



Human voice and instrumental voice: an investigation of voicelikeness

PAOLA LIVORSI



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University of the Arts Helsinki, Sibelius Academy 2023

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Supervisors:

Dr. Andrew Bentley

Dr. Päivi Sisko-Takala

Prof. Dr. Jan Schacher – Centre for Music and Technology, Sibelius Academy,
University of the Arts, Helsinki

Steering group:

M. Marianne Decoster-Taivalkoski

Prof. Marco Stroppa – Hochschule für Musik und Darstellende Kunst, Stuttgart

Dr. Andrew Bentley

Artistic committee:

Prof. Dr. Otso Aavanranta (chair)

Dr. Päivi Järviö (2022)

Prof. Dr. Mieko Kanno (2016–2020)

Prof. emeritus Juhani Liimatainen (2016–2020)

Dr. Outi Pulkkinen (2022)

Dr. Taina Riikonen (2016–2017)

Dr. Kalev Tiits (2016-2022)

Pre-examiners:

Dr. Mareike Dobewall, University of the Arts, Stockholm

Prof. Dr. Winnie Huang – Hochschule für Musik und Tanz, Köln

Chair / custos:

Prof. Dr. Jan Schacher

Examiners:

Dr. Mareike Dobewall

Prof. Dr. Winnie Huang

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Abstract

This artistic research explores the relationships between human and instrumental voice (in the case of string instruments), seen from an embodied and performative point of view. The question originates from my experience of violinist and composer.

Voice is a unique mark of human identity: if this is particularly true for vocal timbre, something similar is at play in the ‘instrumental voice’, as a unique expression of personal and musical identity. This research aims to uncover the importance of this vocal and instrumental relationship, acknowledging their common embodied nature and shared origins. As utterances directed at the ‘other’, both human and instrumental voice are deeply relational.

From 2016 to 2022, I investigated the question of the voicelikeness between a musician’s voice and their own instrument through five multi-disciplinary art projects: in *Imaginary Spaces* fragments of individual and collective voice inhabited a performative environment shared by musicians and audience; *The end of no ending* focused on the relationships between two female voices and their mutable surroundings; *Between word and life* explored the multiple relationships of voice and instrument in an electroacoustic space, de-multiplied by bringing in dance and video; *Sounding Bodies* gathered human and mechanical bodies to explore an unconventional space, inviting the audience to follow their path; *Medusa* was a music theatre work putting into perspective the question of voicelikeness by evoking Italian Early Baroque music, visual art, and dance.

This artistic research was carried out through an artistic process, with supporting methods such as grounded theory, ethnography, and

autoethnography, creating a virtuous cycle between practice and theory, with some interesting and unexpected changes taking place in my artistic journey. The research outcomes consist of a written part combined with a collection of traces, sounds, images, and video examples presented in the Research Catalogue.

The theoretical framework for this inquiry includes recent studies in palaeoanthropology, human development, music psychology, and embodiment. Cavarero's philosophy of voice, Arendt's philosophy of the 'in-between', various philosophies of the 'other', as well as other contributions from psychoanalysis are put in mutual dialogue with my artistic practice.

Among the research outcomes are the re-evaluation of vocal layers in personal and musical identity, considering music making as a relational practice, and an exploration of the porous boundaries between the roles of composer, performer, and listener. In this perspective, the new terms to 'in-hear' and to 'co-hear' respectively denote an attention to inner sounds, and towards one another in a community of listeners.

Keywords: voicelikeness, artistic research, in-between, relationality, embodiment, performative space

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2 June 2023

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Research documentation and process:

<https://www.researchcatalogue.net/view/511491/2156581>

The scores are available at:

<https://core.musicfinland.fi/composers/paola-livorsi>

Introduction

The artist movements and motor skills. These bodily aspects acted as a guide during my research process, from my first interests in embodiment theories (in 2017-2018) to the growing involvement with my own voice and body, in both experimentation and performance.

According to the philosopher Adriana Cavarero (2005 [2003]), the history of Western culture has been largely “videocentric” and “logocentric” (ibid., 40). The term ‘idea’ comes from the ancient Greek *idea*, ‘I see’ – interpreted by Greek philosophy as ‘I know’ (ibid., 36). With the predominance of *logos*, both the concept and word, vision became privileged, at the expense of other senses. Cavarero invites us to rediscover the *phoné* (φωνή) that *logos* vivified through the “vibration of a throat of flesh” (ibid., 3). This research puts the accent on that forgotten or hidden part, the embodied voice, too often left at the margins of Western culture and of music education.

I use the term *voicelikeness* after Schubert and Wolfe’s article (2016) “Voicelikeness of musical instruments” (see also Schubert 2019). Their approach, combining acoustics and music psychology, is selectively directed at “the prosodic or melodic aspects of the singing voice” (Schubert and Wolfe 2016, 11), thus excluding altogether the speaking voice. In contrast, my research focuses on the zone between speech and music, underlining aspects of affect and expressivity that are important in the formation of identity. Another work, “Imagined Vocalities: Exploring Voice in the Context of Instrumental Music Performance” (Healy 2018), approaches the question from the angle of musical practice and pedagogy, coming to a similar conclusion regarding identity: “the construction of musical ideas is

entangled with the construction of identities, and stories of voice provide especially rich material for [musicians’] authoring selves” (Healy 2018, 3). Healy underlines the social aspects that are crucial in defining what music making is, in the cultural context of Western classical music, by utilizing a social constructionist approach. I will come back to the importance of the environment (in an enactivist perspective, the person’s surroundings, see chapter 2) in interpersonal communication, a necessary interconnection in an embodied and performative approach (Kim & Seifert 2007, Savage et al. 2021a).

As I learned during the research process – through a series of recordings I made with six musicians between 2016 and 2019 – the question of the similarities between human voice and string instruments cannot be answered only on the acoustic level: the two phenomena, although having been traditionally associated (in the ideal of the “singing” instrument), remain distinct in the purely acoustic domain, see Sundberg (1987, 25-48) about the phonatory system, Rossing & Hanson (2010) for the functioning of a string instrument, and Askenfelt (1991) for an early comparison of the two phenomena (243 ff.). The concept of voicelikeness rather brings a series of more complex questions to the foreground, such as for example the origins of vocality, language, and music making.

In the first chapter, I write of positioning and methodology in the history of the present research, and I shortly introduce each artistic component.

In the second chapter, I examine a number of theoretical frameworks useful for investigating the phenomenon from a multidisciplinary perspective: human anthropology (origins of music and language), music psychology (similarities of music and language), and human development (language acquisition theories and underlying musical layers).

As the literature of the last twenty years confirms, the links between speech and music are strong: Mithen (2005, 11-27) affirms that in our evolutionary history the ability to make music was born at about the same time as the ability to speak. Language may have originated from one of its musical qualities – prosody. My interest has particularly been drawn

to the non-propositional parts of language, which are even more crucial for communication (see Jin Hyun Kim's publications). Studies about early childhood highlight the importance of prosody, voice timbre, and communicative musicality for language acquisition; they underline how the first human interactions are inherently musical (Malloch 1999). As music psychology studies have shown (Patel 2008), despite the specific differences, there are strong links between music and language: not only do both music and language happen in time and have an organized structure, but they both require social abilities, the capacity to listen and to interact.

The third chapter shows the links between the philosophies of the 'other' (Lacan 2006 [1954–55]; Lévinas 1987 [1947]) and of the 'in-between' (Arendt 1958, 1982, 2003) and my performance *Imaginary Spaces* (2016/2020).

The fourth chapter investigates more closely the links between human and instrumental voice, through two musical works created before embarking on this doctoral project: *Ohnfad* (2000) and *Onde* (2010); and the two works created within the context of this research: *The end of no ending* (2017) and *Between words and life* (2019). The chapter deals with voices within and without, with unheard voices and untold stories. As has been studied in the field of psychoanalysis, voice is also apt to unveil hidden, subliminal layers of the psyche – the voices within, forming the fabric of thoughts and forming layers of identity.

The fifth chapter deals with on-site, experimental work carried out with a group of string players (the Jousitus ensemble), a film cinema artist, and two dance makers in the context of guided improvisation, in *Sounding Bodies* (2020). This fourth artistic component represents a performative turn in my research process, with my return to the stage as a performer, playing analogue music instruments. In *Sounding Bodies* the collaboration with Pluciennik and the field of expanded cinema comes to the foreground, with the non-human presence of film projectors and machines, and the questions of materiality in the media of film and sound. This experience led to the follow-up project Plucié d'Orsi (2021–ongoing), on which I report in

the last part of the chapter.

Chapter six approaches voicelikeness from the historical perspective of the *recitar cantando* (speaking in tones) of Early Italian Baroque music. It traces back my creative process for *Medusa* (2022), a stage work combining the ancient myths of Echo, Narcissus, and Medusa with elements of Caravaggio's and Gesualdo's works and lives. Among these themes, the artist's narcissism and questions of identity and gender are central, culminating in *Medusa* as the embodiment of an archaic female voice – another voice to be recovered from the oblivion and disdain to which Western culture relegated it. This work has also given rise to a case-study in grounded theory methodologies (since autumn 2021).

The artistic part of this doctoral research project consists of five performances that investigate the human and instrumental voice in a multidisciplinary context. During the research process I have developed an interest in alternative forms of performance, simultaneously engaging multiple senses. This interest has a correlate in the fact that perception is fundamentally multimodal; it never happens only at the acoustic or at the visual level: as brain studies point out, in a normal environment, we are immersed in a network of stimuli involving multiple sensory modalities (see 4.2).

Another interest that has evolved over time (even previously to this research), is the interest in space. The concept of space in music has come to the foreground during the second part of the twentieth century (with the works of Xenakis, Nono, and the French spectral movement, among others). Not only is space an inescapable parameter to take into account when composing (a parameter I became more acutely aware of when approaching the electroacoustic dimension), but seen from a larger, enactivist and anthropological perspective, as place, may reveal layers of lived experience, communality, and interpersonal and social relations (Tuan 1977; Casey 1996; see 2.6.9). Experimenting with space, by decentralizing the listening point and thus giving the audience more agency, has been among my interests during the last eight years.

For instance, in *Imaginary Spaces* (2016/2020), the audience could change position in the hall, explore the sonic spaces, and perform with interactive sound objects, while the musician Juho Laitinen (violoncello) performed in two different parts of the hall. The lengthy collaboration with the experimental film maker Marek Pluciennik enabled the development of augmented spaces and the de-multiplication of identities, with live projections on various unconventional surfaces (performances 1, 3, 4).

In conclusion, this research invites both composers and musicians to consider the importance of voicelikeness as a basis for musicality, musical communication, and the formation of musical identity. This entails an embodied approach to music-making and the opening of new multi-modal perspectives in exchange with other artforms. Voicelikeness also invites to reconsider the relationship between the roles of composer, musician, and audience member in a perspective where the boundaries between these roles become more porous. By recognizing one's own personal voice ('in-hearing') and each other's voices ('co-hearing'), the voicelikeness perspective puts an accent on listening as an active practice and the importance of relationality in music-making.

¹ From the French *démultiplier*.

² See documentation in Research Catalogue:
<https://www.researchcatalogue.net/view/511491/2156581>

Chapter 1



Artistic research and research process

*now is a ship
which captain am
sails out of sleep
steering for dream*
(cummins 1994, 781)

1.1 Positions and methods: an introduction

When reflecting about positioning myself in the adventure of art and research now lying behind me, I cannot avoid thinking about those moments that left a strong mark on me, as an artist: the virtual encounters (on paper) of my youth, with artists and thinkers such as Erik Satie, John Cage, Lalla Romano³, and Martha Graham. Across disciplines, what captured my attention was a *liminal* (Turner 1974) way of looking at things, a fascination with the *ineffable* (an adjective thrown at me in a class that, despite my surprise, captured something of my nature).

‘Forme de poire’ (Satie 1903), listening to the world as music (Cage 1957), “art as illumination” (sparks in the dark) (Romano 1986), ‘dance from your vagina’ (Graham 1980s)⁴: each of these concepts left a mark, and over time the seeds developed into threads that are still visible across this research. This sense that artistic knowledge somehow follows another logic was later reinforced by philosophical encounters such as *Against Method*

³ See chapter 5.

⁴ A phrase wrongly attributed to Graham but largely popularized as such, since it well represents her revolutionary idea to “house the core of her movement,” Bannerman 2010; Graham 1991, in the pelvic region, a move of unprecedented female empowerment.

(Feyerabend 1975) and with authors from the post-Heideggerian Turin school (Vattimo, Givone). It resulted in a consciousness that no methodology can exhaust the vital chaos and the inextricable complexity of lived experience – in the sense of the Bergsonian duration, where reality cannot be cut into slices, but is unceasingly animated through a vital, multiple, ever-changing movement (*élan vital*) (Bergson 2003 [1907]).

Too often methodologies and structures take the appearance of shortcuts or instruments of power – a way to demonstrate that you have your feet on solid ground. But what if our feet were set on water instead? Moveable horizons instead of solid borders, *curved* instead of straight lines (see 3.3). What if I feel at home in the mist?⁵ There is still something to be discerned in a misty landscape, something that can be important.

Coming back to positioning, this is where I have found myself, being thrown in the world with a female gender – growing in this conscience, over the decades. It is from a female body that I sound from, I speak from. Overcome the silence.

Nonetheless, an artist's identity is a complex construct, where there are more questions than answers. As I wrote in a note:

So, who am I? Which mask do I wear today? How many practices, how many me? What do I want to convey? How to make you understand all of my contradictions, paradoxes, as one? Clear communication. Attempts of communication. Intimate communication, the only one that can transmit something – if not illusory, that too. I talk to you – who are truly listening

(note 22.9.2021)

The second person plays a fundamental role in this research. As we have been taught, it is important to know to whom you are talking, when

⁵ I was born in a misty area of Southern Piedmont, Alessandria.

writing.⁶ I invite you to reflect about this point in a less conventional way, questioning who the person in front of us is, through this other note:

The Other, in me, in you. What is in-between.

Looking for a writing which would open doors, navigate you through continents and contents. The map will be blurry but you will still hear, see something, I promise.

(note 22.9.2021)

As I believe identity is made up of a complex layering of voices, voices we carry in us, in the fabric of our thoughts, the ‘other’ we communicate with lays not only outside but also inside us (see vocal notes in the Research Catalogue).⁷ In this sense, the distinction between first and second person is not as clear-cut as we are used to thinking (about voices within and without, see 3.1.1, 3.2.1).

Coming back to methods (a combination of methods),⁸ if they are not secure scaffolds, they are rather the result of an open listening to the matters and people I worked with, during the course of these five artistic projects. Listening, transforming, being transformed. Evolve in contact with matters and humans.

A concentric journey, involving a constant sense of being lost, in crisis. Crisis as *krisis*: a turning point but also a judgement, selection, separation, distinction.⁹

Crisis as a method, as a motor of understanding. But also letting the process guide you, learning to trust it.

With those same questions in mind, over and over. Encounters with voices, words, music, people – worlds.

⁶ For a more conventional answer, see the Introduction.

⁷ Research documentation and process: <https://www.researchcatalogue.net/view/511491/2156581>

⁸ Grounded theory, autoethnography, ethnography, see 1.3.

⁹ <https://www.etymonline.com/word/crisis>, read on 14.10.2022.

In this spirit, I invite you to read the reflections contained in the following sections and chapters.

1.2 The artistic trajectory

This journey will carry you across five artistic projects, realized between 2016 and 2022. *Imaginary Spaces* (2016/2020),¹⁰ a work of multiplicities (see chapter 3) where music happens and is experienced in different spaces (acoustic, virtual, imaginary) and ways, in an environment shaped by sounds, objects, and projections.

The end of no ending (2017), part of the retrospective concert Voices and Spaces, is based on anonymous poems of Afghan women and combines two female voices with drum resonances, worked out through ensemble and electronics. It is also an emotional trajectory across a place.

Between words and life (2019), part of the curated concert Voice & Cello (gathering other repertoire for voice and cello, one player), is based on poems by Gülten Akin and includes three performers (voice/cello, dancer, video artist), ensemble, live projections, and electronics.

Sounding Bodies (2020) is a poetic journey across the Space for Free Arts (Helsinki), a collective creation based on guided improvisation, with a group of six string instrument players, two dancers, a cinema artist, a light designer, and myself – in the roles of co-composer and performer.

Medusa (2022) is a multidisciplinary stage work combining ancient myths and Early Modern art, with references to Caravaggio and Carlo Gesualdo. The working group included a soprano coloratura and cellist, a visual artist, a dancer/choreographer and me; the performing group included four musicians and five dancers. In this work I had a performer role as well.

¹⁰ See all the artists' names and other information about the five works in the research Portfolio, at: <https://www.researchcatalogue.net/view/511491/2140269>

1.3 Research history and methods

During the long trajectory of this research, I worked with a combination of methods, always keeping in mind the artistic projects as the guiding line. During the first phase of the research (2015-2018), the focus was on mixed method: I had the notion to find results about the links between human and instrumental voice through an acoustic investigation. For this reason, during 2016-2019 I realized a series of recordings with five string instrument players, with the idea of analysing and comparing human and instrumental voices from an acoustic point of view. Already the first discussions with Marco Stroppa (part of my steering group) in 2016, and a few talks with a scientist in IRCAM (Paris) in 2017, had raised some doubts about my idea. All of them pointed out that the acoustic phenomena of human voice and string instrument are too far from one another to be successfully investigated in the way I had imagined; if anything, one of them (of whom unfortunately I do not have their name) suggested that the subject could have more to do with music psychology, rather than with acoustics.

Elvira Brattico, an old-standing friend and an expert in music psychology, gave me an important hint in 2018, by sending me a neuroscience paper, one of the first specific ones I read about the question (Ding et al. 2017; which led me to Patel 2008, see 2.6).

A subsequent meeting with the music psychologist Boris Alexander Kleber, at the Centre for Music in the Brain (Aarhus, October 2019) started to widen my perspective: Kleber pointed out the role of emotion in voice and music performing, and the subtle competences of the human brain compared to machines; he suggested that I not pursue a supposedly ‘objective’ investigation of my recordings, but rather research the similarities through a group of musicians and non-musicians listening to the data, following the method of the Self-Assessment Manikin (Bradley & Lang 1994). Unfortunately, the fact that I did not have an expert to supervise me in this kind of

work and, even more, the pandemic outbreak in the spring of 2020 (with the ensuing difficulties in organizing in-person tests), prevented me from following that thread.

That visit, nonetheless, was of great importance in the history of the research, since it led me to understand that such a research could not be conducted without the contributions of other disciplines: in addition to music psychology, philosophy – not only Cavarero (2005 [2003]) but also embodiment theories, which I started to become acquainted with in 2017-2018, in the courses of Eeva Anttila –, performance art (PSi #25, Calgary 2019, see 4.3; Carpa, Helsinki 2021), and palaeoanthropology (through the encounter with Mithen’s book, 2005) also proved to be relevant fields to the development of the research.

This meant a fundamental widening of horizons: it meant that the question that I had posed – are there any relationships, and of what kind, between human and instrumental voice? – was too complex and multilayered to be answered from a scientific perspective (on top of that, it would have demanded that I gather a team of scientists, which was beyond the scope of an artistic PhD).

This change of perspective was reflected in the change of the research title, in the spring 2021, from “Human voice and instrumental voice: a comparative study in timbral content” to “Human voice and instrumental voice: an investigation of voicelikeness.” The new title featured for the first time the term ‘voicelikeness’, a specific term borrowed from Schubert & Wolfe 2016, designating the degree of similarity of an instrument to human voice.

Another fundamental turn occurred in the autumn 2021 with the encounter with my new supervisor, Jan Schacher, who introduced me to a deeper and more articulated way to approach artistic research. Among many other important readings, *The Artistic Turn: a Manifesto* (Coessens et al. 2009) best describes the fundamental points of this attitude towards research, which puts art and the artist at the centre of the research paradigm: a paradigm where the “precedence of experience” is capital, with its own

“idiosyncratic knowledge,” (ibid., 101) that cannot be achieved through means intended for other kinds of knowledge (be it scientific, humanistic, or typical of any other field); a paradigm where “singularity” matters, with a reevaluation “of the individual, artistic, and specific experience” (ibid., 14–15): a singular experience situated in this precise context and not in any other, that is in this time, place, and culture(s). Coessens et al. acutely observe that the terms ‘turn’ and ‘field’ (a ‘place’) imply a “viewpoint” (ibid., 15): the viewpoint, in this case, is that of the artist, and the ‘place’ to investigate is artistic practice. The method of artistic research is not, however, less rigorous: interestingly, Coessens et al. quote a composer, Emmanuel Nuñez, saying that “[a]rtistic creativity *is* methodical, but in its own way” (Coessens et al. 2009, 18; Nuñez 2009); it deals with “very precise processes of judgement and choice” (Coessens et al. 2009, 17).

In this light, Schacher¹¹ introduced me to methods such as grounded theory, autoethnography, and ethnography: although derived from another field, that of social sciences, it can be considered a ‘neighbouring’ field – already closer to art than the so-called hard sciences. In grounded theory, as in artistic research, the researcher is both a part of the world to be studied and of the collected data (Charmaz 2006, 10) – a point of differentiation from scientific research. Nevertheless, to be effective in artistic research, these methods need to be adapted to other needs, depurated from their human science characteristics, where, for instance, the aim is to produce a novel theory. The scope of artistic research is not necessarily to create a theory but to shed light on the artistic process, without losing its dynamic instability, the “continuous adjustment[s]” occurring along the way (Coessens et al. 2009, 104).

Grounded theory (Charmaz 2006) is a bottom-up method allowing meanings and concepts to emerge from the ground of practice, without imposing pre-existing structures of thought on it (a risk always looming

¹¹ In addition to inspiring supervision sessions, also in his course Research Practices: Introduction to Artistic Research for Music Technology (2021-2023).

when dealing with theories). It is a process of distillation that will lead, after successive iterations, to the core of the research – in the case of art, new knowledge about the artistic process and its multiple layers, novel ideas, and emergent practices.

A typical tool of grounded theory is the act of ‘coding’, that is, a process of labelling, ordering, and categorizing the data (that is, the process traces) with the aim of achieving “a theoretical understanding of the studied *experience*” (Charmaz 2006, 4, emphasis added; see an example of this kind of work in the Appendix 1 and 4, video annotations).

Another method that can be fruitfully combined with grounded theory is autoethnography (Chang 2009): it allows one to collect first-hand data from the creative process, coming near to capturing the flow of ideas, doubts, events, and mishaps typical of this kind of process. Autoethnography is also a precious method fostering writing – allowing a change of register, compared to other forms of writing (especially academic writing); it allows one to enter a confidential, intimate tone fit to express those layers of uncertainty, oscillation, or fragility that have no place in more ‘official’ kinds of writing.

The writing of artistic research is a process of attempting to write the unwritable, to access “undiscovered, unexplored spaces” (Lilja 2003, 10), through “non linear [sic] ways of writing” (ibid., 11) leading to “new forms of understanding” (Lilja 2004, 36).

As Chang underlines, autoethnography nevertheless cannot be limited only to the documentation, observation, and reflections of one’s own making, but must also include the surrounding environment, time, and culture – which have a relevant impact on the artist and the process alike. For an artist, even ethnography can be a suitable method; for example, as in my case, when dealing with small communities such as ensembles or multidisciplinary working groups. Just as for the ethnographer, an artist can be a participating observer, trying to learn about the group members’ lives, interactions, and languages. Taking field notes, for example during meetings and rehearsals, and collecting various kinds of traces (memos,

sketches, sounds, video, images) is a useful tool to later reconstruct the creative process.

My experience with these methods is recent but I can see that they allow one to produce more in-depth results, compared to other methods. In addition, I find the superposition of layers fascinating, the fact that going through the traces and making sense of the research (drawing together the various streams to reach a new understanding) is a creative process in itself, with movements and turns of its own. It is a performative process, in both the senses to be in the making, but also something that affect the maker. In this sense, the research process can be a transforming, nourishing practice that can always take us by surprise.

1.4 Chapter summary

The multidisciplinary approach of this research is reflected in the next chapter, where the research question is investigated through theories of human evolution, music psychology, and language development. Although this may seem a contradiction with the above-mentioned idea of artistic research, the contribution of other disciplines was important to the process of becoming oriented in a complex field, where I felt the need to complement and expand my knowledge. I did not want to risk missing out on aspects of the question that may have lain far from my artist's ears and eyes.

As Ingold (2015) writes, referring to the social sciences, it is worth “working across the boundaries (...) to try to find a new way of doing things in the arts, humanities and (...) sciences which could be more speculative and more experimental than we are used to” (2015, xi).

A natural scientist, Gerald M. Edelman, used to say that “science is imagination in the service of the verifiable truth” (Patel 2008, vii): here, the interest is not to achieve any verifiable truth, but to combine different kinds of imagination to arrive at a situated, personal, and hence provisional truth.

Chapter 2



In the beginning was the voice. Origins of music and language: multidisciplinary perspectives

I wish to go under; to visit the profound depths (...) to explore; to hear vague, ancestral sounds of boughs creaking, of mammoths; to indulge impossible desires to embrace the whole world with the arms of understanding (...).

