those four years and many afterwards, it was shaped by Scott Tennant's book *Pumping Nylon*:

> The exercises are ones that have helped me, some of which I still practice every day. The goal of Pumping Nylon is to offer ideas that will help solve various technical problems. The idea was to steer clear of assembling anything that resembled a method book. Rather, my intent was to focus only on specific technical issues, which I felt had not been clearly explained elsewhere.
>
> (Tenant 1995)

This compendium of exercises is a synthesis and a filter of many historical methods (Mauro Giuliani, Francisco Tárrega, etc.) that served as a point of departure for Scott Tenant when creating these specific technical exercises, meant to be practiced as a daily routine.

As we continue to repeat these exercises, our motor abilities increase and an information in the form of muscle memory is created, gestures that come from a borrowed knowledge—in this case—issued and created by Tennant, therefore second-hand and developing a series of patterns that become a physical behaviour with our instrument. A behaviour that will be attached to a set of different good but also bad habits, unconscious mechanical automatisms inflicting extra information to score-based music performance.


① var. tenant
1 234 1 234 | 1 2 34 1 2 34 | etc.
dedos fijos en
dedos fijos en
var ②
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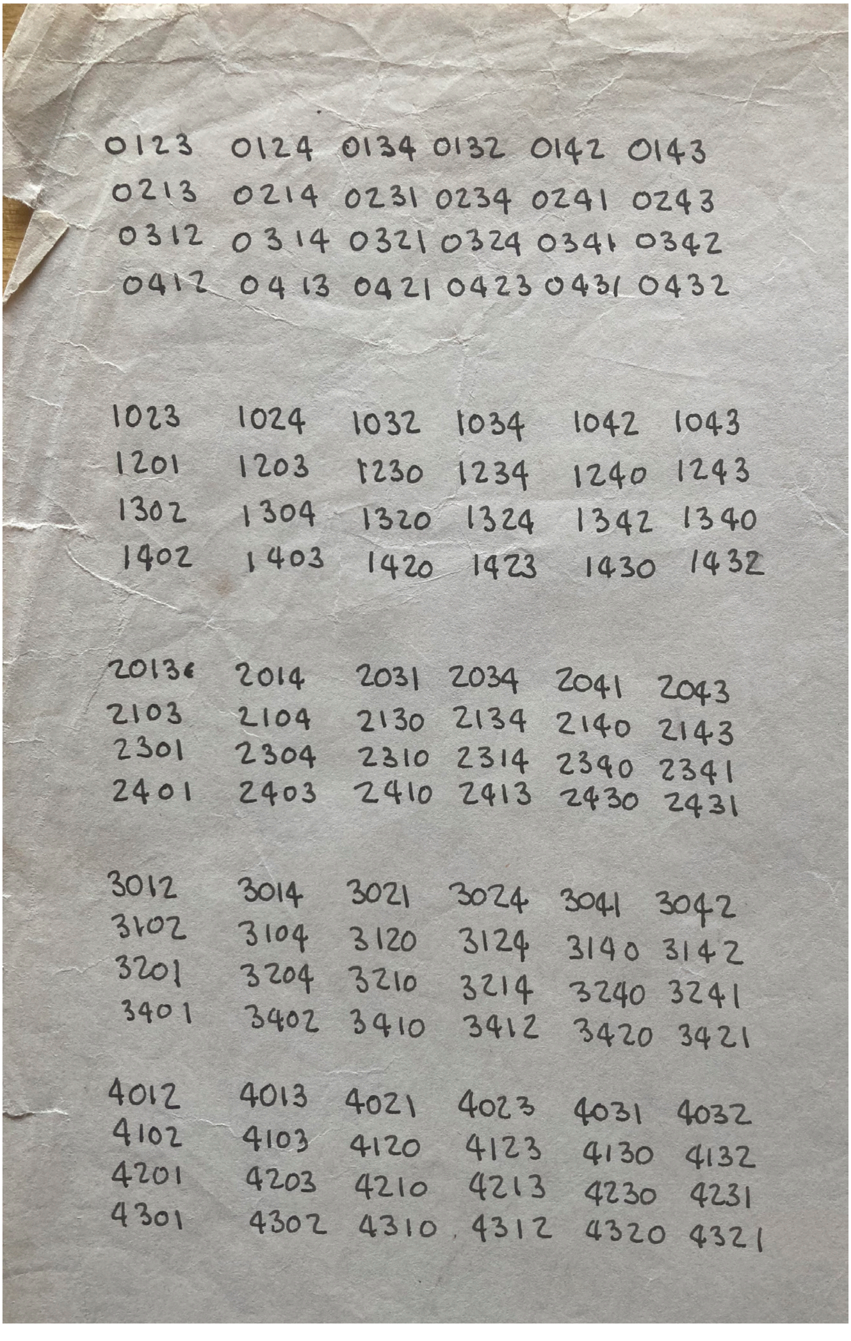
12 34 12 34 | 1 2 3 4 1 2 3 4 | etc.
var ③ ligados en var ①
var ④ ligados en var ②
Variacion extra ①
dedos fijos 3 4
etc...

My variations on the Tenant technique model from 2002
© Bertrand Chavarría-Aldrete



0123 0124 0134 0132 0142 0143
0213 0214 0231 0234 0241 0243
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1023 1024 1032 1034 1042 1043
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1402 1403 1420 1423 1430 1432

2013 2014 2031 2034 2041 2043
2103 2104 2130 2134 2140 2143
2301 2304 2310 2314 2340 2341
2401 2403 2410 2413 2430 2431

3012 3014 3021 3024 3041 3042
3102 3104 3120 3124 3140 3142
3201 3204 3210 3214 3240 3241
3401 3402 3410 3412 3420 3421

4012 4013 4021 4023 4031 4032
4102 4103 4120 4123 4130 4132
4201 4203 4210 4213 4230 4231
4301 4302 4310 4312 4320 4321

My father’s guitar coordination exercises, based on a mathematical model.© Bertrand Chavarría-Aldrete

9.8 Automata

We can consider that exercises for instrumental technique are basically motor learning methods. A series of exercises that have the purpose to be practised and refined so that an important amount of physical information can be automatically done and facilitate the interaction with the instrument when learning, studying and performing, and in certain cases towards a "virtuoso" image, or as Glenn Gould would say, "musicians who are determined to make us aware of their relationship with their instrument, they allow that relationship to become the focus of attention." (Monsaigeon, 1998)

But what happens in the brain of the performer when adding or borrowing a new gesture? There is "a high degree of cognitive effort and is the stage in which explicit training (e.g., feedback, instructions) has the greatest effect on learning" (Ma, L.; et al. 2010, p. 5), requiring attention and full concentration in these first moments with a "recruitment of additional neurons and increment of neural firing" (Ma, L.; et al. 2010, p. 5) to assimilate the new borrowed information. As time passes, the information starts to be assimilated, and the cognitive effort starts to reduce.

> This is the hallmark of the associative stage of motor learning in which subjects begin to make subtle changes in how the task is performed because the basics of the task have been learned. During this stage, there is a decline in recruiting extra neurons and neural firing to perform the task (it is becoming functionally more efficient). As such, we found that the regional activity returned to baseline at Week 4 (declined from Week 2 to Week 4). This stage is followed by the autonomous stage, which becomes operative only after months or even years of practice and was probably not a factor in the current experiment. However, the autonomous stage is apparent in expert performers and is marked by the need for little cognitive effort.
>
> (Ma, L.; et al. 2010, p. 5)

The little cognitive effort in the expertise creates this autonomy without the need for attention on each gesture. Once the performer has reached this stage of autonomy through practice and repetition, the borrowed gestures become automatisms in the form of motor abilities imprinted not only on the muscles but in the brain, second-hand mechanical automatisms that become a muscle memory impregnated in the body of the performer, gestures that are very difficult to change, replace or emancipate from (see chapter 5.3).

If the gesture or motor ability has a flaw attached to it—by nature, always undetected—the performer is exposed to create a vicious circle of training and repetition of the wrong information, a mechanical automatism attached to the muscle memory that inflicts extra information to the performance and interpretation of the music score and, in some cases, a future injury on the body of the performer.

9.9 Faking octaves

One of the most iconic virtuoso figures of the 20th century was without doubt pianist Vladimir Horowitz. Another iconic figure of the same era was Glenn Gould, an antithesis of Horowitz in every sense.

By reading documents of the time, we can deduce, along with an important part of specialists, that their relationship was far from friendly—they hated each other. One of the main characteristics of Horowitz, besides his musicality, technique, and charisma, was the speed with which he was able to perform the octaves on the piano (probably no other human being has been able to play as fast the last measures of Tchaikovsky's First Piano Concerto). Gould, on the other hand, got international recognition with his recording of J. S. Bach's Goldberg Variations from 1955, which allowed him to establish a very personal and particular way of performing music from a never-before-heard analytical way to understand a music score.

The virtuoso figure of Horowitz, from Gould's perspective, was full of automatisms developed from muscle memory, bad habits that for a "zealot" of the music score such as Gould were unbearable. Apparently one of those habits, according to Gould, were Horowitz's octaves:

> 'Horowitz can't play octaves—he fakes them.' I remember him using the word fake."
>
> "He told me," says (Joseph) Roddy, "that he had once done a great service for Horowitz. He had finished a little phrase for one of the Horowitz recording sessions." That seems hardly possible, but Roddy recalls that Gould had rented some space in the RCA Victor studio in New York, "just for some technical stuff that had to be done," and he went there late at night and found one of the engineers in despair. "He was splicing together some Horowitz tapes," Roddy says, "and he had reached the despondency point, because it couldn't be done, because each piece of tape had something wrong with it.
>
> But Gould was as experienced as anyone could be with this whole splicing of tapes, so he sat in and got his brains around what the problem was, and then he said, 'Well, if you do this and this, and get that off there and this off here, then

> that's it, and you've got it, except that you'll be missing this bar, which I will get for you.' So there exists—" Roddy bursts out laughing, suggesting that somewhere in the legendary recordings of Vladimir Horowitz there is one measure of pure Gould.
>
> (Friedrich 2000, p. 239-240)

If we try to unravel Gould's joke and twisted humour, it means that Horowitz, from Gould's hearing perspective, was never able to play together both notes of the octave at the same time, faking them by playing the lower note and slightly after the higher note (a reason why he personally added the missing bar to help the sound engineer…). This gesture is much easier technically for the hand by balancing the weight between both fingers (thumb and little finger), a muscle motion and weight direction in the gesture to create an incredibly fast arpeggio—almost imperceptible for the human ear but not to Gould—and ease the hand through the flowing impulse instead of a vertical octave that requires a precise small jump between the notes, an intense and prolonged effort that tenses very fast the entire upper body and neck of the performer. This anecdote is a very good example—from Gould's perspective, of course—of automatisms issued from a reiterative practice that creates a muscle memory and the way, as mentioned previously, that inflicts extra information to the music score performance.

9.10 Reading the score

A very important aspect of the score-based music profession is, of course, the way we read the scores. The embodied knowledge created with the instrument is attached to the way we read the score, a knowledge developed from the base of what the performer has mirrored, mimicked, read, inherited, and learnt from demonstration and visual imitations.

These already mentioned, inherited/borrowed mechanical automatisms, become a behaviour of the musician, an instrumental technique that throughout the years will be repeated, practiced and refined, a personal tool of each music performer to access and decode the information issued from the score. This interaction between the performative body with all its attached parameters that we have mentioned and the score will become a new and different technique and behaviour that allows the score-based musician to read more fluidly the score.

This new behaviour, similar to the *priming effect*, that translates directly the image: the music note (priming stimulus) into gesture and sound production (target stimulus), becomes what we call "sight reading":

> Canonical visuomotor neurons, even if they do not directly concern the observation of movement, canonical neurons present interesting priming properties. In addition to being active when the animal performs an action towards an object, these neurons also discharge at the simple sight of this object. There is then a fine association between the visuomotor properties of the neuron and the functional characteristics of the object. The cells that respond for actions involving precision gestures thus respond to the observation of small objects (e.g., almonds). Conversely, the neurons involved in full-hand grasps manifest themselves rather for large objects (e.g., banana). Canonical neurons seem in fact to encode, to use a term dear to Gibson (Gibson, 1979), the affordance of objects. These cells then tell us how to act on the object, how to catch it. In this sense, they could constitute, for directed movements of the hand, a potential neuronal substrate for priming phenomena.
>
> (Desmurget 2012 p. 57 Trans. BCA)

All these borrowed technical gestures, mechanical automatisms and behaviours make the brain develop a series of synaptic shortcuts to afford our bodies to perform music the way we know, the way we were instructed and have developed, and the way muscle memory is reminding us to do. When performing a traditional musical score, all these inherited/borrowed mechanical automatisms and synaptic shortcuts embodied in our muscle memory act and react with the score. These elements allow the musician to perform the music score, reincarnating and accepting the secret protocol, contributing to the history of music and traditional standards of common knowledge.

But what happens when the musician approaches a new music score? Does the performer learn music again in order to perform new music? In some cases, composers have proposed an alternative way to write music in order to deactivate the synaptic shortcuts of standard music notation of the performer, a good example are graphic scores. But I believe that approaching graphic scores with our instruments and embodied knowledge does not fully solve this problem. That is why in 2013 I proposed a different approach to graphic scores (see chapter 1.4).

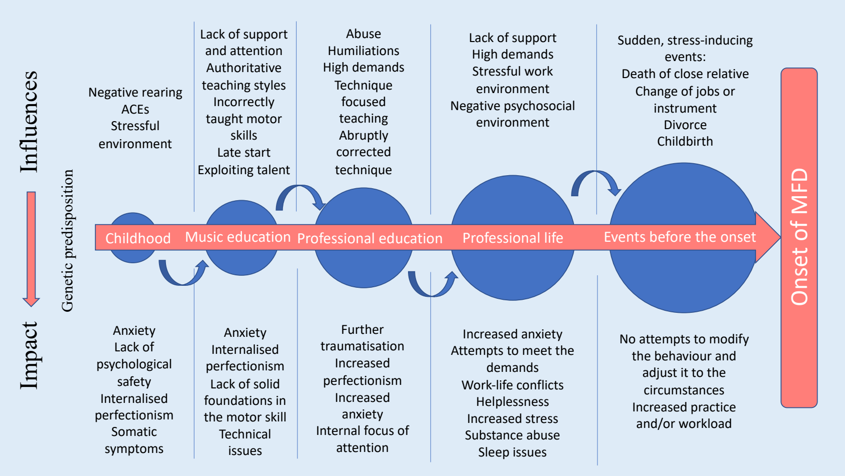
So, are we capable of forgetting the synaptic shortcuts to erase the muscle memory and create a degree zero interpretation of the new information given on a newly composed music score? I’m afraid not; our body and brain will react exactly the same way when performing tablature music, traditional scores, complex scores or graphic scores. The priming effect between the score or text source and the instrument is unavoidable in a professional musician. The musician is already “coded” to translate the signs on the music score in the way the body and brain have been trained after years.

We are experience-made and historical beings with our faces turned towards the past and our backs into the future, blindly believing in documentation, reincarnating oral tradition, borrowing second-hand knowledge conserved at conservatories.

9.11 Dystonia

> Dystonia is a movement disorder characterized by sustained or intermittent muscle contractions causing abnormal, often repetitive, movements, postures, or both. Dystonic movements are typically patterned, twisting, and may be tremulous. Dystonia is often initiated or worsened by voluntary action and associated with overflow muscle activation.
>
> (Albanese et al. 2013, p. 866)

The narratives and origins of the instrument, along with the instrumental technique and all the borrowed methods for its perfection, create in the performer's body an important amount of information clustered as muscle memory. The recent study of Anna Détári on musicians' focal dystonia (MFD) concluded that focal dystonia is not only developed through gestures (behaviour) but also often accompanied by psychological and social environment factors, all evolving through the different stages of the life of the music performer.


Influences
Impact
Genetic predisposition
Negative rearing
ACEs
Stressful environment
Lack of support and attention
Authoritative teaching styles
Incorrectly taught motor skills
Late start
Exploiting talent
Abuse
Humiliations
High demands
Technique focused teaching
Abruptly corrected technique
Lack of support
High demands
Stressful work environment
Negative psychosocial environment
Sudden, stress-inducing events:
Death of close relative
Change of jobs or instrument
Divorce
Childbirth
Childhood
Music education
Professional education
Professional life
Events before the onset
Onset of MFD
Anxiety
Lack of psychological safety
Internalised perfectionism
Somatic symptoms
Anxiety
Internalised perfectionism
Lack of solid foundations in the motor skill
Technical issues
Further traumatisation
Increased perfectionism
Increased anxiety
Internal focus of attention
Increased anxiety
Attempts to meet the demands
Work-life conflicts
Helplessness
Increased stress
Substance abuse
Sleep issues
No attempts to modify the behaviour and adjust it to the circumstances
Increased practice and/or workload

A visualisation of factors on the learning process that may trigger MFD
© Anna Détari

I believe that when a performer has developed MFD, it means that the individual has exposed the body not only to an accumulation of several factors that Détari brilliantly exposes but, I may add, also to an accumulation of a second-hand knowledge of borrowed motor skills that have created a bad muscle memory already imprinted—through perfectionism and repetition—in the instrumental practice, therefore very difficult to re-establish a normal interaction with the instrument.

Many methods have been used, from medical treatments to behavioural therapies, but I personally have never seen a case with a full reestablishment. Détári concludes that there is a need to create interdisciplinary efforts to create "a deeper understanding of the disorder and the musicians suffering from it and inspire better, more effective treatment approaches, and potent preventative strategies." (Détári 2022, p. 237) I couldn't agree more.

The way we, as musicians of score-based music, are approaching the instrument and the influences we mimic, acquire, and borrow may have created unhealthy relationships between music and its performers. The historical weight we carry in each gesture has become a burden for many performers in classical music. This way of performing and interacting with music has established a mannerism that is reproducing perfect mechanical models of music interpretation, technically flawless but lacking a critical perspective to emancipate from tradition. Leaving classical music interpretation in an existential loophole, that along with the socioeconomic parameters that we are experiencing today, have almost destroyed the profession.

There are certain brain reconnection processes that education in Western music has applied to give a different perspective and mental image of the gestures through the use of metaphors; I have already proposed Plastic Extension of Music (see Chapter 5.3) as an alternative method, but the Chinese string instrument *Qin* is an instrument in which all performance gestures are metaphors.

9.12 *Qin*, landscaping the metaphorical gesture

> He treated each composition like a vast landscape, which he surveyed from great height with the vision of an eagle, taking in the whole and all the details at the same time. He played like no one I had ever heard, and there was nothing I could teach him. [Heinrich Neuhaus about Sviatoslav Richter]
>
> (Wigler 2015)

Western music education has often used verbal metaphors to explain musical parameters and instrumental issues attached to the score. "They address a problem, not with instructions, but by trying to change the mindset connected to a situation in which the problem arises." (Åberg 2012, p. 4). These metaphors are tools that a performer can use to deactivate the automatisms, influences and, of course, the historical weight of classical music performance, the secret protocol. It is by relating or connecting "the problem" to an alternative universe, that of the metaphor, that the performer can extract the gesture by emancipating it from classical music tradition and the inherited muscle memory.

One of the most important sources available about the string pluck instrument *Qin* (meaning "string instrument")—for us who don't read Chinese—can be found on the vastly informed website by John Thompson. I became profoundly interested by the book *Taiyin Daquanji* (meaning: Great Collection of Superlative Sound) from the Song dynasty (926-1279) (Thompson, 2021) that has been existing through different editions in history; the edition that John Thompson translated and I refer to is a reprint of early 16th century that consists of six sections (*Folios*). I am unable to analyse this instrument and its tradition that way I understand the guitar; nevertheless, I think that some aspects are possible to discuss and contrast with my instrument.

My interest is focused on the way the book explains the instrumental/performative gestures of the *Qin*. A series of instrumental gestures that are metaphors to be mimicked/mirrored. Not exposed as a way to change the mindset, deactivate influences or emancipate the performer from tradition, as we do in Western score-based music, but to perform borrowed gestures from nature, very similar to the *Legong* dance tradition.