Virginia Woolf, *The Waves* (1992 [1931], 85)



2.1 *Sounding Bodies* (2020) Saara Viika, Aino Juutilainen, Hermanni Yli-Tepsa.
Image Antti Ahonen

2.1 An introduction: Two ways of being vocal

In the beginning was the voice¹² – at the beginnings of humanity: most of us have a voice, we share this with other animals, but as humans we developed our vocalizations into language¹³ (a trait that has been described as exquisitely human – although things are not as clear-cut as they look at first sight – other animals also developed communicative vocal abilities, too)¹⁴.

If we look at an individual's life, at the beginning is the caregiver's voice: we are vocal beings from the very start, and hearing is the most developed sense in the first weeks of life (its importance has been stated to start from the last stages of pregnancy, already before birth).¹⁵ Studies on young infants attest to the process of mutual attuning between the infant and the caregiver, a process going both ways – the first relationship, a musical one: Stephen Malloch (Malloch 1999, Malloch & Trevarthen 2009) affirms that this is the very first music duo of our life, a musicking connection. The contour, the prosody of these vocalizations follows certain patterns – an important phase in the process that will lead to language development. It is fascinating that for both processes, how humans started to speak, and how humans learn to speak – there are several explanatory theories but no simple answers. Both processes, though, are quite evidently linked to musical qualities.

Reflecting on voice, psychology allows us to notice that voice is a phenomenon that (much like sound itself) moves in two directions: inwards and outwards – incessantly, both ways. The same process of the voice (or better, the voices) is also at the basis of our thoughts (in the phenomenon

¹² In the cases in which this does not physiologically happen, the person will rely on other senses and/or communication means assuming a 'vocal' function.

¹³ The focus here is on vocal language, but I am aware of the existence of other kinds of languages, such as sign language.

¹⁴ See Patel et al. 2009 and Verga et al. 2022 for research on vocal learning and rhythmic synchronization in non-human animals.

¹⁵ "The auditory system in the human foetus begins functioning during the last trimester of gestation" (Juszyk 1997, 77).

of the ‘inner voice’): the voices that make us, piled-up as layers of personal experiences, encounters – the silent discussions we have with another and/or with ourselves, within ourselves. The writer Virginia Woolf opened up the internal door that has been called ‘stream of consciousness’.¹⁶

An *instrumental voice* is also a voice flowing two ways – inwards and outwards – incessantly, both ways. The child improvising at a piano, exploring sounds, exploring the instrument but above all making it resonate in, within, its intimate world. Later, a musician interpreting a piece, seeing themselves as an actor on stage¹⁷ – again, a link with the verbal dimension; or at least, a link with a vocal, and, to some extents, multi-modal expression. I am there to tell you a story – or, if not a story, to dive with you who are listening, into this sonic world, to guide you through this enigmatic path of voicelikeness.

The voice and the instrument are two ways of being vocal that we inherited from our distant origins: the origins of our species and the origins of individual life. Through palaeoanthropology, it is interesting to observe similar processes at work in both early and modern humans. The idea of a connection between musical and linguistic utterances, and, consequently, of the possibly shared origins of song and language, date back to Rousseau (1781) and Darwin (1871). As Mithen (2009, 58), among others (Vanechoutte & Skoyles 1998, 34–35), notes, this perspective was subsequently abandoned by the scientific community until the 1990s – with rare exceptions, such as the ethnomusicologist John Blacking (1973).¹⁸

2.1.1 Rationale for a multidisciplinary research approach

From my position as an artist, I acknowledge the complexity

¹⁶ In Woolf’s novel *The Waves* (2000 [1931]) the voices of six characters intertwine, initially in a chaos of not only thoughts but feelings, sensations, chunks of internal experiences, that immerse us in a strange territory for which we have no map.

¹⁷ Cristina Romagnolo, violinist, personal communication, Turin ca. 1986.

¹⁸ Many scholars have wondered about the reasons for this forgetfulness during at least the last century; Mithen ascribes it to the ban imposed by the Parisian Société de Linguistique in 1866 on the discussions of the origin of language (Mithen 2009, 58).

and variety of cross-disciplinary studies and positions on this subject. Disciplines such as palaeoanthropology, human development, music psychology, and ethology, all contribute to shed light on the discourse about the relationships between music and language. For this reason, I deem important to include here, as a framework for my artistic research, a review of what has been attempted or achieved in the scientific explorations of the relationships between music and language. I could not avoid dealing with the problematics of these relationships, when reflecting about the voicelikeness of human and instrumental voices, although this demanded visiting domains sometimes distant from that of music.

Even more, as Arendt says (1982; Haraway 2016, 126), “[t]o think with an enlarged mentality means that one trains one’s imagination to go visiting” – in the sense of a research practice seen as a practice of curiosity (ibid.).

I will summarize here the history of the connection between music and language, starting from Darwin’s standard evolution theory, through the extended evolution theories (Fisher 1930; Zahavi 1975, 1997; Mithen 2005, 2009; Patel 2008), to come to the more recent gene-culture coevolution theories (Savage et al. 2021a), credible signaling evolution theories (Mehr et al. 2021; Bannan et al. 2022), and culturally driven extended evolution theories (Shilton 2020, 2022; Tolbert 2001a, 2001b, 2002).

An important sub-topic is the question of the role of mimesis (Vanechoutte & Skoyles 1998, Cox 2001, 2016; Mithen 2005; Kim 2023b). Even more crucial is the role of representation, connected with yet another big question, that of music meaning (Tolbert 2001a, 2001b).

I will touch on these questions, although my focus in this research is on the continuity between vocal utterances and language. I think it is important for artists and musicians to be aware of and possibly take part into the current debates about the origins of music and language, to which we can bring an insider approach as art and music practitioners (see 2.3, 2.5.4).

These previous studies, whether carried out in scientific or

philosophical fields (see 2.2.1, 2.5.3), provide a foundation for looking into current and future definitions of music and language (Kim 2023b, 66–67). They also help us understand the aspects of continuity between music and dance (2.5.3), and their interconnections with parts of language (see 2.3.3 for the role of bipedalism) – interconnections that have been surfaced in and been explored through my artistic components (see chapters 3–6). Some of these studies (see 2.3.3, 2.5.2) also lay the ground for a reconsideration of the role of the audience – raising the question of presentational versus participative forms of music – and of the porous boundaries between the roles of composer, performer, and listener; many of my artistic components question the role of the audience, and I matured a conviction of the active role of the listener (see 3.3, 4.3). Last but not least, fields such as music psychology and embodied cognition (see 2.6.8–2.6.9) have made me aware of the importance of an embodied approach to art, music, and thought, an approach that has deeply influenced my way of acting and thinking throughout the research process.

Considering the origins of language and music, most of the studies agree on the probable existence of an archaic protolanguage as an intermediate step prior to language proper, but their positions differ on what kind of protolanguage the species *Homo* could have developed, and how, when, and why. Broadly, the divide is across emergentist and cultural conceptions of the origins of music and language (discovery or invention); and about how innate, that is human-specific or not, the capacities for music and language are.

Before entering the scientific discourse though, I will briefly touch on Rousseau’s intuition, which introduced this question to modern times.

2.2 The evolutionary fram

2.2.1 An early intuition: where philosophy meets linguistics

As mentioned above, one of the first modern records of the idea of the connection between music and language, is to be found in Jean-Jacques

Rousseau's posthumous *Essay on the Origin of Languages* (1998 [1781]).

Language's communicative power resides, according to Rousseau, more in tone and stress than in the words' meaning, which, in his view, developed at a later stage. Akin to music, language is apt to communicate passions to fellow humans. Rousseau postulates the common origin of song and language, both apt to communicate emotion. In the 19th century, the philosopher of language Wilhelm von Humboldt (1999 [1836]) was of a similar opinion, as was, in the 20th century, Otto Jespersen (2006 [1922]) (Vaneechoutte & Skoyles 1998, 14).

Rousseau hypothesizes the successive separation of language from music as a consequence of the invention of writing. By doing so, he connects the musical sign with the origin of representation, in the logocentric tradition of considering language as the highest point and the discriminating characteristic of human nature.

As Tolbert (2002) points out, Rousseau's ideas originated in the context of the Enlightenment (and, I would add, of Early Romanticism), with their peculiar definitions of music and language, "rooted in (...) discourses about human nature and the origins of human culture" (Tolbert 2002, 156); they are all discourses embedded in a historical and geographical context, where Europeans "define themselves in opposition to Nature and non-Western Others" (ibid.). Tolbert notes here an important problem, that re-surfaces every time we approach the question of music and language, from whichever angle or discipline we do it: the existence of cultural and historical assumptions about music and language. Tolbert invites us to look critically at the possible multiple, alternative "stories of Becoming Human" (Tolbert 2001b, 463), and to hear the prosodic, emotional, and social aspects of language, often disregarded in discourses such as the structuralist one. In this respect, it is interesting to consider the developments of "interactional linguistics," which considers language a "process of *coordination*" (Brown 2017, 13) in addition to being one of communication.

Keeping this in mind, I invite you to consider some evolutionary theories of music and language.

2.2.2 The question of sexual selection

Darwin approaches the question of music in *The Descent of Man, and Selection in Relation to Sex* (1871). He hypothesizes that music preceded articulated language as a way to charm a possible mate “with musical note and rhythm” (Darwin 1981 [1871], 880). In the view of classic evolutionary theory, this selection happens for function, that is “a tight relation of means to ends”, constituting appropriate solutions to an adaptive problem (Williams 1966, in Mehr and al. 2021, 23). Music would provide an advantage in mating chances, hence improving reproduction success. According to Darwin’s theory, “male musical abilities and female musical preferences” would complement one another (Mehr et al. 2021, 28; see below for a discussion of this point).

Darwin is also one of the first scholars to relate bird song and language, and to consider language an apprehended feature (Darwin 1981 [1871]; Vaneechoutte & Skoyles 1998, 14). In this view, language could have “derived from previously developed musical powers” (Darwin 1981 [1871], 33). Darwin was not totally convinced, however, of the necessity of this selection, considering music fundamentally useless for survival of the species.

In addition to the question of the necessity of music (to which I will return later), the mate quality hypothesis presents a series of important problems. If sexual selection happened through music, male individuals would have developed adaptations for music productions, and females for music perception (instead, music perception does not differ across genders) (Mehr et al. 2021, 28). Moreover, musical forms are more varied and happen in diverse contexts, compared to love or courtship music. As Mehr and others notice, music does not play any specific role in sexual development or puberty: humans engage in musical activities independently of age, both performing and listening in any phase of life (ibid., 28–29).

The sexual selection theory was proposed again by other scholars,¹⁹ including Miller (2000), and is included by Mithen as one of the reasons for

the “musicality” of hominin “phrase communication” (Mithen 2009, 68).

According to Miller (2000), singing and dancing would reveal “fitness, coordination, strength and health; voice control revealing self-confidence” to a possible mate (Mithen 2005, 179). There is evident cultural bias in the hypothesis of music as a male prerogative, often disregarding the fact that access to music was historically not equal across genders (Mithen 2005, 180). In addition to that, music-making is cross-culturally more frequently a group activity than a paired-couple activity in humans. Pair bonding seems not only to have evolved more recently than music-making (Bannan et al. 2022, 26), but there is also paleoanthropological evidence supporting the social significance of group music-making (Mithen 2005, 218–220).

2.3 Extended evolution theories

2.3.1 The continuum of speech and song

The continuum between speech and song has been a privileged area of investigation, one of my constant interests across the five artistic projects. While my reasoning about the relationships of human and instrumental voice started from native language and its possible holistic impact on a musician’s sound qualities (see *Imaginary Spaces*, chapter 3), during the research process it became evident that a wider approach would be more beneficial and interesting, since speech and song can be explored and experienced in endless intermediate states. Although speech and song are easily distinguishable from one another, music-like or speech-like intentions and contexts may render the boundaries less clear.

Extended evolution theories helped me to become more aware of the interdependency of speech and song, due to both physiological and cultural changes²⁰ that occurred during the development of music and language across human history.

¹⁹ For a complete review, see Mehr et al. 2021, 28.

2.3.2 ‘Runaway’ sexual selection and the ‘handicap principle’

Successive adjustments to the classic evolution theory were developed by R. A. Fisher (1930), who proposed the ‘runaway’ sexual selection theory, and with Zahavi’s ‘handicap principle’ (1975, 1997).

According to Fisher, when an inheritable mate preference (for instance a larger tail) “becomes genetically correlated with the heritable trait itself” (Mithen 2005, 177), this will cause “a positive feedback loop” (ibid.) causing the trait to be generalized among the rest of the species. Fisher used this theory to explain the richness of plumage of birds of paradise and the out-of-the-common courtship rituals of the lyre bird.

Even more significant for our argument, the ‘handicap principle’ (Zahavi 1975, 1997) states that evolution imposes a cost: traits developed to attract a possible mate can also put at risk the bearer’s survival; for instance, a larger tail can increase the risk of predation.

Similarly, it has been noted that group singing (synchronizing vocalizations), while on one hand may have arisen to keep predators at bay (Knight & Lewis 2017), could also represent a potential risk of signalling the presence of a group, hence drawing the attention of potential predators (Mehr et al. 2021, 10).

2.3.3. The coevolution of music and language theory

Mithen (2005, 2009) is one of the most vocal advocates of the theory of the coevolution of music and language. In short, he affirms that hominids would have started early on using a “holistic-based form of communication,” without distinction between music and language: a protolanguage,²¹ holistic and not compositional in nature (Mithen 2009, 59), whose emergence would not yet have been connected yet with the capacity to use symbols. The first artefacts not intended for everyday use,

²⁰ A recent study assigns a role even to environmental changes such as the glaciations, with the subsequent hominins’ migrations and social changes. See Benítez-Burraco & Nikolsky 2023, 250–257.

which could have had a symbolic function (meaningfully, mostly for ritual use)²² date back about 70,000 years (Mithen 2009, 67), while the first forms of protolanguage may have appeared already 250,000 years ago.

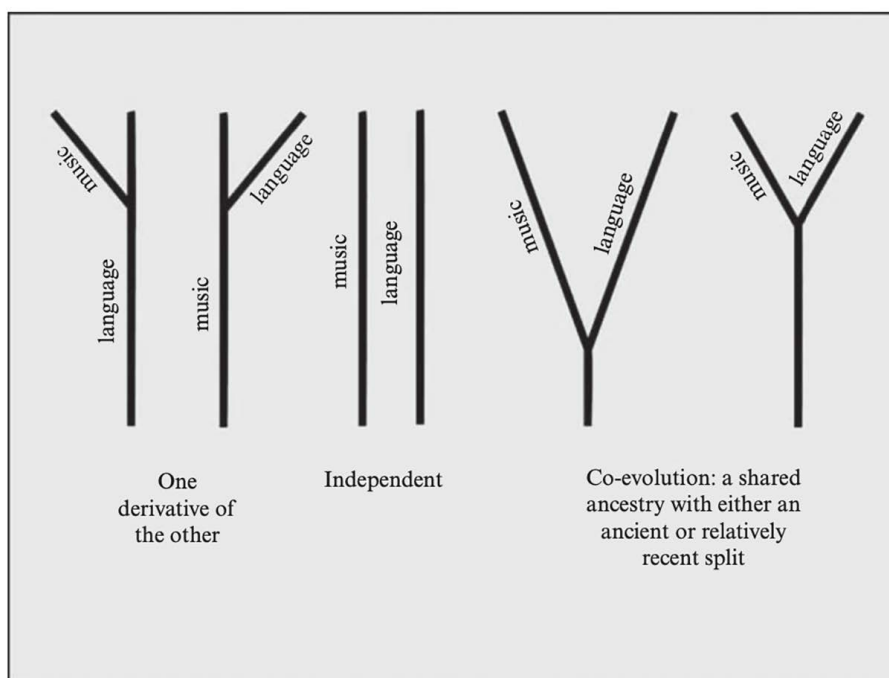


Fig. 2.2 Hypotheses of the evolutionary relationships between music and language (Brown 2000, in Mithen 2009, 61)

²¹ Mithen used the term 'proto-language' in 2005 and 'protolanguage' in his most recent publications (I will use the latter).

²² Mithen writes that the distinction between symbolic and non-symbolic use is not always certain. The common use of red ochre and the findings of fragments of scratched bone and stone could have had a symbolic function already in the African Middle Stone Age, c. 165,000 years ago, Mithen 2009, 67. Moreover, Mithen reminds us that the use of symbols does not necessarily require lasting artifacts: trees or hills, and unmodified objects, such as stones and shells, may have elaborated symbolic meanings, as they do even today, *ibid.*

Language may have originated from one of its musical qualities, prosody. Following the ethnomusicologist John Blacking (1973) and Brown (2000), humans would have developed an “early hominid communication system”: Mithen adopts Brown’s ‘Hmmm’ model – an acronym for “Holistic, multi-modal, manipulative, and musical” (Mithen 2005, 138), but he extends the concept of ‘musilanguage’²³ (see fig. 2.2) proposing to add a fifth ‘m’ for ‘mimetic’ (Mithen 2005, 172; for the concept of mimesis, see section 2.5.3): early hominids would have “mimicked the movements and sounds of animals” (Mithen 2005, 172) as a communication strategy, at a stage when language did not occur yet.

The process would have slowly started about two million years ago with *Homo ergaster* (Mithen 2005, 158–160), and, for reasons that remain still unclear, it would have accelerated towards language between 600,000 and 100,000 years ago. The ‘HmMMMM’ protolanguage would have arisen, according to Mithen, between 1,8 million and 250,000 years ago (see fig. 2.3). In that archaic world, it would have functioned to “express and induce emotional states and structure social interaction” (Mithen 2005, 181).

The role of bipedalism

Traditionally, it has been affirmed that brain development played a crucial role in the emergence of language, together with the development of the larynx, which made language possible for humans – unlike for other mammals.

Mithen however affirms that a series of new discoveries made in the mid-1990s rather point out to a more holistic body development (Mithen 2005, 145–146); according to Aiello (1996), “the origin of bipedalism”²⁴

²³ Without retaining Brown’s neologism that, according to Mithen, is misleading because of its teleological implications (Mithen 2005, 63). Brown subsequently updated his theory with the “prosodic scaffold model”: musilanguage would convey “primarily affect-related information” through music-like “affective prosody” and speech-like “intonational prosody.” Brown 2017, 2–4. For the important role of affect and emotion, see 2.6.8–2.6.9.

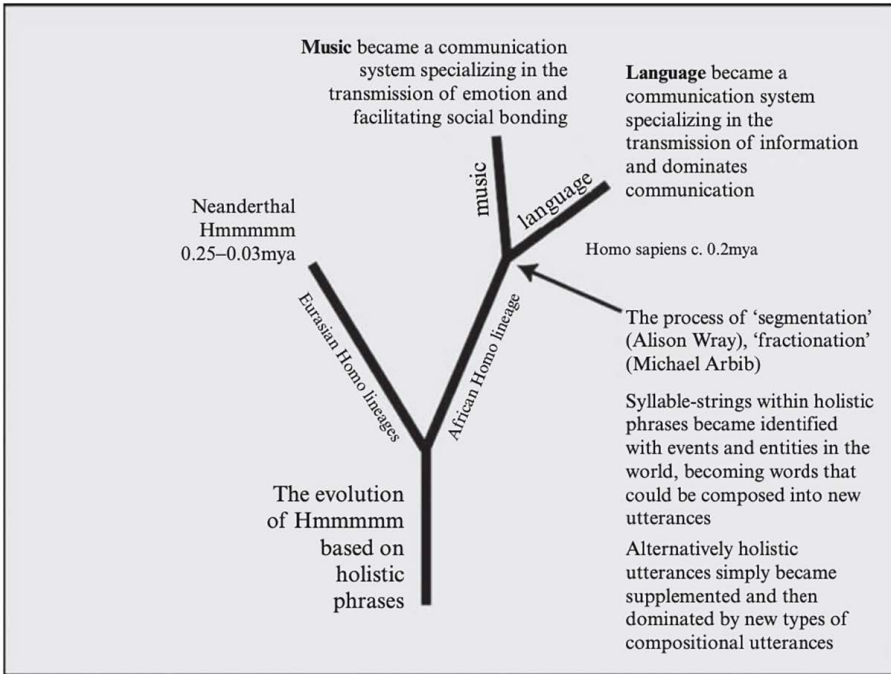


Fig. 2.3 Hypothesis of the emergence of music and language from Homo (Mithen 2009, 72)

would have had profound implications for the evolution of intelligence and language” (Aiello 1996; Mithen 2005, 146). While it is true that bipedalism implied a larger brain, a better developed nervous system, and a higher degree of sensorimotor control, it may have been question of more than solely the ability to walk. The change may have been more holistic, promoting behaviours of social significance that could have finally led to language. According to Mithen (2009, 69), bipedalism would have resulted in increased capacities for human interaction, including what we presently call music and dance.

This point is interesting, since, according to this view (coherent with Brown 2000, 2017), the separation between music and dance would

²⁴ Mithen reports that recent theories distinguish two stages in bipedalism: partial bipedalism that arose in the Australopithecines between 4,5 million and 2 million years ago, see table in Mithen 2005, 7; and modern bipedalism in *Homo ergaster* 1,6 million years ago, Mithen 2005, 144-145.

have been successive.²⁵

Coming to vocalizations, they would have been facilitated “by the impact of a bipedal anatomy on another part of the body” (Mithen 2005, 146). The lower placement of the human larynx in humans, compared to that of the chimpanzee, enables the production of “a much wider array of sounds.” While “anthropologists traditionally assumed that” this happened because of the “strong selective pressures for spoken language” (ibid.), Aiello and Mithen connect this change to the anatomical development of bipedalism, of which the “lengthening the vocal tract” was a crucial accident: its “more membranous” quality enabled “the production of a ‘less harsh, more melodious sound’ than in the australopithecines” (Mithen 2005, 147), allowing humans to be speaking or singing.

Mithen points out that the development of the “‘valvular larynx’,” which we share with modern apes, might have to do with movement. “Air pressure behind a closed larynx stabilizes the chest and provides a fixed basis for the arm muscles – this is why we hold our breath when about to use our arm vigorously, such as when throwing a ball” (ibid.).

It is relevant for this research that there is thus very early evidence for the connection between vocal abilities and the refinement of movement, regarding the body as a whole. For this reason, I have had to develop multiple connections between vocality, instrumentality, and movement across the five artistic components (see chapters 3–6), in contrast with a music tradition and music education that privilege a static presentation of music.

These anatomical changes would have occurred because of the “selective pressures” towards “enhanced communication,” that is, because

²⁵ I am left to wonder whether such a separation actually makes sense. Artistic practices such as Meredith Monk’s (see chapter 6) and which many choreographer have affirmed, point in another direction, where the two domains of music and dance are not as separated as we use to think. Monk said she worked “with a dancing voice and a singing body” (Jowitt 1997, 2); the choreographer Petri Kekoni affirmed that he started the process of choreographing the stage-work *Posthuman* (2023) before knowing the music: “we were making our own melodies,” meaning through the dancers and their bodies (Artist talk, Helsinki 5.3.2023, my translation). About the non-separation of music and dance, see also Tarr 2017, in Savage et al. 2021, 5.

of the increasing social needs of *Homo ergaster*. This early “communication system” can be considered as a “proto-language” (Mithen 2005, 147).

Mithen supports a holistic interpretation of protolanguage, preferring it to compositional theories of language: for the latter, protolanguage would have already possessed words and a rudimentary grammar (the main theorist of this hypothesis, in the 1990s, was the linguist Derek Bickerton); holistic theories instead affirm that protolanguage would have consisted of ‘messages’ rather than of words (according to the linguist Alison Wray, 1998, 2000; in Mithen 2005, 2; Mithen 2009, 64).

2.3.4 Gene-culture coevolution theory

Mithen’s thinking was recently updated and presented in a novel theory, the Music and Social Bonding theory (MSB) (Savage et al., 2021a, 1). The theory refutes the null-hypothesis of music evolution, according to which music would be an ‘auditory cheesecake’ (Pinker 1997), that is nothing more than a by-product of other behaviours, a phenomenon that excites neural layers developed for other functions.

This cross-disciplinary theory (bringing together researchers from environmental studies, art studies, cognitive and evolutionary anthropology, psychology, and archaeology) has the ambition of building an overarching and inclusive theory,²⁶ accounting for “the evolution of human musicality” (Savage et al., 2021a, 2), rather than explaining individual aspects of music-making or how certain music genres emerged.

From this perspective, the MSB theory invites a shift in attention from ‘music’ as a cultural construct to ‘musicality,’ a feature reuniting “the underlying biological capacities that allow us to perceive and produce music” (ibid.). If musicality, in this view, would be more a biological

²⁶ Considering competing hypotheses such as the “credible signaling” one, Mehr et al. 2021, to be possibly integrated in it.

than a cultural capacity, ‘social bonding’ would be a behavioural trait: it would contribute to forming, strengthening, and maintaining “affiliative connections (‘bonds’) with certain conspecifics, through “a set of social processes” (ibid.). In social beings such as primates, bonding would be “psychologically and biologically” essential to “survival and reproduction” (ibid.); social bonding would offer a communal protection from predators, and mutual assistance in child-rearing, foraging, territorial expansion, and defence.

Music would be apt to form and reinforce affiliative²⁷ interpersonal relationships “by synchronizing and harmonizing the moods, emotions, actions or perspectives of two or more individuals” (ibid.). It would be particularly useful in nonverbal situations, and effective on a larger scale than older, ancestral bonding mechanisms (ABMs), such as grooming (see Dunbar 1996, in section 1.4.1).