One of the other aspects that became appealing and important to mention here is that the method not only explains the parts of the instrument as any Western music method does, but instead Folio 1, after explaining the origins of the instrument, proposes an entire section of instructions on how to build the instrument, with a precise calendar for the stages of the construction:

> After the beginning of summer cut the wood. After the harvest has been gathered apply the glue-lacquer. After the beginning of winter put the bodies together. After the vernal equinox use ash to mix it five times with a reddish black lacquer. One year later you can call it a qin.
>
> (Thompson 2021)

Followed by the instructions and precise measures to craft meticulously each part of the instrument, the book exposes how to treat the wood, protect it and integrate the visual cues on the surface. This part will then be followed up by a section on how to make the silk strings of the *Qin*, a unique particularity of the instrument; the *Taiyin Daquanji* instructs the reader on how to discern the proper silk to create the thickness, wrapping and boiling of each string to finally assemble the instrument's parts:

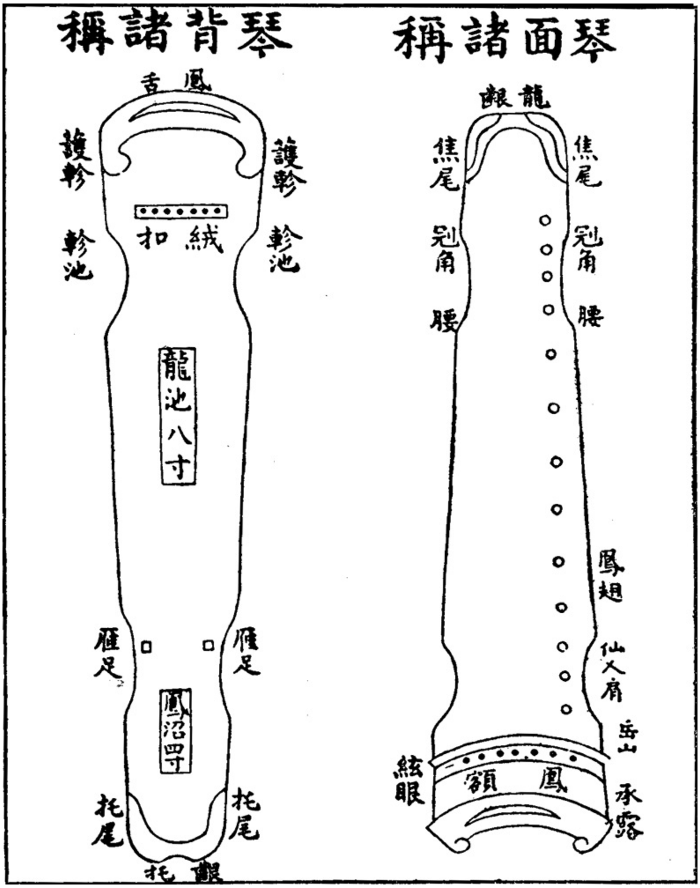
> String eyes, Mountain, Shoulders, Phoenix wings, Waist, Corner hats, Dragon gums, Dew collector, Tails, Dragon's mouth, Dragon's beard, Pillar of heaven, Pillar of earth, Phoenix tongue, Pillar of Earth, Dragon's legs, Harmony pond, Duck paws, Phoenix legs.
>
> (Thompson, 2021)

Folio 2 consists of information and some illustrations of 38 different versions (styles) of the *Qin* throughout history.

Folio 3 starts with different finger explanations made by *Qin* performers and their description of the hands, where Zhao Yeli (563-639) offers a very unique description of the fingers:

> The finger of heaven is what the right thumb resembles;
> The finger of earth is what the right index finger resembles;
> The sun finger is what the right middle finger resembles;
> The moon finger is what the right ring finger resembles.
> A great wind is what the left thumb resembles;
> A light cloud is what the left index finger resembles;
> A high mountain is what the left middle finger resembles;
> A plunging river is what the left ring finger resembles.
>
> (Thompson, 2021)

It is important to notice that the image (metaphor) is the element that appears first, followed by the finger. I believe that this disposition—first the image, then the finger—allows for a very different relation with the instrument and the performance gestures in comparison to the inherited muscle memory of the Western performer. This tradition allows the performer to deactivate any kind of history on the instrumental performance of the *Qin* and its influences by erasing the performers' role as music instrumentalists and assigning them the role of reenactors of nature. Similar to Legong dance tradition and Richter's "the vast landscape."


琴背諸稱
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鳳舌
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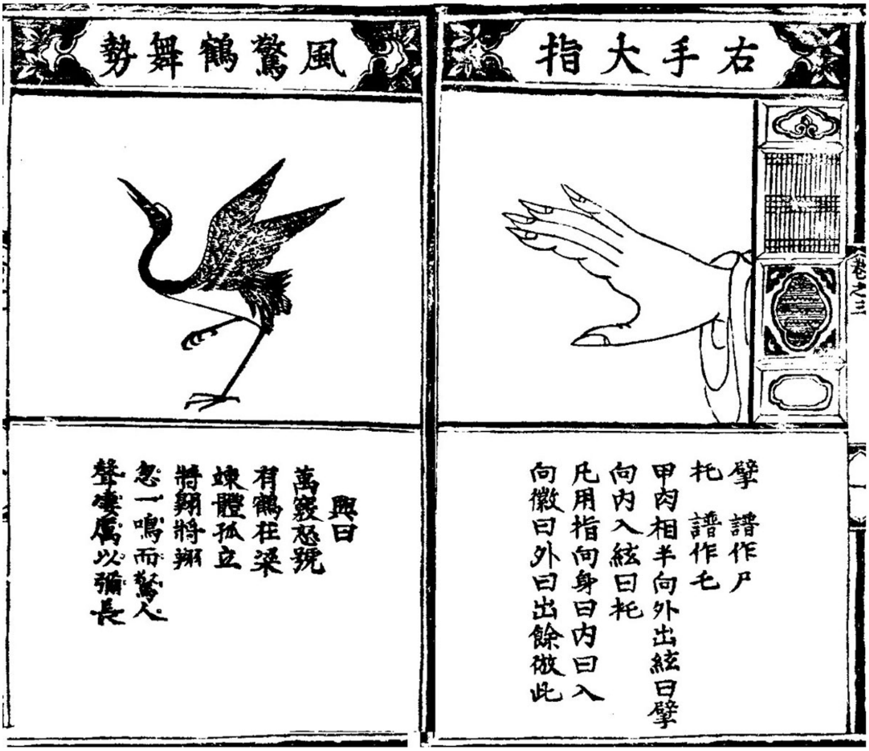
絨扣
軫池
軫池
龍池八寸
雁足
雁足
鳳沼四寸
托尾
托尾
齦托
龍齦
焦尾
焦尾
冠角
冠角
腰
腰
鳳翅
仙人肩
岳山
絃眼
鳳額
承露

Qin bottom and top © silkqin.com

The *33 Hand gesture illustrations* include 17 nature imitations, metaphorical gestures, for the right hand (plucking) and 16 for the left hand (pressing—giving the pitch on the string) to be performed on the *Qin*. Each of the 33 gestures is portrayed by an illustration of its metaphorical gesture (example of the first gesture as established by John Thompson):



右手大指

擘　譜作尸
托　譜作乇
甲肉相半向外出絃曰擘
向內入絃曰托
凡用指向身曰內曰入
向徽曰外曰出餘倣此

風驚鶴舞勢

興曰
萬籟怒號
有鶴在梁
竦體孤立
將翱將翔
忽一鳴而驚人
聲淒厲以彌長

First gesture illustration of the *Taiyin Daquanji from* Song dynasty (926-1279)
In the manner of a crane dancing as a result of being startled by a breeze
© silkqin.com

That includes an instruction:

> In the manner of a crane dancing as a result of being startled by a breeze / The right hand thumb should pluck
>
> (Thompson, 2021)

A poetic evocation of the gesture:

> Xing says:
>
> From myriad cavities there is furious howling.
> There is a crane on the ridge.
> It stands by itself, with its awesome physique.
> It is about to fly off, about to soar.
>
> Suddenly it cries out, startling people. The sound is mournful and fully developed.
>
> (Thompson, 2021)

Followed by an explanation and a more precise and methodological description of the gesture:

> Pi/bo (tear/thumb; compare pi)
> Tuo (drag)
> Pushing the thumb outwards from the body, using half fingernail and half flesh is called bo.
> Pulling the thumb inward is called tuo.
>
> Whenever utilising a finger towards the body it is called “inward”; if towards the studs it is called “outward”. All the examples use this terminology.
>
> (Thompson, 2021)

Folio 4 is a compilation from different books on information about the *Qin*, a list of melodies, the Rhapsody of the *Qin*, and other *Qin* playing methods.

Folio 5 general comments on *Qin* tablature and Folio 6, a variety of melodies, right and left hand techniques, a text on discerning the significance of *Qin* melodies, five preludes and an afterword by Zhu Quan (1378–1448).

9.12.1 Carlos Lima and how to deactivate history with your own tools

Back in 2015, during my master studies in fine arts in Porto, I used to spend my whole days on the workshop working on different pieces, but mainly, I was there to learn from Carlos Lima, (aka Lima) one of my dearest mentors who was (and still is) the technician at the workshop.

I remember once asking him for a small brush—nothing special, just a brush—to paint a narrow section of a sculpture I was working on. He replied directly, “We don’t have that!” (but I knew there were tonnes in the workshop...) and left to probably assist another colleague in the workshop. He left me standing there in front of my sculpture for at least half an hour trying to figure something out on my own. He came back again and said in a lecture tone, “You know, all the “artists” (using the quote gesture) buy stuff to create their “shit” (he meant *artworks*), but none of them know how to create the tools to make their “shit” (he meant *artworks*, again). Suddenly he pulled out some scissors he had in one of his many pockets, grabbed a part of my front hair, and snapped a good part of it: “Here is your bristle, now go find a stick, and I’ll lend you a little piece of aluminium so you can do your brush instead of buying it or asking for it; you owe me a beer!”

Lima was right; in his very own unorthodox way of doing—and saying—things, he stated something that made me realise that in my tradition as a classical musician, I’ve never built—yet—a guitar that I play (I’ve built other instruments for me, but never a guitar); instead, as performers of score-based music, we borrow an instrument, mirror our teacher, inherit a technique and perfect it with second-hand knowledge to mimic ancient practices.

The “breeze of fresh air” in *Lima’s* lesson came from the simple fact of making me understand that by creating or building my own tools instead of borrowing them, I could create my own path inside the creative process (the “know-how”), automatically emancipating from tradition and deactivating history and/or any mental image of music performance, in a way, very similar to Folio 1 of the *Taiyin Daquanji*.

Composer Marco Stroppa (1959) also, but from a different perspective, had the same problem with second-hand tools.

> …one has to learn how the machines think, because the machines don't think organically, they think in their own way, and naturally very often, specially nowadays, they think in the way the people who programmed them decided that you have to think; so you think that you are free with the machine, but actually you are reproducing schemata and patterns that somebody has programmed into the machine; and I absolutely did not wanted to do like that, I wanted machines to think the way I think, and not the way they made me think. Also in my twenties, when I went to MIT, I went there because I thought it was the best place in the world where I could try to understand what is the world of the machine and how I can feel myself free in my own way, to tell the machine to think the way I want…
>
> (Stroppa 2015)

9.12.2 The performative landscape

Coming back to the Qin, I believe that this instrument is displayed as a performative landscape composed of several parts* in which the "performer" inserts the elements of nature (the metaphors) in the form of gestures.

This unique approach allows the performer to metaphorically (inter)act and recreate/reenact nature by inserting over that landscape a series of borrowed/mimicked images and poetic evocations from nature that do not belong to the performer nor are part of a technical knowledge (technique) created by other Qin performers, but the mimicking/mirroring of nature, as the Legong dance tradition, as the centzontles (mockingbirds), mimicked/borrowed gestures of nature that take part of the "vast landscape," which is the Qin and its landscaped performance.

> When we look at a landscape, we certainly see the open and contemplate the world, with all the elements that make it up (the ancient sources list among these the woods, the hills, the lakes, the villas, the headlands, springs, streams, canals, flocks and shepherds, people on foot or in a boat, those hunting or harvesting, etc.); but these elements, which are already no longer parts of an animal environment, are now, so to speak, deactivated one by one on the level of being and perceived as a whole in a new dimension.
>
> (Agamben 2015, p. 140-141. Trans. BCA)

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*similar but completely different from Bertran de Born's borrowed lady and Hermes' lyre; the parts of the Qin only evoke mythological creatures—for the exception of the duck paws—and elements of an imaginary landscape)

This "whole new dimension" can be opened through the metaphorical gesture that allows to transcend and liberate a technical gesture from a mental image, an influence, a memory, a technical flaw, impossibility, a pre-concept, muscle memory... the possibilities and metaphors are infinite and as large or limited as the limits of our language-world.

The performance of the *Qin* from my point of view is a unique metaphorical practice that deactivates all authorship, belonging and tradition—a deactivation of the inherited gesture that can probably be only appreciated from an Occidental/Western musicianship perspective, which is the one I have inherited.

9.13 Contrasting methodologies

Going back to the inherited instrumental technique of the guitar, I will compare the different methodologies to pluck a string with the right hand, by contrasting Fernando Sor's (1778-1839) "Méthode pour la guitare" (1830) with the Taiyin Daquanji (Song dynasty 926-1279)

> The line on which the strings bear at the edge of the bridge, is a straight line, as well as that of the nut, consequently all the strings are in the same plane. If these strings were to be touched by keys or moved by quills, like the old harpsichords and spinets, all the hammers or jacks (when not set in motion) would be seen to form a straight line parallel to the strings which they were to set in vibration; and when several were made to act at once, they would always preserve a straight line parallel to the plane of the strings, and this would be one cause of uniformity in the quantity and quality of the sound. From this truth I deduced that it is necessary for the end of the fingers of this hand to be placed in a straight line in front of the strings and parallel to the plane which they form, and I examined whether my fingers were found in that situation naturally. I saw that my fingers did not allow me to apply a straight line to touch the extremities of more than three of them, fig. 10, A B, and that if I wished to bring in the fourth, it would always be at the expense of the two which, being obliged to be bent not to over-pass the line E A (the others continuing extended), would place my hand in a constrained position, on account of the difficulty which I have always experienced in bending one single finger (excepting the thumb), if the others have not a point of support, as happens to the left hand.
>
> (Sor 1832, p. 11)

Fig. 10.

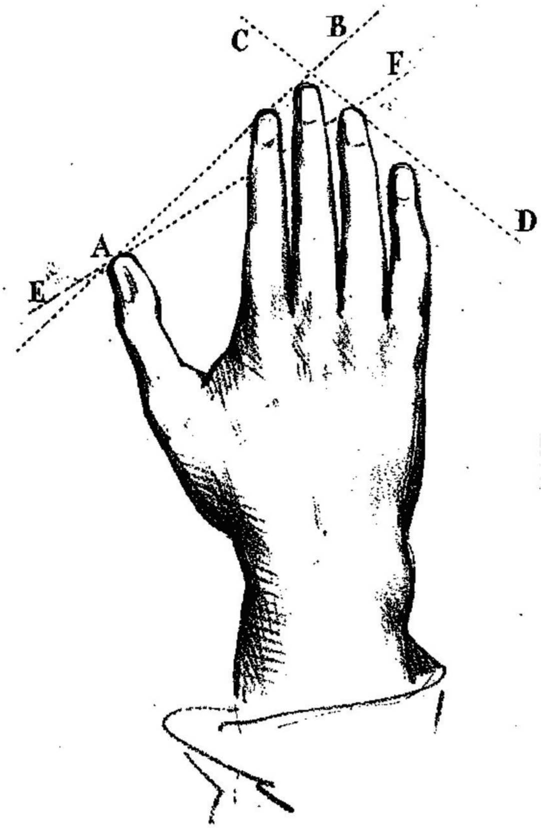


Image from *Méthode de la guitare* (1832) by Fernando Sor
© Public Domain

Cranes call out in the shade / The forefinger should pluck like (Right hand)

Xing says:

Cranes Crying in Nine Bends of the Marsh.
The sound can be heard throughout the wilds.
The light sound luo luo,
Is a natural equivalent of “elegant music”

Mo (rub)
Pulling the forefinger inwards across a string is called mo.

Li (pass across)
Pushing the forefinger outward across string(s) is called li (often for multiple strings: compare tiao).

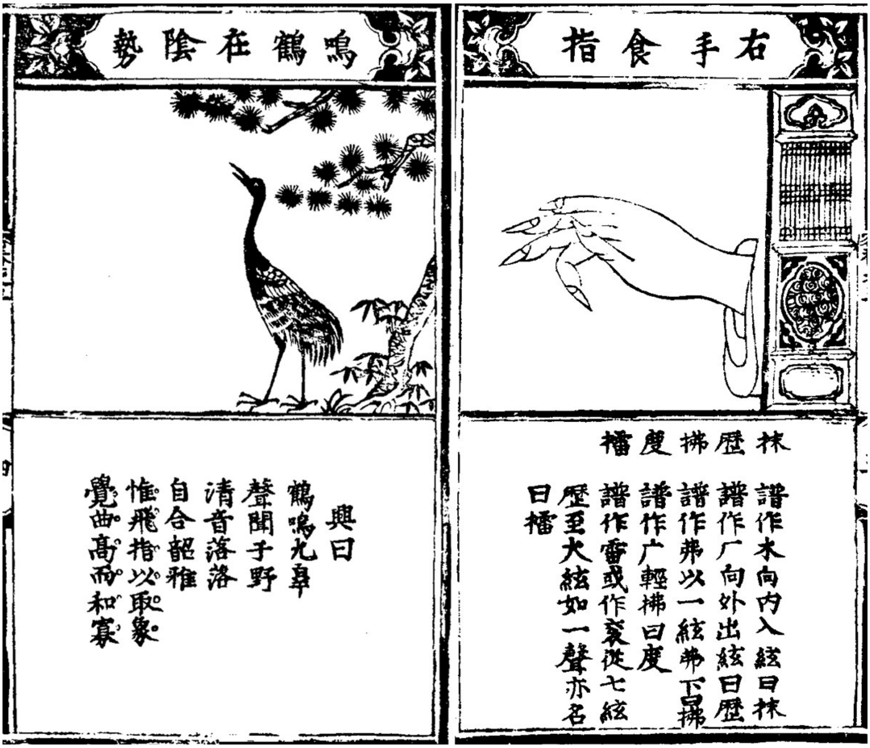
Fu (brush off)
From the 1st string playing a series of mo through to the 7th string is called fu.

Du (cross)
A light fu is called du.

Lei (beat; sometimes bo: shake)
From the 7th string li to the 1st string as one sound; this is also called bo.

Simply let your fingers fly in order to attain this image. Realize the height and peaceful solitude in the melody.

(Thompson, 2021)



右手食指

抹歷拂度播

譜作木向內入絃曰抹
譜作厂向外出絃曰歷
譜作弗以一絃弗下曰拂
譜作广輕拂曰度
譜作畨或作亥從七絃
歷至大絃如一聲亦名
曰播

鳴鶴在陰勢

興曰
鶴鳴九皐
聲聞于野
清音落落
自合韶雅
惟飛指以取象
覺曲高而和寡

Third gesture illustration of the *Taiyin Daquanji from* Song dynasty (926-1279)
Cranes call out in the shade
© silkqin.com

Some musicologists say that Fernando Sor was inspired by *Discourse on the Method* (1637) by René Descartes (1596-1650) to create his own (Faucher Larochelle 2022, p. 33-37). As we read and practice Sor's method, we can understand how similar to Descartes' method his approach was towards establishing a methodology for the guitar based on anatomy and geometry that allows the neophyte reader to perform the guitar guided by all the textual explanations and illustrations. If we read the *Taiyin Daquanji*, not only each finger "is" a different poetic "personality," but all gestures are borrowed from nature; "the crane in the shadow crying and being heard throughout the wilds" is a very different perspective and methodological approach—somewhat confusing—if considering a scientific and analytical approach like Sor, but a very precise metaphor of the sensation that the gesture needs to carry and deploy to reenact the mental image suggested by the metaphor.

Indeed, both approaches give instructions on how to pluck the string(s). But the information, although textual and with images in both cases, is transmitted differently.

Sor focuses on a perfect explanation with measurable lines and a verbal representation of the movement, an ekphrasis, so the reader can understand from scratch how to pluck the string; this approach could be similar to a scientific approach and the descriptions of the body by Descartes in *Discourse on the Method*.

The *Taiyin Daquanji*, displays an opposite way to understand the gesture of plucking the string—in this example only the forefinger—by transcending the measurable aspects of the gesture (and why not, not every hand is identical or has exactly the same structure) to let the reader create or invent its own technical gesture, guided by the mental image of the metaphorical gesture that triggers an individual "know-how" (the tool, the technology) by mimicking the mental image of the *crane crying in the shadows*, a poetical and imaginary approach.

This gesture that can be translated—this is my own interpretation of this poetic gesture—to a rebounding string vibration created by a fast movement where the finger slightly pushes the string into the instrument and then releases it, so that the "cry of the crane" can "call out from the shadows." In guitar playing, we have a similar gesture that we call "apoyando" (rest stroke), where the plucking finger—after plucking—rests on the adjacent string, giving a more robust sound and allowing the body of the guitar to vibrate more by sympathetic resonances, thereby producing a larger sound projection of the plucked note.

As a guitarist, I think that both methodologies are incredibly useful—and why not complementary—but I do believe that the metaphorical gesture allows the performer to imagine and create a different set of movements and motion inside his/her own gestures, movements and sensations that are impossible to translate or communicate but can be sensed with a metaphorical mental image.

If we imagine a situation on how to teach to pluck the string and I—as a teacher—ask a student to pluck the string like Paco de Lucía, the student will immediately go to YouTube and search for a video of him playing and try to mimic/mirror/borrow that gesture, perpetuating de Lucía's technique inside the body of the student—a reincarnation act between two disproportionate bodies that most certainly won't go well.

But what if I tell the student to pluck the string like "a crying cane heard throughout the wilds?" The student will have to retrace himself/herself and observe the perspective between him/her and the crying crane, imagine in his/her own universe, and create a personal and unique gesture, a singular and emancipated "know-how" to pluck the string; this process of interpretation through the singularity of the student can emancipate him/her from muscle memory and all the historical weight in music performance.

9.14 Conclusion: Leaving the pile of debris

The first generations of music performers were forced to experience, imagine and develop their own tools, like Hermes. There was no memory attached to the praxis, and the individual had a large landscape to explore and express herself/himself within. But the professionalisation of this practice has created a narrow path for score-based music performance that has pushed us to become specialists: "It's simple: overspecialise, and you breed in weakness. It's a slow death." —quote from the animation movie *Ghost in the Shell*—(Oshii 1995).

Specialisation is based on the obsession of making progress; this progress is a quest for perfectionism in performance using borrowed gestures and second-hand knowledge, old tools for guaranteed success that accumulate in the performative body, a muscle memory that does not belong to the contemporary performer, erasing the potential paths and new possibilities in music performance, the "slow death" of the *Dasein** and its future hypothetical performer.

Muscle memory is not only the inherited cluster of narratives, oral tradition, myths, documentation, organology of the instrument, mental images and metaphors; but also the one we create based on the quest for perfectionism and performance of this heritage, a common denominator inside the embodied knowledge that performs the instrument and the score.

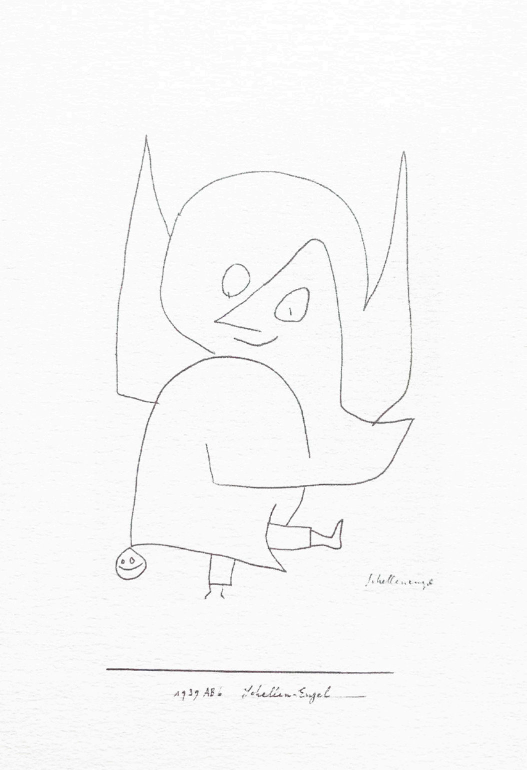
This accumulation of second-hand knowledge and borrowed gestures is the "pilling wreckage" of "secret protocols" that are muscle memory:

> His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe that keeps piling wreckage upon wreckage and hurls it in front of his feet. The angel would like to stay, heal the wounds and awaken the dead. But a storm is blowing from Paradise; it has caught the spread wings of the angel with such violence that he can no longer close them. The storm irresistibly propels him into the future, to which his back is turned, while the pile of debris before him piles up to the sky. This storm is what we call progress.
>
> (Benjamin 2006, p. 438 Trans. BCA)

**Dasein* is a German term meaning "existence", "being there", "there being", "being present". Martin Heidegger (1889-1976), took this term in his first major text "Being and Time" (1927) to refer to the mode of being that is particular to human beings.

"The angel" is the performer; "the single catastrophe" is the muscle memory that keeps pilling. The performer wants to awaken the dead to borrow their image, gestures and knowledge, but at the same time his/her back is turned to the future, leaving no possible perspective to visualise a different path besides the pile of debris before her/him. Perpetuating tradition through the reminiscences of borrowed archaic gestures in Western traditional score-based music performance.

I believe now is the ideal time for us as performers to imagine and create our own tools, metaphors and mental images for interpretation, leaving the pile of debris on our backs and our addiction to progress with tools that don't pertain to our bodies. Only this way would the individual, the *Dasein*, be able and forced to explore new paths and trigger new experiences in score-based music performances that belong to her/his own individual way of understanding.



Unlike Benjamin's angel (*Angelus Novus*, 1920), this smirking angel (*Schellen Engel* "Bell angel", 1939) also by Paul Klee, has decided to leave the pile of debris behind.

Chapter 10 - The Kléndinsky Test

10.1 Introduction: Language as Technology

Qu'aissi vauc entrebescant
los motz e.l sô afinant:
lêngu'entrebescada
es en la baizada.

(So I go tangling the words and refining the melodies
as the tongue is entwined in the kiss.)

Bernart Marti (XII Century) *Bel m'es lai latz la fontana* (Extract)
(Marti 2011, p. 250)

Throughout all my life as a performer and composer, I have been using technology as an electronic or digital device in many ways: from being assisted in the performance of pieces that included fixed and live electronics, to recordings, videos or by using different devices to perform my music in more or less original ways.

In all these years I never really understood what technology could also mean besides its common digital or mechanical use, I was forgetting the basic principle of technology and the etymological roots of the word: tekhnē "art, skill, craft in work; method, system and logy a word-forming element meaning "a speaking, discourse, treatise, doctrine, theory, science," that comes from logos "word, speech, statement, discourse." This reminder of the etymology of the word was made clear to me in 2019 when I was invited by the *Encontrarte Festival* in Portugal to create a performance with residents of the *Valoriza* (Centre for people with special needs) in the town of Amares.

During these weeks of daily communication and socialisation, I had to develop alternative language skills. This meant not only communicating in Portuguese but also adapting to the communication means of each resident. This experience created a beautiful sensation and unique learning experience. I felt like entering The Tower of Babel, where everybody communicates with their own language; I saw how each resident had created his/her own technology—"*tekhnē* "art"+ *logy* "speaking, discourse"—in order to communicate.

This experience, together with my first attempts in Plastic Extension of Music, lead me to observe the effect, repercussion and empathy of the sound signal in the body as a liberating gesture. In Amares, the residents taught me how to really express myself without borrowing a language that is not mine, but by creating my own, they taught me to use my body and all its physicality as a technology device to (re)create myself.

So, I started to explore this concept with my own music, by writing poetry in my own vocal language that I use in my music. These poems come from a pure bodily/vocal will in the form of onomatopoeia. This technique allows me to express with onomatopoeia an intimate language that has no translation; the poetry does not refer to, describe or allude to anything outside itself; the words have their own identity. These word-objects are crafted by using my enunciation and all my extra-linguistic cues as a technological device to create a personal system for music composition.

> The enunciation is a unique event, never reproduced in an identical manner, since it supposes a different enunciator each time, an individual who pronounces a certain enunciation at a certain time and in a certain place. However, every enunciator leaves residual traces of his enunciation in his statement, such as for example modalization, irony or grammatical persons.
>
> (Ouellet 2010, p. 124 Trans. BCA)

This first step of exploration, in association with the current findings and praxis of Plastic Extension of Music, allowed me to imagine how to create new languages by using the body as a new technology device.

I decided to investigate how to create a new tactile-visual language for transcribing music for the hearing impaired by using the concepts of Plastic Extension of Music, and recollect from the visually impaired community a plasticity of music from their tactile and "visual" perspective.

This perspective would automatically erase myself from this new language and let the concept of Plastic Extension of Music work by itself without my intervention, taking a further step in my research to explore a new concept, which is the emancipation of music, where the plasticity of music would become a communication device between the visually impaired and the hearing impaired.

In order to create this new language without my direct intervention, I had to design a method based on Plastic Extension of Music. A deep interview and a workshop for the visually impaired and the blind to collect data that would form the basis for such language. I decided to name this method The Kléndinsky Test, after Paul Klee and Vassily Kandinsky, both these artists spent important parts of their lives translating and creating music and rhythm into their visual artwork.

10.2 Antonio de Cabezón

In 2014 Spanish composer and friend Alberto Hortigüela (b. 1969) started working on a series of transcriptions of the music by the blind Spanish Renaissance composer Antonio de Cabezón (1510–1566). At that time, I was still director of SMASH ensemble, so I asked Hortigüela to do three transcriptions for guitar and string trio and also three transcriptions for guitar solo, that recorded in 2016 on my album *carpere fide(s).*

In 2016 I was already working on the concepts of Plastic Extension in Porto, Portugal, so decided to imagine a project with the music of Cabezón, a giant harp of 12 meters that would work as a musical walkthrough for the visual impaired, called *Ballade*.

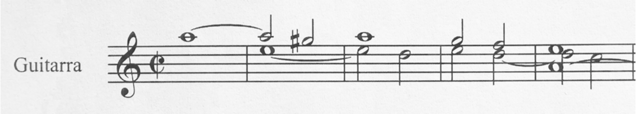
The idea of a tuned space used as a "white cane" came from the first moment I was in contact with this music. These three Tientos (the word "Tiento" in Spanish also means "white cane") by Cabezón transcribed by Hortigüela for guitar, are pieces with a 4 voice counterpoint. The technical difficulty on the guitar is to maintain the sound of these voices during the length indicated in order to create and hear the 4-voice counterpoint clearly, so the idea of creating a machine that could maintain all these voices was a very appealing.

So I imagined a machine that was a topographical tuned transcription of the 287 notes that compose the musical piece Tiento I en primer tono, that would be spatialized in 12 wooden modules of 1 m x 1,40 m containing each 5 measures.

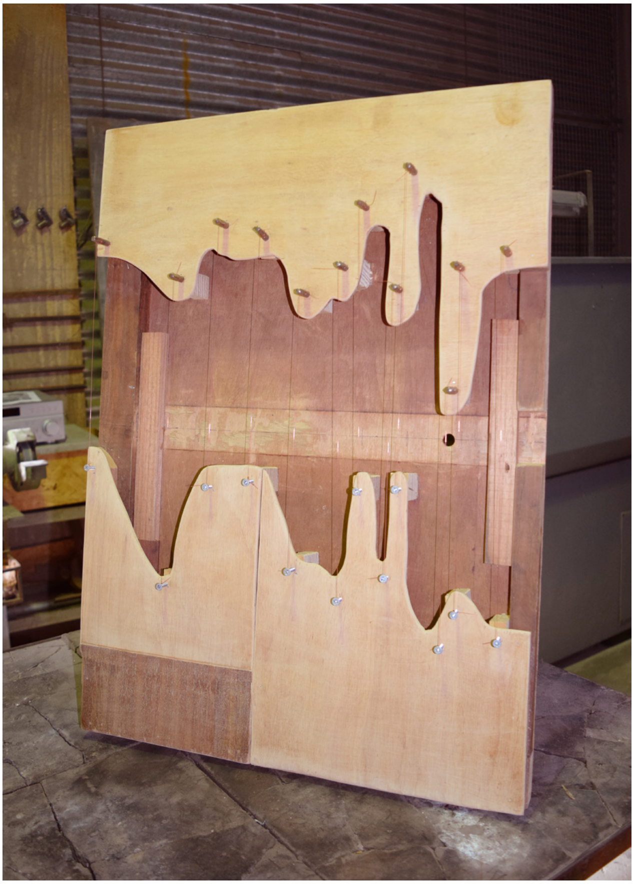
The tuned and transcribed strings would be working as a "white cane" and while walking, the visitors will be playing/walking/interpreting the Hortigüela's transcription for guitar of *Tiento I en primer tono* by Antonio de Cabezón, without the need of any musical formation, simply following the strings and the sound produced by the sliding gesture and where the counterpoint would also appear and fade away naturally in space and time.

The design had a very specific placement of the strings and angle of attack in the sliding gesture. All the voices had their own specific position according to the timbre produced by the angle of attack of the string—allowing me to distinguish by the timbre the 4 different voices of the piece—this placement created a series of shapes in the soundboard that are not a plastic liberty or aesthetical issue; they are simply respecting the angle of attack to distinguish each voice, an angle of attack impossible to reproduce in the guitar; but easily made by the person making the walkthrough.

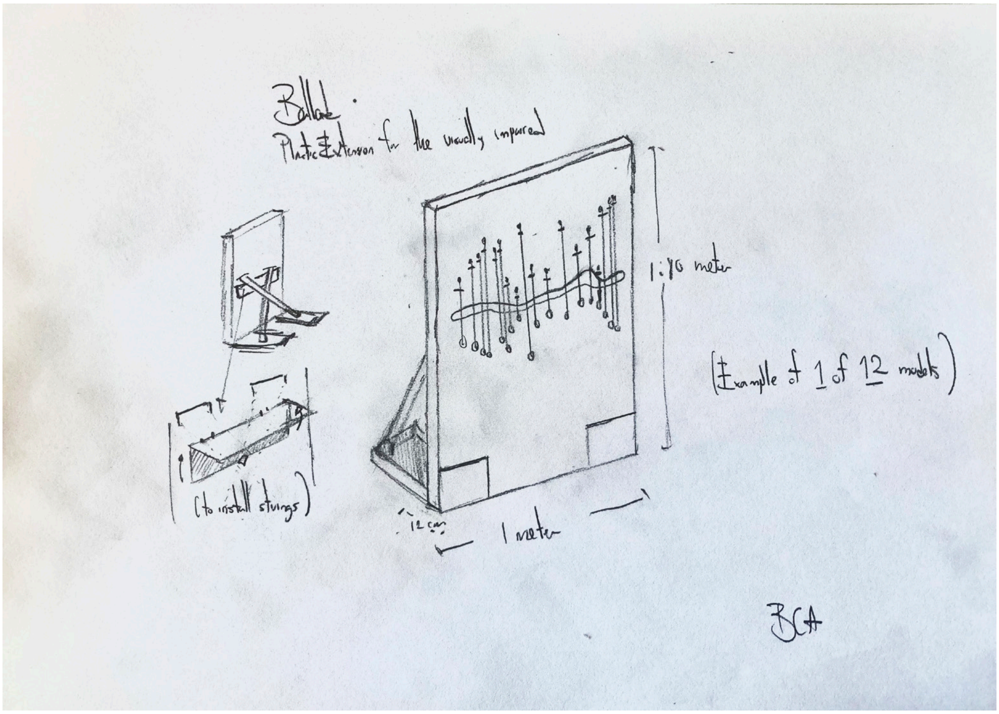
Although this project was conceived in 2016 and I have asked for funding to create this machine, the idea still remains a project (this project was mentioned also in my Master's thesis). Today only exists a 1:2 study model that I did in 2016 of the first measure with the 16 notes (tuned strings) of *Tiento I en primer tono*, made from the wood of a broken door that I found on the streets of Porto in Portugal. Alberto Hortigüela owns the model.



Measures 1 to 5 of *Tiento I en primer tono* by Antonio de Cabezón, transcribed for guitar by Alberto Hortigüela (1969-)



First exploratory model (1/2 size 50 x 75 cm) of *Ballade* made in 2016
© Bertrand Chavarría-Aldrete


Ballade ·
Plastic Extension for the visually impaired
1.70 meter
(Example of 1 of 12 models)
(to install strings)
12 cm
1 meter
BCA

New design proposal for Ballade made in 2023
© Bertrand Chavarría-Aldrete

- guide (v.)

late 14c., "to lead, direct, conduct," from Old French *guider* "to guide, lead, conduct" (14c.), earlier *guier*, from Frankish *witan* "show the way" or a similar Germanic source, from Proto-Germanic *witanan* "to look after, guard, ascribe to, reproach" (source also of German *weisen* "to show, point out," Old English *witan* "to reproach," wite "fine, penalty"), from PIE root *weid-* "to see." The form of the French word influenced by Old Provençal *guidar* (n.) "guide, leader," or Italian guidare, both from the same source.

- guide (n.)

mid-14c., "one who shows the way," from Old French guide, 14c., verbal noun from *guider*. In book titles from 1610s; meaning "book of information on local sites" is from 1759.

10.3 Guided by the blind

> Nobody thinks about what we need the most, the best thing would be if they taught us to be blind in a natural way. But they know nothing about this. [A blind child]
>
> (Bjarnhoff 1957, p. 44)

After reading *Seeing Voices: A Journey Into the World of the Deaf* (1989) by neurologist Oliver Sacks, I was convinced of the possibility to develop some kind of tactile-visual language (similar to sign language and tactile signing) within the research of Plastic Extension of Music, and that this could be attached to my previous Cabezón project with the visually impaired and the blind.

When starting my PhD, my first idea was to assume that the visually impaired and the blind had a similar problem as me in Plastic Extension of Music, they could not see what they hear. The second assumption was that their imagination would be completely different and much more wider than mine, due to the constant practice of creating mental images to replace sight. And third assumption, that their tactile perspective would be an alternative knowledge from the one I had as a musician and the one from common-sighted persons. So I decided to be guided by the blind to explore with them new possibilities to represent music.

The objective of the project was to avoid the brilliant but positivist approach in cross-modal associations of music in neuroscience (Blasi, Wichmann, Hammarström, Stadler & Christiansen 2016; Eitan & Granot 2006), or the Temporal Semiotic Units (Delalande 2003) approach on precise musical figures that study the sounds which produce a temporal meaning inside a musical discourse. By avoiding the positivism and precision of these studies, I would be able to embrace the uniqueness of the given data.

My experience with special needs allowed me to understand the singularity of each person by simply deconstructing the word "Impaired" with its etymological roots. *Im-* is a variant from the Latin *in-* (not) paired from Old French *paire* (set of two) directly from Medieval Latin *paria* (equals). Therefore, *Impaired* = not equal, non-paired.

The data of is project would be based on this deconstruction of the word impaired: "no similar", "without equal", and in this sense: unique. This uniqueness is all too often accompanied by social marginalisation, and isolation. What is seldom acknowledged, however, is the fact that the impaired condition also encompasses a deep and singular knowledge, an alternative knowledge that this research project aims to engage with.

> Physical constraint is replaced by a freedom that encounters the limits of solitude at every moment; the dialogue of delirium and offence becomes the monologue of a language that exhausts itself on the silence of the others; the whole parade of presumption and outrage settles in indifference.
>
> (Foucault 2011, p. 615, Trans. BCA)

As a guitarist, I have performed the music of French composer Pascale Criton (1954). She was interested in this project and introduced me to a new breach of research in which she is involved, that includes haptic signals in bracelets to create a new “vibrotactile” language for the deaf (Patiño-Lakatos, Genevois, Navarret, 2019; Criton, 2013). Upon arrival in Sweden, I got the chance to meet and talk with Swedish researcher Niklas Rönnberg, who has developed a technology for the sonification of data (Rönnberg, Ringdahl & Fredriksson 2023). These approaches were extremely inspiring and interesting*, nevertheless, my objective, if this language was to be shared, I needed to find a less digital way of communication, with a “low-tech” and sustainable approach, and probably still attached to my practice in Fine Arts in Porto. I wanted to keep a manufacture of the objects that I could eventually conceive and transmit directly my own hands, this approach would allow me to maintain and without any intervention, a direct tactile link that would become extremely important for this research.

In 2021 I found the research on the visually impaired and the blind by Swedish researcher Jan Eric Olsén. After a series of readings suggested by Olsén, like Des aveugles (1985) by Hervé Guibert (1955-1991) and the beautiful and brutal More than Meets the Eye (2017) by Georgina Kleege (1956), I concluded that the way forward would be to avoid both cross-modal association and an objective approach:

> …abandon the pretext of objectivity. It is impossible and beside the point. The blind listener knows that there’s some interpretation involved in even the most basic description, and often the systematic cataloguing of depicted objects is more information than anyone wants. Once the pretense of objectivity is abandoned, it could be replaced with descriptions of the artist’s techniques, as well as the effect the work has on the viewer, recognising that this will differ from individual to individual. For the blind artist, it is this information that has the greatest benefit.
>
> (Kleege 2017, p. 121)

*Niklas Rönnberg advise me to use my guitar for the sound samples, instead of organ sounds, which were my first idea for the test.

10.4 Unveiling the invisible

Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

In 2022 I decided to design a prototype test—which would eventually become The Kléndinsky Test— with the objective to create a new catalogue of sounds in physical forms and visual outputs, by learning from participants of the visually impaired and blind community in Skåne, Sweden.

The test involved a series of stations where different sounds were associated: isolated musical notes, intervals, instruments, musical gestures, and music with shapes, textures, resiliency, form, weight, scent, taste, verbal association, elasticity, and clay creation.

The objective was to use the knowledge and associations issued from the hands, sensations, and imagination of the visually impaired and the blind for unveiling their mental images and tactile perspectives on the absent physical form of music and sound. Subsequently, I would use that new knowledge in a series of Plastic Extensions of Music for the deaf and hearing impaired community, which would establish a dialogue between both communities through the transmission of music.

We did an open call for this workshop and had two participants. This first experience of the prototype test revealed common aspects between both participants and their approach to the association of tuned sound along with plastic similarities in the representation of music intervals. My friend and artist Gonçalo Duarte came to Malmö to help me film and record these first two sessions, with the objective to gather material for a future film. We were both inspired by *Blind kind* (1964) by Johan Van der Keuken and *Land of darkness and silence* (1971) by Werner Herzog. As we at this time only had material from two participants, we decided to create a short documentary film, *Unveiling the Invisible* (2022), as a testimony of the first experience and presentation of this prototype test.

This first experience proved all my assumptions to be right and made me aware of the knowledge that sighted persons do not have the option to create and imagine. I was able to observe the tactile perspective of the visually impaired as a precise scanner of the objects they touch and the direct communication between the hand and the brain. This is similar to Bergson's Holographic Theory of the Mind, where the brain is able to reconstruct an object through a glimpse or portion (see Robbins, 2006), but in this case through the graze of touch. I concluded that by bypassing this communication (hand to brain) with the task of imagining, associating, or creating a non-figurative and shapeless sound expressed with their hands, an original perspective of sound and data could be unveiled, that would be impossible to obtain from a regular sighted person. This task, is the poietic intervention of Plastic Extension of Music, here used by the visually impaired and blind, thus emancipating the concept from its originally designed practice in score-based music performance.

This experience was the first stepping stone towards the conceptualisation of The Kléndinksy Test with the objective of creating a new tactile-visual language with the help of the visually impaired and blind community, that will help me metamorphose music into a new perception and interaction with metaphors and objects, a musical language specially conceived for the hearing impaired, and towards a more inclusive representation of music and music performance.