The MSB theory advocates for a biological and cultural evolution of music, with music not being “invented” in a “unitary event,” but emerging over time from a repeated process, where “proto-musical components” intended as “behavioral innovations” would combine in a “virtuous spiral” with “biological adaptations,” resulting in gene-culture coevolution. In this process, neither of the two aspects (genetics and culture) would come first; rather, each aspect would stimulate the evolution of the other in an endless loop (Savage et al. 2021a, 3).

The MBS theory includes numerous recent studies, including Podpliniak’s (2017) hypothesis of an extended Baldwin effect in the evolution of music, studies on language evolution presupposing forms of proto-languages (Arbib 2005; Fitch 2010, 2017), and the evolutionary theory of “prolonged cognitive ‘niche construction’” (Savage et al. 2021a, 3).

Importantly, it considers music as a “cognitive toolkit” rather than as a “single tool” (ibid.; Fitch 2015). Adaptive functions such as coalition

²⁷ See below for similar concepts of speech and music as “affiliative communicative interaction[s],” Cross 2022; see 2.5.1, Shilton 2022; Kim 2023b, 66.

display, “courtship, and infant mood regulation” (Savage et al. 2021a, 3) are considered, in this view, as complementary parts of a broader, overarching function, identified as ‘social bonding’ (ibid., 4).

A coherent and harmonic combination of sounds and movements in group contexts would reinforce “feelings of prediction, fulfilment of expectation, and mutual accomplishment,” with typical emotional and rewarding effects appearing not only during music-making but lasting long after the activity ceases (ibid.).

The present theory also criticizes music evolution hypotheses based on primate ABMs (beyond grooming, laughter, play, and non-procreational sex), with arguments similar to those seen for the less plausibility of sexual selection for music (see 2.2.2).

The theory examines the cross-cultural features of music and movement, such as metric structures based on small-integer ratios, the prevalent use of discrete pitches in song and in instrumental music, singing in unison, or at an octave difference²⁸ (ibid., 4–5), as elements promoting kinship and group identity. In short, these core elements of music, allowing rhythmic coordination and repetition (and thus memorization and predictability), would promote group coordination and social identity.

Looking at other species, humans can entertain “more differentiated relationships at a time” (for example as a sexual mate and a caregiver) compared to other species; social bonding would work at multiple simultaneous levels – a fitting example is that of “a couple dancing at a party,” strengthening at the same time their own relationship and that with “the broader social group” (ibid., 6).

The authors of the MBS theory propose to link the evolution of musical forms to the evolution of social structures, through the examination

²⁸ I will return on the difficulty of identifying supposed universal features of music: many studies, in my opinion, risk to superimpose the authors’ cultural biases while generalizing certain music features, such as the diffusion of the interval of the octave – rarely found as perfect octave; the concept of octave varies culturally and historically, depending on the tuning system. See the studies of McDermott et al. 2016 of the Amazonian Tsimane’ people, in Bannan et al. 2023.

of “cross-cultural analyses”: “larger-scale, hierarchical societies” would “emphasize the role of ‘presentational’ music, while “smaller-scale, more egalitarian societies” would “emphasize the role of ‘participatory’ music” (ibid.). Presentational music is characterized by a smaller number of performers and a large but passive audience, while in participatory music there is “little or no distinction between performers and audience” (ibid., 6; Lomax, 1968; Turino, 2008).

The question of ‘presentational’ or ‘participative’ forms of music has become an emergent question in the process of this artistic research, (see chapter 3, *Imaginary Spaces*, 2016/2020) – a process that made me aware of this distinction and called for the opening of presentational toward participative forms of music-making.

As Savage and others note, current Western society is “dominated by presentational music,” with “technology-driven aspects of contemporary musical practice”, such as “static audiences, solo listening, and control by global corporations” (Savage et al. 2021a, 6–7). Nevertheless, “participatory contexts retain” a “social and emotional potency” that cannot be overlooked (ibid.).²⁹

²⁹ Participatory forms of music-making are to be distinguished from mass events where bonding may happen also for not positive reasons (see risks of collective emotional contagion in violent or totalitarian contexts; a “dark side” acknowledged by Mehr et al. 2021).

Evidence from across disciplines

Ethnographic evidence

Among, the “statistical universal” emerging from ethnographic studies (Savage et al. 2021a, 8), it is interesting to note the pervasive use of voice, both in the “modal register (chest voice)” and as “word use”. Modal voice, in linguistics, is considered the most common phonation type across languages, and is generally referred to as the register of speech (Esposito & Khan 2019, 1).³⁰

Even more striking is the constant presence of “dance accompaniment, group performance, isochronous beats, percussion instruments, few duration values, motivic rhythms, repetitive phrases, syllabic singing” (Savage et al. 2021a, 8), reported in similar “functional contexts” (ibid., Mehr et al. 2019) such as “communal ceremonies and rituals (...) healing, procession, mourning, storytelling, greeting visitors, praise/religion, and weddings” (ibid., 7) – all social contexts related to the shared meaning of music-making.

The ritual aspect would still be evident in present-day “communal rituals”, such as the concert form, where “social bonds” would be “cemented between participants and exclude non-participants in similar ways as other elite rituals” (Nooshin 2011; Small 1998; ibid). The Western concert would be a form of in-group social bonding, with “exclusionary” traits (Freeman 2000, 421–422, in Savage et al. 2021a, 15).

Outside ritual contexts, social bonding musical behaviours would be found in the dyad parent-infant (“lullabies and play songs”), in couples (“love songs”), and in “coordinating activities” such as “work songs and dance music” (ibid., 7). According to the authors, even “solo music” is not devoid of “social functions” or can “evoke social contexts” (ibid., 8).

³⁰ Esposito and Khan interestingly note though that breathy and creaky sounds are also used, in a minority of languages, ibid., 2.

Archaeological evidence

The “increasing group size” and the multiplication of “long-distance contacts” between various human groups (started about two million years ago) would have called for the development of new communication strategies beyond the ABMs, well before the raise of compositional language. The emergence of music instruments (at least 35,000 years ago) may have correlated with the need to “support larger social networks” and communicate at increased distances (Conard et al. 2009; Savage et al. 2021a, 9). Some caves, as well as of some outdoor places, seem to have been selected, at the end of Palaeolithic, for an acoustics favourable to music-making (Savage et al. 2021a, 9; Benítez-Burraco & Nikolsky 2023, 257)³¹

Significantly, the cave is Medusa’s hiding place, which betrays her archaic origins as a pre-Greek goddess (see section 3.3.3). Even today, it is not uncommon to feel the attraction of cave-like spaces for music-making, such as the Space of Free Arts in Helsinki (see chapter 5) – not by chance, a place fit for “social bonding” situations, as its recent use for contemporary live arts shows. For these reasons, I decided to realize *Sounding Bodies* there, a place where, in contrast with the Helsinki Music Centre, it is easier to shift to “participatory” strategies (see section 2.3.3)³²

Aspects of human development and social psychology

The above-mentioned theory also uses developmental and social psychological evidence, to support its hypothesis (for the developmental part, see 2.7.) The authors mention as relevant the music function of “emotional modulation,” more effective in infants, compared to language. Music would contribute to shape “children’s social bonds” (Savage et al. 2021a, 9).

³¹ Some stalactites may have been used as “litophones,” presenting “sophisticated scales” (Dams, 1985; in Benítez-Burraco & Nikolsky 2023, 257).

³² See images at <https://www.researchcatalogue.net/view/511491/2153226>.

The MBS theory underlines the importance of “synchronized behavior in large groups,” with an experimentally proved connection between “rhythmic synchronization” and “increased prosocial behavior,” for example in activities such as music games and choir singing (ibid., 10).

Neurobiological aspects

The authors indicate how neurobiological and perception-action coupling mechanisms (see also 2.6.9 and 6.3.2), underlying the social effects of music, provide a “functional explanation of the evolution of musicality” (Savage et al. 2021a, 10).

An important neurobiological mechanism in this context is the “dopaminergic reward system,” which is activated through the satisfaction of certain expectations – such as a successful prediction of “combinations of pitch and rhythms” (ibid.; Huron 2006). Interestingly, the activation of music perception areas in the brain is coupled with the activation of the motor system (see 2.6.9). The same process happens across individuals, involving “joint intentionality” and resulting in “self-other merging” (ibid., 10); for a discussion of the brain as a resonant organ and of its socio-musical implications, see section 3.2.3. An enhanced connectivity across brain areas would result from group experiences of music sharing.

Music perception happens through auditory-motor coupling in the brain: while auditory regions are involved in pitch and rhythm perception, movement regions are responsible for vocalization and dance perception (ibid., 10).

A similar process of “neuronal entrainment” is at work in the brain during the perception of rhythm: “rhythmic oscillatory activity” has been observed “in both the auditory and motor systems” (ibid., 10–11), “coordinating activity between separate neural populations” (Savage et al. 2021a, 11). A particular brain area, the arcuate fasciculus – “a bundle of connections” between motor and auditory areas (ibid.) – is activated during music-making; according to the authors, another piece of organic evidence

supporting the Music and Social Bonding hypothesis.

Interestingly, the perceptual phenomenon of experiencing chills to music stimulates enhanced “connectivity between auditory, social, and reward-processing areas” (ibid.; Sachs et al. 2016). Prosocial behaviours such as cooperating, perspective taking, and empathizing with others, engage the reward system as well.

Musicality in other species

Despite it being a disputed point among scientists, I find important to consider musicality in other-than-human species because of their connections with post-human philosophies (see 4.5, 5.1, 5.2). MBS theory considers musicality a cross-species phenomenon that goes beyond the function of sexual selection. “[L]earned animal songs (solo or duet)” may “serve multiple evolutionary functions” that may be connected to social bonding. In this frame, the invention of new melodic sequences is not only a human prerogative (ibid., Wiggins et al. 2018).

Conclusions about the MBS theory

About the relationships between music and language (Savage et al. 2021a, 14), the authors identify some overlaps, despite the “clear differences” (see next section, 1.5.): overlaps in structural content, defined as ““musilinguistic continua” between speech and song,” result in “intermediate forms like poetry and chant” (ibid.). This is particularly important for the present research (see the introduction to 2.3).

Contrarily to Brown (2017, 16), who posits the existence of a “linguistic wall,”³³ I consider this continuum to be open on both sides of music and language: many intermediate forms can still be imagined and

³³ According to Brown, “lexicality” differs from “musicality” because it would be a “categorical,” not a “continuous acoustic feature.” Brown 2017, 16.

discovered, without immediately jumping, as Brown writes, to the case of “a song with words” (ibid.).

From a neural point of view, similar or overlapping brain areas process “pitch, rhythm, and syntax” in music and language (ibid.); this point is nevertheless extremely complex and needs continuous updates, the concept of “individual plasticity” (Shilton 2022, 6; see section 2.5.1) being one of its most interesting aspects.

Other authors proposing that “the evolution of musicality may have paved the way for the evolution of language” (Savage et al. 2021a, 14) include Darwin (1981 [1871]), Brown (2000, 2017), Mithen (2005, 2009), Shilton and others (2020). The authors of the MBS theory also consider that music and language would “independently fulfil more adaptive functions than technologies or cultural artifacts,” which therefore vary to a higher degree across cultures.

2.4. Credible signaling music evolution theories

2.4.1 Contact calls in *Ohnfad* and *The end of no ending*

As we will see in the next sections, contact calls are one aspect of mammal behaviour that the credible signaling theories consider important, in the development of music and language. The pattern of ‘call-and-response’ is found in many musical examples, and, according to Brown (2017, 5), constitutes the basis of a music form found across human cultures, involving a soloist and a group.

As Mehr and others (2021) propose, the contact call behaviour occurs in at least two dimensions of human interactions, the dyadic form (between two persons) and the group form; group interactions can be distinguished in in-group (2.3.3) or inter-group interactions (2.5.1). As we will see, the theories of music as credible signal assign an utmost importance to either the intimate forms (such as the dyadic interaction caregiver-infant) or the collective forms (inter-group) – based on patterns

of defense, competition, or aggression.³⁴

Here I anticipate some connections with some of my works, where a sort of contact calls plays a central role. The first example, the electro-acoustic piece *Ohnfad* (2000, see section 4.2.1), can be considered a dyadic one: in the first part of the piece a voice (Tuuli Lindeberg) responds to recorded vocal calls, as emerging from the surrounding space; there are two female voices calling, of which one is my own (but the interaction happens at the dyadic level); I will expand later on the underlying layers of identity (section 4.2.1),³⁵ here I observe that these calls (musical-linguistic utterances) have a primal resonance, akin to that of the first dyadic calls in human life or in ancestral dimensions.

Other examples of contact calls, both dyadic and group-like, can be found in my work *The end of no ending* (see chapter 4): the most explicit case is the start of Part 2, where the singer's attention is solicited by a vocal and instrumental call (significantly, of a drum), followed by other varied iterations; the dyadic interaction becomes more complex with the unexpected inclusion (or intrusion) of a third voice (nonetheless representing another part of the singer's identity). The dyadic interaction is also present in the choice of the two vocal soloists: they both emerge from their own group (the ensemble) but, over time, they come to face their group (the village, the audience) from an outside position (see section 4.5).

In retrospect, also the choice to pair voice and frame-drum also has some ancestral resonances. Membranophones are ancient music instruments: cave paintings in Southern France depict what may be a drum from 10 000 to 17 000 years ago (Matt 2001, 5), while frame-drums date back to about 3000 BCE Mesopotamia (Jenkins 1977, 40; Doubleday 1999, 105). Not only are drum-like instruments widespread across cultures, but also the practice to modify or reinforce one's voice through a resonator is found in

³⁴ Here I find a gap in-between few examples of music functions, while, as Savage et al. (2021), among others, note, music is practiced in a wider array of contexts and functions.

³⁵ <https://www.researchcatalogue.net/view/511491/2156579>

present-day archaic cultures, such as in Inuit dyadic vocal games.³⁶

2.4.2 Music as a signal of cooperation and coalition quality

Another significant body of work (Mehr et al. 2021; Bannan et al. 2023) considers music a descendant of evolutionary adaptations for vocal signals existing across species, such as “territorial advertisements and contact calls” (Mehr et al. 2021, 23).

Music would be a “*credible signal*” communicating “overt information” to conspecifics (ibid.). For this reason, music would be a specific domain subsequently developed through “cultural-evolutionary processes,” and through a wide diversification across cultures (ibid.).

Mehr and others distinguish between “pre- and post-Darwinian conceptions of [evolutionary] design,” that is, between “*proximate*” (ontogenetic, individual-based) and “*ultimate-level*” (phylogenetic, species-based) explanations (ibid.).

Dunbar’s position is more nuanced, since his behavioural studies (1998, 2003, 2009) partly support the “social bonding” hypothesis (Savage et al. 2021), but also highlight the close evolutionary links between primate and human behaviour (Mehr et al. 2021): his theory (1998) is based on the social activity of ‘grooming’, from which gossip and language would descend, later updated (Dunbar & Lehmann 2013) with musical chorusing and laughter at the place of language. Grooming would have been gradually substituted by other social and communicative practices, due to the increasing group size and the higher time investment needed – the ‘cost’ of grooming (Bannan et al. 2023, 20).

Similarly, Mehr and others (2021) maintain that the cost of making-music must be matched to its advantages. There must be reasons why music, as a behaviour, is preferred, in certain situations, to other communication strategies – namely, language. Instead of social bonding,

³⁶ Excerpts from Inuit vocal games were included in my acousmatic work *Rooms of Elements*, 2006.

Mehr and others propose that music would descend from credible signals communicating coalition strength, group size, and cooperation ability (Mehr et al. 2021, 29) via effective vocalizations; infant-caregiver vocalizations would elicit and maintain parental attention, while infant-directed song would be “a co-evolved system” to negotiate “parental investment of attention” (ibid., 31).

The signal is supposed to work especially well when there is a conflict of interest with the receiver (competing sexual or territorial interests or different expectations for time investment). Territoriality would have played an important role: “loud auditory signals” being territorial in many mammals” (ibid., 29),³⁷ they would be plausible evolutionary candidates on the way to “human music.” (ibid.). This explanation would fit human rhythmic music in military and political contexts, with possible links to territorial questions (Mehr et al. 2021, 29).

Another argument is the valuing of “solitary living,” observed in about “70% of mammal species” (ibid, 26), in contrast with the supposed pervasiveness of social bonding. Music would support “cooperative sociality” but signalling “willingness and ability to cooperate over time,” rather than determining cooperation – supposedly achieved “by other means” (ibid., 29). Mehr and others privilege the time investment needed to achieve synchrony in musical behaviour over its bonding effects – an investment signaling coalition quality.

2.4.3 Credible signaling and gender dimorphism

Bannan, Bamford, and Dunbar (2023), in an interesting paper about human gender dimorphism and the pitch perception phenomenon of octave equivalence, join some of the above-mentioned positions.

³⁷ Some primates display “drumming-like behaviors,” audible at long distances, among their “territorial signals” (Mehr et al. 2021; Goodall 1986; Hagen and Hammerstein 2009). See section 2.6 for an analogous behaviour observed in elephants (Patel 2008, vii and 408).

Territoriality would be an important factor at the basis of sexual dimorphism in humans and in other species, as the physical difference between genders is “more pronounced in highly territorial species” (Bannan et al. 2023, 3). Male low vocalizations would relate to dominance rather than attractiveness to females, suggesting that human dimorphism would have arisen in the context of male-male competition (ibid.) rather than only for sexual selection.

Bannan and others acutely invite us to distinguish between bonding and cooperation: the function of bonding would be to maintain in-group “integrity and cohesion” (according to the authors, against “external threats”) (ibid.), while cooperation would happen in response to specific advantages (see 2.5.1).

The authors indicate in “communal chorusing” and “maternal crooning,” both with bonding functions, the earliest stages in music evolution (ibid., 24–25). Singing in male bonding contexts (since the Neanderthal) would have had an aggressive and defensive function, with dancing and singing arising to celebrate hunting expeditions.

The (almost) exact interval of an octave separating male voices from female and children’s voices would echo the acoustic nature of harmonic sound. In-tune unison singing would be a possible representation of “stability, authenticity, and salience,” in a word it would convey “credibility” (ibid. 14, Mehr et al. 2020).³⁸

Although I appreciate the attempt to provide a reason for male and female voices being an octave apart,³⁹ the conclusion that language and

³⁸ While it is true that speech and song are relatively harmonic, I find arguable whether unison or ‘well-tuned’ singing may enhance social bonding more than ‘out-of-tune’ singing (although the authors mention the need for future studies). In addition to that, in many folk traditions or everyday contexts is not found any exact intonation, as intended in the Western classical tradition; nonetheless, the sense of communal bonding remains significantly strong.

Similarly, I am not convinced that the perception of harmonic sounds would be “determinant of social listening,” since it does not explain why humans also appreciate environmental or inharmonic sounds, with diverse spectral characteristics.

³⁹ Since the conventional explanation of body size does not exactly correlate with this interval, Bannan et al. 2023, 12.

music would be arisen only when male voices could be perceived as being acoustically ‘the same’ as those of females and children, in my opinion risks perpetuating a dangerous divide between the genders.

2.5 Culturally driven music and language evolution theories

2.5.1 Music and language as affiliative interactions and cultural behaviours

Shilton’s invitation to move from a conception of music as “reified auditory stimulus” to music “as interactive technology” (Shilton 2022, 1), signals a consideration of cultural and site-specific factors as driving forces in the development of music and language. This perspective considers biology and behaviour as closely intertwined. Shilton aligns with Savage and others (2021) in considering music an activity facilitating “social bonding,” or, more precisely, “affiliative interaction,” both in interpersonal and social contexts (such as rituals).

Along my artistic trajectory, I became increasingly aware of the interpersonal value of music, as an utterance always directed at an ‘other’ (see 3.2.1–3.2.2); many rehearsal situation have shown layers of “intentional, gestural, and emotional alignment” (Shilton 2022, 2; see 6.4.2); it is undeniable that music retains ritualistic aspects, as a collective gathering characterized by a communal attention on something charged with value and meaning (that is, with symbolic significance) (Shilton et al. 2020, 2) – an aspect of human behaviour and culture transmitted to us through the millennia. There are many examples of music with a ritualistic aura throughout my works, for instance the circular movement opening *Between words and life* (see section 4.4.4) and the transition to the third part of the piece: in both cases, two performers align through movement, gaze, and gestures, in a semi-ritualistic way.

2.5.2 Music and language as interactive technologies

Dor Shilton's position can be seen as an intermediate step between coevolution and culturally driven music evolution theories (the present distinction is a porous one): aligning with Podpliniak (2017), Shilton considers music and language to be “a collective invention followed by genetic accommodation” (Shilton 2022, 1).

The author has the merit to point out a common bias of Western music scholarship, the reduction of music to “a reified auditory stimulus,” something “to listen to rather than to interact with” (Shilton 2022, 1; Cross 2012; Turino 2008). This would be the reason for the current separation of “sound from movement, listening from active participation, (...) aesthetic experience” from social experience (Shilton 2022, 1). This conceptual split would be responsible for the emphasis placed, in music (and, I would add, in language) evolution research, on their supposed utility or uselessness (see 2.3.4 for the ‘null-hypothesis’ and the ‘auditory cheesecake’ theories of music). Shilton points out four reasons why this kind of approach risks being reductive: music should be considered part of a “greater communicative toolkit” (ibid., 1–2); “musical behaviour” should be placed in the context of the human “social niche” of the last two million years (Shilton 2020; 2022, 2); the consideration of recent theories about “developmental plasticity, niche construction and genetic accommodation” (ibid.; Killin 2016; Tomlinson, 2015). Last but not least, music-like behaviours could not be pinned down to a single function, due to their multifunctional and complex nature.

Shilton (2022) proposes expanding and complementing the framework of music evolution for social bonding (Savage et al. 2021a, see 2.3.4) by considering music as an interactive technology. Music would have emerged thanks to four factors: “technology, shared intentionality, extended kinship, and multilevel society” (Shilton 2022, 1).

The author presents two theories of affiliative interaction (ibid., 2): biobehavioural synchrony (from a neurobiological perspective) and

interaction rituals (from a micro sociological perspective). Biobehavioural synchrony is a fundamental process of “intentional, gestural, and emotional alignment,” at the base of mammals’ communicative capacities – including coordination and alignment of “gaze, touch, movement and vocalizations, heart rate coupling [see 3.2.4], endocrine fit and brain-to-brain synchrony” (ibid.; for the significance of brain-to-brain coupling in music making, see Brattico & Vuust 2017).

What music would add to this communicative repertoire would be a general tendency towards “temporal alignment,” resulting in the phenomenon of “entrainment,” that is the accurate coordination at a musical rhythm of two or more individuals over time.⁴⁰ Music would allow a “co-construction of a stable periodic framework” (Shilton 2022, 2). Interestingly, Shilton observes that periodicity does not account for all musical interactions (ibid., 4).

As a group activity, music would testify to an increased dependency of humans on one another, and “on socially created technologies” (Shilton et al. 2020), in the process of increasing bonding capacities (ibid., 2). An important role would be played in rituals by shared symbols and cultural values: sacrality would be achieved through joint group attention, producing transformative energy – a process betraying underlying behavioural laws (ibid.; Lewis 2013).

Shilton notes that interaction rituals can equally produce or test social solidarity (in case of their failure). Since every relationship needs to be periodically tested, ceremonies and rituals respond to the need to reach a “felt (...) sense of belonging,” beyond simple verbal assurances (ibid., 3).

⁴⁰ Temporality is biologically inscribed in many species in the form of periodicity, for example in heart rate and gait; according to Shilton and other scholars – Ravignani et al. 2014; Schachner et al. 2009 – the capacity to entrain while listening to music would not be as widespread outside the human species. The question nonetheless needs further study, see Patel 2009; Krueger 2014, 3.

Different kinds of behavioural alignment

In language, as in music, “different types of alignment” would simultaneously happen through “gestures and vocalizations” (ibid.). Conversations may retain a “degree of periodic and tonal alignment,” besides providing “alignment of attention and emotion” between speakers (ibid. 3; Hawkins 2014; Robledo et al. 2016; Brown 2017). Overlapping forms of “speech, song, and movement,” (“multimodal communication”), still found in some current cultures, would have been widespread among past hominins, who were in the process of acquiring specific skills in each modality (Shilton 2022, 3).

Music specificity would reside in a greater degree of “temporal and tonal alignment,” while language would primarily focus on conveying propositional meanings (ibid.).

Following Savage et al. (2021a, 6), the more refined the ritual, the narrower the participation, the more “elaborate performance techniques” (Shilton 2022, 4).

Shilton raises the question of why the emergence of music would have been necessary if “less accurate forms of alignment” would seem to be “sufficient to create attachment bonds” (ibid, 4); for example, young infants bodily react to rhythmic music but cannot precisely entrain yet (Longhi 2003; Patel 2008, 405). Shilton answers that music would allow the interaction of larger groups over longer periods of time, thus reinforcing “emotional contagion” and trance (ibid., 4), with heightened hormonal release (ibid., 5). These elements would make of music “a potent technology of engagement” (ibid.).