10.5 The Kléndinsky Test

After this first experience, I tried to reach more participants through open calls in the radio with the help of *Skånes Taltidning* (The Talking journal of Skåne), a radio journal for the visually impaired, Radio Sverige and other means, but we had little success. I then decided to make a guitar concert at the *Synskadades Riksförbund* (National Association of the Visually Impaired) in Malmö with Jan Eric Olsén to explain the project to the members of the association. After the concert, some people showed interest in the project, including professor Agneta Ståhl from Lund University, who conducts research around traffic planning with a focus on the elderly and people with disabilities.

Professor Ståhl invited us to explain the project details to see if she could help us find more participants among persons she had already worked with for her research in collaboration with architect Mai Almén, After several meetings, clarifications, and valuable input about the first prototype, both professors Ståhl and Almén agreed to contact possible blind candidates to make The Kléndinsky Test. During that time, artist Felicia Konrad suggested I contact *Riksorganisationen Unga med Synnedsättning* (The National Organization for Young People with Visual Impairments), who were also interested in participating in the test.

All this input and feedback from different fields outside music, like engineering, history, and architecture, helped me design and understand the full potential of the test and present it as an artistic research tool in the form of a workshop. The test aimed to learn about tactile and "visual" perspectives of tuned sound from the blind and the visually impaired, and at the same time to contrast this knowledge against the scientific and pedagogical history of blindness with the help of Jan Eric Olsén.

The test would also be a response to how, for centuries, society has tried to teach the visually impaired to adapt to our world, to see what we see, read what we read, and live like we live. As sighted persons, we have have imposed a way of being on this community by marginalising them, and making them run blindly in a society which calls itself visionary.

Plenty of tools, methods, and institutions have been developed throughout history to keep the visually impaired updated, while at the same time dictating and imposing what the blind community should see. Yet, there has been little curiosity concerning what this community wished to see or what such a unique condition could teach us, the sighted society, about vision, sound, and touch. I considered this aspect to be fundamental in the creation of this artistic research tool and the focus of my interest.

The project officially exchanges the role of the visually impaired and the blind, into becoming guides and teachers who can show us how to see the physical associations of tuned sound (notes, intervals, rhythm, dynamics, and timbre) through their tactile perspectives and imagination.

This methodology allows me to erase myself—a sighted person—from the creation of this new language, allowing the concept of Plastic Extension of Music work by itself without my intervention.

This exchange of roles between the blind and the sighted relates to a topic that I have been working since 2007, that is, equal opportunities and the reduction of inequalities in art. Aiming for the creation of an inclusive artwork that could be enjoyed/perceived in any physical or mental condition, by designing The Kléndinsky Test in a way that the visually impaired and blind community can associate the tuned sound to a variety of materials and parameters so the music transcriptions can be "heard" only by the hearing impaired and deaf community, but at the same time be an inclusive multisensory art form issued from music.

In 2024, we were able to launch the workshop again during one week at the Inter Arts Center of Lund University, now with 10 participants from Skåne in Sweden.

SmallRig
SAMSUNG
500 GB
BMD CAMERA I
Blackmagicdesign
00:03:52:09
No card
ProRes 422
Ultra HD
Inter Arts Center

Image from workshop in 2024 © Bertrand Chavarría-Aldrete

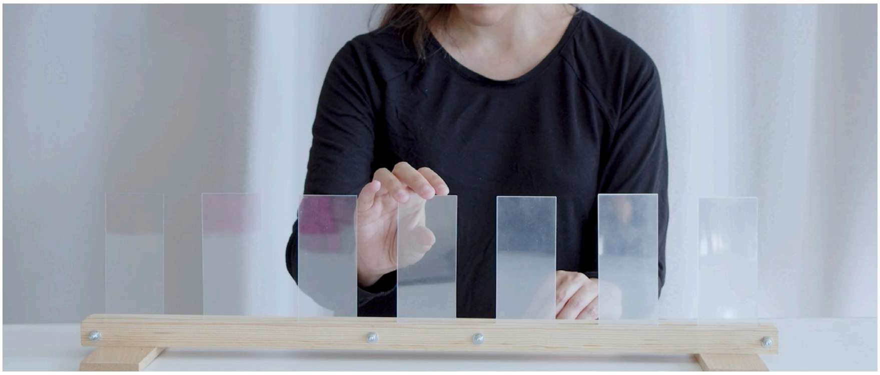
10.6 Deep interview & Workshop

The Kléndinsky Test is an individual 4-hour exploration study in the form of an interview and creative workshop that registers the participants' reactions, physical associations, and plastic expressions of tuned sound in audiovisual format. The test is designed to amass multisensory data built on the experience and interpretation of the visually impaired participants.

The session starts with the participants listening to the consent form, which is a small questionary about age, actual degree of visually impairment, age when they started losing sight, tool or tools for orientation and moving, and tools for reading (see appendix).

The Kléndinsky starts with an interview about their relationship with music and sound, followed by a hearing session of 15 sounds (isolated music intervals) that the participant will to associate with: temperature, atmospheric conditions, position, density, colour, scent and the association of the sound with an object. This first part has a duration of 45 minutes followed by a 10 minute pause to continue with the seven different stations where the participants engage with the following sensorial tests.

First station (The pliableness of timbre and tempo)



First station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- 7 plastics with different densities: 03mm, 06mm, 09mm,15mm, 21mm, 27mm and 36mm

The participant will associate **15 sounds**: 5 open strings of the guitar (A, E, D, B and G) plucked each separately on different positions of the string (1/2 *tasto*, 1/4 *bocca*, 1/24 *metallico*).

Duration: 12 minutes approx.

The participant will associate **3 sounds**: 4 repeated notes performed on the G string of the guitar: slow pace, medium pace and fast pace.

Duration: 2-3 minutes approx.

Second station (The image of tuned sound)

Second station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- Sand pot

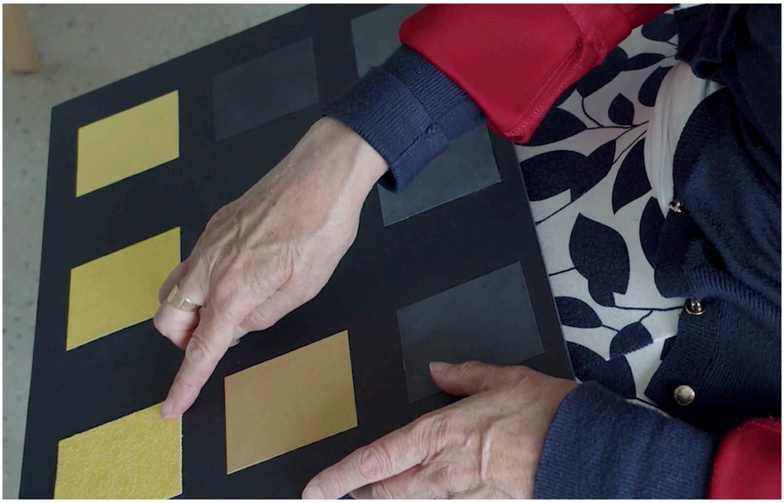
The participant draws a free shape over the sand as a representation of **24 sounds**, the 24 notes of the quarter-tone scale from C to B1/4

Duration: 12 minutes approx.

The participant draws a free shape over the sand as a representation of **9 sounds**, different chords performed on the guitar: The 6 open strings at the same time *plaqué* (E, A, D, G, B, E); same 6 open strings but now continuously from lower to higher *arpegiatto*; same open strings in a *rasgueo* manner (meaning using 3 fingers to pluck the strings: ring, middle and fore); C major chord performed softly, average, loud; C minor chord performed softly, average, loud.

Duration: 10 minutes approx.

Third station (The texture of timbre and chords)



Third station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- 9 sand paper examples from rough to soft: P40, P80, P120, P180, P240, P500, P800, P1200 and P2000

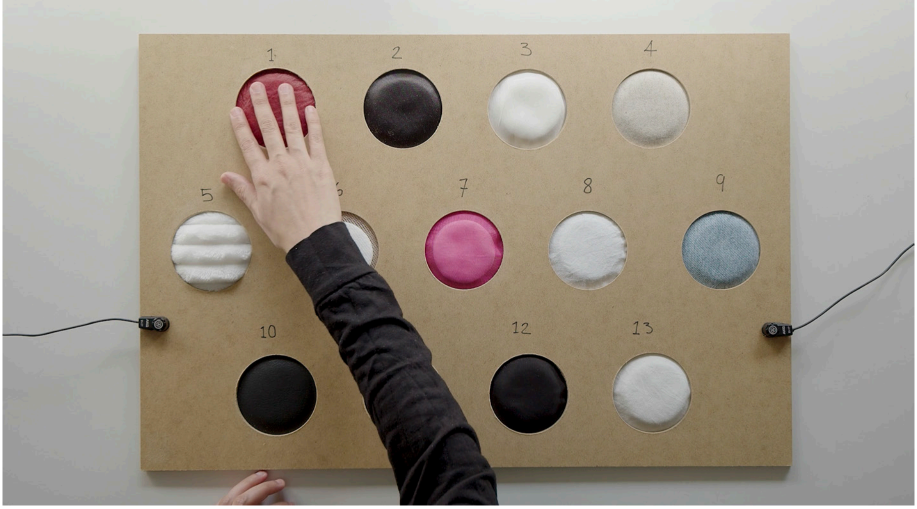
The participant will associate **15 sounds**: 5 open strings of the guitar (A, E, D, B and G) plucked each separately on different positions of the string (1/2 *tasto*, 1/4 *bocca*, 1/24 *metallico*).

Duration: 12 minutes approx.

The participant will associate **9 sounds**, different chords performed on the guitar: The 6 open strings at the same time *plaqué* (E, A, D, G, B, E); the same 6 open strings but now continuously from lower to higher *arpegiatto*; the same open strings in a *rasgueo* manner (meaning using 3 fingers to pluck the strings: ring, middle and fore); C major chord performed softly, average, loud; C minor chord performed softly, average, loud.

Duration: 10 minutes approx.

Fourth station (Textiles related to intervals and timbre)



Fourth station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- 13 different fabrics: leather, satin, silk, wool, fake fur, tulle netting polyester, organza, cotton, denim, skai, velvet, lining fabric and viskos)

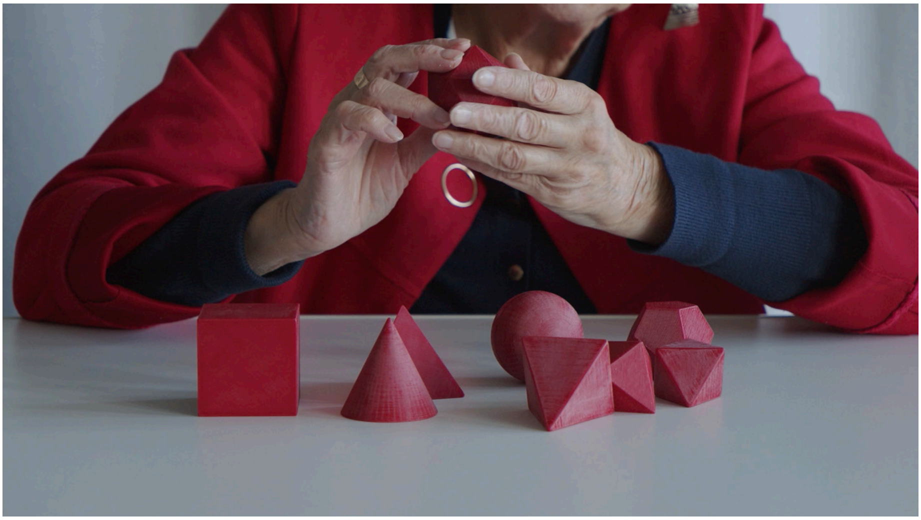
The participant will associate **15 sounds**, isolated music intervals from unison, quarter-tone, minor second, major second, minor third, major third, perfect fourth, augmented fourth, perfect fifth, minor sixth, major sixth, minor seventh, major seventh, octave to double octave.

Duration: 10 minutes approx.

The participant will associate **15 sounds**: 5 open strings of the guitar (A, E, D, B and G) plucked each separately on different positions of the string (1/2 tasto, 1/4 bocca, 1/24 metallico).

Duration: 12 minutes approx.

Fifth station "The Fischinger station" After Oskar Fischinger (The geometrical shapes of tuned sound and tempo)



Fifth station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- 9 different plastic geometrical figures: sphere, 3 side triangle, 4 side triangle, cube, octahedron, decahedron, dodecahedron and icosagon)

The participant will associate **24 sounds**, the 24 notes of the quarter-tone scale from C to B1/4.

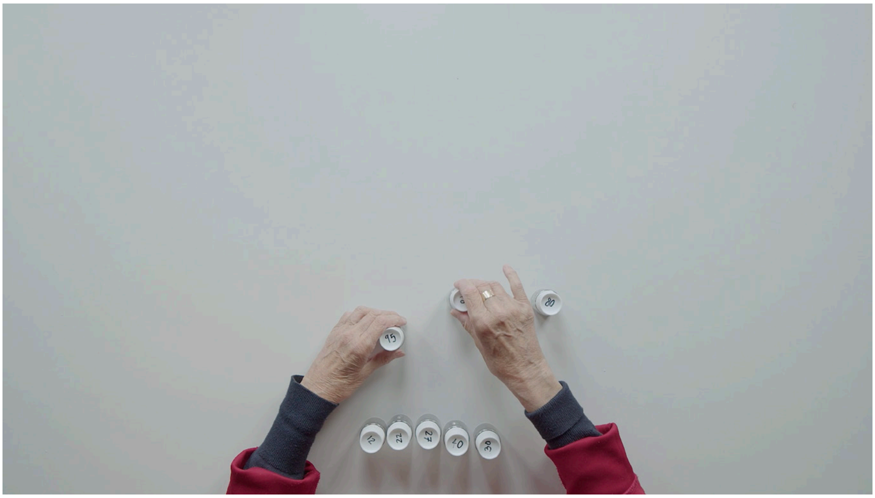
Duration: 12 minutes approx.

The participant will associate **3 sounds**: 4 repeated notes performed on the G string of the guitar: slow pace, medium pace and fast pace.

Duration: 2-3 minutes approx.

- 15 minute pause -

Sixth station (The weight of chords and tuned sound)



Sixth station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- 9 different weights: 12gr, 22gr, 27gr, 30gr, 40gr, 48gr, 60gr, 80gr and 95gr.

  The participant will associate **9 sounds**, different chords performed on the guitar: The 6 open strings at the same time plaqué (E, A, D, G, B, E); same 6 open strings but now continuously from lower to higher arpegiatto; same open strings in a rasgueo manner (meaning using 3 fingers to pluck the strings: ring, middle and fore); C major chord performed softly, average, loud; C minor chord performed softly, average, loud.

  Duration: 10 minutes approx.

  The participant will associate **24 sounds**, the 24 notes of the quarter-tone scale from C to B1/4.

  Duration: 12 minutes approx.

Seventh station (The shape of intervals)

Seventh station. Still image from *Unveiling the invisible* © Bertrand Chavarría-Aldrete & Gonçalo Duarte

- air dry clay

  The participant will shape with air dry clay **15 sounds**, isolated music intervals from unison, quarter-tone, minor second, major second, minor third, major third, perfect fourth, augmented fourth, perfect fifth, minor sixth, major sixth, minor seventh, major seventh, octave to double octave.

  Duration 15-20 minutes approx.

Total duration 4 hours approx.

NOTE: The test had 2 different types, A and B. Type A presented the sounds in order (chromatic and intervals from shorter to larger). In type B, the sounds were ordered randomly.

10.7 Preliminary results

In The Kléndinsky Test, I observed how this experience awakens a very important creative and liberating behaviour of the participants, particularly when the participants when they were invited to freely associate the intervals to temperature, atmospheric conditions, position, density, colour, scent, and the association of the sound with an object, draw sounds on a sand pot, and finally shape music intervals on air-dry clay.

The emancipating factor of these creative exercises is that the participants are asked to imagine, draw, or shape a musical sound (notes and intervals). By taking into account that a musical sound does not have an established visual aspect, these exercises liberate and emancipate the participant from general visual culture and from the history of representation in drawing and sculpting.

I expect that by adding more data, the knowledge issued from this project will allow me to study and conceive a new interaction between the deaf auditor and the “blind spectator” with music as a medium, where its performance will not take place in time, but in space, as in Plastic Extension of Music.

10.8 Towards a multisensory catalogue

The preliminary results generated by these initial tests will be used for creating the future multisensory music language conceived for the hearing-impaired and the deaf. The future data will be handled from a critical view to allow a differentiation between participants according to degree of impairment, experiences, and other factors, towards the creation of a multisensory catalogue that will contain the musical elements (notes, intervals, rhythm, dynamics, and timbre) that exist on a western music score, transcribed into tactile-visual-odour objects or elements.

- Intervals associated with: temperature, atmospheric conditions, density, colour, scent, form and fabrics

- Single notes (including quarter-tones) associated with: shapes, geometrical figures, weight

- Timbre of the guitar associated with: pliableness, texture and fabrics

- Rhythm associated with: pliableness and geometrical figures

- Dynamics associated with: shapes, texture, fabrics and weight

My objective with these associations in the hypothetical catalogue that I wish to create is that it would be possible to establish new methods of music transcription for the communities of the deaf and hearing impaired. But also, consequently, infinite ways to display or represent music for the rest of society with hybrid-designed objects. This would open new paths in score-based music performance and in artistic research.

This catalogue would not only be a social emancipation tool from the visually and hearing impaired, but also a possible new source for music performance for the future generations of score-based music performers. My hope is that they will be able to imagine innovative and inclusive ways to share and understand music in hybrid sustainable designs and “low tech” languages.

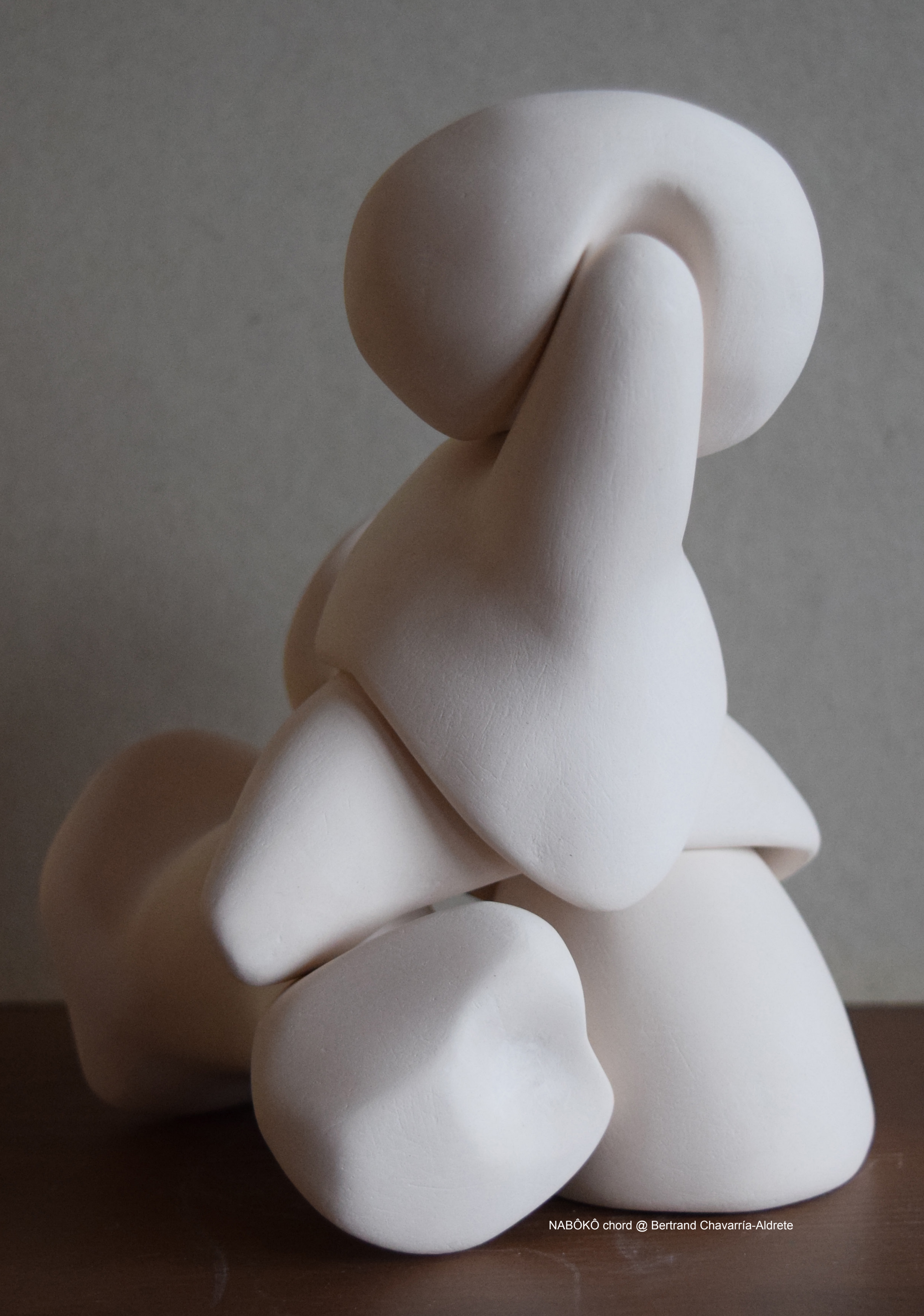
10.9 Figuring out

Coming back to Gustave Doré and his more than 700 etchings of the texts of François Rabelais and considering how the Biblical texts gave us the art of da Vinci, Michelangelo, Perugino, to mention a few, I was captivated to see how sound, in this case my own guitar sound, was able to be imagined, triggering associations, and mutated through the hands and "visions" of the visually impaired and the blind.

This near-to-magical sensation not only emancipated my sound production (notes, intervals, rhythm, dynamics, and timbre) from myself, by observing how the mental image of my sound production was figured out by the association, imagination, or transformation of it, by the participants. But also the emancipation of the participants by figuring out something that has no figure, the liberty of expressing and showing what they "see", and sharing a sensation that belongs to them, a liberty shared with the great artists of the past who figured out images from religion, myths and narratives.

I was very happy to provoke this unique situation where a marginalised sector of society, the blind, were lecturing in complete freedom—sound has no image—the sighted, allowing me to capture a unique knowledge that has a tendency to disappear. This test has a similarity to the religious altarpieces: "a powerful means of transmitting religious messages and doctrines to a largely illiterate audience." (Miguel 2024). In The Kléndinsky Test, the participant becomes a lecturing artist, performing, sharing, and printing their visions for the "illiterate" sighted researcher.

> It's an incredibly exciting perspective where I get a kind of functional role in providing an interpretation of music and sound to the deaf so they can experience something that I take for granted.
>
> Carla Perez de Arce Nowicki
> First participant of the Kléndinsky Test for Radio Sverige
>
> (Sveriges Radio 2022)



NABÔKÔ chord @ Bertrand Chavarría-Aldrete

Chapter 11 - NABÔKÔ

This chapter describes the background, creation and development of the audio-tactile-visual language NABÔKÔ and how this language can become a composition tool, a toy, and a possible new recording format in the form of an interactive book (NABÔÔKÔ).

11.1 Muscle memory as a language

As exposed previously, the performative body of the score-based musician is a cluster of inherited and borrowed knowledge which I call muscle memory (see chapter 9). Plastic Extension of Music came as a tool to detect it, expose it and at the same time help me emancipate from it (see chapter 5.3).

These findings in my research led me to explore the idea of extracting, using and sharing the plasticity of my muscle memory, not as an artwork, but as tactile-visual language that can be used and manipulated by anyone. This concept is not entirely new, a similar practice and phenomenon—for different purposes— is happening with body scanning in Hollywood:

> Twenty years ago, Jet Li was offered a part in "The Matrix Reloaded." It was sure to be a hit. But the martial artist said no. In his words, the producers wanted to "record and copy all of my moves into a digital library." To Li, this would do more than copy his body; it would capture his trade. "I've been training my entire life," he said. "And we martial artists could only grow older. Yet they could own [my moves] as intellectual property forever."
>
> (Bedoya, 2023)

My objective was to extract and emancipate my muscle memory from me and my body, by imprinting the plasticity of my sound production and mental image into clay. My aim was to create an audio-tactile-visual language, something similar to an alphabet of the quarter-tone scale (the musical scale divided into 24 instead of 12), made of 24 different figures that can be shared and able to create a possible interaction to develop new potential knowledge through its manipulation from a multidisciplinary perspective.

My creative process started with experimentation and the study of historical references. Working with the imprint of the gesture's plasticity in order to unveil the negative spaces of my hand that resulted in the audio-tactile-visual language that I named NABÔKÔ.

11.2 NABÔKÔ as a language

> …the Reformation forced many artists who had formerly worked for the Church 'to shift to the production of goods to satisfy the demand for craftwork, and to produce smaller art objects for domestic use, instead of large-scale works.' This led to a huge upsurge in the production of the tiny objects that filled toy cupboards and gave such pleasure to children, as well as the collections of artworks and curiosities that gave such pleasure to adults. It was this that created the fame of Nuremberg and led to the hitherto unshaken dominance of German toys on the world market.
>
> (Benjamin 2015. p. 19 Translation by BCA)

Before I was able to run The Klendinsky test (see chapter 10) with the participants, I did the test with myself to measure the time and effort of shaping the clay figures. At that time I was a resident at the Civitella Ranieri Foundation in Italy, where I had access to white clay and an oven to cook the clay, so I started by shaping the 7 basic notes: C, D, E, F, G, A, and B then the rest of the semi-tones and finally ended by adding also the quarter-tones. Finally, I never had the time to create the intervals, which turned out to be a positive outcome, since for the future tests that were done with the participants in 2022 and 2023, I had no previous visual reference of the intervals, that could, in a very low impact and highly improbable, biased the results of the participants.

The first ideas to create the figures came from the etchings and drawings that we find in guitar methods (G. Sanz, 1697, F. Sor, 1832) where the authors, explain with words and images how the hand should be placed and the respective movement of the fingers.

> The thumb being shorter than the fingers, and having the power of acting easily in the opposite direction, it might be brought to meet them, and offer a point of support for the neck, the profile of which section is represented by the segment **A**, **Fig 3**, so that the neck might not yield to the pressure of the fingers. These fingers falling perpendicularly on the strings, the position of the forefinger **F** gives that direction to the extreme joints. By unbending this finger, it can reach the point **B**. By placing the extremity of the thumb **M** on the point **N**, that of the forefinger can be placed on **C**, without contracting the joints in such a manner as if the neck were supported at the point **O**; and, finally, the thumb can be used, as it is on the pianoforte, as a pivot on which the whole hand changes its position, and which serves as a guide in returning to the position quitted.
>
> (Sor 1832, p. 2)

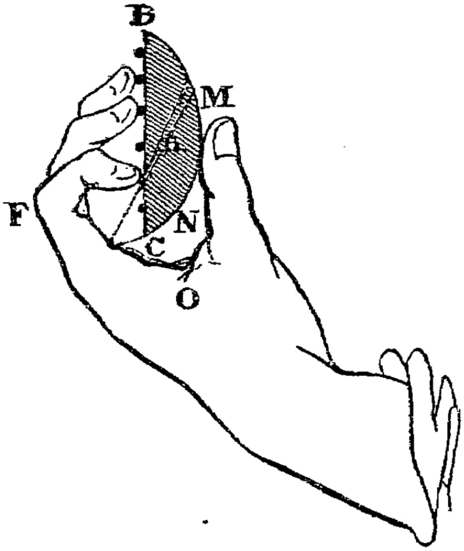


FIG. 3.

Image from *Method for the guitar* by Fernando Sor (1832)
© Public Domain

My interest was not only in the form of the fingers to design the figures, but on the imprinted trace that the fingers and the hand could create inside a **plastic negative space** (i.e. the interior of the hand) at the precise instance of attacking the note. **Imprinting** that plastic negative space on the clay.

Two examples of images from Fernando Sor's method and their plastic negative space:

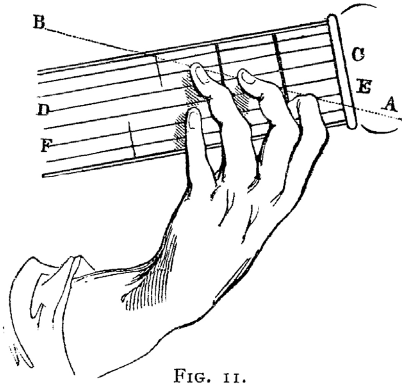


FIG. II.

Image from *Method for the guitar* by Fernando Sor (1832)
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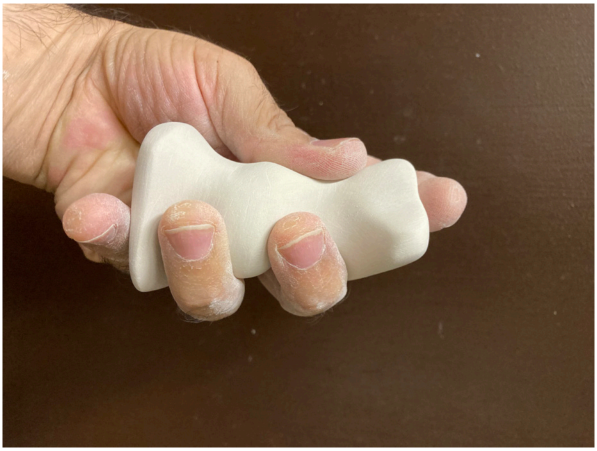

Negative space
© Bertrand Chavarria-Aldrete

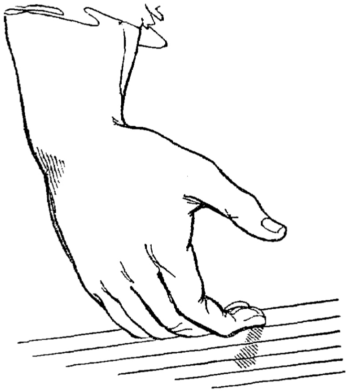

FIG. 12.

Image from *Method for the guitar* by Fernando Sor (1832)
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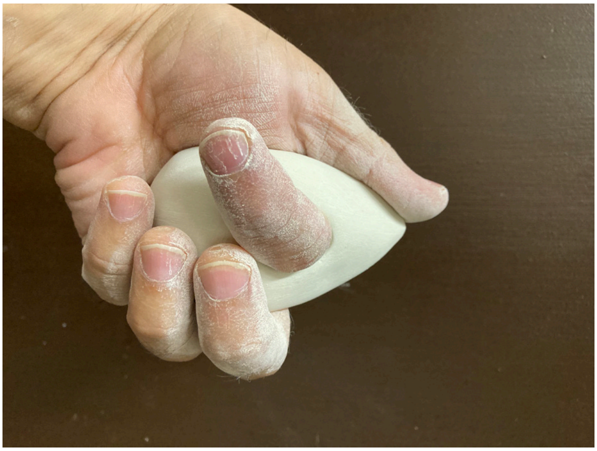


Negative space
© Bertrand Chavarria-Aldrete

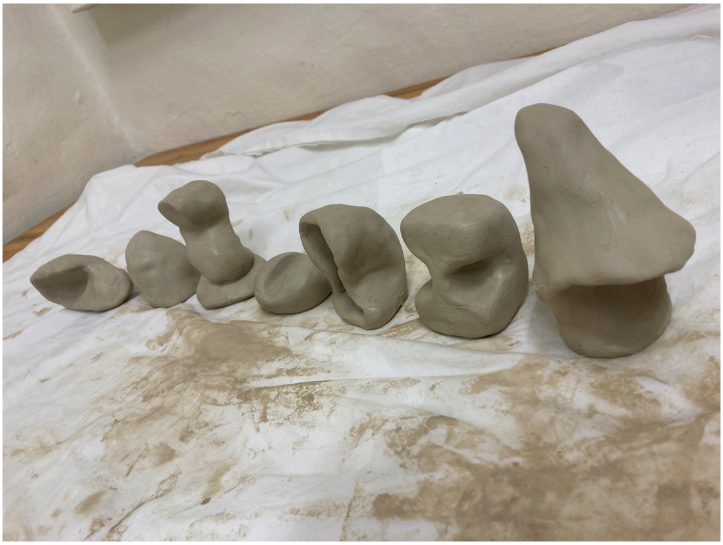
The figures were conceptualised considering the negative space of both hands, but also including:

- My own natural finger position and pitch of the note on the guitar
- Angle degree between the finger and the fingerboard of the note on the guitar
- Preferred angle of attack on the right hand to pluck the note
- Bending movement (fixed in time) to attain the quarter-tones
- Chord position (Ex: F#, I would choose the F# minor position of the left hand)

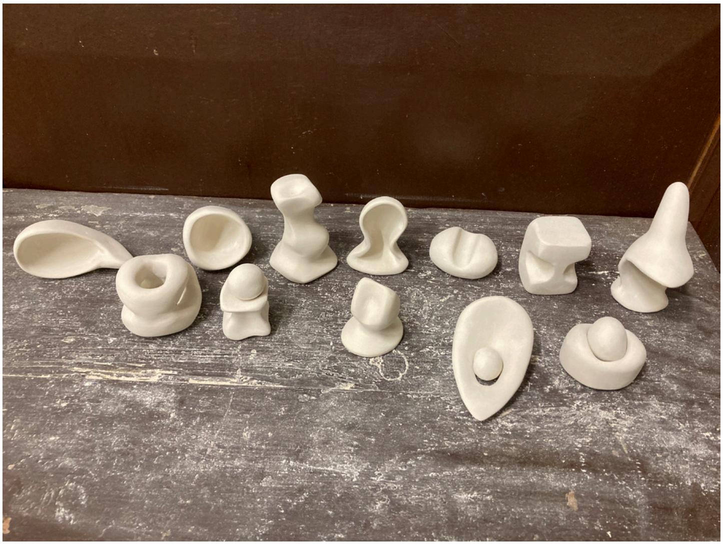
Once the figures were roughly shaped, the following process of refining the forms with tools (double end wire, chisel, hard sand paper) came out from synaesthesia, visual aesthetics and the possibility of all being able to interact together, so the carving and refining process was mainly to create:

- More defined curves
- Wider negative spaces
- Refining the lines
- Taking off the mass and weight
- Reshaping the figure

After this final process was done, the figures were successfully cooked without cracks nor wholes and were polished with sand paper of 500, 1200 and finally 2000 (The higher grit number is equivalent to a finer abrasive).

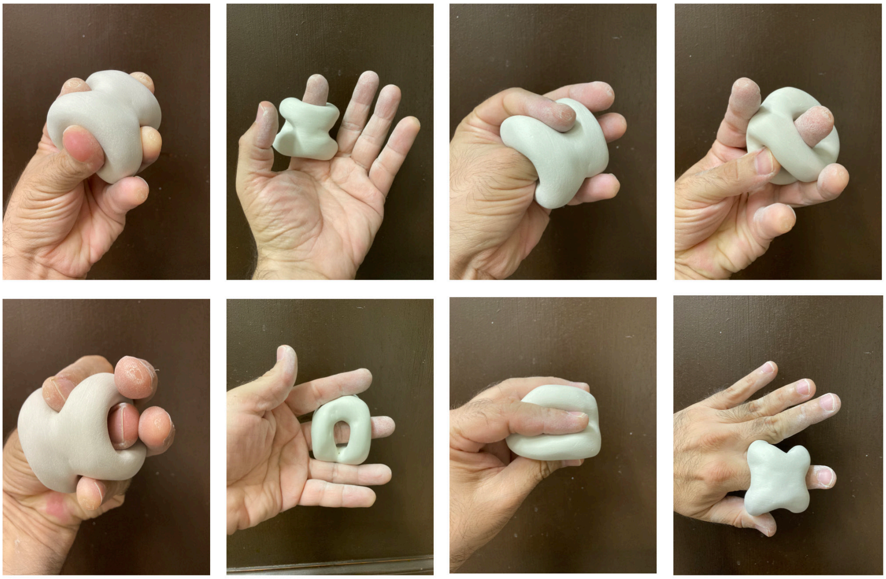


Notes in NABÔKÔ language (from letf to right: C, D, E, G, F, A, B)
© Bertrand Chavarria-Aldrete



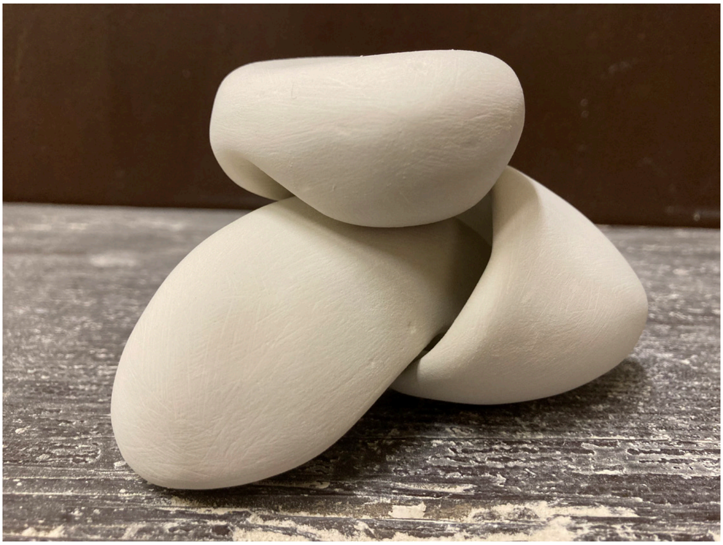
Notes in NABÔKÔ language (chromatic scale -left to right- from C to B)
© Bertrand Chavarria-Aldrete

Once the figures were possible to manipulate, I started to explore a kind of language with my hands, by trying out the many different positions each figure could take interacting with my hand. I also explored if this signing could be translated into different timbres and registers for every note of the scale:

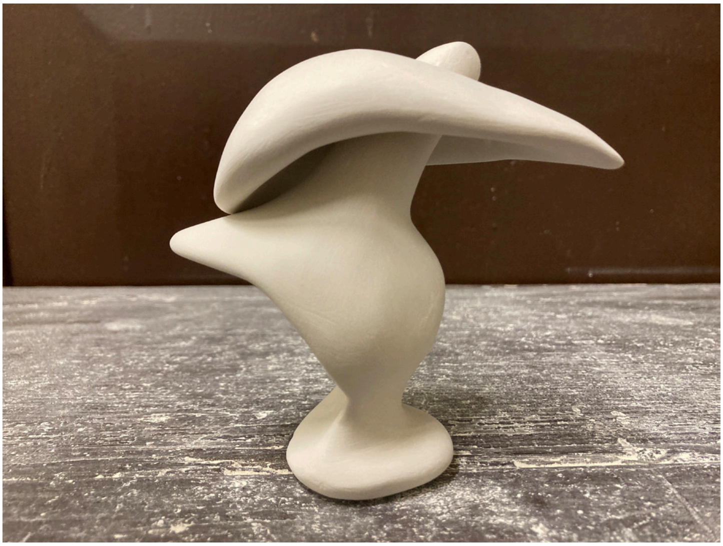


Exploration with the note A
© Bertrand Chavarria-Aldrete

I then started to assemble the figures, not by their pitch but by their forms:

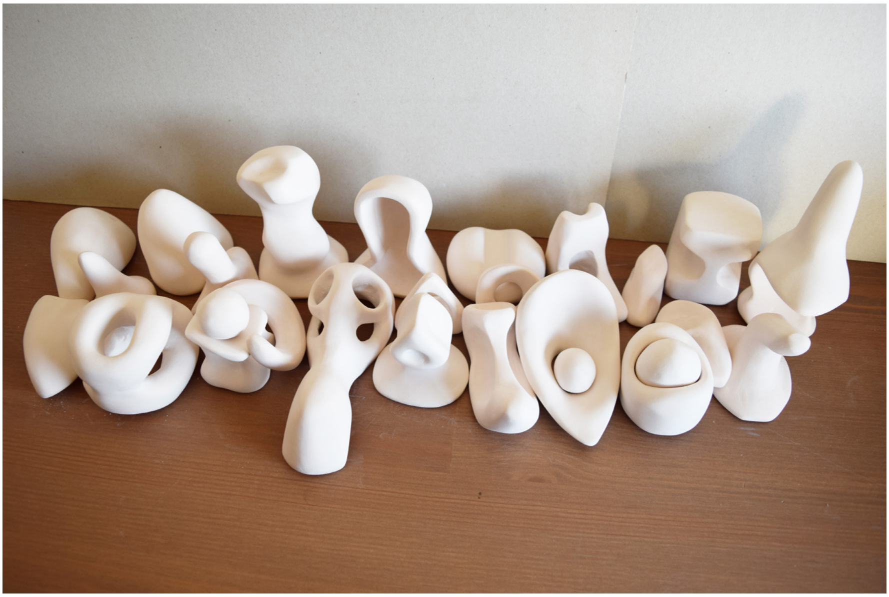


NABÔKÔ chord C, D & G
© Bertrand Chavarria-Aldrete



NABÔKÔ chord G# & B
© Bertrand Chavarria-Aldrete

During this process, I realized that with this language I could create different harmonies from visual, weight-related and formal perspectives. By assembling these negative spaces as physical mass one to another, I could create my own harmonic field in my composition system, exactly like I was doing my poetry, although this time with my hands instead of with my enunciation. This hybridation of my hands and mouth meant an expansion of my composition resources, that all issue from my body. I immediately decided to work with the quarter-tones in order to create a wider spectrum closer to my own compositional language.

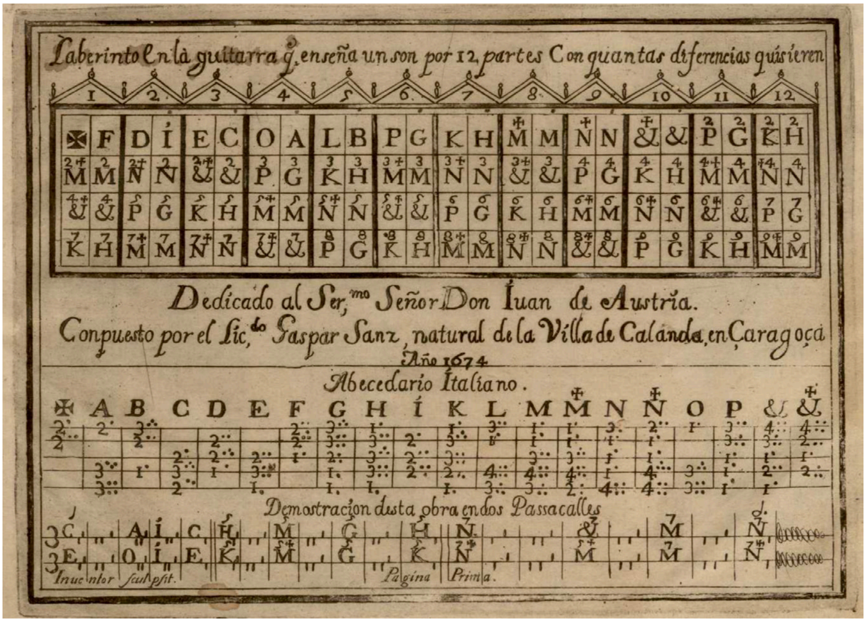


Complete chromatic quarter-tone scale in NABÔKÔ
© Bertrand Chavarria-Aldrete

At this moment I saw the similarities with Gaspar Sanz's (1640-1710) "Abecedario" (Alphabet) of guitar positions in his treaty "Instrucción de música sobre la guitarra española" from 1697:

> Once you have learned how to string, tune, and fret, you will have a good memory of the alphabet, which you will find encoded beneath the Labyrinth. It contains only twenty points, which are sufficient to form all the perfect consonances of the guitar. With these twenty letters alone, you will easily understand the entire structure of the first page; and thus the number of letters is understood.