Culturally-driven evolution

The author rightly observes, in my opinion, that considering music a human technology does not mean separating it from “biological adaptation” (ibid., 5; Patel 2008; Pinker 1997). Shilton nevertheless supports the idea of the precedence of cultural innovations over

evolutionary adaptations, proposing “a phenotype-first mode of evolution in which ‘genes are followers, not leaders’” (ibid., 5; West-Eberhard 2003, 20). He argues for an amended coevolution theory, where cultural traits would bring about biological changes (Shilton 2022, 6). “Cumulative culture” through “social learning” would add yet another element, where selection would be “guided by a culturally constructed niche” – an inverse process compared with Darwin’s “gene-first” theory of evolution (ibid., 5–6).

At the basis of language⁴¹ there would be a “culturally-driven coevolutionary process” where “interactive exploration” would have led to “communicative innovations,” thanks to “individual plasticity” (Shilton 2022, 6): in short, “first we invented language, then language changed us” (ibid.).

The pressures of different social environments and their relative communicative needs would shape the different existing languages. Increased “phonological” invention (that is, linguistic sonic variations) would occur with the increase of exchanges with foreigners.⁴² Language would have emerged to respond to changing social environments where “cooperativity and codependence” would have played a greater role (Dor & Jablonka, 2014). Archaic forms of language would have been based on a simpler system of “mimetic communication” (Shilton 2022, 6; see section 2.5.2).

According to Shilton, music would be a technology in the same sense that humans learned to use tools (see 2.6; Patel 2008, 412). Nevertheless, the overlap of brain parts controlling both tool manipulation and speech would suggest contemporary developments in other modalities, such as face and vocal expressions (Shilton 2022, 6.; Stout & Chaminade 2012).

⁴¹ See the author’s previous publications on language evolution, Dor & Jablonka 2000, 2010, 2014

⁴² Some writers have been reported to have invented more frequently neologisms when writing in another language, see the case of Bae Suah, writing across German and Korean, *The Guardian*”. <https://www.theguardian.com/books/2020/jan/27/bae-suah-i-was-practising-my-typing-and-wrote-my-first-story-by-accident> read on 7.4.2023

Shilton hypothesizes that the human ‘technological niche’ would have appeared early and would have developed over a long time, in an “evolutionary spiral” where the reliance on a specific technology would have driven its improvement, increasing the reliance on it, and so on. Shilton applies the same mechanism also to music and language, intended as communicative and “interactive technologies” (Shilton 2022, 7).

Shared intentionality and mimetic communication

Shared intentionality and mimetic communication would have been key factors in this process. With *Homo erectus* technological skills became more refined, and, together with big-game hunting and long-distance migration, “new modes of social transmission” would have become necessary. Nevertheless, “explicit teaching” (based on language) would not have been immediately needed, since “social learning” (based on mimetic communication, “enabling shared intentionality”) would have been prevalent in most of the everyday activities (Shilton 2022, 7). Mimesis would have “transformed the environment into an intersubjective space” (ibid., 7), increasing the attention to others’ intentions and the need to learn about them.

These concurrent developments would have led to a “multilevel society,” where kinship would have become “more flexible” and “socially constructed” (Shilton 2022, 8), rather than purely biological.

When human communities, which have previously been comparable to non-human ones (practicing a combination of group gathering and dispersal), started to stabilize, “a new midlevel social entity” appeared, the “band” (Shilton 2022, 8). This change, with the use of fire, introduced the “residential camp” (dated at about 400,000 years ago or even sooner, ibid.). This new form of a “sustained copresence” (Shilton 2022, 8) would allow for new forms of group interaction and experimentation. In this new context, music may have been useful for “predator deterrence, coalition displays and play” (ibid.). The use of fire, reuniting communities “in a single

location,” would imply a psychological shift from “extrinsic” to “intrinsic purpose” – a change favourable to the development of music (ibid.).

Conclusions about music as cultural technology

In conclusion, Shilton considers music to be, from a psychological perspective, a kind of “biobehavioural synchrony,” and, from a sociological perspective, an “interaction ritual” (Shilton 2022, 9). He agrees with Savage and others (2021) about that “social bonding” has greater relevance for music than for language; the author proposes to explain this hypothesis with the focus of music “on the interactive event itself” rather than on present or imagined “external objects” (Shilton 2022, 9).

The author considers “costly signaling” an important factor in music, indicating reliable “attachment and commitment,” be it in a couple, a group, or a community. The complexity of “ritual behaviours,” such as musical performance, would suggest that they are in-group rather than inter-group activities. The emotional and affective sides of these experiences would make them crucial to the maintenance of diverse relationships, from the most personal ones to public “alliances and institutions” (ibid., 9).

Emphasizing “social co-production and brain plasticity,” Shilton proposes to approach cross-species experimentation in a different way, with musical ability seen “as a plastic response to a form of social interaction” (ibid.; Patel et al. 2009); “social motivation and long-term learning” should be part of the experiments: a form of social learning taking into account the non-human participants’ age, since learning happens differently in humans during “developmentally sensitive periods” (Shilton 2022, 10).

As Savage and others (2021a) have noted, this study predicts the prevalence, across cultures, of “participatory music making over solo performances,” which would be, in his hypothesis, “more common during the night,” and would happen on regular social occasions (Shilton 2022, 10).

2.5.3 Vocal mimesis and musical meaning

At the threshold of sign and meaning

Tolbert interrogates the subtle border between verbal and musical meaning, with a semiotic orientation. She advocates for a continuity between voice and vocality, vocal mimesis and (verbal and musical) meaning. Voice would bear the presence of the iconic and indexical animal voices, which would have crossed the threshold of symbolization developing towards music and language. This makes me reflect about the moving threshold between vocal and linguistic signs in my work *Sounding Bodies* (see chapter 5), where words of native language(s) enter and leave referential meanings, according to their contexts, interpersonal perspectives, and spatial situations (see 5.8 for the participants' varying perceptions of this threshold).

A semiotic approach

Tolbert (2001a, 2001b) brings the subject of music and language evolution back to philosophy, taking a semiotic perspective (Kristeva 1984). She rightly considers the way the question has been approached in many scientific studies as rooted in the Western perspective of “human uniqueness,” and in a certain conception of “knowledge” (Tolbert 2001b, 451). Music would often be considered as the supposed “proof” of evolutionary continuity and/or discontinuity between humans and other animals” (ibid.), that is, in theories of music, being the “missing link” between “animal communication” and “language proper” (ibid.; Glaser 2000). The author affirms that, in post-structuralist and feminist accounts, music would be considered as a “feminine excess,” something going “beyond the contained masculinity of language” (Tolbert 2001b, 451). Tolbert warns against the danger of falling into the “feminization” of music, hence its supposed ‘enigmatic’ character (Tolbert 2001b 452–54; Tolbert 2002).

In these kinds of thought, among which Tolbert includes Kristeva's 'geno-text' (1984, a "prelinguistic experience of the maternal voice") and the well-known Barthes' 'grain of the voice' (2009 [1977]), would reappear the old binaries: "male/female, mind/body, reason/emotion, human/animal" (Tolbert 2001b, 452). According to Tolbert, these concepts developed in the context of "Western classical music" of the period "1750-1900" (ibid.); that is, a Eurocentric or North American historical context, supporting a certain conception of music.

Metaphoric ways of understanding voice ("having a voice") would be linguistic, while ontological ones ("*to be* a voice" intended as "being itself") would be musical (Tolbert 2001b, 452): the latter point has important resonances with the identity questions posed across my research, where "to be a voice" (human or instrumental) ultimately means to reveal one's identity to the world (see sections 3.2.2 and 4.2).

According to Abbate, the "musical voice," either "emitted from a human throat or *the proxy of a musical instrument*," would convey an "embodied social presence" potentially disrupting the "authorial voice" by invoking multiple, contradictory voices, and finally obliterating the so-called "reasoned voices of language" (Tolbert 2001b, 454, emphasis added; Abbate 1991; Smart 2000). This passage correlates well with the importance accorded to the concept of multiplicity in the present research – both in a philosophical and in a psychological sense (see chapter 3); not only that, but the disruptive character of the voice is evident in works such as *The end of no ending* (with the Afghan voices, see 4.5.3) and *Medusa* (see 6.3.3).

According to Tolbert, however, what would matter is what⁴³ these voices "speak" and "mean": a separation of "form and content," as well as of mind and body, would be inherited from the Romantic ideology, for which music was an "autonomous structure" (Tolbert 2001b, 454–455) – a conception that postulates the divide between form and content, "*musical*

⁴³ With Arendt, I think it is more relevant to ask 'who' these voices are, rather than 'what' they mean, Arendt 1998 [1958], 179; see section 3.3.1.

and *extramusical* meaning” (ibid., 455, emphasis added; for an overcoming of this divide, see Kim 2023b, 60). This divide is echoed in the “*absolutist*” and “*referentialist*” debates about musical meaning from the beginning of the 2000s - implying the artificial separation of “cognition and affect,” which is typical of Western “models of emotion” (Feld & Fox 1994, 28; see section 2.6.7).

For Tolbert, it is important to liberate the discourse on music and emotion from its linguistic accounts,⁴⁴ assuming instead an ethnomusicological perspective, with “musical style” signalling “world coherence” through emotional “expressions of core identity” (Tolbert 2001a, 455). The “phenomenological experience of embodied vocality” would be the “point of differentiation between music and language” (ibid., 456). The author warns against conceptions of music and language that would objectify “music as emotional, direct, and unmediated, as opposed to the rational, mediated referentiality of language” (ibid.).

In her opinion, the protolanguage theories consider the continuum between speech and song as “closer to the animal side of the human/animal divide,” relegating music to the “not language” box, which implies a conception of language as the ultimate human achievement (ibid., 458–459). According to Tolbert, instead, language would represent a development from the “*iconic* and *indexical* reference” of animal vocalization to the “*symbolic*, conventional reference” of human verbal communication – implying the “invention of arbitrary reference” (ibid., 459)⁴⁵

Tolbert supports a unitary conception of voice: following Donald (1991; 1993, 1998, 1999; in Tolbert 2001a, 88), she notes that a “general *mimetic* representational ability”⁴⁶ – movement imitation and movement modelling referring to memories or to the immediate context – would

⁴⁴ In my opinion, here she misses considering the vocal and embodied experience of language itself.

⁴⁵ Here the author refers to the semiotic philosophy of Pierce, Buchler 2014/1940, and to Deacon 1997, who theorized the coevolution of language and the brain.

⁴⁶ For an account of mimesis in embodied music cognition, see Cox 2001, 2011, 2016.

have evolved before language; “a specialized vocal mimesis” would have later led to language. This hypothesis is diametrically opposed to Brown’s one (2000, 2017) where instead movement would have followed vocalicity (see 2.8). According to Tolbert, with the advent of mimesis and vocal movement humans would have crossed the “Symbolic Threshold” (Tolbert 2001b, 460), implying a social dimension and a theory of mind (including the access to others’ intentions).

Bodily kinaesthetic elements

The author calls on the dancer and philosopher Maxine Sheets-Johnstone (2010 [1990]),⁴⁷ who theorizes a primacy of movement through “tactile-kinesthetic invariants” – “animate forms” such as “body size, posture, attitude, orientation, movement, gesture.” According to Sheets-Johnstone, “corporeal invariants” would predispose animals and humans “toward iconicity,” that is, signals easily understood by other conspecifics (Sheets-Johnstone 2010 [1990]; Tolbert 2001a, 89). “[R]eference and iconicity” (Tolbert 2001a, 123), would be “always meaningful in a non-arbitrary way” and would therefore carry “essence.” In this sense, the body would become a “semantic template” (Sheets-Johnstone 2010 [1990], 4) conveying “internal states” (Tolbert 2001a, 89).

Tolbert provides a link between the conception of the body as a semantic template and emerging ideas of embodied cognition (Rizzolatti & Arbib 1998), including the function of “mirror neurons” in the brain, activated both when executing and assisting to a motor action,⁴⁸ which play a central role in “social understanding” – as an understanding of the “motivations and intentions” of the other(s) (Tolbert 2001a, 89–90).

Along with the advocates of “credible signaling,” she is also interested in the reliability of the signal, in this case of the verbal signal: the

⁴⁷ Author, among others, of *The Corporeal Turn: An Interdisciplinary Reader* (2009).

⁴⁸ For a later conception of mirroring and representation see section 3.2.3, Ryan and Gallagher 2020

later distinction between face value and non-reliable communication would have been the discriminating point “between voice and vocality,” leading to the typically human feature of language (Tolbert 2001b, 460). While, according to Tolbert, most conceptions of language have ignored its “prosodic, emotional, and social aspects” in favour of “referentiality” (ibid., 463), general “processes of vocal mimesis” would underly the capacity to form symbols (Tolbert 2001a, 92).

Since music would enclose “the bodily and socio-cultural conditions of symbolic representation,” Tolbert supposes it would have coevolved with language (ibid., 92). Differentiated from animal vocalizations (indexical expressions of pure emotion), music would reveal the emotional substrate of “symbolic representation,” along with “the social understanding” making it possible (ibid.).

In conclusion music, carrying “cultural truth,” would be always “locally meaningful,” its meanings being situated in a particular society, situation or style (ibid.). The author advocates for an intermediary position of music (on the continuum music-language) that can never be solved in one sense or the other: an “interdependence of social and material voices,” where music would signal a “socioemotional guarantee” of authenticity (Tolbert 2001b, 463).

The last two points are especially meaningful for this research: the positionality of any musical act and musical understanding; and the intermediary position of music, that is the interdependency of song and speech (see 2.3.1).

2.5.4 Connections and observations

The theory review presented here aims to provide a general panorama of the ideas about music and language evolution developed during the last twenty-five years across different disciplines, with an attempt to approach the problem from as many angles as possible.

My hypothesis is that there are deep and ancient connections

between these two ways of being vocal, the human voice and the instrumental voice, as they appear in music and language.

As previously mentioned, it is crucial to define the terms of the question, that is, what is meant by music and language: many of these theories propose to shift the focus from music to musicality, as a biobehavioural capacity shared by the human species,⁴⁹ and from language to protolanguage, as a capacity for communication as ancient as the species *Homo*, a form anticipating more refined communication capacities. I find this approach very useful, since it shows the utility of broader and more flexible definitions of music and language – making it possible to hear music and language shared qualities.

From the start, in the series of developing artistic artworks, my interest was not drawn to song proper or language proper but to their numerous, ambiguous yet fertile intermediate forms – belonging to the deep expressive and communicative capacities of the human voice.

Among the useful points emerging from this theory review is the idea of the social dimension of music and language: even without considering music as an overarching evolutionary function for social bonding, music always implies a relational aspect (be it in smaller or larger groups). The importance of the interpersonal dimension has increasingly come to the fore during the present research process: among the artworks presented here, two – *Imaginary Spaces* (2016/2020, chapter 3) and *Sounding Bodies* (2020, chapter 5) – contain elements of participatory music. As a composer, the process led me from a ‘presentational’ interpretation of my role to a ‘participatory’ one, implying more porous boundaries between the roles of composer, interpreter, and listener.

As I tried to underline through this chapter’s structure, another line of demarcation is that between evolutionary theories placing the emphasis either on biology or culture. In my opinion (as an artist), I find it more

⁴⁹ And possibly by some non-human species, see Patel et al. 2009; Verga et al. 2022.

interesting to dwell in the intermediate space between biology and culture than to consider one more important than the other: music and language are undoubtedly multifunctional and complex phenomena that cannot be described solely from one of these perspectives, but some understanding can hopefully be reached by considering their interconnections. Generally, I find the idea of the interdependency of biology and culture plausible, where the question of which of the two comes first is not, in my opinion, the most important one. If we consider behavioural variations or the discoveries of new tools introduced and transmitted in non-human groups to also be ‘cultural innovations’, it must be difficult to tell when culture really started.⁵⁰

Although it is commonly considered that there can be no culture without symbolic capacity and a theory of mind (that is, consciousness), it is difficult, in my opinion, to assign a precise line of demarcation for the origin of any of these categories, to measure how much of them was or is present in any living being, and at which point of their evolution. Some degree of symbolic capacity or of consciousness must have already been there in remote times (I find it difficult to imagine groups of hominids without any form of culture) – not to mention that symbolic capacity and consciousness are far from being fully understood.

For these reasons, I am more interested in exploring the non-representational qualities of music and language (without denying their representational features) than in reaching conclusive answers about their function or meaning: that is, to focus on their affective layers, their capacity to communicate movement and relation from body to body, in a word, “the vitality and interest of life” (Malloch 2009). These layers have been approached through theories of human development (see 2.7).

Among the most recent research approaches, Jin Hyun Kim (2023a, 2023b)⁵¹ invites us to consider the importance of non-propositional parts

⁵⁰ As Derrida noted, the ‘origin’ is never to be found, as there is always something potentially preceding it (Derrida 2016 [1967]; Tolbert 2002, 182).

of language, which not only are among the most efficacious communication means, but also constitute the majority of linguistic interactions at the interpersonal level.

2.6 Music and language in music psychology

2.6.1 Why music psychology

The motivation for including here the perspective of music psychology was stimulated by the questions of how we perceive, learn, develop, and make sense out of music and language during a lifetime, whether there are overlaps in these processes, and of which kind.

Significantly, Patel chooses to focus on the “hidden connections” (Patel 2008, 5) between spoken language and instrumental music. It is interesting to reflect about the similarities and differences of such a choice, compared to mine: while the “hidden connections” between speech and instrumental sound have been my starting point as well, I soon developed an interest, through my artistic practice, for enlarging and enriching my approach to speech and, later, to instrumentality – revealing layers of vocality. Patel instead has a narrow approach to vocality, limiting his research to speech or to vocal music forms that make use of an intelligible text (*ibid.*, 342).

Although I am conscious that experimental psychology can give only partial answers (as science does, focusing on discreet elements rather than on their continuity), I find important to give account of this wide study (one of the few specific ones on the subject), of which I appreciate the attempt to push the comparative method to virtually all the aspects of language and music.⁵²

What is interesting in the music psychology approach to the ques-

⁵¹ “The musicality of interactive musical art,” presentation given at the Sibelius Academy, Helsinki, on 2.2.2023.

⁵² This being also one of its weaknesses though, since, for example in music, there are other aspects to be considered, besides the traditional categories examined by Patel.

tion of music and language is a first shift from a supposed objective acoustic reality to the activity of perception, that is the cognitive processes at work during the experience of language and music.

2.6.2 A comparative and interdisciplinary work

Patel's *Music, Language, and the Brain* (2008) is a comparative and interdisciplinary work involving linguistics, cognitive psychology, music cognition, and neuroscience. An expert on the biology of human music, Patel interestingly looks at the question of music and language not only from a Western perspective (as is too often the case) but also introduces elements from extra-European biology and culture, such as Asian music and fauna (for example, he mentions the “drumming abilities of elephants in Thailand”) (ibid., vii and 408).

The author examines every musical parameter from both a musical and linguistic point of view, comparing “language and music at structural and neural levels” (ibid., 159); the author analyses and compares musical and linguistic sound systems, individuating “sound category learning” as a central connection (I will expand on this point in 2.7). Patel follows a similar comparative method examining rhythm, melody, and syntax (see 2.6.1–2.6.4), searching for both similarities in and differences between the phenomena of music and language. He dedicates a chapter to the debated question of musical meaning, on which I will not expand further (see above 2.5.2).

The work also includes a chapter on the evolution of music and language: while in the case of language there is, according to Patel, “enough evidence” to consider it a trait targeted by natural selection, the same cannot be said of music, which he rather sees as a ‘technology’, an invention transforming human life (ibid., 412) and the brain itself – a form of brain specialization observed, at various degrees, in musicians and music practitioners. More recently, he updated his view (Patel 2018) to include “exaptation⁵³ and gene-culture coevolution of musicality” (Savage et al.

2021b, 136).

According to Patel, language and music is what “define us as humans” (ibid., 3), since humans “are unparalleled in their ability to make sense out of sound” (ibid.). Notwithstanding his commitment in researching non-human musical abilities, he advocates for a distinct human difference in this respect.

Patel questions the belief that music and language are processed independently in the brain. He describes the human ability to understand sound as the ability to convert “complex acoustic sequences” into “perceptually discrete elements,” such as “words and chords,” organised in hierarchical structures. In this complex perceptual process, Patel sees more commonalities than differences, since, with both music and language, humans use similar “basic processing mechanisms” (Patel, 2008, 4):

- forming “learned sound categories” (pitch intervals being one of them, ibid. 22)
- "extracting statistic regularities from rhythmic and melodic sequences”
- integrating the listened elements “into syntactic structures”
- extracting “nuanced emotional meanings from acoustic signals” (ibid., 4)

2.6.3 Pitch and timbre

Regarding pitch and timbre, Patel compares elements of language (vowels, consonants, and pitch contrasts) with elements of music (timbres and pitches): the focus is on the relationships between native language and native culture, since humans seem to present an imprint for both language and music (ibid., 9), where the native sonic environment plays an important

⁵³ Exaptation happens when “a trait is put to new use, and is functional, but not shaped by selection for that purpose.” Savage et al. 2021b, 136..

role (Juszyk 1997, 107).

Patel affirms that pitch is “a primary basis for sound categories in music,” while timbre is “a primary basis for categories of speech (vowels and consonants)”: in both cases, it is a cognitive process of “sound category learning” (ibid., 10), where, although the outcomes (music and speech) are different, the “*processes*” present “an important degree of overlap” (ibid.).

Both music and speech are “‘particulate’ systems,” that is, they combine “discreet” parts of little individual significance in complex structures with a “great diversity of meaning”⁵⁴ (ibid.). Interestingly, Patel underlines that the ‘particles’ of speech and music are not “physical” but “psychological entities” that need to be learned (Patel 2008, 11).

Patel follows Rodriguez’s (1995; in Dowling 2001, 470) definition of music as “sound organized in time, intended for, or perceived as, aesthetic experience.” (ibid., 12).

Many cultures make use of “organized [musical] systems of pitch contrasts” and consider “musical timbre” important. Patel acutely observes that it is more useful to examine intervals than chords, since “intervals are more widespread” (Patel 2008, 12).

Regarding the numerous musical “perceptual aspects other than pitch” (“loudness, length, timbre, and location”) (ibid., 12), Patel observes that “pitch is the most common dimension” upon which musical systems are based. He states that the reason for this could be the “multidimensional” nature of pitch perception, for example in the phenomenon of “octave equivalence” (ibid., 13; see 2.4.2), which reflects “the neurophysiology of the auditory system” (ibid., 14). Patel invites us to distinguish between so-called “natural” intervallic systems (as in the European construct of a ‘natural harmony’) and the “phonological systems” (“organized systems of pitch contrasts”) found in non-Western cultures (ibid., 21).

⁵⁴ This is an argument used by those who doubt about non-human musical or linguistic abilities, since largely diversified sound structures are rarely found in other species. Patel considers speech and music to be “biological sound systems,” as particulate as the DNA (ibid., 11) – betraying a biologist’s perspective.

The author observes that in both speech and music “the inherent properties of the auditory system” has an impact on the “‘learnability’ of certain categories and contrasts” (ibid., 22): namely, there are perceptual limits “on the number of sound categories” that are possible to distinguish and to remember (ibid., 21). This would be the reason for the great diffusion of asymmetric scales across different cultures (ibid.).

2.6.4 Rhythm

About musical rhythm, Patel notes how “nonperiodic aspects of rhythm” play a key role in language: language has rhythm’s “systematic temporal, accentual, and grouping patterns,” but the “recurrence of stresses, syllables” and other “linguistic unit[s]” is not regular. Interestingly, the author says, “abandoning a fixation on periodicity” enables one to think more freely and broadly about “speech rhythm” and “musical rhythm” (Patel 2008, 159).

Patel & Daniele (2003) compared the speech rhythms of various languages with musical works by composers who are native speakers in each language (ibid., 161). This work was later extended in a paper by Ding et al. (2017, with Patel as co-author), where temporal modulations (that is, tempo variations) are compared in speech and music.⁵⁵ The results confirm a correlation between speech rhythm and musical rhythm, a phenomenon depending, according to Patel, on how we internalize specific patterns of our native language(s), through the process of “statistical learning,” (Patel 2008, 163; see section 1.7).

Developing the analogy between linguistic and musical rhythm, Patel examines how native language may impact on “nonlinguistic rhythm perception”: that is, speakers from different languages will perceive

⁵⁵ Distinguishing between the three categories of “‘stress-timed’, ‘syllable-timed’, and ‘mora-timed’” languages; among the latter are Finnish and Japanese, which rhythm is based on syllable weight, ‘mora’ - from Latin ‘linger, delay’, a unit in phonology determining syllable weight. See Hoerqvist 1985.

rhythm in different ways (Jakobson et al. 1952, 10-11; *ibid.*, 168). This would mean that each of us has a ‘language bias’ when making sense of any kind of sound; it is interesting to compare this view with Jusczyk’s ‘weighting scheme’ in language acquisition (a case of continuous development, see 2.7). As Ihde affirms (2007 [1976], 115–116) from a phenomenological viewpoint, we tend to perceive any sound as a ‘voice’ (see 4.1). As I explain in 4.1, however, I am not convinced about the hypothesis of the ultimate linguistic nature of auditory perception, which would confirm that human language was fully innate.

Patel concludes that, based on the recent results, “the perception of rhythmic grouping (...) actually varies by culture,” according to “the rhythm of speech.” (*ibid.*, 173) He rightfully underlines how more “cross-cultural work” is needed in this domain (Patel 2008, 173).