(Sanz 1697, p. 3 Trans. BCA)


Laberinto En là guitarra q. enseña un son por 12 partes Con quantas diferencias quisieren
1 2 3 4 5 6 7 8 9 10 11 12
Dedicado al Ser.mo Señor Don Iuan de Austria.
Conpuesto por el Lic.do Gaspar Sanz, natural de la Villa de Calanda, en Çaragoça
Año 1674
Abecedario Italiano.
A B C D E F G H Í K L M M N Ñ O P & &
Demostracion desta obra en dos Passacalles
Inuc ntor sculpsit.
Pagina Prima.

"Labyrinth" & "Alphabet" (1697) by Gaspar Sanz
© Biblioteca Nacional de España

I decided to make a first attempt at a composition where I would use both my enunciation and this new plastic language.

11.3 NABÔKÔ as a composition tool: *[côrīo]•étilá*

This piece was composed for guitar, sirimcho*, 2 e-bows, 1 stones and the D note in NABÔKÔ and premiered at the Civitella-Ranieri Foundation, in Italy in 2021. For this piece I started by using my enunciation imprinted in this poem:

[côrīobė'[N•Do1/4~]
Étilá nara nomi [p]'so
Aragava go[s•>] boni
fasori[•]   …bané
Hegari[h] moôno
Yeti koti la
Bru a[t]

[f]'ta li[h] cē rami
Sonalamiña   [ė]
  Beorulima   [o]
Fori[•]
        enilá-étilá

[K] ugūri va]

bah'
né[•]

Hybridating the poem with this initial chord (E 1/4, D 3/4, D & E):

NABÔKÔ chord (E 1/4, D 3/4, D & E)
© Bertrand Chavarria-Aldrete

---

* Sirimcho is a plucked string instrument from the region of Michoacán, Mexico. The instrument has six strings, four single strings and 1 double string.

In order to explore this microtonal cluster chord and my enunciation I translated the pitches into the tuning of the guitar and the sirimcho:

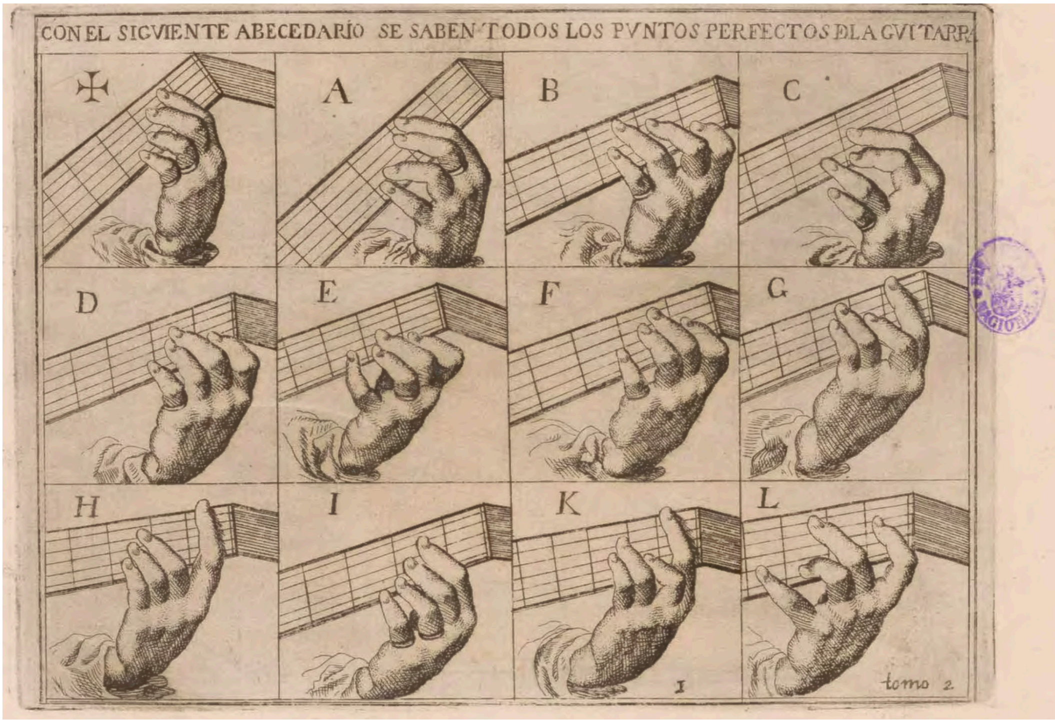
Guitar: 1 string (D 3/4), 2 string (B), 3 string G#, 4 string (C 1/4), 5 String (low E 1/4), 6 string (E)

Sirimcho: 1 string (C 1/4), 2 string (E 1/4), 3 string (B 1/4), 4 string (D 3/4), 5 string (D), 6 string (E)

I also used the specific weight of the D NABÔKÔ figure, in order to change the pitch of a metal string of the sirimcho that is activated with the e-bow.

The composition process of this piece was completely new to me. The tools that I had created (NABÔKÔ and poetry) allowed me to compose this piece in a short period of time. I had the sensation that my body was being transposed directly into the music. Deactivating any historical weight in music composition, my body became an epistemic tool that had the control over the composition. This hybrid, system issued from my body, has become an efficient departure point for all my music making since then.

At this point, I decided that it would be interesting to share NABÔKÔ—not in the way I used it, since it could become a borrowed composition tool like tonality, serialism or any other second-hand composition system—but as a building toy, with inspiration from Arnold Schönberg, who explored games and toys. My idea was that children would freely play with music by manipulating the figures as toys and unconsciously learn music outside the traditional options.


CON EL SIGVIENTE ABECEDARIO SE SABEN TODOS LOS PVNTOS PERFECTOS DLA GVITARRA
✠
A
B
C
D
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1
tomo 2

“Alphabet” (1697) by Gaspar Sanz
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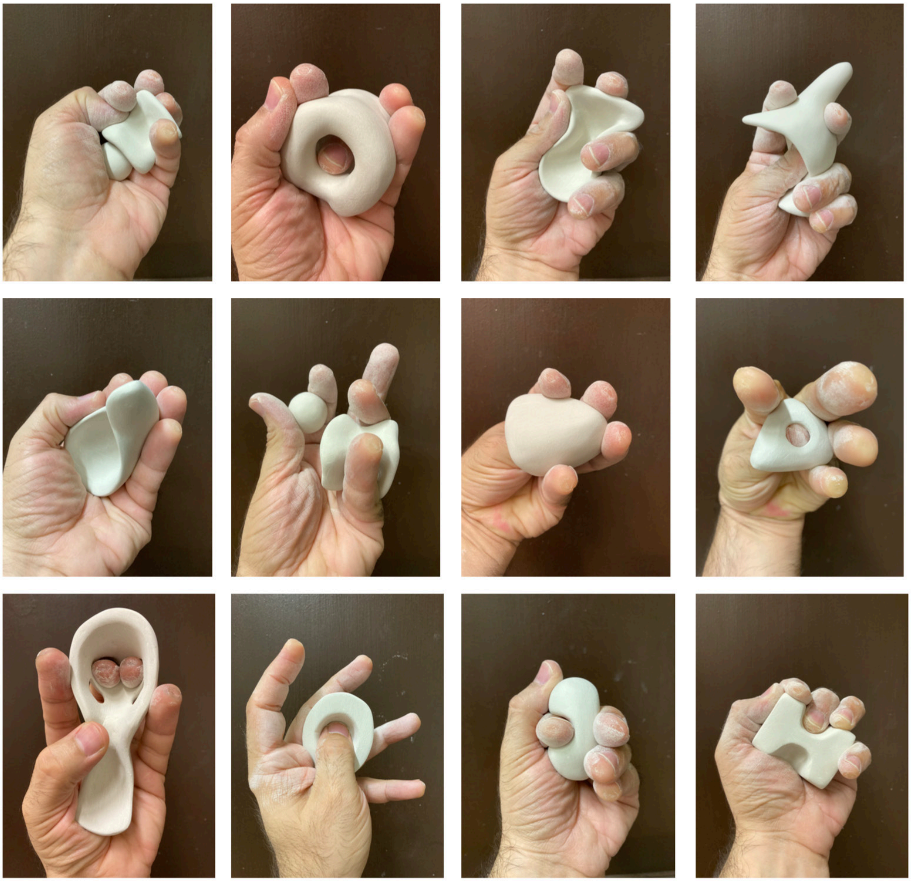

NABÔKÔ figures
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11.4 Sensory balanced toy

> Each sensory modality interacts with the others and if one receives a very intense stimulus, the overall capacity to integrate the others is reduced. For example: a baby 3 months old who is asked to look at several sizes of shiny balls will choose the largest. If we then make the child hear music, he turns away from the big ball to look at a smaller one. The more the intensity of the music increases, the more the baby's gaze is directed towards balls of increasingly smaller size. It therefore appears that young organisms only have an overall capacity to receive sensory stimulation and that they balance the "sensory inputs" so as not to be over-stimulated.
>
> (Busnel & Héron, 2010, p.1401 Translation by BCA)

In the exploration process of how this language could become a toy, I started by searching what kind of toys could be similar to my idea. Montessori has an immense catalogue of sensory toys, there are also touch books, building toys with less geometrical shapes and of course music toys; nevertheless I was not able to see a similar idea, where the music was represented by a shape outside the music notation system. However, a similar idea had been already explored before, like Ernst Florens Friedrich Chladni's (1756-1827) "Chladni plate", an 18th century experiment that unveiled the physical shapes of Herztian controlled waves on a metal plate and Auguste Herbin's (1882-1960) *L'alphabet plastique* (plastic alphabet) which associates each letter with a geometrical figure, a colour and a music note.

I decided to explore the idea of using my NABÔKÔ language for a sensory balanced toy, with an organology that could be shared, reproducible and able to interact with everyone with or without musical training. My focus groups were newborns, children and those with special needs, aiming to create a sensory balanced toy of sight, touch and hearing, where the stimulus are perfectly balanced in each of the 24 figures: visible, touchable and representing each a tuned sound of the microtonal music scale, all independent characteristics but interacting together.

The original design of the figures would be naturally ergonomic, due to the negative spaces of the hand that created the figures, therefore easier to grasp (see Anekar, Bordoni and Pouydebat, Bardo). Apart from the ergonomic qualities, the manipulation would trigger a sense of weight and equilibrium by considering the different densities and shapes of the figures when building or assembling them together.

I imagine also, that playing with the toy would unconsciously become a music performance from a Plastic Extension of Music perspective, a ludic situation open to improvise, play and interact with the imprinted performance gestures issued from the plasticity of the performer: an abstract *action figure* of myself, to recreate, playfully, the Sisyphean task of canonical music performance.

This interaction would be very similar to a musical instrument (all three senses: audio-tactile-visual are also interacting when performing), but here in a complete different system, where music can be fixed in time and space,—as in Plastic Extension of Music— or composed (un)consciously from a new perspective using different and alternative parameters besides sound (visual, tactile, weight, equilibrium, form…) as I did myself. A toy to express and manipulate with sight, touch, hearing and sense of equilibrium all simultaneously.

11.5 An open-ended toy

> …The great law that governs all the rules and rhythms of the world of games: the law of repetition. We know that for the child the soul of the game lies in that, that nothing makes him happier than the *Let's start again!* The dark desire for repetition is no less powerful or less cunning in play than the sexual impulse in love. Not in vain did Freud believe he had discovered in him a "beyond the pleasure principle." In fact, every profound experience insatiably seeks, until the end, repetition and return, seeking the reestablishment of the primitive situation in which it originated.
>
> (Benjamin 2015, p. 31 Translation by BCA)

For guitarists, their first contact with the instrument is looking at the fingerboard as an open-ended game, a surface in which we are able to play and improvise a variety of sounds from specific notes to extended techniques. We sing, pluck the strings in different ways, tune or detune the guitar in series of actions and movements that generate sounds. We organise these sound consequences, create or recreate tunes or melodies, perform physical gestures mirrored or borrowed from other guitarists, and reproduce mental images of music performances imprinted in our brains. We then learn the rules, techniques and musical language to perform the instrument the way it is meant to be according to the long tradition of instrumental performance.

My research Plastic Extension of Music as a music performance is precisely aiming for the opposite.

My main reason for exploring the use of the NABÔKÔ language in a toy was the creative potential that can come from the manipulation of different persons and the particular effect and use it could have in the special needs communities. The hearing impaired would "hear" the music they manipulate with the shapes, and visually impaired would "visualise" by touching the sound they compose.

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The manipulation of the NABÔKÔ language as a future building toy is aiming to:

- Emancipate from the mirrored gestures of music performance
- Emancipate from music instrumental technique
- Create a new ground for the mental images associated with sound and tuned sound
- Emancipate from music harmony rules
- Emancipate from brick layering
- Develop creativity from a multidisciplinary and sensory balanced perspective
- Develop a potential knowledge in multidisciplinary practices through a sensory-balanced manipulation

The result was an open-ended toy, similar to a musical instrument in many respects, but with an entirely new organology concerning the audio-tactile-visual elements.

> Open-ended play occurs when kids play independently by examining and manipulating materials without a specific goal, set of instructions, or adult direction. Unlike structured play, which typically involves an adult establishing predetermined rules and objectives, open-ended play has no clear endpoint or predetermined outcomes.
>
> (Meck pre-K, n.d.)

11.6 A musical toy for audio-tactile-visual performances

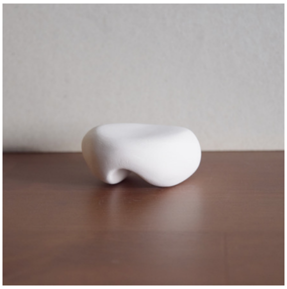
A musical instrument has the richness and possibility to perform the same note in different registers and create melodies and chords with these notes.

I knew that by having only 24 figures in the toy, the register would be limited to one octave and the represented figures would become a chord. So I first started to consider replacing register of the note by the position/display of the figures in space (see fig. 1). This would allow infinite different placings based on their equilibrium, weight and form. Once a figure (the note) would interact with another one, the possibilities and combinations of the positions between the figures become exponential. If three or more, then the possibilities and perspectives become countless (see fig. 2).

When building a structure, that is, a representation of a musical chord, in this toy, the child would be able to touch and see the tuned sound and manipulate the performance of a note from a visual-tactile-weight-form perspective. The outcome would be a sensory balanced musical gesture, an expression in space that is similar to tactile sign (deaf-blind) languages but expressed through a toy.

The infinite music performances made with this toy can be fixed in time to explore the multiple perspectives and positions of the single notes and chords in space, by using the alternative parameters of the figures creates new ways to improvise with audio-tactile-visual cognitive skills. This might mean replacing a tuned sound by a physical figure or composing a tuned sound by sculpting with the figures.

Fig. 1



G note in NABÔKÔ
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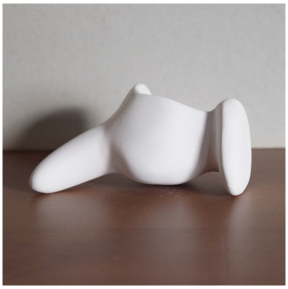

B note in NABÔKÔ
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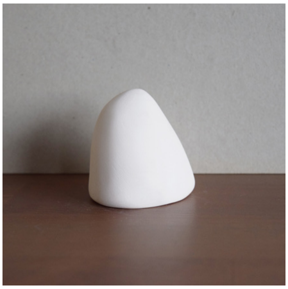

D note in NABÔKÔ
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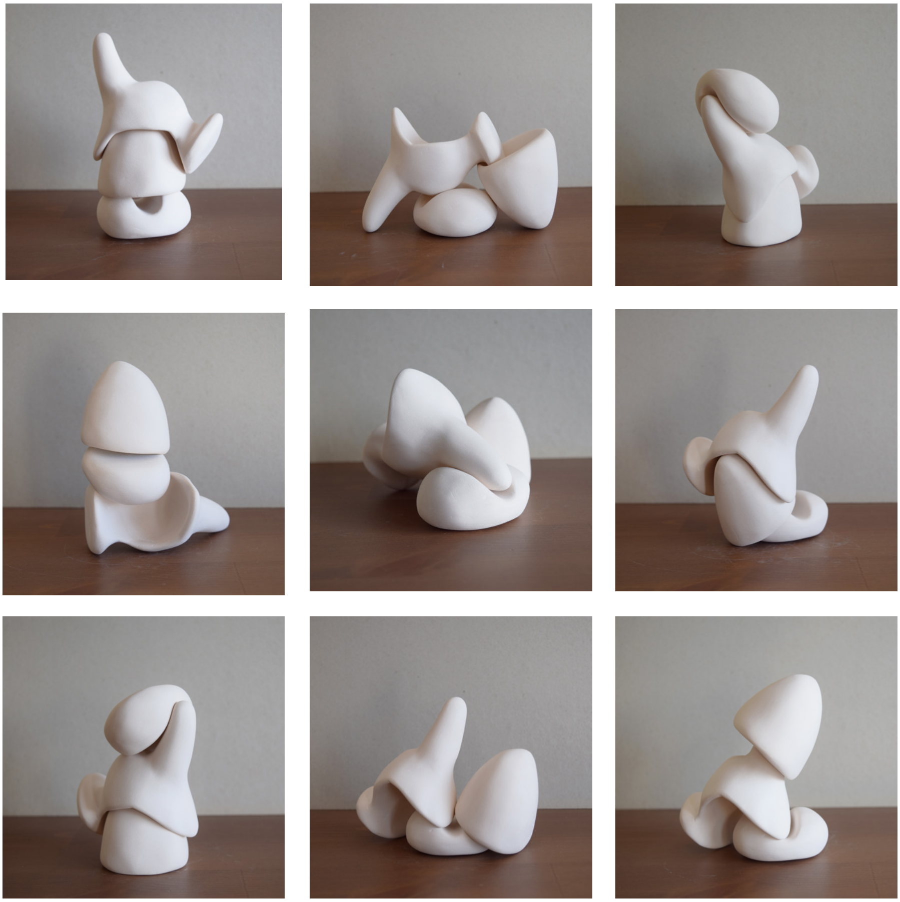
Fig. 2



9 Random positions and perspectives of the G Major chord
© Bertrand Chavarría-Aldrete

11.7 Sustainable toy

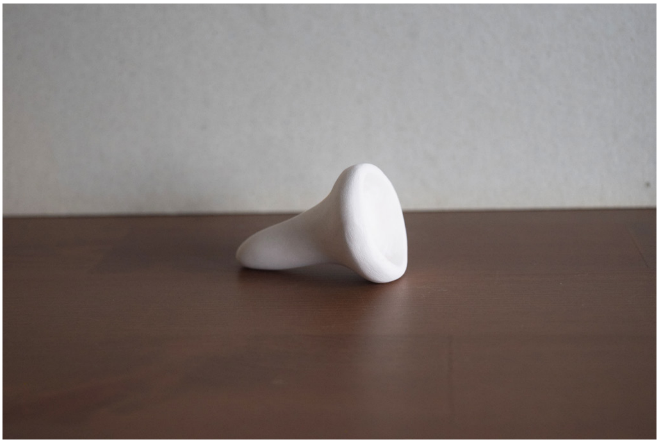
The ideas were in a way set and I started talking with friends and colleagues about the idea of creating a toy with the characteristics that I have mentioned. Two questions often occurred: how would I make the figures sound, and what material would I choose to reproduce my hand-made clay sculptures?

My first idea was to made them out of wood and develop a new technology able to scan the figure that will reproduce the sound. The technology would not be very much of a problem since "machine learning" is always an option to train a software to detect the figures—again similar to the Bergson's Holographic Theory of The Mind, where the brain is able to reconstruct an object through a glimpse or portion, but here with a scanning software (see Robbins 2006)— and reproduce the notes. However, the idea of reproducing the figures in wood could become a huge economical investment and would require wood (probably pinewood of timber wood). So, after months of research I decided to take a different path, one that turn out as even much more interesting.