The correlation in the perception of speech and music is confirmed by brain studies (see 2.3.4, Savage et al. 2021a, 10; 2.6.4, 2.6.6); for example, the “grouping of events into phrases” (Patel 2008, 173) is achieved through the same patterns, with “an overlap in brain processing” in both speech and music (*ibid.*, 174).

2.6.5 Melody and prosody

Similarly to Brown (2000, 2017) and Mithen (2005, 2009), Patel compares ‘melody’ and ‘prosody’ – respectively presenting a horizontal organization of pitches and speech contour (see 2.1, 2.7). Rightfully, Patel calls for a definition of melody that “encompasses both music and speech” (Patel 2008, 182), proposing “an organized sequence of pitches that conveys a rich variety of information to a listener” (*ibid.*, 174).

Among the differences, as in the case of rhythm, there would be a degree of regularity in music not to be found in language.

From a scientific point of view, “linguistic intonation” relies on the contour of the fundamental frequency in a sentence (*ibid.*, 186). However, while “a phonological analysis of [speech] intonation” (*ibid.*, 187) will give

a high number of pitches, on the perceptual level the “listener’s cognitive system” will select only a few, the salient moments in a phrase (ibid., 189).

Patel views prosody from a structuralist viewpoint, assigning a minor function to affect, which is indeed an important factor in the production and perception of prosodic contour.

In conclusion, Patel affirms that melody and prosody (considered “two types of melody”) are “more closely related” than generally thought, but “further research” is needed to better understand the relationships between them (ibid., 238).

2.6.6 Syntax

While there are relevant syntactical differences in language and music, there also are striking similarities in their hierarchical and logical organization (Patel 2008, 267).

As mentioned above, Patel aims to go beyond the conception of independent cognitive systems dedicated to language and music (ibid.; Fodor 1983; Elman et al., 1996).⁵⁶ Further neuroimaging studies of healthy individuals show that there are more overlaps than previously thought in the “processing” of “syntactic relations in music and language” (Patel 2008, 268).

According to Patel, although music and language present specific “syntactic representations (e.g., chords vs. words),” they may “share neural resources” to activate and integrate them during perception (ibid. 268; Patel 2003). That is, linguistic and musical representations would be stored in separate areas of the brain, but there would be neural overlap in how these representations are activated (Patel 2008, 268).

The picture is even more complex, since “linguistic and musical representation networks could extend across a number of brain regions;” or

⁵⁶ The well-documented examples of distinct specific disorders, such as amusia and aphasia, do not rule out other neuropsychological overlaps.

even, be “functionally” separated “networks within the same brain regions” (ibid.; see 2.5.3 and 3.2.3 for the debated question of mental representation).

2.6.7 The role of affect and emotion: from cognitivism to enactivism

An introduction

Up to the point, the question of music and language in music psychology (from a cognitive point of view) has been treated through the examinations of music parameters applicable to language as well, such as pitch, timbre, rhythm, and melody (with its correlate, prosody). The case of syntax rather examines a linguistic construct applicable to music too, already bringing the question to a higher level of complexity. In the next section, I find it important to consider an even more complex but, in my opinion, central question (especially when dealing with voices), that of affect and emotion. I will start with the perspective of classic cognition (Patel 2008, 344 ff.), to continue with embodied cognition and the perspective of enactivism. The main shift, to paraphrase Husserl (1989; Sheets-Johnstone, 2018), is from “having a body,” to “being a body,” that is, from considering the body as a machine to considering it in the unity of the experiencing body-mind.

2.6.8 Affect and emotion in cognitive psychology

“[T]he link between musical and *vocal* cues to affect” is, according to Patel “a point of contact between musical and linguistic meaning” (Patel 2008, 344, emphasis added; see 2.5.3).

Patel emphasizes the relationship between “vocal affect” and those layers of speech defining “*voice quality*,” such as “pitch, tempo, loudness, and timbre” (Patel 2008, 344; emphasis added). It is a relevant connection for the present research, giving relevance to vocalicity in music and

language (and, I would add, in human communication, through affect; see 3.3), as well as to ‘voice quality’ – which richness and uniqueness cannot be underestimated (see 3.1).

Research in perception has shown how humans easily understand “basic emotions” conveyed by a voice, even when words are not intelligible, for instance when pronounced in a foreign language (ibid., 345; Thompson & Balkwill 2006, among others).⁵⁷

Spencer (1857) was the first to note how emotion affects “the vocal apparatus” (see 5.7): according to him, the singing voice would contain “intensified versions” of the “affective cues” found in speech (Patel 2008, 345). This idea has been expanded, among others, by Juslin & Laukka (2003), who revealed that, both in language and in vocal or instrumental music, similar “acoustic cues” were “used to convey basic emotions” in the listeners, with many “cross-modal similarities” (Patel 2008, 345–346). Not only that, but they formulate a particularly relevant hypothesis for the present research, that “many musical instruments” are perceived as “superexpressive voices” (ibid.): this would depend on the fact that their ‘expressive behaviour’ is similar to that of spoken voice (ibid., 346). For these reasons, such instruments would “engage emotion perception modules in the brain” (Patel 2008, 346).

These results are of great interest, since they confirm the ‘vocal status’ of musical instruments: “emotion perception modules” in the brain would not fundamentally distinguish “between vocal expressions and other acoustic expression,” provided that they contain the appropriate cues (Juslin & Laukka 2003, 803; see here 5.4, 138; Wallmark 2014, 43).

Patel underlines how the research in the field of “emotional expression” and perception in speech and music is at a promising start, with many aspects left for future research.⁵⁸ For example, the role of timbre in eliciting

⁵⁷ Interestingly, in the study emerged “subtle cultural differences in vocal affect” appraisal that, Patel observes, would deserve further investigation, ibid., 345.

⁵⁸ Patel observes that experimental psychology usually examines emotion according to only two dimensions, valence and activity, while more dimensions would be beneficial. Patel 2008, 349.

affect (*ibid.*, 350) has not been thoroughly studied yet. Importantly, the perception of speech versus “instrumental music” confirms the use of partially “overlapping regions” in the brain (Patel 2008, 350; Chartrand & Belin 2006, among others).

Timbre as ‘voice quality’, be it human or instrumental, is one of the central points of the present research (see Introduction, 3.2.1, 3.4.2). More broadly, timbre has always been at the centre of my interests as a composer – which is reflected across the artistic components of this work. A sensitivity for timbre also correlates with a sensitivity for the materiality of sound (see 5.4); in the case of vocal timbre, it also means a strong link with the corporeality of the musical experience.

2.6.9 Affect and emotion in the perspective of embodiment

The role of affect and emotion in speech and music is even more important when seen through the perspective of embodiment: moving beyond classic cognitivism, embodied cognition (Clark 1998) considers action and perception to be closely linked. In the enactivist approach (Varela et al. 1991), cognitive science and phenomenology are seen as “complementary” and mutually “informing” one another (Colombetti & Thompson 2007, 56); in this view, cognition is viewed as “a form of embodied action,” constituted by a series of processes “emerging from recurrent sensorimotor patterns of perception and action” (*ibid.*).

Affect and emotion are intimately connected yet distinct: while affect is pre-reflective and sub-personal (transmitted between bodies through hormones and other biological means), emotion is reflective and personal, and already has a degree of intentionality and consciousness (Varela & Depraz 2005, 62). The authors note that “emotions cannot be seen as a mere ‘coloration’ of the cognitive agent” as if it were an “un-affected self,” “but are immanent and inextricable from every mental act” (*ibid.*, 61). Colombetti & Thompson (2007) write that one reason why these aspects have been previously disregarded (“how emotions lost their

body,” *ibid.* 50) is that “[cognitive] psychology as an empirical discipline provides only causal accounts of the link between emotion and behavior” (*ibid.*, 49). According to De Sousa (1987; *ibid.*, 52) “emotion is where mind and body ‘make contact’.”

Criticizing the cognitivist view, where emotion and appraisal are seen separately, Lewis (2005; in Colombetti & Thompson 2007, 52) considers emotion (constituted by “arousal and action,” Lewis 2005) “constantly” interacting “with appraisal;”⁵⁹ emotion and appraisal would “merge” in what Lewis calls “an *emotional interpretation*” (Colombetti & Thompson 2007, 53): “a rapid convergence of a cognitive interpretation of a situation and an emotional state” in the space of minutes or seconds (*ibid.*). In this view, the underlying processes, during ‘emotional interpretation’ are so closely integrated that Lewis coined the term ‘emotion-appraisal amalgam’ (*ibid.*). On this basis, Colombetti & Thompson (2007) speak of emotions as ‘embodied appraisals’, “conveying (...) *bodily meaning and significance*” (*ibid.*, 59).

For Varela & Depraz as well (2005, 80), “affect and emotion” have a temporal dimension. They would even be “at the original ground for the constitution of temporality” (hence “of consciousness altogether”), seen as a dynamic model, the “fold,” (*ibid.*, 61): a temporal “transition” from a “pre-reflective” to a “reflective” state, already and always “including an other” (*sic*), be it in the form of “self-alterity” (the relation to oneself) (Varela & Depraz 2005, 62) or of interpersonal relations (about the concept of ‘other’ see chapter 3).

In this model, the concept of ‘valence’ has a central place, as “the primordial constitution of self-affection as a dynamic polarity,” under the form of “a tension” (*ibid.*, 70) (“a ‘pulsional’ tendency”, *ibid.* 69) towards “a space of possibilities”: “the emotional *space* itself” in which resides the origin of the “protentive future” (*ibid.*, 64; for the Husserlian concept of

⁵⁹ Cognitive appraisal is one’s interpretation of an eliciting event (or stimulus) and one’s bodily reactions to it <https://psu.pb.unizin.org/psych425/chapter/cognitive-appraisal-theory> read on 29.5.2023.

“protension” see 3.2.2). In this perspective, “e-motion” is “embodied” by a “*motion*” – movement being “*a mode of being*” distinctive of animality, including humans (ibid., 72).

An enactivist approach to embodiment is inherently dynamic and relational, two characteristics that make it especially relevant for the present research, where most of the artistic components contain movement at many levels, dynamic fluctuations of qualities, and various degrees of relationality (see chapters 3 and 4): a world of multiplicities not needing a centre around which to build a stable hierarchical organization but a field of tensions where multiple individuals interact – “move” and “are moved” (Hodkinson 2020, 33) – in a dynamic environment, intended as a non-hierarchical, acoustic, performative, virtual, and emotional space.

2.7 Origins of music and language: the developmental frame

2.7.1 Language acquisition as a sonic experience

A reason for including here human development studies was the experience of learning a new language as an adult (between about 1998-2003), Finnish; in particular, the experience of being surrounded by a continuous flow of speech in which I could not distinguish any words, was a remarkable sonic experience, which made me relive (to a different degree) the primal experience of language acquisition, more of which here below.

A less personal reason is the relevance of the ontogenetic perspective in most of the above-mentioned studies⁶⁰ on music and language, which consider the mutual vocal exchange of newborn and caregiver central – either to emphasize the continuum between song and speech, or to individuate one of the first and most widespread forms of music, the lullaby.

⁶⁰ See also Malloch 1999 and Malloch & Trevarthen 2009, in section 2.1.

2.7.2 An innately guided learning process

It is interesting to look at the evolution of music and language from an ontogeny perspective, that is, to observe how these traits develop in each human being. If we look at the trajectory of an individual human life, every life begins with a cry – the primeval cry (Nancy 1993) that starts the pulmonary activity, the vital physiological process that, in addition to breathing, enables the child to vocalize, and that will later enable song and speech.

It has also been shown that, in the earliest stages of life, hearing is the most developed sense – from the last stages of pregnancy (Jusczyk 1997, 77) into the first weeks after birth, when the newborn is particularly sensitive to the sounds in the room, and of course to the caregivers' voices. According to psycholinguistics, there is a strong connection between the infant's early vocalizations, developed in mutual exchange with the main caregiver, and the subsequent development of speech.

How exactly a human being learns to speak remains anyway an unsolved mystery: it has been noted that it is a relatively fast process in human development (normally completed by two years of age). As Cristià (2009) points out, the learning process starts early on and musical features, such as prosody and rhythm, play an important role:

'Infants' speech perception abilities change over the first year of life in ways that can be associated with the phonological system of their language (Jusczyk, 1997), that is, the system by which minimal, meaningless units (such as sounds or signs) are organized. By 6 months, infants have tuned to their language's prosodic and rhythmic structure.

(Cristià 2009, 2)⁶¹

⁶¹ For Cristià's ample references review please consult her publication, 2009, 2.

The speed of the process suggested theories such as Chomsky's (1986), who considers the faculty of language to be innate. Language acquisition theories have historically been divided into nativist and emergentist, although Jusczyk considers it a "pseudo-dichotomy" (Jusczyk 1997, 146). Jusczyk holds a more nuanced position on this question, hypothesizing that language acquisition is an "innately guided learning process" – a complex process profiting from certain innate capacities (ibid., 108).

It was recently discovered that the two hemispheres in the infant's brain do not develop at the same time: the right hemisphere, commonly considered more associative, is dominant until three years of age; only at that stage will the left hemisphere, considered responsible for cognitive capacities such as language, be fully developed (Perani et al. 2011).

In *The Discovery of Spoken Language*, Jusczyk (1997), examines the phenomenon of language acquisition from the point of view of language perception, a subject of much research conducted in the 1990s – although this field of research was already growing at the end of the 1950s (ibid., 17). For an infant to start understanding language, it needs to learn a correct segmentation of the flow of speech, that is the ability to distinguish the so-called "boundaries between words" from an apparently seamless flow (ibid., 5). In this process, the author considers "the sound structure of the native language" to be crucial (ibid., 6).

But how do languages differ from one another? They differ in "their organisation of patterns of utterances, both within words and in different words" (ibid., 5), "in which sets of phones they use and (...) on how these phones are grouped to form meaningful distinctions among words." (ibid., 9)

2.7.3 Phonotactics and speech perception

Here we can take a step back and observe what a *phone* is; while a phoneme is "a mental representation of how a word sounds (the

smallest unit that distinguishes meaning between sounds) (...), phones are the actual sounds themselves”.⁶² In linguistics, there are two ways to transcribe a speech sound: the broad transcription – the phonemic representation using IPA, the transcription system created by the International Phonetic Association⁶³ – and the narrow transcription – the phonetic representation, which gives a more detailed description of the speech sound, using the superscript (for instance, to indicate an aspirated consonant at the beginning of the word).

However, the task for the infant is complex, since “not every difference between phones signals a difference in meaning between words” (Jusczyk 1997, 9). The author cites as an example the consonant ‘t’, which can be pronounced in different ways in English, but not all of them are relevant for meaning. The infant will have “to discover which differences among these sounds are relevant for conveying distinctions in meaning” (ibid.).

Phonotactics is a property of language sound patterns. It defines the “characteristic rhythmic patterns” (Jusczyk 1997, 10), for example the accent in a word. The point is that, according to recent studies, we mainly “learn words in context with other words” rather than, as it had been hypothesized earlier, as a collection of words in a lexicon (ibid., 10). This remains however an open problem, as Jusczyk admits: “There are many unknowns about the way the lexicon develops: When do infants start storing words in the lexicon? What are the earliest lexical items? How are items added to the lexicon?” (ibid., 11). And, even more relevant for our subject, “do infants ever store incomplete entries (i.e., meanings without associated sound patterns, or *sound patterns* without meanings)?” (ibid., emphasis added).

How does an adult perceive speech? “The average adult listener is capable of processing speech at rates of 30 phonemes per second

⁶² <https://linguisticsstudyguide.com/difference-between-phoneme-phone-allophone/> read on 21.3.2021.

⁶³ <https://www.internationalphoneticassociation.org> read on 12.12.2021.

(Lieberman et al. 1967) (...), taking advantage of any available cues for segmenting utterances and resolving ambiguities among potential lexical candidates” (Jusczyk 1997, 12). This means we rely on “structural regularities,” a “correct grouping of utterances into constituent clauses and phrases – syntactic organisation” (Jusczyk 1997, 13). “Some units of syntactic organisation do appear to receive *acoustic marking* in speech directed to infants” (Fisher & Tokura, 2014 [1996]). That is, “*function* and *content* words may have *perceptibly* different characteristics (Morgan et al. 2014 [1996]; Jusczyk 1997, 13).

2.7.4 Language acquisition strategies

According to Jusczyk (1997, 17), “considerable disagreement” still exists on the capacities needed to acquire the native language, and in particular, on them being linguistic-specific or not. He examines, with this question in mind, nine previous models of language acquisition, developed since the end of the 1950s. I will mention some of them here, to give an idea about language acquisition research, and to substantiate my hypothesis of the musical nature of language:

Roger Brown’s infant studies about speech acquisition and production (1958, 18–19) include “the communicative role played by crying” and the function of “babbling” – the importance of which is supported by recent studies (Malloch 1999, Mampe et al. 2009, Wermke & Mende 2009; Armbrüster et al. 2021).

Chomsky (1965) advocated for innate “linguistic universals” and “specialized linguistic capacities,” as if there were an “innate hierarchy of grammatical categories” from the beginning. However, according to Jusczyk, “prelinguistic” infants may use “intonation to infer syntax,” implying that syntax cannot be innate (Jusczyk 1997, 24).

Slobin (1973, 1985) assigns a “leading role to cognition,” meaning that most of “linguistic forms” can appear in speech only when the child is able to “grasp their meaning” (Slobin 1973, 187; Jusczyk 1997, 29).

Slobin distinguishes a series of ‘operating principles’ in language acquisition, some of which may be relevant for music as well, with regard, for example, to “the ends of the words” (or of music units), or the systematic modifications of “phonological [verbal] forms” (transformation of musical units according to regular principles) (ibid.); another important principle is “keep track of the *frequency of occurrence*” of stored patterns and units (Jusczyk 1997, 29, emphasis added; for statistical learning, see below Saffran 2020); according to Jusczyk, these “*sound patterns*” undergo a process of comparison and categorization (Jusczyk 1997, 27–30, emphasis added) – a process similar to categorical perception, working for both language and music (Patel 2008, 24).

Peters (1983, 1985) interestingly emphasizes the importance of speech elements such as the “occurrence of *silence[s]*,” the “*intonation contour[s]*,” and the “*rhythmic properties*” of speech (Jusczyk 1997, 31, emphasis added): among these, the meaningful role played by silence is central in music as well.

Bates & MacWhinney (1987, 1989) hypothesize that language acquisition is based on “*cue-driven* distributional analysis” (Jusczyk 1997, 31, emphasis added). They noticed that infants are sensitive to the “distributional facts in the *sound stream*,” even when not being able to interpret the facts yet: “they can treat *sound* as an object, just like any *perceptual object*, and pick up recurring patterns whether they understand them or not.” (Bates & MacWhinney 1989, 26–27; Jusczyk 1997, 33, emphasis added).

The same authors consider language acquisition to also be a ‘perceptual-motor problem’, speech perception being soon followed by attempts at speech production; this complex process could only “be understood within a much broader theory of motor learning” (Bates & MacWhinney 1989, 31; Jusczyk 1997, 34). This approach is close to the connectionist perspective, one of the antecedents of embodied cognition. The interdependency between perception and action, perceptual and motor aspects, is already evident here.

According to other studies, learners use shortcuts to facilitate the task, a sort of ‘bootstrapping’ tactics;⁶⁵ they would make use of “syntactic,” “semantic,” or “prosodic” bootstrapping (Jusczyk 1997, 35–41). For example, infants are “sensitive to sequential order from an early age” (ibid., 39; Mandel et al. 1996); they consider “*intonationally*” salient segments of utterance as potentially of syntactic meaning (ibid., emphasis added). Although, as Jusczyk observes, “[not] all syntactic boundaries” can be understood through prosody, more elements being necessary (Jusczyk 1997, 40) – such as those found in “prosodic, phonotactic, allophonic” sources (ibid., 106), which all have to do with sound.

None of these theories give, according to Jusczyk, a satisfactory explanation of how language acquisition occurs in infants. As mentioned above, segmentation is one of the key processes. Even more so, what in phonetics are called *suprasegmental*⁶⁶ features, such as “*stress, tone, or word juncture,*” are of great importance; they are “not limited to single sounds but often [extend] over syllables, words, or phrases.” It is a sort of “*metrical segmentation strategy*” (ibid., 94), which applies to musical sequences as well: for instance, the interpretation of an utterance (or musical unit) as opening or closing a phrase may retain certain ambiguities, since what concludes may become a new beginning. The salience of onset and offset is found in most languages, and it appears “not to be ‘language-specific’” (ibid., 120).

To conclude, according to Morgan (1994; Jusczyk 1997, 96), the “rhythmic properties” of prosody “may also facilitate grouping and segmenting” the flow of speech.

⁶⁵ Bootstrap’ here meaning something “carried out with minimum resources or advantages.” See <https://www.merriam-webster.com/dictionary/bootstrap> read on 29.5.2023.

⁶⁶ <https://www.britannica.com/topic/suprasegmental> read on 30.10.2021.

2.7.5 Native language as sonic environment and sound processing strategy

Jusczyk emphasizes the importance of native language: since every language presents specific “pattern sounds,” infants seem to be “tuned” to their native language (Jusczyk 1997, 107); “metrical segmentation strategy is language-specific,” that is, it works differently in different languages. Generally, “intonation contours,” “stress patterns, pausing, and durational differences” in prosody are interpreted as “potential markers of units in the speech stream.” (ibid., 140).

Interestingly, according to Jusczyk, “how the *sound properties* of a word” – what Jusczyk calls the “sound/meaning equation” (ibid., 133) – impacts the child’s vocabulary development has been overlooked in most of the studies.

As we saw above, the “distributional property” of repeated “sub-units” (Peters 1983, Jusczyk 1997, 32) or the frequency of occurrence (Jusczyk 1997, 132) is another key factor in the acquisition and retention of language, a phenomenon studied over the last twenty years as “statistical learning” (Saffran 2020). According to Saffran, infants “track linguistic patterns” also because they are motivated to find out “how to communicate with their caregivers” (ibid., 4). Sensitivity to “statistical regularities” is not only a human feature though but is found in non-human animals as well (Santolin & Saffran 2018). Another reason for this sensitivity can be the generation of “expectations” or “predictions about” one’s surrounding environment (Saffran 2020, 4) – an especially important point that stresses the interdependence of a living being (or a musician) with their environment (being it a natural habitat, a musical milieu, or a performance space).

In conclusion, the model of language acquisition proposed by Jusczyk⁶⁷ hypothesizes that “the sound structure” of “native language” impacts the individual speech processing process (Jusczyk 1997, 214). The

⁶⁷ The Word Recognition and Phonetic Structure Acquisition, WRAPSA, Jusczyk 1997, 214.

model describes the “initial state” of “speech perception capacities” and their changes in the process of language acquisition: during the first months of life, innate listening capacities (“*auditory analyzers*”) are directed at any acoustic stimulus, be it “speech or nonspeech” (ibid., 215). Later, the perception results are “weighted” to give precedence to the characteristic features of the native language; in this process, “critical factors” are the *sound properties* to which the infant is exposed and “their distribution” in the listened sound(s). Infants start individuating “vocal sounds” thanks to “the storage of contextual information” tagging some sounds as vocal – one “weighting scheme specific to speech” (Jusczyk 1997, 215); “pre-natal experience” could emphasize the tendency of infants to pay attention to vocal-like sounds (ibid.); later, more refined “contextual information” will tell which “human vocalizations are” “linguistic” or not (ibid.).

According to Jusczyk, not only is a new ‘weighting scheme’ formed any time we acquire a new language (ibid., 222), but we develop various kinds of weighting schemes according to our listening specializations – becoming “expert perceivers” in our “domains.” (ibid.).

The results of the ‘weighting’ operation will subsequently undergo a process of “patterns” extraction (ibid., 216): the incoming signal is refined and a “first segmentation into word-sized units” is attempted; the process includes a *temporal* grouping of the “prominent features into syllabic units” (ibid., 216–217, emphasis added); the “prosodic structure” plays an important role in this phase (ibid., 216). Later in the process, the learner will use acquired “representations of known words” (stored in the memory) to be “matched” against a “probe” (a new lexical candidate). This may explain how the acquired sonic knowledge “is modified by experience” (ibid., 227).

According to this model, “during the first months of life, the preliminary analysis stage” is very intense. Interestingly, in this stage, infants are still able to “discriminate phonetic contrasts” in other languages – an ability that will soon be lost with the ‘tuning in’ on their native language (between 6 to 12 months of age) (Jusczyk 1997, 80).

This model was one of the first attempts to understand “how infants segment information from fluent speech,” instead of focusing on contrast discrimination between “isolated syllables” (ibid., 229).

As mentioned earlier, the complex process of language acquisition retains many similarities with music perception: from the importance of when (and how) a sequence starts or ends, to the perceptual importance of metrics, the rhythmic and ‘melodic’ properties of a phrase (alike prosody), to the individuation of single sound properties. Jusczyk’s model of auditory perception inserts language acquisition in the wider stream of a sonic world; it is interesting to reflect on whether the steps of his model could be applied to music perception. The idea of the development of ‘weighting schemes’ could be useful to explain how we grow different abilities in discriminating different categories of sounds, according to personal experiences and preferences. Finally, mental representations certainly play a role in later stages of music perception, involving the question of memory.

As Saffran (2020, 7) points out, these dynamic perceptual processes show how infants, as well as adults, “are not passive ‘sponges’” but “are actively engaging with the world to gather information about things” that interest them, thus “shaping their own environments” (ibid.; Lucca & Wilbourn, 2018).

2.8 Chapter conclusions

Starting from the two ways of being vocal, the human and the instrumental, I turn to the origins of the relationships between human and instrumental voice in human evolution, presenting a broad theory review; I am aware that the question of the relationships of music and language in human evolution is so complex that theories open more questions than they solve. As seen above (2.3.3), a multidisciplinary approach is helpful when approaching such complex questions. What most of these theories have in common is that the question of the origins of human voice (as language)

and instrumental voice (as music) suggests broader definitions of language and music – viewed in the moment, far back in time, when both started to appear.

As Tolbert (2001a, 2001b; 2.5.2) notes, it is important to disentangle the underlying conceptions of music and language that often go unnoticed in this kind of study. I would add that another important question is in within which cultures and geographical areas these conceptions are placed (to overcome a limiting Eurocentric viewpoint).

As I mentioned above (2.5.3), I find the results proposed by Mithen (2005, 2009), Savage et al. (2021a), and Shilton (2022) particularly relevant for this research, all of which emphasize the relational character of music and language, essential both for human communication and life. I align with those scholars who consider music and language to be emergent properties or discoveries in human evolution, rather than inventions (as in the often-mentioned case of fire, which cannot be considered an invention; Savage et al. 2021a, 3; Shilton 2022, 9). Patel (2008) assumes an intermediate position, in this respect, being of the opinion that the dichotomy frill-adaptation, in the case of music, would be a false one: if music cannot be simply considered a frill (Pinker 1997, 2.3.3; Patel 2008, 400–401), for Patel there would not be yet enough evidence to consider it an adaptation, in human history.⁷⁰

More than answering to the question about adaptation or frill, what interests me here is the shift from a conception of music as “auditory stimulus” (Shilton 2022, 1) or “auditory display” (Mehr et al. 2021, 24)⁶⁹ to one underlying its interactive and interpersonal character (Shilton 2022, 1). What I find appealing in this perspective is a conception of music as reinforcing social bonds and inviting participation: it inspires me to consider the boundary between presentational and participatory music as

⁷⁰ See Patel 2018 for a further development of his thought.

⁶⁹ The definition of music of Mehr and others is: “Music is an auditory display built from melodies and rhythms.” Mehr et al. 2021, 24. Once more, this is a reductive definition that does not consider other music components than those issued from the Western tradition.

more fluid.

Patel (2008) shows, through a comparative study (2.6.1-2.6.4), that what unites music and language seems to be more than what differentiates them: in both domains, as brain studies confirm, the listener applies similar cognitive procedures to ‘decode’ an auditory signal; that is, there is a striking similarity in the way we perceive music and language. Interestingly, these results point to a multimodality of music and language perception, where the motor system is always activated (through auditory-motor coupling, see 2.3.4). The same has also been noted in language acquisition studies, where it would be question, for the learning infant, of overcoming a “perceptual-motor problem” (2.7).

Mithen also (2.3.3) considers music and movement closely related, since both may have been a consequence of bipedalism: this would mean that the domains of music and dance would have separated later in the course of human evolution.

In my view, neither music nor language can exist without movement. On the contrary, Brown (2000, 2017) considers movement, dance, and even rhythm, as a successive development with respect to vocalization. This position shows the limitations of an approach to music trying to separate areas that are intimately interconnected. Music evolution studies often emphasize one aspect over the other: Brown assigns a predominant role to tone/pitch, while Patel assigns it to rhythm. Benítez-Burraco & Nikolsky (2023) acknowledge the common origins of music and language and their emotional value; they propose a comparative table correlating music function in ontogenetic and phylogenetic development (ibid., 2023, 237) with evolving stages of music refinement; timbre (“timbre-oriented music”) and harmony (included in “tonality-based music”) figure at separate stages, the former being considered more ancient (2nd stage) than the latter being the most recent stage (5th and last stage).⁷⁰

⁷⁰ At respectively 200–110,000 and 10,000 years ago until present.

Although the authors invite to consider that such distinctions are not to be taken literally (observing that development always entails overlapping phases), such a scheme is symptomatic of a way of separating music dimensions that are, once more, deeply interconnected: timbre cannot be relegated to the infancy of music-making: it is an aspect present in any sound and it underwent a considerable development during the last fifty years – both in contemporary music (the spectral movement showed how timbre and harmony are strictly interrelated, see 3.2.4, 5.4) and in other music genres (timbre as ‘sound’ has become an important part of pop-music as well). Similarly, it is reductive to think of harmony⁷¹ as the peak of music development, because of its systematic music organization. I personally think that refined ways of music-making do exist and develop before such a systematization occurs, and not necessarily need one at all; the current multiplicity of modes of organization and aesthetics corresponds well to the crisis of the philosophical and ideological systems of the 20th century.

From an enactivist perspective (2.6.9), movement is the “*mode of being*” of animals, a distinctive trait of mammals and humans, compared to other life forms (Varela & Depraz 2005, 72). It is not only that animals mutually interact with the environment and other living beings through movement, but that the loop of action and perception characteristic of this activity happens on a temporal level – that is, in a movement over time, from a pre-reflective to a reflective mode. It is the movement from affect to emotion, layers that are omnipresent in human life and that leave important traces in speech and music – in both vocality and instrumentality.

Turning to ontology, similar results have been reached in the fields of human development and language acquisition. Malloch & Trevarthen (see 2.1, 2.7.4) emphasize the musical character of the mutual relationship between infant and caregiver (a ‘musicking connection’) (Malloch &

⁷¹ A term anchored in Western European culture.

Trevarthen 2018, 2). Juszcyk (1997) finds many ‘musical’ characteristics, in the complex mechanisms of language perception and acquisition; he underlines the importance of phonotactics (language sound patterns) and of categorical perception (important in music perception as well). According to the theory proposed by Juszcyk (2.7), the listener would ‘weight’ incoming auditory signals according to their listening habits: ‘weighting schemes’ would be shaped by and developed within a certain environment.

Benítez-Burraco & Nikolsky (2023) give a relevant contribution to the discussion about language and music in human development, identifying and comparing four stages of ontogenetic and phylogenetic development, and emphasizing the role of “emotional regulation” and “emotional communication” in both music and language (Benítez-Burraco & Nikolsky 2023, 235–237).

To conclude, listening is a central activity, in both the senses of an embodied “practice of nuance” (Voegelin 2022) and of hearing other, inner and outer voices. This view presupposes an active character of listening (see 3.3, 4.3). Following Juszcyk (1997), Saffran (2020) similarly underlines the active position of the infant, who is intent on discovering how to orientate into the world through the act of listening, and on finding strategies allowing them to communicate with other humans. In so doing, they shape their environment as well.

We will see in the next chapter how the interconnectedness between human and instrumental voice is at play in the encounters with the ‘other’ and with the collectivity, in a myriad, complex ways.

Chapter 3



Imaginary Spaces: Multiplicities, a Meeting with the 'Other'.

Individual and Collective Perspectives

What voice comes in the sound of the waves

That is not the voice of the sea?

It is the voice of someone speaking to us

But which, when we listen, falls silent

For having been heard.

(Fernando Pessoa, *The Islands of Fortune*, in 1990 [1934])

3.1 An invitation to the labyrinth

In this chapter I invite you to follow me along different streams of reflection, some of which have been underlying my personal path for a long time, while others come from my respectful visits into neighbouring fields.⁷² The intention is to walk you through a labyrinth of voices, starting with the broad categories of multiplicity and singularity (I will use the term 'uniqueness' for the human side), and then to arrive at their interplay in the case of *Imaginary Spaces*.

I advocate for alternative ways of thinking, beyond the purely logical principle of non-contradiction, which does not always fit with artistic thinking or artistic research. I believe that an associative way of reasoning can open doors in concentric ways, from which you can listen to the phenome-

⁷² For the concept of visiting, see Arendt 1982, in Haraway 2016, 127 and 177. Among other inspirations, *The Labyrinth of Possibility*, Tricarico 2014 [2009].

non very closely or from different distances and angles in successive loops, without being bound to a single, linear path. While I acknowledge the risk of dispersing the focus of the study or moving the reader out of the way, I trust that association is never purely casual: it always brings the person (in this case the researcher) into a situation where they can discover, visit areas connected to their experience and thought, and further develop aspects that were already there and bring them into a new light.

However, as Pessoa says above, we need to acknowledge that, most of the time (and even more so in performance), the light blinks for a transitory moment before disappearing again – as the “voice falls silent / for having being heard.”

3.2. Multiplicities at a Glance: How multiple, how unique?

Considering the origins of the phenomena of human voice and instrumental voice,⁷³ I cannot avoid reflecting on the categories of multiplicity and uniqueness: try to ponder the paradox of each of us being part of a multiplicity (the human species), being a *simile* (it. for *similar*, fellow human being), and at the same time being so unique (an individual). Looking closer, we are part of various multiplicities, collective entities - families, groups, associations, languages, parts of the world, and so on, multiplying...

As individuals, we are also the sum of all the encounters we have had from an early age on, layers upon layers of mirroring – the many voices who made us who we are today. A dynamic process that is never finished once and for all.

I navigate through the present series of artistic projects, keeping in mind the research question, and dive into the mystery of this stunning coincidence – something that surfaced in me many years ago, and the

⁷³ See Introduction and Chapter 2.

questioning of which did not leave me in peace, until it resurfaced with force a few years before my application for doctoral studies: what is this appearance of a vocal quality in a string instrument's sound? Those special moments when you realize that this sound has something of my own voice's resonance, it is undoubtedly me – or it is undoubtedly you, what I hear in your sound –

It is a phenomenon that goes beyond a shared culture, or an education process, something going far deeper – exactly like those other personal attributes that makes us individuals – the way we walk, gesture, smile or laugh –

How could this all not matter when we take an instrument in our hands? Will all of this not inform the way we play, and, ultimately, the sound qualities we are able to produce?

Astonishing multiplicities! Think of the myriad of nuances a voice, a string instrument, are capable of – think of every minuscule nuance, and how all of them matter –

How all individuals matter, according to the wonderful Jewish maxim:

*Whoever kills one life kills the world entire, whoever saves one life saves the world entire*⁷⁴

Think of the multiplicities of instruments, and of the individual string instrument: again, multiplicity and individuality, you will not find two string instruments identical to one another.

Give this instrument into ten different pairs of hands, and you will have ten sound qualities – and more, each one multiplying (*se démultipliant*) in smaller differences, *ad infinitum* –

⁷⁴ Paraphrased from the Talmud <https://www.ushmm.org/remember/holocaust-reflections-testimonies/echoes-of-memory/to-save-the-world-entire>.

The instrument's body, just as the musician's body, cannot be simply thought of as separate objects, but, as Nancy underlines, they are always "a body (...) *this one here*" (Nancy 2008, 128).

A unique body in relation to other unique bodies.

3.2.1 The enigma of the 'other'

Every human individual is also a mystery: why can we never really define or meet ourselves once and for all, in the never-ending process of becoming? Why does a sense of 'otherness' always accompany us, each time we hear our voice or we see ourselves in a picture? Who is this really we see and hear?

Venturing into the field of psychoanalysis, the concept of 'other' it is interpreted by Lacan in both a symbolic and a real sense, in the personal and in the collective spheres. While the lowercase-o 'other' represents "the Imaginary ego and its accompanying alter-egos" (where the ego itself is seen "as an 'other'", Johnston 2019), the Big Other with a capital O, is "the collective symbolic order", formed by the trans-individual and socio-linguistic structures underlying inter-subjective interactions. The "Symbolic big Other" can also represent an "often phantasmatic/fictional" (...) "authoritative power and/or knowledge", even the analyst (or the artist?) themselves, as *sujet supposé savoir* ("the 'subject supposed to know'," Johnston 2019).

Beyond the symbolic, we meet real dimensions of 'otherness' in emotionally charged experiences such as love and psychosis, whence appears "the provocative, perturbing *enigma of the Other as an unknowable "x"*, an unfathomable abyss of withdrawn-yet-proximate alterity" (ibid., emphasis added).

If we turn to philosophy, Emmanuel Lévinas wrote illuminating words about the encounter with the face of the other, the '*face-à-face*' who interrogates us, as a presence that we cannot escape:

A face that at once gives and conceals the Other (...) it is in front of the subject

(Lévinas 1987 [1947],78)

Lévinas writes of the “nudity of the face.” Nudity as “an exposure unto death: nudity, destitution, passivity, and pure vulnerability”, that is “the very *mortality* of the other person”.

It is “the face signifying to me ‘thou shalt not kill’, and consequently also “you are responsible for the life of this absolutely other other.”

It is the “responsibility for the unique one.”

The encounter is an “asymmetrical relationship,” “an awakening to the other person (...) irreducible to knowledge” where “the alterity of the other” is not a purely “logical alterity” (Lévinas 1987 [1947], 105–108).

This thought overcomes the separation of subject and object, in line with the Heideggerian and post-Heideggerian critique of metaphysics, shedding light on the relational aspects of the encounter and its unescapable human nature.

3.2.2 The ‘other’ in performance: relation, resonance, presence

The same type of encounter happens in the context of music performance, as long as an open and fertile space of participation is offered to those present.

Juliana Hodkinson (2020, 34), referring to Nicolas Bourriaud’s *Esthétique relationnelle (Relational Aesthetics 1998)*, writes of “affective resonance,” of the “convergence between different subjects of embodied interaction (...), a rich entanglement of pleasure of sound (resonance) and emotional response (affect)” (Hodkinson 2020, 37). In the sonic and bodily encounters between musician (and/or composer) and listener, not only is there a sharing of affective experience, but “affective qualities that were not there before” are being created and developed. In the “being-in-resonance”,

there is a relational, “dynamic force of moving and being-moved” (Hodkinson 2020, 33) – where *moving* (expression, emotion) is a centrifugal motion, and *being moved* (affect) is a centripetal motion.

Resonance, intended in a broad sense, connects the physical and the aesthetic, the material and the immaterial, two sides of the same phenomenon. Following Hodkinson, in resonance “physical properties coupled with social and imaginative properties vibrate sympathetically” (Hodkinson 2020, 45).

We need bodies and spaces to produce and perceive a resonance, and it is always through the body that we are put in resonance by the outer world – through all kinds of experiences and encounters. We respond *in* and/or *out* of resonance both with the body and with the psyche. In depth psychology, the term resonance is used to indicate the repercussion of an event, dream, or other content, in a person - as a stone falling into the water, creating concentric waves – propagating similarly to sound waves.

In *Freud’s Lost Chord*, Daniel Sapen (2008, 217), referring to Wilfred Bion (1965, 37–38), affirms that both art and science “rely equally on symbolic systems” (Bion 1962), – creating “constant conjunctions patterns” serving “individual or group emotional needs” – and on “the facts of the real world.” From a psychological point of view, the symbolic level emerges at the *caesura* between the imagined and real, where both poles are necessary and connected.

Bion, with Winnicott and Jung, insists on the importance of directing one’s attention “to the *transition from a condition to another*,” which can move forward “or collapse on the knife’s edge (Winnicott 1986 [1974]; Sapen 2008, 217; emphasis added),” at the “‘*fragile threshold*’ (...) of language” (Kristeva 1982, 85, emphasis added). Symbolizing means “to form a bridge over the abyss between” the two “states” of imagination and reality (Gordon 1993; Sapen 2008, 217).

Sapen introduces the example of poetry, which happens “in the caesurae between words,” not only through “semantic link[s]” (Sapen 2008, 217). Through these caesurae “the whole aesthetic contour” of the

artist's experience is heightened, which has a strong impact on how art is transmitted and received, through interpersonal resonance. Following Bion, the author compares analytic and aesthetic encounters – both creating interpersonal bridges – putting “an intersubjective focus” on caesura. In both cases “something deeply interactive takes place, regardless of the fact that the musician and the analysand are doing most of the *speaking*” (ibid., emphasis added). Introducing the term *speaking* as an analogy to *making music* makes this train of thought particularly relevant for the discourse I am developing here, since it underlies the sonic nature of this ‘bridging’.

As Arendt, reading Humboldt (1999 [1836]), notes in her *Denktagebuch*:

Sound is the incarnation, the materialization of thought, that is articulated in language. (...) The interior, which is invisible, aspires to appear and appears in the form of sound. (...) in sound, it does not appear only to others, but also to itself.

(Arendt 2007 [1973], 544 my translation)

In this passage, where it is evident that Arendt thought of identity as something revealing itself to the world (‘appearing’), there is also an important connection to ‘self-alterity’ (see 2.6.9), where the process of ‘inner thought’ retains a sonic dimension. Sapen continues, “Music offers *presence* in a manner unique among the arts” (Sapen 2008, 217). In both analysis and music, “the object of experience is present and emergent in the room. It is like a dream declaring both the conditions of the present moment (Rycroft 1979, Jung 1971),” and the “*protension*” (Husserl 2019 [1964, 1928], 149; Ihde 2007 [1976], 89) connecting it to “the unarticulated past and the emergent future” (Sapen 2008, 218).

According to Sapen, music makes a synthesis “in a temporal whole, inviting response and elaboration,” as he explains in this meaningful passage:

Dream, music, and analysis are heightened moments of presence, each an intense now in which our ability to be present is challenged to be present. Music, like Hamlet's description of dreams, knits up the raveled sleeve of care. Each contextualizes (Hartmann, 1998) and reconstitutes the contours of the fabric of affect (Green, 1999) in which are woven the patterns of thought, image, and other psychic contents. To extend the metaphor, the mended sleeve now sheathes the whole contour of the psyche-soma, a flexible skin which neither impinges nor tears.

(Sapen 2008, 218, emphasis added)

This passage underlines the embodied nature of these experiences, which happen at the threshold of the 'psyche-soma' (or body-mind), a connection of action and perception where pre-reflective sensorial aspects are at the fore of the process (see 2.6.9).

Jan Schacher (2017), in his work about sound presence in music performance, writes of the performer's use of "the phenomenal body, (*Leib*) (...) to produce affects, that is, to elicit pre-emotional sensory stimuli in the spectator." For both performer and spectator, the "increased intensity" of the performance state is needed to reach "a multi-focal awareness and hyper-reflection" (Schacher 2017, 214). Schacher, from an enactivist perspective, underlines the intensity of the exchange between performer and listener, a process wherein both sides are active and connected:

Presence on stage, in a performance, produces an energy that begins to circulate between performers and audience, in an empathic and co-performative loop, and is active on bodily, affective, and pre-reflective levels, as well as through conscious awareness of shared attention and experience.

(Schacher 2017, 214–15)

Moving from the analytical or musical dyad to the social situations where music is shared, according to Sapen “the psyche-soma extends beyond the skin” (viewed as a border with the outer world), reaching into “spatial and temporal surroundings” of “relationship, culture, and history” (Sapen 2008, 218–19). As Schacher says, “presence always means co-presence, since the performative act is relational and intersubjective by definition” (Schacher 2017, 214).

Referring to Knoblauch (2000, 2005), Sapen writes of “the *simultaneity* of the bodily and linguistic modes of experience,” revealing itself “in countless non-verbal cues;” of the “non-verbal processes” at play, a “continuous flow of experience [to be caught] in all its variety” (Sapen 2008, 219). Although he mainly refers to the psychoanalytical dimension, a similar phenomenon is at play in voicelikeness, where the connection of two modes of experience (vocal and instrumental) happens at bodily and gestural levels. For the relevance of non-verbal layers in human communication, see Kim (2023) 2.5.3.

Continuing in the analogy between analysis and the arts, Sapen interestingly notes that, just as for dreams, both refer to “a [body-mind] event that occurred in a different time and place” (Sapen 2008, 219) – with the relevant exception of improvised art forms. Since “music is presentationally immediate” (Whitehead, 1978; Langer, 1953; Sapen 2008, 219), an improvisation setting can be seen as “a co-created waking dreamwork/play” wherein all of the participants are mentally and bodily “engaged in the creative enactment of intuition” – in a kind of “sonic dreamwork” (Sapen 2008, 219–20).

Sapen continues, “the manifestations of sound in language and music may be seen as poles of a *continuum*, extending between the intrapsychic and the interpersonal, self and other (...).” They are “dynamically interdependent polarities, not antithesis” (Sapen 2008, 220–21, emphasis added). My interest, across this artistic research, goes exactly to the exploration of this continuum, through a vocality moving in-between these connected poles.

Additionally, the sonic link between spoken language and music is a link dense with timbre. Tristan Murail (2005 [1992], 189) writes of spoken language as an “essentially (...) timbral phenomenon.” Distinguishing between tonal and non-tonal languages,⁷⁵ he affirms that “the only universal characteristic of human languages is the use of timbre: vowels can be assimilated as pure harmonic vibration (spectrum), whereas the consonants act as attack and extinction transients.” Murail adds that generally, it is easier to distinguish “one instrumental timbre from another” rather than to “identify pitches and rhythms.” A fact due, according to the author, to our familiarity, going back to childhood, with “perceiving and distinguishing timbres (...) much more finely than pitches” (ibid.).

Returning to the topic of resonance, we find it “in the physical continuity of the voice, and the relation between the tactile and the auditory. Things *vibrate*” (Sapen 2008, 221). In this perspective acoustic phenomena can remind us concretely of “how energy in all its forms is transferred from one region to another, and transformed from one state to another” (ibid.).

Writing about the indispensable relevance of the sonic dimension for the human being, Sapen mentions the developmental aspects mentioned above (2.7), the “acoustic connection of the foetus *in utero*,” the importance of the caregiver’s voice, and the gradual distinction of the “discrete social language” emerging from the “poetic assembly of vocal sounds” (Sapen 2008, 221) characteristic of the first months of life.

Using Bion’s terminology,⁷⁶ Sapen writes of “musical elements” as “unsaturated symbols” that assume “meaning and qualitative value” according to “their fluid organization” (Sapen 2008, 222).

⁷⁵ By the way, tonal languages are the norm, not the exception – most of human lexical languages being tonal. Brown 2017, 11.

⁷⁶ Bion intends for *unsaturated* “preserving an openness of field, of possibility, being a variable without a value”. While saturated means that “a fixed meaning has been accepted, which then limits other possible meanings,” White 2011, 220.

According to the author, “music presents configurations of thought and affect” in an “immediate and unfolding form”: a “thinking-in-sound” eliciting “response[s] on multiple levels” (ibid.). Here it is not question of “specific affects,” but of “a negotiation” of “*complexes of affect*” in the making of a multifarious experience: “a dance with and cyclic reconciliation of chaos” (Peckham 2006 [1965]; Sapen 2008, 223, emphasis added). About the essential role of affect in the musical experience, see 2.6.8–9 and 3.5.

Interestingly, Sapen, through Ogden (1994), brings in one of the pillars of Bion’s philosophy, the concept of ‘O’:⁷⁵ “that set of inarticulate, universal human truths that we live, but do not know; it is what we hear in music and poetry but cannot name (...)” (Ogden 2004, 292). Once more, “a state of being-in-the-present-moment” (ibid.).

Stone (2006), in his examination of embodied resonance in countertransference, compares the analyst’s body with a tuning fork: “resonance occurs when” the body “vibrates with the patient’s [the other’s] psychic material through the unconscious” (Stone 2006, 109). The relationship involves “syntonic aspects”,⁷⁶ that is, the capacity “to be responsive to and in harmony with [one’s] environment so that affect is appropriate to the given situation” (ibid.). The patient’s body functions “as an organ of perception” revealing of the person’s state of mind (Stone 2006, 112). It is at the same time “an imaginal body,” according to Schwartz-Salant (1989) a “subtle body”. It does not belong exclusively to one agent but “to a virtual midpoint” between the two or, in the case of music performance, to multiple agents.

It is an equivalent of the Arendtian ‘in-between’, where what matters happens in the intermediate space between the persons (see 3.3):

⁷⁵ The symbolism of the letter ‘O’ brings me back to the image of the island as uniqueness, individuality. In my piece *Ohmfad* (see 4.3.1) the mirroring of the voice with itself and with the surrounding sounds opens the questioning and search of identity.

⁷⁶ <https://www.lexico.com/en/definition/syntonic> read on 12.2021.

[T]he imaginal is not merely the imaginary. It exists. It is that subtle space where subjective and objective, self and other (...) meet; where communication happens directly, spontaneously.

(Stone 2006, 112–13, emphasis added)

Following Sapen (2008) in his analogy between music and analysis, it is fruitful to apply Stone's concept of "intermediate space" (2006, 112) to the setting of music performance. Stone's vision has its roots in concepts such as '*mundus imaginalis*' (Corbin 1972), 'transitional space', 'third area', 'area of illusion' (Winnicott 1986 [1974]), 'subtle body' (Schwartz-Salant 1989), 'pre-ambivalent symbiosis' (Searles 1959), 'harmonious and interpenetrating mix-up' (Balint 1968), and 'unanxious confusion' (Brown 1977) (Stone 2006, 112).

As the analyst, the artist, and even more so the performer/improviser will have to face and "sustain the state of non knowing and confusion" (Sapen 2008, 109) embedded in the situation, engaging at the same time with the other(s) in a bodily way.

It is interesting to note the multiplicity of attempts to name a liminal state that is essentially undefinable, yet fundamental – be it called caesura, 'transitional space', '*interstitial* surface' (Ingold 2015, 43) or, as I will do, following Arendt (1958), 'in-between' (see 3.3).