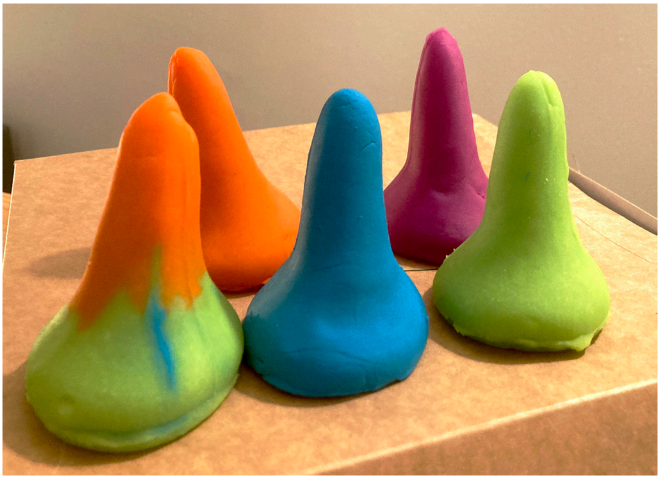
I followed the concept of modelling clay toys, where each figure would have its own mould. This feature would allow the possibility to reproduce infinite figures (music notes) and use any material (from dirt, sand, clay, ice) or colour, giving a unique identity to each figure and the sculpture. The lesson from *Lima* (see chapter 11.13.1) and the first Folio of the *Taiyin Daquanji* (see chapter 11.13) made an effect to point, once again, the importance of creating our own tools and the richness inside these experiences, to become an essential aspect in this future toy.

With this variety of materials for creating figures, and thanks to the persons involved in the future prototype software (Yann Coppier and Carl Emil Carlsen), the user can build a unique sculpture that will be scanned by the software. The software will analyse the outline and singularity of the sculpture and extract qualities like simplicity/complexity, roundness/sharpness, proportions and colours. With these parameters, users can create interactive visual soundscapes and music instruments with their own hands and material. Making music from this kind of multisensory approach may result in an audiovisual hybridity through the mediation between physical and digital worlds.

I understood something that became extremely important; by using any material to build the figures I would enable a new and unique situation, where the sustainability is fully considered as a functional parameter for aesthetic quality.



C 3/4 tone note in NABÔKÔ
© Bertrand Chavarría-Aldrete



C 3/4 note in NABÔKÔ made with modelling clay
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11.8 Creating personal spaces

Children playing with the original clay NABÔKÔ figures
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In 2022, I had the chance to ask some friends to bring their 8 and 9 years old daughters to test the original NABÔKÔ clay figures and see their reactions.

I did not describe the concept of NABÔKÔ or what to do with the figures. The children received the 24 figures to freely play and interact with without any rules. I was interested about the time they spent figuring out and then creating and developing stories and associations about each figure and they way they could be assembled constantly leading towards open-ended constructions and narratives. Exactly what Sensory play does, but in this case only through the interaction with the figures, without the sound and without the moulds:

> Sensory play plays a significant role in the development of language skills in children. As they explore different textures, shapes, and objects, they learn to describe their experiences and communicate emotions, wants, and needs using more descriptive words. This enhanced vocabulary and communication ability are valuable for their overall language development.
>
> (Moller, 2024)

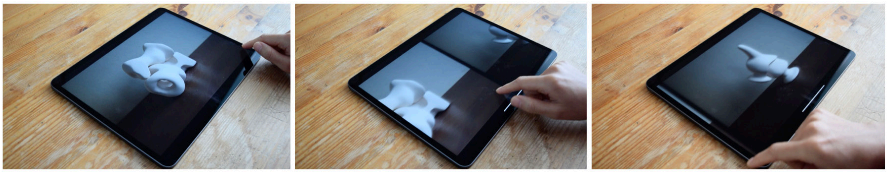
For the children, this became an experience "better than Lego" (sic) for relating to each figure and for creating personal spaces in their own constructions. They invited their parents to participate in the narratives, which led to a collective, open-ended experience where four minds looked at what the figures meant and how they could be assembled. In a way, the shapes of the NABÔKÔ language are so subjective that they can have any interpretation and can tell us how the minds of the users are working, very similar to the Rorschach test:

> The Rorschach provides us with a unique way to observe how people construct a mental image from what is basically a meaningless stimulus: a blot of ink. Because humans are meaning-making creatures, we have a tendency to create some sort of image or story out of those inkblots, just as we do when we lie in a meadow on a beautiful summer day and see images in the clouds floating high above. What people make out of these blots can tell us a lot about how their minds work.
>
> (Van der Kolk 2014, p. 19)

The way figures could be created in the future moulds and manipulated by each person may eventually unfold into giving information about the person's abilities or preferences. A person might opt to build from a sound perspective instead of from a visual one and vice-versa, or incline towards a tactile sensation of the figures. Certain manipulations on the figures might reveal links between the users and unveil personality aspects that are hidden or simply won't emerge with other tools/toys or tests.

My impression is that the children who experienced this first session developed narratives through the non-geometrical form of the figures, in an open-ended interpretation that liberated and emancipated them from common representative images such as building blocks or similar building toys. In my view, I believe that these open-ended qualities allowed the children to create personal spaces to express without any references (besides a hypothetical sound consequence that was not mentioned and didn't took place in the session), aspects of their inner personality that may not be able to be expressed with other toys, interactions, tools or event therapies.

11.9 NABÔÔKÔ - NABÔKÔ as a new recording approach



Prototype of NABÔÔKÔ
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After exploring the idea of a toy with the NABÔKÔ language, my wish was to give again a different use, by exploring a new recording approach based on the interactive ebook concept, that is aimed to change the way I will distribute my future music performances.

In the XX century thanks to the recording industries, musicians were able to record their performances, later, in the middle of the XX century, groups like “The Beatles” started to integrate more creative enhancement elements outside the pure performance of their voices and instruments (*Sgt. Pepper’s Lonely Hearts Club Band* album by The Beatles), a new concept that started a whole new era of “Albums” (see chapter 10.8). Suddenly, “Napster” and all the following “sharing” platforms appeared on internet and recording industries started to fall along with their artists. Later, YouTube and Spotify among many others, became the legal platforms for artists to share their music and performances, generating an insignificant income to the artists and of course, social media to simply share our performances, generating content for free (see chapter 3.1).

Today, Artificial Intelligence is creating “new music” based on the entire database available on internet. In 2024, companies like Universal started legal actions against AI companies, since these softwares are using catalogues from artists that belong to companies like Universal to generate their content (Sherman 2024). Why did Universal took action? Record companies want to make their own AI catalogue of “new music” generated with their artists database (Wilkes 2024), soon we’ll be able to hear 100% original new “official” AI albums from Jimi Hendrix, The Beatles, Maria Callas. So, I decided to think of a new recording format that can stand out on its own.

I started to use the NABÔKÔ figures to create Plastic Extensions for some music pieces that I was performing. It became a very interesting exercise to transcribe, observe my music performance but with the figures and take a photo to register each musical action in the pieces, giving me a complete new different mental image of the gestures of my performance. I saw that by putting them in order in a video respecting the duration indicated in the score I could get a Plastic Extension in the form of a visual transcription of the piece with my NABÔKÔ language/sculptures. When seeing this I imagined the possibility of a series of Plastic Extensions with the transcriptions in NABÔKÔ language that I could share and display a different visual aspect of the music extended/transcribed in this language.

As I started to work on these new Plastic Extensions, I saw that this audiovisual transcriptions, would not really bring anything new to the already existing contents in social media nor a complete new object or more interesting than the *Variations et fugue sur La Folie d'Espagne* by Manuel M. Ponce video that I did before (Chapter 8.9); finally, I was simply adding a visual frame to each musical action of a piece that would be in playback from the beginning until the end. This was aesthetically very eye catching, but not in any way revolutionary.

I started to imagine a way to manipulate these frames and interact with them like an ebook, and slide them. This would allow the possibility to go back and forth and create for the first time an intuitive interactive anachronism (see chapter 3.2) of the playback inside the recording; an aspect that would be only possible thanks to the recent technology developed on tactile screens. Thinking about these new possibilities, I came with the idea of imagining a new format to record and perform music in the form an audiovisual interactive ebook that allows the user to discover, play and interact with the recording on a pad or a smartphone.

This original format allows me to imagine and create new options and perspectives inside the recorded music performance: playing back and forth, stopping time to interact with the isolated event and breaking the chronological nature and pace of the recorded piece by simply isolating and deconstructing each event with fully interactive audiovisual frames. This corresponds to how music performers work and rehearse a musical piece with the instrument, but here open for all people in any condition or knowledge.

This hypothetical recording format would become a Plastic Extension visually represented and deconstructed in NABÔKÔ language. The performance is segmented by these audiovisual events inviting the user to play, control, interact, co-create, improvise with, recreate and re-perform the original performance and the music piece, by simply following the tradition of book reading, sliding the pages/events in the performance and being able to explore them and interact with each.

11.10 What would be new in NABÔÔKÔ?

- Interactive format

This interactive format for recorded music has the objective to establish a new way to share music and connect with different audiences. This new format has the ambition to connect with the regular audience of classical music but also create new audiences. The simplicity and intuitive interaction that provides the possibilities to improvise with each fragment and event of the recorded music allows audiences of all ages to play and interact with the performer and the music. An audiovisual "action figure" of music performance, open for intuitive and musically trained users of all ages.

- Learning from an audiovisual perspective

Children can learn music at school, in private and also on social media platforms, I had the chance to experience all these possibilities as a student and as a teacher.

My objective is to add music learning features inside these new recordings, by using and interacting with this audiovisual language, exercises that will associate the figures with their sounds (including the quarter-tones), allowing children and adults to learn music and intonation from the alternative visual perspective of the NABÔKÔ language.

- Audiovisual creativity

Besides all the possibilities to interact with each action in the recording, this new ebook, has the possibility to input and record music. This feature will allow any person to record themselves with their voice or instrument and have the visual display of the figures on the screen, allowing to virtually build, create, and interact with their figures and sounds.

11.11 Action-figure

I guess that NABÔKÔ as a toy can be traced back my childhood. I always made hybrid crossover worlds with different materials and hated geometrical figures; I had my Lego period, but I always added more organic shapes or combined them with other toys or construction kits and played with them to give and infuse life to those worlds and figures.

The idea of this toy is a continuation of that childhood sensation; these figures for me they are alive, since they encapsulate and carry looped fragments of my life. The figures can be scanned to reproduce those fragments of my life, similar to my father's theory on the memory of the material, where every object or material is impregnated by information (see chapter 5.7). He thought there could be a way to read/scan any object and extract recorded images and sound from them with a technology device that could decode those objects. NABÔKÔ is the object, the software I wish to develop, the technology device to decode the object.

NABÔKÔ came as a materialisation of the concept of Plastic Extension of Music into a tool and a complete update of my performative mental image. I was able to create my own music language with a different signing, associated to the time travelling concept of tablature (see chapter 5.5).

As in Plastic Extension of Music, I was able to observe myself inside this more defined and precise language that allows me to transcribe pitch in space. It is inside this language, that music performance takes place in a different form by attributing a shape, touch, mass, weight, colour and a new intervention to the performance.

We must not forget the origins of the word *performance*, the PIE root of *per* (forward) and Latin *forma* (form, contour, figure, shape, appearance). The muscle memory that I imprinted in the clay figures is the performance of the plasticity that enables my sound production on the guitar, therefore, a compendium of the gestures that I use to play those notes, a deconstructed action-figure of myself that anybody can use, play and interact with. This tool emancipated at the same time my mental image as a performer, being constantly updated—therefore non-perpetual—by the language and its manipulation, along the many future appliances it can have, all this without my direct intervention.

Chapter 12 - Conclusions

12.1 Deindividuation

It is my impression that the canonical practice of music is developing towards economic decadency. Score-based music performers have been surviving and saving music culture on a non-stopping narrower path with the same practice during a long time, and why not?

A live music performance has a particular and irreplaceable energy that displays the animality and individuality of the performer bringing life to a music score in the moment. Musicians and record labels tried to capture this energy in order to share it beyond live performance. This ambition and belief in the wonders of technology took place at the beginning of the 20th century when performers took the bait of distribution, and has provoked the unbalanced situation we live in today.

> If every possible audience has records of everything he ever wants to hear, or has it broadcast, there is no possible audience for the performer. There will, of course, be no concerts. Why should people buy dear tickets, turn out and sit in uncomfortable seats, with train journeys, and general waste of time, if they can get what they want at home? As there need be only one or two instrumentalists of each kind, and one orchestra to make records, there will be no proper competition, and playing will degenerate…Machine-pianos, graphophones and broadcasting do not create musicians. The sounds they make are not really music; there is some essential completely absent; they are the mere ghost of music.
>
> (Scholes 1926, p. 25-26)

The current socioeconomic situation in music performance—spotted by Percy Scholes already in 1926—is not easy for our generation, and, it seems, won't be easier for future generations (mine and past generations were always being accused by our parents and grandparents of "having it too easy" or phrases like "back in my time we had to…" today I'm afraid the future looks much more difficult than today). As described throughout this thesis, the obsession with progress and perfectionism through second-hand knowledge demanded by the current socioeconomic conditions in our domain, means a slow death of the *Dasein* towards the deindividuation of the score-based music performer.

> Deindividuation is a form of social influence on an individual's behaviour such that the individual engages in unusual or non-normal behaviour while in a group setting. Why? Because in these group settings, the individual no longer sees themselves as an individual anymore, disinhibiting their behaviour and personal restraint.
>
> (JoVE, 2020)

It is through all the present and available forms of survival and employment in music performance that a new normalisation through the deindividuation of the music performer has emerged lately. This means a process of adaptation of the individual into becoming a music performer who may survive through employment in orchestras, ensembles, academia, solo careers and even winning a competition. These survival methods can only be reached with the inherited and borrowed knowledge that lives inside the muscle memory of music performers, a muscle memory that allows today's score-based music performers to become efficient and performative in these jobs.

But a job is not work. These available jobs are veiled vessels of today's liberal capitalism, where even the meritocracy of music competitions and "winner" status has vanished, and the individual expression as an artistic work has decayed from work into employment:

> Work is not employment at all. Employment is what is sanctioned by a salary since Ford, Roosevelt and Keynes in particular, such that it has made it possible to distribute purchasing power. Work is what we use to cultivate knowledge, whatever it may be, by accomplishing something.
>
> (Stiegler 2015, p. 34, Trans BCA)

By acknowledging this situation, I decided to search and propose these alternatives "to cultivate knowledge" (Stiegler 2015, p. 34) for an alternative know-how of music performance. I did this because I love guitar music and all kinds of music performance, but at the same time I sadly see how my field —the performance of Western classical and contemporary music—is slowly vanishing. These proposed alternatives are ideas and proposals for future generations to keep score-based music performance alive, but differently. We cannot continue perpetuating the same borrowed contents and gestures. You, the future musician, need to find different ways to interpret music, otherwise everything we have inherited and built will gradually disappear from the audience in the vast sea of music distribution.

We should never forget that we are communicators, if we use the same channel of communication, which is canonical music performance, our messages become a cacophony of the living and the dead passing through a bottleneck. If we want to improve the communication of the music we love and perform, our formats and the way we distribute our messages need to radically change.

12.2 The *Dasein* of the performer

With Plastic Extension of Music, I tried to open the formats of music performance by transposing the parameters of canonical music performance into different media. This allowed me to explore, find and create different means and gestures for communicating music performance.

At the same time, I saw how Plastic Extension of Music enables the performer to extend his/her practice into a different "stage" and perform music differently, hereby awakening the Dasein towards a (re)creation of new communication channels with her/his audience. The Plastic Extension of Music, which resides in the simple poeitical intervention of "figuring out" how to transfer/imprint the plasticity of the canonical music performance into space, is my contribution to the future performance of score-based music. A contribution that I wish can become a common practice for updating our history from a creative criticism perspective, while at the same time opening new paths to continue growing in our field without "cancelling the future" with the perpetuation of second-hand gestures and borrowed knowledge.

I believe that this new transductive condition added to the music performer inside Plastic Extension of Music is the first step for triggering an emancipation process. Hopefully it might also be a way to update what music performance could be, taking place in different art forms and on different stages.

In a way I understood that Plastic Extension of Music is not so far from our common life. As human beings, we are constantly figuring out what we hear, and constantly translating sensations and expressing feelings into words, so I believe that Plastic Extension/Expression is a latent human condition, it simply needs to be activated.

> According to Malabou, plasticity is becoming the new "motor scheme" of our time. Returning to Kant, Malabou follows the meaning he gave to scheme as "procédé general de l'imagination pour procurer à un concept son image" (Kant cited in Malabou, 2000, p. 209). In other words, a motor scheme is more than a metaphor, more than a notion, more than a concept; it is one of the inescapable means through which we think, understand, and model the world. Malabou's bold claim is therefore that in place of Derrida's attention to writing, "plasticity gradually asserted itself as the style of an era" (Malabou, 2005, trans., p. 1).
>
> (Shread 2011, p. 129)

For centuries, we were taught that canonical music performance was the definitive and unique way to render a music score. I strongly disagree. What I do propose and insist here, is that You, the future musician, should do it Yourself alone and explore all Your means to express and communicate widely what You wish the audience to see and hear, make visible Your unique relation and interpretation of the score. Don’t borrow second-hand knowledge, don’t outsource neither your critical nor your creative view with collaborations. Emancipate yourself and create your own path (be there: *Dasein*); I promise you, my dear friend, that it will be much more interesting.

- etymology (n.)

late 14c., *ethimolegia* “facts of the origin and development of a word,” from Old French *etimologie*, *ethimologie* (14c., Modern French étymologie), from Latin *etymologia*, from Greek *etymologia* “analysis of a word to find its true origin,” properly “study of the true sense (of a word),” with *-logia* “study of, a speaking of” + *etymon* “true sense, original meaning,” neuter of *etymos* “true, real, actual,” related to *eteos* “true,” which perhaps is cognate with Sanskrit *satyah*, Gothic *sunjis*, Old English *soð* “true,” from a PIE *set-* “be stable.” Latinized by Cicero as *veriloquium*.

(O.E.D. n.d.)

12.3 Etymology as an emancipation tool

I've been attached to etymology for a long time. I've always found it very pleasing to know where our everyday words come from. I often have the feeling that words have deeper meanings than the ones we commonly use, and that through their frequent use we miss a certain richness (*a true sense*) that can be unveiled and even amplified by simply retracing the word to its origin.

In my Master's thesis, my use of etymology was similar to a *moto perpetuo* (a persistent musical figure). In this text, I have been proposing etymology more as a friction, but also as a counterpoint to the text. I wanted to use the origins of the words as a resonance and let them become imbricated with the text, as a resonance to accompany my ideas, not in a philosophical way, but as an artistic—definitely musical—approach to the word.

This systematic approach to etymology has been the ideal tool for emancipation in my research project, to open up the word and search for a wider view of the things we do and use as score-based music performers.

The etymology of *perform* ("to form" (O.E.D. n.d.) was the first step towards thinking that a music score could take form also in space and emancipate from canonical music performance. The word *record* ("repeat, remember, restore" (O.E.D. n.d.)) opened up the exploration of alternative ways to remember and *imprint* ("impress on the mind or memory" (O.E.D. n.d.)) the music performance and propose an alternative way to communicate it.

Mimicry ("the external simulation of something else" (O.E.D. n.d.)), *mock* ("counterfeit" (O.E.D. n.d.)), *costume* ("style of dress, custom, habit, usage" (O.E.D. n.d.)), and *memory* ("recollection, awareness" (O.E.D. n.d.)) unfolded into a deep understanding of the mirroring, borrowed gestures and second-hand knowledge inside muscle memory and how we can deal with it as score-based music performers. *Technology* ("art, skill, + speaking, discourse" (O.E.D. n.d.)) pointed to how language is also a technology, and how everyone has the ability create his/her own technology devices for communication. The word *impaired* was rethought as *not paired*, therefore unique, and hereby freed from its common use, denomination or adjective in society.

This systematic unfolding allowed me to spot how these words are ingrained in tradition and easily can become a burden, when using them in their narrow sense. Etymology came as an open landscape where their ingrained use and mental images were automatically deactivated and immediately liberated from their inherited common use. This provided me with the impetus to explore the landscape of their meaning and appliance towards future and new understandings, more specifically towards the series of new emancipating practices that I have described in this thesis.

So, how can the concept of Plastic Extension of Music become an emancipation tool in society?

When I started to work with special needs, I saw how most of the studies and activities focused on creating a social awareness and transforming the physical obstacles that prevented the impaired from fully taking part in society. These studies and activities were mostly aiming at adaptation and accessibility. As an artist obsessed with new knowledge, my impression was that these adaptations erased the knowledge issued from the *Dasein* of the impaired, which is a rare knowledge that is difficult to document and share, a knowledge that is born and dies with its bearer.

So, as an artist, I started to create different exercises that allowed me to document this rare and unique knowledge, with the objective of exploring these once-in-a-lifetime "know-hows", with the alternative tools of artistic research. This gave the impaired and myself a freedom that scientific research would not allow us to experience.

With my almost 20 years of experience, and the emancipation tool of etymology, I once again explored the etymological landscape of the word *performance* and applied these tools to the concept of Plastic Extension of Music.

This allowed me to spot that the poietical intervention in Plastic Extension of Music could be *performed* ("carry out" (O.E.D. n.d.)) and triggered from the tactile and imaginative perspective of the visually impaired and the blind. At the same time it could become a creative exercise to "figure out" the shapes of tuned sound, where the participants were also able to *perform* ("carry out" (O.E.D. n.d.)) "a functional role in providing an interpretation of music and sound to the deaf" (Sveriges Radio 2022).

But how did the concept of Plastic Extension of Music also become an emancipation for myself?

This came about by *performing* the concept. When the visually impaired and the blind were *carrying out* the exercises of imagining, associating and creating my own guitar sound in The Kléndinsky Test, I saw the mental image of my sound production—a mental image that I have carried with me for almost 30 years— mutate into an undefined image to then suddenly vanish. This became a *tabula rasa* experience that helped me to sweep away those gestures imbricated in my performance, making space to explore new ones inside this new clean space in my mind.