3.2.3 The brain as a resonant organ

Resonance is not only an acoustic phenomenon or a beautiful metaphor, but may also have a basis in the way humans perceive the world, in how the human brain functions. This fascinating hypothesis is discussed by Ryan & Gallagher (2020) in an article about the way the individual perceives and relates to the environment, taking jazz performance as a case study.

Quoting Gibson (1966, 271), the authors underline that "a perceiver

is a *self-tuning* system” (Ryan & Gallagher 2020, 3): that is, resonance is not a passive phenomenon – where the individual is put in resonance by the outside world – but the perceiver has an active role in the process.

In an account of acoustic resonance, the authors underline that resonant systems depend on what is being tuned and how the tuning occurs: not only there are different ways to excite a resonant system, which will respond according to the particular excitation mode, but resonant systems will respond differently to the same stimulus, starting from a certain tuning. The parallel between physical and cognitive resonance exposes the complexity of a phenomenon that cannot be explained solely by isomorphism – the mirroring of the external world by the brain.

Calling on ecological psychology and the enactivist theory of embodiment, Ryan & Gallagher affirm that the brain is fundamentally not a representational but a resonant organ. This would mean that “cognition is non-representational in kind” (Ryan & Gallagher 2020, 1).

In the brain, the neurons “come to be involved in patterns of oscillation, firing in dynamical connection with other neurons or groups of neurons” (ibid., 2), which, according to Varela (1996) and Cosmelli et al. (2007, 237), can momentarily be synchronized on the occasion of a transient stimulus. Hutcheon and Yarom (2000; Ryan & Gallagher 2020, 2) underline the role of brain rhythms and their direct links with perception and behaviour.

Ryan & Gallagher examine both representational and dynamic resonance: if they admit that representational resonance plays a role in the game of action and perception, they affirm that the brain’s function cannot be reduced to “just mirroring the external world” (Ryan & Gallagher 2020, 4). Following Shepard (1984), they maintain that the resonance between brain and world follows patterns of complementarity rather than of mere mirroring (isomorphism) (Ryan & Gallagher 2020, 3).

Proposing the alternative concept of ‘dynamic resonance’ (ibid., 4), the authors quote Fuchs’ affirmation:

[T]he brain is not the conductor of the body; rather, it is like a musician in a group of jazz musicians jointly improvising on the basis of certain chords.

(Ryan & Gallagher 2020, 4; Fuchs 2018, 34)

The authors take jazz music as a case study, proposing an account of “what happens in the brains, bodies, and environments of musicians during music performance” (Ryan & Gallagher 2020, 6 ff.). Jazz music was chosen as a genre based on its use of improvisation, not depending on a normative score (although with its own sets of structures and rules). They distinguish between three kinds of resonance (ibid., 7):

- between the individual performer and the music; that is, the sounds created by the performer and those from the environment
- “an intersubjective and affective resonance” between the performance of the individual and the others
- between the musicians’ group and the listeners (ibid., 6–7).

While these resonances can be considered “metaphorical in nature,” another problem at the core of the question of resonance is “a specific type of uncertainty” (ibid.; about the concept of uncertainty, see 4.5). In improvisation, the musicians find themselves in an “increased environmental uncertainty” (ibid., 7) compared with the situation of following score music; a situation where they can make decisions on the fly and act creatively, not only reacting to the environment but also contributing to creating it – by creating the fabric of the music as it unfolds.

This process, while evident in totally improvised music (of any genre), is also at play in partially improvised contexts, such as in *Imaginary Spaces*. From the start, I had the intention to leave the score open, without completely determining the duration of the three parts of the

piece; the score leaves it to the performer to decide the length of the arch of time wherein the gestures unfold.

This was a new situation for me as a composer, that emerged from the collaborative process of the piece: it started from an idea developed together with the cinema artist Marek Pluciennik, and then the project continued with the contributions of the media artist Roberto Fusco⁷⁹ and the scenographer Sampo Pyhälä, and finally the performing group, including Juho Laitinen (voice and cello) met in a residency in Kallio-Kuninkala (in the outskirts of Helsinki) for some days of intense collaboration. So was established the performing quartet, where I played the live electronics in a chamber music-like exchange with the cellist via Ableton Live, Fusco played the live granulation part⁸⁰ on a tablet, and Pluciennik did the visual part – with pre-recorded material used in live cinema improvisation, following the unfolding of the piece.

The performance required a delicate mutual attuning, between each of us and with the musician on stage. It was especially challenging to deal with the second part, where the audience was invited to engage in a collective improvisation – a new situation that involved a high degree of uncertainty.

One of the challenges was the perception of time and its use in the general form of the piece.

According to Fuchs, keeping this reflection in acoustic terms helps one to see the “essentially temporal nature of cognition,” the multiple relations between the resonant systems and the interdependency of ‘resonandum’ and ‘resonans’ (Ryan & Gallagher 2020, 5; Fuchs 2018). It is what Damasio calls “a ‘resonant loop’” (Damasio 2010, 21). Ryan & Gallagher continue:

⁷⁹ At the time, Roberto Pugliese.

⁸⁰ The software Catart enabled the creation of live clouds of small portions of sounds. The software couples elements with similar characteristics, for example portions with similar spectral content in voice and cello sounds.

From the level of densely interconnected brain activity across the brainstem and cortex, to the role of affect as essential to cognitive activity, and out further still to the densely intertwined efferent and afferent feedback between the brain and non-neural body, changes in one [brain] locus will reverberate and resonate with all other areas in the system.

(Ryan & Gallagher 2020, 5, emphasis added)

Here it is important to underline the role of affect in cognition and the role of the “non-neural body,” that is, the activation of pre-reflexive layers prior to conscience (see 2.6.9).

Resonance is a complex phenomenon that does not occur on only one level: “*Multiple types and scales of resonance will be essential to understanding what it means for the brain to be a resonant organ*” (Ryan & Gallagher 2020, 5, emphasis added).

The isomorphic explanation is not entirely satisfactory, since the agent is modulating and changing their ways of interacting with the environment in a dynamic way. Ryan & Gallagher (2020, 5) advocate for an integration of Fuchs’ two kinds of resonance – between brain and body, and between organism and environment:

This scale requires drawing on the full suite of intra-organism resonances (e.g., intraneural resonance among different neurons and brain regions coupled with homeostatic resonance between the brain, heart, stomach, and lungs), including those under agential control and those outside of it, and the resonances between the embodied agent and her environment.

(Ryan & Gallagher 2020, 5)

This passage exposes the deep interconnections between different parts of the bodies (the brain being only one of them), underlying how the

active processes inform a complex net made of conscious and unconscious, controlled and uncontrolled aspects. I will come back to this in the next section, 3.6.

Referring to Van Gelder (1995), the authors also emphasize *non-linearity* – the “non-linear coupling” of different sub-systems in cognition – and the “*interdependency*” between those systems (Ryan & Gallagher 2020, 6, emphasis added). This implies “a shift from understanding the cognitive system as an agent connected with the environment” to, in contrast, focusing on the “*organism-environment*,” seen as “a single *relational* cognitive system”; this change of paradigm is intended to overcome the dichotomy internal-external that plagues, according to the authors, “traditional accounts of cognition” (ibid., 6, emphasis added). This shift means to acknowledge the loops of mutual transformation between the agent and her environment, where the agent is not unidirectionally shaped by her surroundings, but is constantly in an active position:

We can actively construct or reorganize an environment to enhance resonance processes, or to make the environment resonate with us.

(Ryan & Gallagher 2020,10)

3.2.4 Multiplicities in the body

Regarding multiplicities, it is inspiring to look at what happens inside our bodies, in the interplay of singularity and difference. While it is evident that humans share the same physiology, if we look a bit under the surface, across bodies – as across instruments and sounds – we find a myriad of qualitative differences.

Take the heartbeat: as Christian Boltanski wrote about his work *Les Archives du Coeur*, a collection of heartbeats recorded on a voluntary basis

all over the world (started in 2008 and ongoing):

While indicating that everyone is part of the same family, this [the heartbeat] also expresses the intrinsic fact that no two people are the same

(Boltanski 2013, emphasis added)

The heartbeat is a physiological sound – an individual rhythm controlled by the *nervus vagus* – the longest nerve in the autonomic nervous system, extending from the head to the colon. The human voice is also rooted in the body, depending on the individual phonatory system (with the larynx length defining the fundamental pitch, and the vocal tract working as a resonator, with its mobile organs – active and passive articulators – that form the timbre). As with the heartbeat, there is a connection with involuntary movement: breathing – pulmonary air passing through the phonatory system in order to produce sound.

In technical voice recognition, speaking rate - another personal rhythm - plays an important role: “Nearly perfect speech recognition was observed under condition of greatly reduced spectral information. (...) the presentation of a dynamic temporal pattern in only a few broad spectral regions is sufficient for the recognition of speech” (Shannon et al. 1995).

As Ding *et al.* observed, “the details of speech rhythms vary across speakers: people speak at different rates and pause with different patterns” (Ding et al. 2017).

Seen through the music psychology lens, which investigates how we perceive speech and music, temporal modulation (“the temporal envelope of sound, that reflects how fast sound intensity fluctuates over time”) is critical to distinguish speech from music: “Preliminary analysis (...) suggests that humans can classify speech and music purely based on temporal modulation information” (Ding et al. 2017, 184).

According to this approach, “acoustic rhythms constitute one such

feature that can separate speech and music into two internally coherent categories” (Ding et al. 2017, 183). The authors observe that “the mean syllabic rate of speech, a linguistic metric, is 5–8 Hz across many languages” (ibid., 184) – a rather fast tempo, if we think that 1.6-2.9 Hz correspond to 94-176 beats per minute. We speak much faster than we usually play.

On the speech perception side, it has been observed that “the temporal modulation structure of adult-directed speech (ADS) is thought to be encoded by neuronal oscillations in the auditory cortex that fluctuate at different temporal rates. Oscillatory activity is thought to phase-align to amplitude modulations in speech at corresponding rates, thereby supporting parsing of the signal into linguistically relevant units” (Leong et al. 2017, 78).

This phenomenon is the basis of yet another theory of language acquisition.

However, to come back to observations from an artist’s point of view, not only do we never find in the real world a separation between rhythm and timbre – much could be said about the links between the two, as the spectral movement has pointed out – but we need adequate instruments to investigate qualities, in the Bergsonian sense, qualitative rather than quantitative multiplicities (Bergson 2003 [1907]). We cannot use the scientific method to investigate something that escapes scientific categories, something so fleeting and subtle that it cannot be captured in laboratory conditions.

After all, as Boris Kleber told me, when we met in the Centre for Music in the Brain, “humans are the most sophisticated classifiers, if we compare them with the machines.”⁸¹ Human perception is far more complex than we can measure; in particular when dealing with voice, we cannot forget the interplays of emotion and affect.

⁸¹ Personal communication, Aarhus 18.9.2019.

⁸² See: <https://www.researchcatalogue.net/view/511491/2156579>

3.3 Spaces ‘in-between’: a path to Imaginary Spaces

With *Imaginary Spaces* (2016) I intended to create multidimensional spaces for various kinds of encounters and interactions. My interest in Hannah Arendt’s concept of ‘in-between’ had already surfaced in 2007, with my homonymous chamber music work.⁸² From the program notes:

‘In between’⁸³ indicates what stays between two realities, two persons; but it is also related to human voice, to communication. It may mean what unites, but also what separates. I imagined it as an almost physical space, an intermediate space where music happens: you can think about the ‘in between’ between composer and musicians, musicians and public, and so on.

This concept is useful to help us extend the dual relation with the other (see 2.1.) to include more participants: a situation that from intimate (the intimate space where music and poetry resonate) becomes social, where the sharing happens in between individuals – and, beyond individuality, between people belonging to a social context. This concept puts in evidence the question of the relation to and of the role of the audience.

For Arendt, the ‘in-between’ is a “space of coexistence and plurality” (Arendt 1998 [1958], 182; Cordero 2014, 249) that implies mutual listening, sharing and openness to transformation. A political space in the most elevated sense of the term.

Arendt’s thoughts (on which Cavarero builds her philosophy) give value in a new way to a sense of humanity and community, centred at the same time on individual action and responsibility. The social space is an intermediate space between private and public, a space where individuals

⁸³ At the time I used ‘in between’ instead of ‘in-between’, as it is used in the philosophical context.

have the right to act freely within a certain situation. Human condition is nevertheless never only the individual but is inherently plural, for “the fact that men, not Man, live on earth and inhabit the world” (Arendt 1998 [1958], 7; Cioflec 2012, 648).

Free “action has the closest connection with the condition of natality” (Cioflec 2012, 648): every birth brings a sense of novelty, and renews what Arendt calls the “capacity of beginning something anew, that is, of acting. In this sense of initiative, an element of action, and therefore of natality, is inherent in all human activities” (Arendt 1998 [1958], 9; Cioflec 2012, 648).

Although Arendt refers mainly to political action, her philosophy can be defined as a “phenomenology of action,” her “theory of action” (Cioflec 2012, 658). Contrary to Heidegger (1977, 193), who “conceives of the world as work,” as *producere*, Arendt thinks that, contrarily to work, action is not determined; it is not necessarily “directed towards a (...) goal,” but it always retains a degree of unpredictability (Cioflec 2012, 649) and plurality: “the vivid and changing world consists in the in-between of human beings concretized as action” (*ibid.*, 653).

This originary, open character of action, brings it near to the artistic act, which is also an act without a defined scope, open and often unpredictable in its outcome. It is also an individual act, but not the act of an individual severed from their surroundings. On the contrary, it can be a plural act, where more individuals ‘act in concert’ with their fellows, who find themselves in the same condition; by ‘acting in concert’ Arendt means “to act together as plural yet unique individuals” (Arendt 1998 [1958], 179; Cioflec 2012, 656).

The human being is, according to Arendt, the link between private and public action. “Society for Arendt ‘is that curious, somewhat hybrid realm between the political and the private’” (Arendt 2003, 205; Cioflec 2012, 655). The concept of an intermediate space between the private sphere (where the artist’s or the philosopher’s personal world is situated) and the public sphere (the space where music happens, according to Arendt

the realm of the political) is interesting, because it offers an essentially social space where art and music can be shared at a human scale, within a sense of community. The traditional concert form, established in the 19th and 20th centuries and leading to the industry of concert halls, puts musicians and listeners in a defined, fixed, social situation – an institution (in Arendt’s terminology a frame for action) which postulates their separate roles in a divided space. In the present time, instead, we are exploring a diversification of spaces where music happens, with a shift from the big hall (with thousands of listeners) to other spaces (black boxes, art galleries, etc.) where the audience is rather a community of listeners. Compared to the anonymity and heterogeneity of the audience of a big concert hall, these smaller groups can have a certain social composition, defined by the belonging to social groups who are interested in or make music themselves (instead of being simple consumers).

Following Hodkinson, the “active listener” can be involved in the performance process “as participant at various levels” (Hodkinson 2020, 34). Hodkinson regards active listening “as a kind of ‘aural performative’ action – an action performed by our ears and made sense of through our listening apparatus (...) an embodiment of artistic knowledge” (ibid., 44). In this sense, listening is a “reiterative act or practice (akin to the act of *utterance*, or simply *talking*)” (ibid., emphasis added). Referring to Bourriaud (1998), she writes: “spectators may be regarded as an interlinked community, with the artwork producing encounters between people who collectively make sense of the work and the encounters as convergent entities” (Hodkinson 2020, 34–35).

In this sense, *Imaginary Spaces* proposes a varying, composite space, where the individual (the cellist/vocalist) and his de-multiplication (the scattered voices), the individual and the collective (the performing listeners) can experience themselves in different situations.

3.3.1 Individuality and alterity: an intimate ‘in-between’

Arendt, writing about individuality, interestingly distinguishes between the ‘who’ and the ‘what’ somebody is: where “‘who’ means the ‘self’,” ‘what’ “the qualities, gifts, talents, and shortcomings (...) implicit in everything somebody says or does (...)” (Arendt 1998 [1958], 179; Cioflec 2012, 653–54). According to Arendt, human beings reveal themselves in the “space of appearance,” the in-between:

In acting and speaking, [humans] show who they are, reveal actively their unique personal identities and thus make their appearance in the human world, while their physical identities appear without any activity of their own in the unique shape of the body and the shape of the voice.

(Arendt 1998 [1958], 179; Cioflec 2012, 653–54, emphasis added)

But “‘who’ somebody is, does not only sum up the qualities they have. Beyond the qualities, there is a personal characteristic that cannot be reduced to them.” It “can only be recognized by others” (Cioflec 2012, 653).

Thus, the self is constituted also through the other, as relational self. The “appearing of the self to the other” has been compared to Heidegger’s *Dasein* (“human being as ‘disclosure’”) (ibid., 654). “Arendt defines the self as originating from an openness.” She “considers openness as provided by the plurality of human beings and their relating to each other in the public realm” (ibid.).

This view interestingly has consequences also for the concept of ‘other’: if “an individual intrinsically relates to the other in order to understand ‘who’ he or she is”, “the other is present in our self-understanding, (...) there is no self-relation that does not refer also to the other” (ibid.).

With this in mind, we can read Simone Weil’s words from the col-

lection of texts – recorded with the four performers’ voices and projected in the environment – of *Imaginary Spaces*:

I am other than I imagine to be

(Weil 1988 [1947], 17, my translation)

Which may mean: I am other than I see myself to be, I am perceived as other; I contain the other in me; or still, I experience a sense of otherness in myself – the latter interpretation is the one that resonated the most with me at the time of the composition.

Consider also Weil’s verse inspired from the New Testament – a paradox about seeing oneself as a stranger:

To love a stranger as thyself implies: to love thyself as a stranger

(ibid., 21 my translation)

The verse develops on the theme of internalized otherness. For Arendt every newborn is “born into a world of strangers” (Arendt 1998 [1958], 9; Cioflec 2012, 660). For the future newborns, we must preserve this world, this in-between, which “means caring for the newcomers” (Cioflec 2012: 659).⁸⁴

With word and deed we insert ourselves into the human world, and this insertion is like a second birth, in which we confirm and take upon ourselves the naked fact of our original physical appearance. (...) its impulse springs from the beginning which came into the world when we were born and to which we

⁸⁴ This theme resonates meaningfully with the urgent question of the fragility of the environment, put in danger by the ongoing climate crisis.

respond by beginning something new on our own initiative.

(Arendt 1998 [1958], 176–77, emphasis added; in Cioflec 2012, 659)

In this passage it is again evident how the human act is essentially creative, free, and open-ended; it brings something new into the world, stemming from a personal initiative.

But what happens if this in-between is lost? Its loss also implies a loss of plurality, “it leads to a desert.” The persons in this “dried up” space will “be trying to do this or that, constantly worrying about its [the desert’s] conditions, do not know how to use the oases, they will become desert inhabitants” (Arendt 2005, 202; Cioflec 2012, 656).

This catastrophe can be compared to the loss of symbolic spaces, a loss of connective tissues, typical of the *surmodernité* (Augé 2020 [1992]): a desertic situation in which the individual experiences an extreme sense of solitude, in depersonalised non-places, unlike the shared, lived spaces of the square or the centre of a town.

According to Arendt, in these cases, there only remain “the oases,” the only parts of life remaining untouched by external or “political conditions” (Cioflec 2012, 656):

The oases are (...) in the isolation of the artist, in the solitude of the philosopher, in the inherently wordless relationship between human beings as it exists in love and sometimes in friendship – when the heart reaches out directly to the other, as in friendship, or when the in-between, the world, goes up in flames, as in love. Without the intactness of these oases we would not know how to breathe.

(Arendt 2005, 202; Cioflec 2012, 656)

⁸⁵ *Foro*, from Latin *forum*, was originally a spatial term, designating the area around the house and the grave; later, it became the term for the religious, administrative, commercial, cultural centre of the city; finally becoming a legal term, with *foro intimo* or *foro interno* denoting the person’s innermost space, where the debate with conscience occurs. <https://www.treccani.it/vocabolario/foro/> read on 23.2.2022.

These oases, far from being “places of ‘relaxation’,” are those sources of life allowing us to “live in the desert without becoming reconciled to it” (Cioflec 2012, 656; Arendt 2005, 202). Art is undoubtedly one of these oases, at least in its nascent stage, in the person’s *foro intimo* (innermost space).⁸⁵

Similarly, the engagement of the performers in a relational artwork is unconditional, it has a freedom of action and an openness towards something that is unknown, which unravels during the making.

The parallels between Arendt’s philosophy and art do not end here, since “her conception of moral judgement is derived from aesthetic judgement,” and some consider her “political theory as an aesthetisation of politics” (Cioflec 2012, 660). In the modern world, we no longer follow the laws of the moral; instead, our judgement is based on the “common sense as ‘community sense’” (Arendt 1982, 72; *ibid.*). Moving from Kant’s *Critique of Judgement*, Arendt examines how a judgement can be made according to the situation (Arendt 1982, 70ff; Cioflec 2012, 660). After the modern fall of traditional values, ethics became “thinking in solitude,” but not in “absence of others” (*ibid.*). Arendt writes: “Another word for solitude is ‘living-with-myself.’” Meaning that “the answer to the question, what ought I to do?” is not to be found in a shared culture nor in any kind of moral imperative, but “on what I decide in regard to myself” (Arendt 2003, 97). This leads to both a personal and a collective responsibility, of someone belonging to the “human community” (Arendt 2003, 158; Cioflec 2012, 661).

To continue with the parallel, if we assume that the loss of traditional values also means the loss of stable aesthetic criteria of judgement, these criteria can be constantly reinvented by artists, co-listeners, and co-performers, in the freedom of the in-between. The aesthetic act is an act of sense-making that is not arbitrary as long as it is shared. In this recognition of sense, a sense of community can be recovered, at least momentarily.

3.3.2 Sonic in-betweens and the question of notation

About the kinds of sonic in-betweens, Schacher writes that “[t]he relationships and resonances connecting all of the different types of bodies [acoustic and not] that are present in performance exist in the interstitial space between them. Similar to the Japanese concept of the negative space of ‘maa’ (...), these spaces might be where the true presence of performance resides” (Schacher 2017, 246). It is that “suspended in-between” wherein the performer engages in the performative act, with both their ‘body real’ and ‘psychic real’ (ibid., 115).

The poetic word also happens in an interstitial space, at the in-between of the inarticulate and articulated sound. According to Agamben (2019 [1982]), it is “the voice of nature at the point where it emerges from the endless ocean of mere sound, but it has not become yet meaningful language” (Agamben 2019 [1982], 15 my translation). The philosopher refers to the stoic grammarian Dyonisius Thrax (170-190 BCE):

Among voices, some are articulated and writable (enrámmatōi), as our own voices; other inarticulated and not writable, as the crackle of the fire and the crash of the stone or of the wood; other inarticulated however writable, as the imitations of non-rational animals, as brekekéks and koí; these voices are inarticulated because we do not know what they mean, but they are enrámmatōi since they are writable (...).

(ibid., 14-15, my translation)⁸⁶

⁸⁶ Agamben does not reveal his source, the quoted passage is probably translated by the author. Among the ancient authors, Plato had already spoken of “the sounds of emotive *voices*” to design the “expressive powers” of music. Patel 2008, 344, emphasis added; Kivy 2002.

It is interesting to notice that, in this classification of sounds, the voices of the living beings and those of inanimate beings are placed on the same level. This phrase contains many interesting layers for us:

- all sounds have equal dignity in their vocal essence. It is interesting to read this in the light of what John Cage and the *musique concrète* affirmed, that all sound is, or can be, music;
- it connects language and the vocal/musical worlds;
- it raises an interesting question about what is and what is not writable. Going back to the *musique concrète* and the electronic music experience in general, it is evident that there is much in the sonic reality that is not writable, or that can stimulate the imagination to invent multiple kinds of notation.

It is always current to question what the function of notation is (see Grisey 1991, for a new *écriture*), what is useful to notate or not, and why. It is a question that arose, and I have been reflecting on, during the whole process of this research – trying to answer it locally, project by project, situation by situation.

Nancy connects the act of writing to the sense of touch, as a way of touching the world. A bodily act, a “*touching upon sense*” (Nancy 2008, 11, emphasis added). In the act of writing there is embedded a sense of relationality, since every writer is “addressing” someone, starting from oneself (Nancy 2008, 17).

I consider composing to be an embodied act, where the act of playing (as ‘voicing’), of sensing the instrument and the dynamicity of the act of sounding are always present.

With the composer Yolande Harris (2011, 29ff), I think of the score as a relational object, open on the two sides of the communication loop composer-musician-composer. It can also be seen as a ‘boundary object’, something that allows people with potentially different views to “work together without consensus” (Star 2010, 602).

The score also allows the phenomenon of interpretation: that is, an in-between space where the musician intervenes creatively, with a personal interpretation of the written text. In this sense I do not think of the score as a normative object, not as a series of instructions but as a map, an organism of hints – which needs the interpretation to become manifest, to become alive. The interesting thing is that there is not a univocal way to interpret a score; many different interpretations are possible. Even when the score is strictly notated, every interpretation will be slightly different, every time the piece is played – in each of that singular situation that is a live performance. Meaningfully, Star considers the concept of ‘boundary object’ almost equivalent to that of “interpretive flexibility” (Star 2010, 602).