NABÔKÔ was a similar experience; here the concept (Plastic Extension of Music) was *performed* ("accomplish" (O.E.D. n.d.)) into a language issued from the emancipated plasticity of my muscle memory. Then, that language was performed ("carry into effect" (O.E.D. n.d.)) as a multisensory and sustainable toy idea, and then again, that toy idea was performed ("to form" (O.E.D. n.d.)) as a new music recording approach.

I was indeed amazed that Gustave Doré was able to do more than 700 etchings issued from the texts of Rabelais, and I felt that it could be an ideal example of creative criticism, similar to the poietical intervention in Plastic Extension of Music which opens the possibilities for infinite interpretations of one music score.

Still, I believe there are more grounds to explore as score-based music performers if we simply consider the etymology of *perform*, and apply the unveiled polysemic sense of the word to automatically extend the understanding of what a *performance* could be in our field.

12.4 Epilogue: *Prelude*, *Fugue* and *Allegro*

Back to Bach. After I understood that I would not be able to perform the *Chaconne* (see Chapter 1), I decided to learn a different piece by Bach: *Prelude, Fugue and Allegro BWV 998*. This is a piece that I have kept as part of my repertoire for many years and performed many times in my life.

The *Prelude* has a beautiful melody that is accompanied by the bass notes, in the guitar (the piece was originally conceived for lute). The piece explores half of the fretboard to finally lead us towards the theme of the *Fugue*, which is made from the first three notes of the *Prelude*. During the *Fugue*, the theme —issued from the *Prelude*— is treated with the usual counterpoint and morphed into a series of transpositions, retrogrades and contractions to finally arrive to the *Allegro*, where the material of both the *Fugue* and the *Prelude* are present again but at a faster tempo.

I became aware that in my research, Plastic Extension of Music was the *Prelude*, a sort of *Ricercare* (to search), *Tiento* (touch), or *Fantasia* (fantasy). Its application in society, the Plastic Emancipation of Music, became its *Fugue*:

fugue (n.)

type of musical composition, 1590s, *fuge*, from Italian *fuga*, literally “flight,” also “ardor,” from Latin *fuga* “a running away, act of fleeing,” from *fugere* “to flee”.

(O.E.D. n.d.)

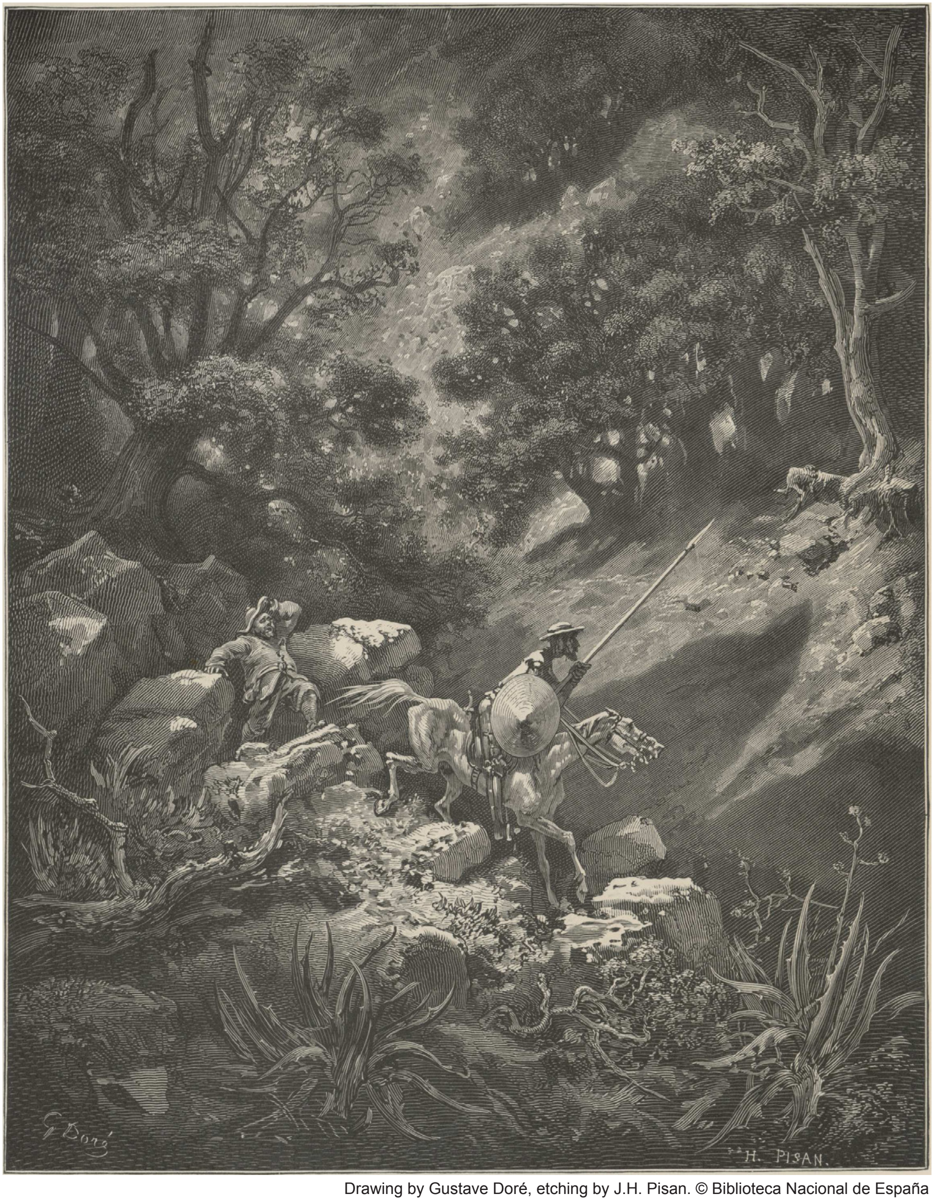
Artistic research taught me that besides being "not-knowing or […] not-yet-knowing" (Borgdorff, 2011, p. 61) or "an experimental machine, articulating sense and sensation through experimentation" (Assis, 2020), I can also have another role as an artistic researcher. I can instead share my ideas, and learn how to apply the research, how to use the exploration of the *prelude* and make it fly and flee inside the *fugue*. The question is how to be a knight-errand like *Don Quijote*, instead of being a courtier:

> Not all knights can be courtiers, nor all courtiers can or should be knights-errant: the world must have all of them, and even if we are all knights, great difference lies between one and the other; because courtiers, without leaving their chambers or the threshold of the court, wander around the world by looking into a map, without the cost of a penny, nor suffering from heat or cold, hunger or thirst; but we, the true knights-errant, in the sun, in the cold, in the air, in the inclemency of the sky, by night and by day, on foot and on horseback, measure the whole earth with our own feet, and we not only know the enemies by paintings, but in their very own being, and in every situation and on every occasion we attack them, without looking at trifles, nor at the laws of challenges: whether or not he carries a shorter lance or sword, whether he carries relics or some hidden deception, whether he breaks and cuts the sun or not, along with other ceremonies of this kind that are used in private challenges from person to person, which you do not know, but I do.
>
> (Cervantes 2004, p. 589, Trans. BCA)

And as knights-errand like *Don Quijote*, we are sure to fail and err. That is our duty. But we need to use the wandering time frame of artistic research to find out how to communicate, apply and open up our research in society, for the artist to become an artisan. This is a path where the research and its application in society are designed and able to adapt, survive and exist in the *open* and *public dromology* of our time: the *Allegro*.

And where does the *Allegro* lead? Certainly towards a new *Prelude*.

19 April 2025
Malmö, Sweden



Drawing by Gustave Doré, etching by J.H. Pisan. © Biblioteca Nacional de España

Sir, is it a good rule of knights for us to wander lost in these mountains, without a path or road?

(Cervantes 2004, p. 233).

Artistic research outputs of Plastic Extension of Music 2020-2025

2025

voids **[not discussed in the thesis]**
Plastic Extension of Reflexer by Rolf Martinsson
5 sculptures of 100 x 80 cm each. Clay, wood and metal

quintillo y paisaje **[not discussed in the thesis]**
Plastic Extension of Lost summers by Staffan Storm
Painting 73 x 60 cm, video projection. Gouache, ink, graphite, acrylic and video

2024

NABÔKÔ
An audio-tactile-visual toy for children
Website: www.nabokouniverse.com

NABÔKÔ & NABÔKÔ
Stop motion video
Video: 2:00

NABÔÔKÔ
Prototype video of new recording format
Video: 1:11

NABÔKÔ & Erik Satie I
Prototype video building toy
Video: 0:48

NABÔKÔ & Erik Satie II
Prototype video building toy with notes
Video: 0:48

NABÔKÔ & Children
Prototype video building toy
Video: 1:07

NABÔKÔ free chords
Prototype video building toy
Video: 0:24

2023

Le geste et son double...
Plastic extension of Étude VI by Heitor Villa-Lobos
Painting/Installation. Red, blue pigment and ink on acetates and cardboard, screen and projector

camisa de once varas para un antropomorfo
[not discussed in the thesis]
Plastic extension of Étude II by Heitor Villa-Lobos
String Installation. Strings, light, two puppets and stones

Unveiling the invisible
Documentary (Co-director)

Unveiling the invisible, is a short film about the Artistic Research project by Bertrand Chavarría-Aldrete, in the form of a workshop for the blind and visually impaired.
Video: 17:01

carminic tensor
Plastic extension of Étude IV by Heitor Villa-Lobos
Painting/Installation of 292 paintings. Red pigment, ink, other materials and A6 acetates

(in)habit
Plastic extension of Minuet by Domenico Scarlatti K.73
Video: 2:17 min

2022

The Kléndinsky Test
An artistic research tool to learn the tactile and "visual" perspective of tuned sound from the blind and the visually impaired.

2021

sempre morbida **[not discussed in the thesis]**
Plastic extension of Étude I by Heitor Villa-Lobos
Clay sculpture. 21 white clay bricks (12x17x1,8 cm approx.), 3 white clay bars (12x60x1,8 cm approx.) and 79 white clay sticks (1cm diameter in different sizes)

[côrīo]·étilá
Composition for guitar and sirimcho
Video: 8:53

Introduction to Plastic Extension of Music
Research of the month - 250 Anniversary Kungl. Musikaliska Akademien 1771-2021
Video: 16:20

2020

bullseye
Plastic extension of Étude V by Heitor Villa-Lobos.
Video: 4:18 min

phantom errand [muscle memory]
Plastic extension of Prélude 1923 by Manuel M. Ponce
2 paintings, drawing and stones. Ink and graphite drawings on canvas (2Mx2M & 2Mx1,60M) 1 installation (stones and graphite and ink drawing on paper)

forced ergonomics [six strings for improvisation]
Plastic extension of 6 Preludios cortos by Manuel M. Ponce
Modular installation of 6 plastic tubes. 6 plastic tubes 1,50Mx70cmx1,50M circa

ephemeral critters **[not discussed in the thesis]**
Plastic extension of Plis, by Pascale Criton
Photo installation. Table, miniature photos, text and magnifying glass

Available files in LUCRIS from the thesis

(Lund University Research Portal)

2024

NABÔKÔ
An audio-tactile-visual toy for children
Website: www.nabokouniverse.com

NABÔKÔ & NABÔKÔ **[complete]**
Stop motion video
Video: 2:00

NABÔÔKÔ **[complete]**
Prototype video of new recording format
Video: 1:11

NABÔKÔ & Erik Satie I **[complete]**
Prototype video building toy
Video: 0:48

NABÔKÔ & Erik Satie II **[complete]**
Prototype video building toy with notes
Video: 0:48

NABÔKÔ & Children [complete]
Prototype video building toy
Video: 1:07

NABÔKÔ free chords **[complete]**
Prototype video building toy
Video: 0:24

2023

Unveiling the invisible **[complete]**
Documentary (Co-director)
Video: 17:01

(in)habit **[extract]**
Plastic extension of Minuet by Domenico Scarlatti K.73
Video: 0:37 min

(2023)

Minuet K.73 by Domenico Scarlatti
Recording performed by Febronio E. Chavarría Fernández (2012)
Recording: 1:58

2021

[côrīo]·étilá **[complete]**
Composition for guitar and sirimcho
Video: 8:53

Introduction to Plastic Extension of Music **[complete]**
Video: 16:20

bullseye **[extract]**
Plastic extension of *Étude V* by Heitor Villa-Lobos.
Video: 0:47 min

Appendix 1

Course syllabus Plastic Extension of Music

Lund University
Faculty of Fine and Performing Arts

MUHI10, Plastic Extension of Music, 15 credits

Plastic Extension av Musik, 15 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by Quality Board for First and Second-Cycle Education on 2024-11-20. The syllabus comes into effect 2024-12-15 and is valid from the autumn semester 2025.

General information

Freestanding Course

Language of instruction: English
Main field of Specialisation study: Music
G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Learning outcomes

On completion of the course, the student should be able to:

1.understand and practice the different processes of creation, through sketches and failed attempts

2. contrast and analyse the different elements of an artistic visual piece from a musical perspective

3. understand the creative concepts inside sound art and hybrid art works based on sound

4. understand from a visual and tactile perspective how a visual and plastic art work is conceived through sketches and object-based learning
5. transform a sketch into an achieved output

6. create and develop different spaces and ideas for music performance

7. create new performance knowledge about the music piece that was chosen to "extend"

8. contrast and analyse the different elements of a musical piece from a visual and metaphorical perspective

9. explain verbally and textually the creative methodology applied on the Plastic Extension

10. develop a multidisciplinary practice issued from the embodied knowledge of music performance

Course content

- New methodologies for creative and alternative music performances
- Multidisciplinary practice issued from the embodied knowledge of music performance
- Introduction to Sound Art
- Introduction to Contemporary art practices
- Musical analysis
- Object-based learning
- Techniques and tools in visual and plastic arts
- Theory and practice of Plastic Extension of Music

Course design

The teaching will be based on lectures, field trips, public seminars, discussions, collective and individual sessions with the instructor. The course is based on students' active participation in the collaborative knowledge-building process alongside peers and lecturers through actively contributing experiences, reflections, interpretations and perspectives on their own learning process and that of others. The course lasts two semesters.

The first semester will include a self presentation, three lectures, two visits at Skissernas Museum, individual teaching and the project "Finish a draft from an artist".

Finish a draft from an artist: The participant will choose one of the more than 30,000 available sketches from Skissernas Museum and propose a finished version in a different art form of the sketch. This is meant to activate the idea of interconnecting and relating elements in different media, to create new alternative versions of the sketch, by developing in other media the idea of the artist's sketch.

The second semester will include group discussions, a conference, individual teaching, a public seminar and a final exhibition of the Plastic Extension of Music and a live performance.

Plastic Extension of Music: Each participant will choose a piece of their repertoire to extend in other media, such as painting, video, sculpture, installation or any other form of art outside the musical instrument. The participant will analyse and understand: the embodied knowledge developed with the score, the score, the technical difficulties, memory gaps, or any other aspects that can be contrasted, translated and displayed into a different form of art, avoiding the canonical practice of musically performing the piece on stage.

Seminar "Plastic Extension of Music: A public seminar where the participants will present their Plastic Extension project.

Public exhibition and performance: At the end of the course, the participants will co-organise a presentation, public performance and exhibition of the extended works.

Assessment

> Learning outcomes 1-5 will be assessed individually through the project proposal and methodology in the "finish a draft from an artist", as well as a written assignment.
>
> Learning outcomes 6-10 will be assessed individually through a public seminar presentation and a written assignment on the methodology of-, aswell as creation and exposition for the Plastic Extension.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Grades

Grading scale includes the grades: Fail, Pass

Entry requirements

General entry requirements and specific entry requirements: 7,5 credits completed from a musician programme or music teacher programme or equivalent.

Appendix 2

Ethical Considerations for The Kléndinsky Test

The Kléndinsky Test

The “Kléndinsky Test” is an individual 4 hour exploration study in the form of an interview and creative workshop, that allows to “see” the reactions and physical associations of tuned sound through the tactile perspective and imagination of the visually impaired and blind community.

Both interview and workshop do not require approval of the Swedish Ethical Review Authority (Etikprövningsmyndigheten, EPM), in accordance with the Ethical Review Act (etikprövningslagen). Nevertheless, personal data is gathered from the participants for an Artistic Research output (documentary film and catalogue), a consent form for the interview is heard and agreed on audio and video by all participants before any questions or activities regarding the research and study start.

Research participants

Visually impaired and blind participants
Non-visually impaired participants (only for data contrast)

Participation

The participation is voluntary

Risks

No risks, burdens nor privacy intrusions

Compensation

No monetary compensation is given to the participants. Participants are offered coffee, tea and snacks

Filming and gathering data

Since there is personal data gathered from the participants, a consent form in Swedish and English was established for all participants. The consent form is played in audio for the blind and visually participants, following the “Good Research Practice” issued from the “Ethical Review Act” of the Swedish Ethical Review Authority. This consent form is the first step before any questions or activities regarding the research and study start.

Personal data, photos and video recordings will be made during the workshop. The participants agree in the consent form to be filmed in order to create a documentary film of these experiences.

The informed consent and the opt-out option will be available during the tests and the post production in the documentary. If relatives of the participants feel the material on the documentary overexposes or becomes sensitive for them, the opt-out option will be still available before any official publication or presentation of the documentary.

Sex and gender perspectives

This research does not target any sex or gender perspective but inclusive art to reduce inequalities for the visually and hearing impaired, gathering data from a "blind perspective". Guided by the blind to play for the deaf has the objective to learn from the visually and hearing impaired communities, not to lecture nor adapt any information. The idea of music as a research tool to communicate, unveil and recover information between the visually impaired and the hearing impaired communities, is to allow us to create new inclusive sensorial art forms; a very important aspect that I hope will open new paths through the liberty and approach of Artistic Research.

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Biography

Bertrand Chavarría-Aldrete

An artist working with different approaches to sound and music: performance, composition, poetry, sculpture, theatre and visual arts.

Bertrand Chavarria-Aldrete is a classical/experimental guitarist with 3 solo albums and an international career (France, Spain, Russia, Italy, Sweden, Mexico, Portugal, Germany, Denmark, Finland, Belgium, Czech Republic, Lithuania…) as a soloist and in chamber music with SMASH ensemble of which he was its artistic director (2006-2016) and regularly collaborating with ensembles such as Ensemble Intercontemporain, Ensemble Remix, Ensemble Itinéraire or Ensemble Linea.

He is regularly invited to perform at international events (*Festival d'Automne à Paris, Festival Internacional Guitarra de México, Time of Music, Ars Musica, Sound 59 Festival, Quincena Musical Donostiarra*…) premiering more than 90 works as a soloist and in chamber music, and recording on several occasions for the radio and record labels.

His path as a composer has been recognised with two international awards: *International Competition Quatuor Molinari* (2019) in Canada and *Neue Musik Baden-Württemberg e.V. "ad libitum" competition* (2021) in Germany, and commissions from Ensemble Intercontemporain, Fondation Banque Populaire, Maison de la Musique Contemporaine, SACEM, Kulturrådet, Conarte, Festival Encontarte and performed by Ensemble Itinéraire, Juliana Steinbach, Tibi Cziger, Amia Janicki, Romain Descharmes, Mayuko Yasuda, Orchestre Française de Flûtes, Trio Zukan, Enrique Salmerón, Zoran Dukic, Éric-Maria Couturier, Naoko Hirata, himself…

Deeply interested to learn from different audiences and social marginalised sectors, he dedicates an important part of his life to compose inclusive music works and performances with special needs: *(de)cor(o)*, the elderly: *forassa*, or children: *sc(herz)o infinito*, while conducting research and inclusive music workshops all over Europe.

In 2015 he started to explore a new practice in music performance that today is called "Plastic Extension of Music" an alternative/complementary method to perform score-based music by using materials and techniques from other art disciplines. A practice that is now part of the programmes and courses of Lund University in Sweden.

Resident composer at the Civitella Ranieri Foundation and Festival Musiques en Charolais-Brionnais.

Bertrand Chavarria-Aldrete studied in Mexico (Gregorio Rangel, Edgar Cortés, Andrés Licéaga, Pedro Salcedo, Martín Madrigal), France (ENM d'Aulnay-sous-bois, Judicaël Perroy, Raymond Gratien, Than Hanh Nguyen, Patrick Gallois, José Luis Campana, Octavio López, Jean-Marc Zvellenreuther) Netherlands (Koninklijk Conservatorium - Zoran Dukic), Portugal (Faculdade de Belas Artes of Universidade do Porto - Fernando José Pereira, Pedro Tudela, Carlos Lima) and Sweden (Malmö Academy of Music - Lund University - Kent Olofsson, Karin Johansson, Jan Eric Olsén).

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Bertrand Chavarría-Aldrete
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Bertrand Chavarría-Aldrete (Lyon, 1978) is a twice international award-winning composer approaching music and sound from different perspectives such as performance, composition, poetry, sculpture, theatre or visual arts.

A classical/experimental guitarist with 3 solo albums and an international career (France, Spain, Russia, Italy, Sweden, Mexico, Portugal, Germany, Denmark, Finland, Belgium, Czech Republic, Lithuania…) with more than 90 world premiere performances at the most important halls, festivals and venues in Europe.

His music has been commissioned by Ensemble Intercontemporain, Fondation Banque Populaire, Maison de la Musique Contemporaine, SACEM, Kulturrådet, Festival Encontarte, among many others.

Deeply interested to learn from different audiences and social marginalised sectors, he dedicates an important part of his life to compose inclusive music works and performances for special needs, the elderly, or children; while conducting research and inclusive music workshops all over Europe.

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