So here we have two orders of multiplicity: the multiplicity of the interpreters, and the multiplicity of the performances (even when the interpreter is the same). As Gadamer (1983 [1960], 316) writes, we need to be open “to listen to the opinion of the text,” to be able to interpret it, “let it tell us something” – where ‘text’ is intended in a broad sense, a work of art or a performance. We need to be “sensitive to the alterity of the text” (ibid., 324), to the uniqueness of the other.

According to the philosopher, “the work of art is not an object opposed to a subject (...)” but “it becomes an experience modifying who is doing it” (ibid., 133). In this sense, any writing is performative (see 4.5.5). In his central concept of play, Gadamer affirms that “play fulfils its purpose only if the player loses oneself [sic] in his play” (ibid., 132 ff; Ramshaw 2006, 6). He also writes: “It is part of the play that the movement is not only without goal or purpose but also without effort. It happens, as it were, by itself” (ibid., 132ff; Ramshaw 2006, 5).

It is interesting to compare the idea of a movement without a goal in Gadamer’s concept of play with Arendt’s concept of action without a goal: in both cases it is underlined in the openness, creativity, and freedom of a gesture that is, in its essence, aesthetic in nature.

3.4 Multiplicities in *Imaginary Spaces*

In *Imaginary Spaces*, various layers of multiplicities come into play (and interplay):

- multiplicity of agents / agencies (co-creating, co-performing – within the team and with the listeners)
- multiplicity of voices (five recorded and two – vocal and instrumental – in presence)
- multiplicity of texts (fragments from Gombrowicz, Niemayer, Bachelard, Valéry, Chândogya Upanishad, Laitinen, Weil);
- multiplicity of languages (the performers' native languages – Finnish, English, Italian – with the addition of French);
- multiplicity of sounding objects (cello and four sounding boxes, each of a different material);
- multiplicity of spaces and perspectives (composition of space, projections and projection surfaces, changes in players' and listeners' placements).

Before starting to unfold these various multiplicities, their relations, and implications, I would like to introduce *Imaginary Spaces*: a manifold performing space, where music happens and is experienced in different locations (acoustic, virtual, imaginary) and in different ways, in an environment shaped by sounds, objects, and projections. A plural work in many senses, the first one I realized in a collaborative way, with a team of four artists (Juho Laitinen, Roberto Fusco, Marek Pluciennik, and myself) – all involved, to various degrees, as performers as well.⁸⁷

The piece seamlessly unfolds in three parts (*Curves*, *Interaction*, *Other*), over about thirty minutes, creating an immersive experience;

⁸⁷ For an account of the work and its traces, see <https://www.researchcatalogue.net/view/511491/2187519>

the borders between performers and listeners blur and change over time, sounds and images come from multiple directions and multiple surfaces. The accent is on mobility and participatory actions; the vocalist/cellist performs from the two extreme points of a diagonal line (facing the listeners, and, symbolically, himself, from two opposing perspectives, in *Curves* and *Other*); the listeners can choose where and how to be (lie or seat on the floor and, during the *Interaction*, move around the space); the listeners become co-performers, when in the second part the wall between performer and listeners (already much more permeable in this setting than in a concert setting) falls (in the first edition, the musician co-performed with the listeners on his way to the second placement).

The sound environment accentuates the mobility of the situation in part two (*Interaction*), when the background sounds move longitudinally in slow waves across the hall, and two of the sound boxes are heard close to their placements (on the room's two other sides), while the other two can be moved by the listeners/players. In the 2016 edition, the sound-files, triggered by the listeners through the microphones, were sounding in unpredictable places – their content was also unpredictable, as they contained either speaking voices or cello sounds.

3.4.1 Shared and multiple agencies

Shared and multiple agencies can be experienced across the piece: within the performing team, where chamber music-like interactions occur between the 'voicer' (human/instrumental), myself, the media artist, and the cinema artist; among the listeners, where the objects' affordances encourage sharing and exchanges between two or three people at a time. Particular important moments, as I pointed out before, occur when the invisible wall between the performers and listeners falls, generally during the second part. Here, and it was particularly evident in 2016, the multiplicities can be interpreted as an invitation to break the boundaries, to make the situation joyfully anarchical, which can lead to an uncontrolled

multiplicity of actions, sounds, and images (in 2016 there was also a spherical object containing a small camera that could be actioned by the listeners; the camera captured live images and projected them at a slowed down rate).

Agencies are anyway plotted and distributed throughout the work. The initial situation is created by the performers' quartet; the 'voicer' unfolds the open score (the cello sound slowly opens up in layers of internal multiplicities) and is gradually joined by the non-present voices; these speaking voices, together with the background sound (formed by the extended form of one of them) introduce us to the second scene, where the agency is more equally, as well as randomly, distributed. The floor is left to the listeners who, guided by some informed performers (in the 2016 edition by some performance artists, in the 2020 edition by myself) and joined at different moments by some team members, take over the performance.

At the same time, the objects, explored by the listeners, come to the fore: the objects' affordances (their dimensions and materials) invite the listeners to move them (for example, the white sphere rolling on the floor) and/or to touch them: the movements on the floor are only partially predictable, the attention passes from a person to the other; the fixed objects can be caressed, scrubbed or hit by two, four, or six hands at a time: this invites to shared negotiations and explorations, where the listeners' physical proximity is enhanced. It also becomes a challenging sounding environment, where the focus of the listening point is lost: everyone can change their position in the space, but the positions are informed and suggested by other human and non-human bodies. The gestures modify according to the other co-player(s), accompanied by the invisible gesture of listening, trying to identify the results of the actions (how the action is sounding) on the surrounding environment.

The piece's 'plot' anyway relies on a crucial decision: the exploratory part will eventually be closed by the team, and the attention will shift to the other part of the hall, where the *Other* (the 'voicer') is waiting to start

the third and final part. In 2016 the decision was taken by me, together with the media-artist: we had both reached the feeling (which proved wrong) that the situation had become saturated over the space of a few minutes. In 2020 I took the decision myself, based on the previous experience, and in a partly simplified situation – with a reduced number of elements (three boxes instead of four, no microphones nor movable camera).⁸⁸

In *Other* the agencies partly return to the initial situation, but with a fundamental difference: this time the gestures and voice of the ‘voicer’ are de-multiplied, and the interaction with the machine becomes more apparent. The part starts with the performer’s silent gestures, captured and magnified by a small camera placed on the bow: the sound slowly appears, but it is not the expected one, a cello sound, but triggered sounds that can be either vocal or instrumental (the triggered sounds are coupled by the machine with the spectral content of what the performer plays); when the human voice is added, it is also de-multiplied, put in resonance and distorted through the machine. In the 2016 edition, the proximity of the half-sphere with the changing projections added another layer of instability.

Across the piece, the coupling of granulated parts of soundfiles with live cello sounds happens on one hand artificially, through the software’s agency (selection of samples with the highest rate of spectral similarities), on the other hand it is guided manually (through the performer’s gesture behind the desk); this latter modality is crucial for instance in the second part of *Curves* and in the transition towards *Interactions*, where the performer is supposed to follow with the disembodied voices the musical gestures of the ‘bodied’ musician.

⁸⁸ The available surface was smaller and partially in use for the exhibition ‘2084’, that hosted the performance (Cable Factory, Valssaamo, Helsinki); see <https://www.researchcatalogue.net/view/511491/2116449>.

3.4.2 Vocal multiplicities

In this section I will expand on textual multiplicity seen as a form of vocal multiplicity, as I consider the written text to be another instance of the vocal: the written form has, in most cultures, developed from oral transmission. This close link has nevertheless become less and less apparent in the history of Western civilization, another proof of the loss of the *phoné*. The sounding content of the text has nevertheless remained important in some art forms, as in poetry and poetic prose and, more recently, in performance poetry.

Oral form and written form are usually thought of in the Western context as successive and juxtaposed forms of culture. While forms of oral culture have survived in the niches of the dominant culture, the written form has been canonized as the accepted form of culture, with the institution of publication, the authority of the author, and so on.

The predominance of the text, from the so-called religions of the Book, or Abrahamic religions, until the rise of post-modern theory, risks forgetting about the “all-too-human corporeality” and the desire that comes with it, the desire for the “unrepeatable uniqueness of the existent” (Cavarero 2000 [1997], 42). The voice behind the text tends to lose itself in the abstractions of the *logos* rather than resounding in all the richness of its *phoné* – losing that “vocal sphere that is common matrix of both (...) spoken and written language” (Cavarero 2005 [2003], 132).

The etymology of *text* shows something of what went lost in this process: while the Medieval Latin *textus* (“the Scriptures, text, treatise”) confirms the original religious sense, the perfect passive participle of Proto-Italic *texo* (I weave) returns the plural character of the term; confirmed, from XIV century, by *textus* as past tense of *texere* (to weave)⁸⁹. Both are

⁸⁹ <https://www.etymonline.com/search?q=text>, <https://www.treccani.it/vocabolario/testo1/> read on 20.4.2022.

derived from the Proto Indo-European root *teks-* “to weave, to fabricate, to make; make wicker or wattle framework.” The plurality of the text is apparent in the many threads that meet in it, the multiple voices that make it or, to say it with Cavarero (2000), the “narratable selves” and their stories. The weaving practice that the term implies is inextricably linked with an ancient feminine practice (exemplified in ancient Greek culture by the figure of Penelope).

Orality has recently resurfaced with the diffusion of new media, the internet, and the increasingly accelerating rhythms of urban life: a combination of these factors have brought the vocal element to the fore, in phenomena such as audiobooks and podcasts. Both rely on the immediacy of vocal communication, and both allow a quick accessibility to and fruition of the content.⁹⁰ Another phenomenon that has been on the rise since the 1990s is rap and trap music, where the speaking voice has a central role.⁹¹

The sounding qualities of the text come to life in that particular instance of listening that is the so-called silent reading: in this practice it becomes evident the function of the imagination in making the ‘other’ alive – when the reader imagines the author’s or the characters’ voices, their surroundings etc. (including sounds, a sort of internal *mise-en-scène*). It is interesting that here the supposed passive position of the reader (as that of the listener) becomes an agency in itself; the receiver in both cases completes the artistic work, and, even more importantly, relates to it by placing it in contact, making it resonate within and through their own sensibilities and experiences. It is yet another layer of relationality, of the infinite in-betweens emerging among agents in the artistic playground.

A similar position is expressed by Hodkinson through the ‘aural performative’ quality of listening (see 3.3), and even more by Salomé

⁹⁰ The tendency towards the oral has put the written forms in crisis, in a context where the public attention span is constantly shrinking. However, this problem goes beyond the scope of this work.

⁹¹ This is a specific field in itself, into which I will not enter. The amount of personal experience or “narration of one’s self” often present in these new musical genres is nonetheless striking – a fact which, once more, reinforces the thesis of a fundamental link between voice and identity.

Voegelin, for whom listening is an “innovative, generative practice” (Voegelin 2021, 12): the multiple and simultaneous character of the surrounding world (one of the possible worlds, actualized here and now by my own perception) discloses its “endless, plural finity” in a variety of changing, ever-evolving meanings (Voegelin 2021, 208).

In this spirit, the composer is always dealing with sounding text, where phonetics and prosody offer a multiplicity of nuanced elements, and of expressive nuances. As the in-between regions prove to be richer terrain than the two layers considered separately, the intermediate, endless region between word and sound, semantic and asemantic content, being a fertile terrain for vocal and creative explorations. As discussed in chapter two, there is more continuity than clear distinction between vocalizations and word: even when reading, the vocal quality of the word, the prosody of the written, the writer’s rhetoric, guide us through the text; the recurrence of certain terms does not only exemplify concepts but also forms sonic landmarks across the written landscape.

In the act of recording, the imagined voices of the written texts become embodied, personal voices. In this project the link with the native language is important, there where vocal sound materializes as native sound – in the myriad nuances that a native language allows to its speakers (see 2.7). On the other hand, during the process of *Imaginary Spaces*, the group’s working language, English, also emerged as a *lingua franca*, a poorer language but still a shared idiom. This brought to some limits in the use of the native languages. While most of the texts were recorded by native speakers, in two cases something else happened; one of the group members was bilingual (Pluciennik, Polish/Canadian English speaker), and our choice fell on the English language. Among the reasons for this were: everyday language proximity, availability of translated texts, and not forgetting the rich resonances of his English voice.

An even stronger reason, however, was the familiarity of the listeners with the English language. Even though intelligibility was not the primary focus in these projects, which were considered sonic artworks,

the degree to which a language can be understood by other speakers in the group or community was an important question. In this sense, it not only mattered that every speaker was allowed to use their native language, but also that we worked with a group of languages that could be possibly understood by a certain number of listeners. For similar reasons, the recordings realized with Laitinen during the residency in Kallio-Kuninkala were made in both Finnish and English – the latter was used in our group interactions and in half of the selected texts (three were originally in French, one was accessed in the French version, and the other four in English translations). For this reason, I ended up disseminating various layers of the piece with English versions: fragments of the texts appear in the score in English translation, and the language of the projections was English as well, while the original lingual multiplicity (Finnish, French, Italian, English) was maintained in the ‘disembodied’ voices of the electronics.

Concurrently, the multiplicity of languages introduced a multiplicity of translations: while a part of them were existing translations, others had been done during the creative process – either by me or by/with some other group member. Moreover, some of the languages (Finnish and Italian) were related to the speakers but not to the texts. A certain amount of translation work became necessary, since I deemed it important to record all the texts with all the speakers, in order to gather an extensive collection of timbrally and phonetically diverse material.

3.4.3 Textual multiplicities

In addition to the lingual and phonetic multiplicity aspects, another layer of multiplicity touched on the styles and the tones of the collected texts. Contrarily to my past experience, where I worked with poetic texts, I had the intention to work with texts that responded to the question of space (what is space, how do we relate or move in space, how many different spaces is it possible to evoke) to various degrees and from various

perspectives. The fragments by Gombrowicz, Bachelard, and Weil have a philosophical tone (although with literary resonances); Niemayer's fragment is a sort of declaration of poetics, along with Laitinen's *Manifesto of Sounding* (2013); the Chândogya Upanishad is a religious text;⁹² Valéry's fragment is a philosophical-poetic text in poetic prose.⁹³

Not only did most of the fragments show an internal diversity of genres and tones; they can also be ordered according to the following categories:

- space, intended in the physical-astronomical sense: Einstein's quote in Gombrowicz "In curved space-time there is no straight line" (Gombrowicz 2012 [1971], 98); the verse "In space exist both sun and the moon" (Chândogya Upanishad, 7, 12:1, 201);
- the experience of the subject: "Time and space are (...) a property of the subject (...) we have it in ourselves" (Gombrowicz 2012 [1971], 51-52); "the speaking subject is the whole subject" (Bachelard 1957, 19, my translation); "in space we move, we live in a man's work" (Valéry 1970 [1943],⁹⁴ 31, my translation); "through space we call; through space we hear; through space we answer (...) we rejoice (...) and rejoice not" (Chândogya Upanishad, 7, 12:1, 201);
- bodily experiences: "the free and sensual curve (...) in the body of the beloved one" (Niemayer, in Weston 2004); "a certain space evokes (provokes /gives birth to)⁹⁵ certain gestures" (Bachelard 1957, 36); "Oh my body (...) this invincibly actual presence", "movements against lines (...) to be in a work like a fish in a wave, to be bathed

⁹² The same fragment had inspired *Âkâsh* for violin, viola and electronics (2009–2010) – a piece where the spatial dimension was already important.

⁹³ This artwork across poetry and philosophy is not by chance in the form of a dialogue, reminiscent of the Socratic method passed down to us by Plato. A practice showing that the roots of philosophical reasoning are not to be found in the text but in a dialogical practice constantly seeking for a meaning to be co-discovered with another. A practice that owes much to the *phoné*, through the voices of the dialogists.

⁹⁴ The dialogue was written in 1921 but first published in 1943.

⁹⁵ I added the synonyms in parenthesis to enrich my translation and give the speaker a larger set of meanings.

in it, to live in it, to belong to it” (Valéry 1970 [1943], 28); “a corporeally experienced resonance” (Laitinen 2013, 1); “Through art is recreated the alliance between body and soul” (Weil 1988 [1947], 176, my translation);

- architectural and/or curved line: Niemeyer’s fragment (see above); but also, Valéry’s fragment (see above), from *Eupalinos ou l’architecte*;
- movement or a changing/unstable world: “to be in a moving building, constantly renovated and rebuilt” (Valéry 1921, 32); “a poem (...) dynamizes language” (Bachelard, 1957, 26); “the emphasis will be on individuality, not equilibrium” (referring to “when constructing new instruments”) (Laitinen 2013, 1);
- sonic dimensions: in Laitinen’s words, novel sonic material must be looked for “in unusual places” – places outside the common paths (ibid.). Meaningfully, places and not spaces: inhabited, lived spaces; but also surprising, haunted, *unheimlich* places. In the piece, ‘disembodied’ voices appear in unpredictable places (for example in response to purely instrumental sounds), or in and through non-human bodies – the sound boxes.

Phonetic diversity is not the only criterium that led me to collect fragments of multiple texts. As the attempted categorization here above shows, once again, what is in-between the texts is more important than the texts themselves: every fragment makes resonates with another in various ways, thus opening multiple perspectives.

Looking at this collection from a certain distance (of time and space), I see that it contains the seeds of many of the research threads to be developed in the coming years: the “voicing” subject and its identity, the ‘other’; resonance, bodies’ movements, relationality; the feminine (the curved line); the ‘thinking voice’; the creative and the research processes (“a moving building, constantly renovated and rebuilt”) (Valéry 1921, 32).

For similar reasons, multiple texts also appear in some of my previous works, for example in the choir pieces *Lamenti* (2011–2012) and *In via* (2014). In *Lamenti* various texts are evoked and combined, from a Ligurian term meaning dusk (from a novel by Francesco Biamonti) to a quote from Giordano Bruno's *The Heroic Frenzies* in the form of a chiasm; to end with García Lorca's poem *El silencio*. On a second level, Bruno's text is coupled with a quote of a madrigal by Gesualdo da Venosa (Book 5, 10 *Languisce al fin*) – a practice which was already known in the IX-X century with the name of trope (a technique used also in *Medusa*).⁹⁶

The use of multiple texts and languages in the same piece played a role in modern and post-modern European aesthetics: from the well-known case of Joyce's *Ulysses* (1992 [1922]), which experimentality heavily relies on sonic and vocal materials (namely the 'Sirens' chapter), to the less cited case of Virginia Woolf, who works on vocal multiplicity in *The Waves* (1931), where the sensations and fragments from the stories of six characters intertwine, slowly emerging through their different personal voices – not to mention T.S. Eliot, with *The Waste Land* (1922) and *Four Quartets* (1943).

In the Italian context, the works of Berio and Sanguineti (*Thema/Omaggio a Joyce*, *Passaggio*, *Laborintus II*, *A-Ronne*) often play on textual and phonetic multiplicity. Their encounter was preceded by Berio and Eco's encounter in mid-1950s Milan, where they both worked for the radio. As Osmond-Smith writes (2013, 64), "their enthusiasms quickly crossed-fertilized. Berio introduced Eco to Saussure's linguistics; Eco introduced Berio to the complexities of Joyce's *Ulysses*." Together, they worked in 1957 at the radio project *Onomatopea nel linguaggio poetico* (Onomatopoeia in poetic language), which led to the work *Ommaggio a Joyce*.

Their often-erudite work is better understood in the historical context of structuralism – another of Berio's seminal works, *Sinfonia*, contains

⁹⁶ See score examples at: <https://www.researchcatalogue.net/view/511491/2153351>

playful quotes from Lévi-Strauss. Also on the horizon was also Eco's *Opera aperta* (1962), followed in 1975 by *A Theory of Semiotics*. In this context, a certain intellectual game prevailed on the vocal aspect, the games and tricks of *logos* on the *phoné*.

Nonetheless Berio, "working at the boundary where the word as bearer of meaning dissolves into the word as reservoir of sonic potentials" (Osmond-Smith 2013, 67), opened the gates of a new area, the large in-between of word and sound, with consequences that are still felt today.

Although Sanguineti underlines the physicality of the spoken word as an emergent element of the second post-war aesthetics – "word (...) as a vocal act or (...) as a corporeal act, one of bodily investment in language (...) bodily energy invested in the voice." (*Per musica*: 14; Osmond-Smith 2013, 67) – this kind of operation reveals more of an "aesthetics of fragmentation and juxtaposition" (Osmond-Smith 2013, 63), where the two domains, word and music, remain apart, as "two rather heterogeneous modes of communication" (Sanguineti, *Rap e Poesia*, in Osmond-Smith 2013, 78).

3.4.4 Objects' multiplicity, human and non-human agency

Imaginary Spaces is a journey between singularity and multiplicity, the one and the many, the solitude of the single and the multiplicity of the others (the voices within and without). This is exemplified by parts where only the (human and instrumental) voices of the single are heard, as well as parts where other voices come into play and interact with the single in various ways.

If we look at the resonant non-human bodies involved in the work, we have a cello and four sound-boxes (2016). The cello is constantly amplified, and its sounds are processed and/or layered with pre-recorded (human and non-human) sounds. The human actions performed on and through the instrument are mirrored by the gestures/actions of the performers playing

the (audio or visual) machines, or they trigger the machines' actions/reactions.

The idea of the soundboxes was initially connected to the idea of an extended or alternative form of concert, where these objects would be exposed in what I then called 'concert-installation'. The original idea was to install them in Black Box for the audience to explore and play with them, outside the concert frame. However, during the process, the idea was abandoned because of the academic context, the architectural nature of the hall, and the constraints of the institution (available time and resources).

At the time, I did not fully grasp what it means to introduce sonic objects in a composition, and/or into a space, and of the consequences it entails: a different organization of the sonic and performative spaces; fundamental changes in the social contract between players and listeners; deep consequences for the time organization.

Made in various shapes and materials with different resonance properties (a wooden dodecahedron, a carton box with inclined plans, a plaster parallelepiped, a styrofoam sphere), the objects were designed together with Fusco and Pyhälä. This work was somehow a development of my interest in materials and resonances, which I had approached through the software Modalys in 2000-2006 (in *Rooms of Elements*, 2006); this time, instead of using soundfiles to make a virtual instrument resonate (for example, a vocal sound on a skin circular surface), I put soundfiles in concrete objects with certain physical characteristics.

The idea was to have objects of different shapes and, particularly, of different materials: the tactile interaction, and/or the movement on the floor (for example of the sphere), would trigger a portion of a random sound within a certain collection (each object contained a wireless contact microphone connected to Max for Live, 2016, or to Max/MSP, 2020). The type of interaction would vary with the material, and the objects' acoustic sounds would mix with the soundfiles' content: for example, the wooden object could be either rubbed or hit, and the sounds triggered are cello sounds connected with 'woodness' and with the kind of action associated with the

material (a bow rubbing on the instrument's body, and so on).⁹⁷

A fundamental difference between the four objects was that two of them could be moved across the space, while two were fixed to the ground: the sphere and the carton box were movable, while the other two, because of their materials and dimensions, were not. Their output was spatialized next to their positions (on the long sides of the hall in 2016, in the centre in 2020 – in the latter version the parallelepiped was not used).

If in the case of the wooden object the relation was unidirectional, in the other cases it was rather multi-directional: there were sound collections containing both vocal and instrumental sounds; in one case, the folder was connected to Catart, playing fragments of the samples coupled according to their timbral content. In these cases, the kind of sample played was more unpredictable. The level of unpredictability was at its maximum with the use of the microphones, which triggered sounds of diverse kinds.

The intention was not only to surprise the 'sound explorer' but to make them listen differently: to literally 'come in touch' with the sound by using their own hands or voices, and moving their bodies, instead of, for instance, a mouse or another technological device. I was interested in the tactility associated with the material, with the resonance depending on the material and the shape, with the sound localization depending on the (often unpredictable) movement of the object.

Another layer of interest was the movement of the listeners in the space: the space was designed to allow various and free positionings on the floor (sitting or lying – cushions and mattresses were provided). In the *Interaction* part, the 'sound explorers' were invited to move with the objects and to change positions freely.

When designing the objects, we had not fully anticipated how this would impact on the situation: the presence of the objects suggested a performative space inside the performative space – a circular area at the centre

⁹⁷ See examples at: <https://www.researchcatalogue.net/view/511491/2116449>

of the hall, a free space for the objects to move. The area was delimited on two sides by the two non-movable objects, positioned asymmetrically (2016).

The space and the relationships it contained changed during the three parts of the performance: during the first and last parts, the cellist played in opposite positions, and the listeners positioned themselves accordingly, turning towards the player; while this situation had been partly anticipated – the idea was to create a non-hierarchical space, where there would be less distance between listeners and players – the degree of closeness or distance of the listeners from the ‘voicer’ became clear only during the first performance. The red seats broadly suggested a circular positioning but the invitation to sit on the floor resulted in the listeners being even closer to the performer than I had imagined.

Another constraint came from the hall’s dimensions: although it had been measured, once the installation was ready (including ten loudspeakers on the floor, three tables for the audio-visual equipment on one of the long sides of the hall, two pillars with digital projectors, the inflatable sphere, and the two fixed objects) it became clear that the remaining space for the listeners had shrunk more than we had anticipated.

In addition, the technical equipment required its own space: the mixer and three tables (one for each of the three performers) were positioned along one side of the hall. The fact that we were sitting behind a table introduced a layer of separateness between us and the listeners. At the same time, our presence next to the performative space was essential, to allow the chamber music-like quality of interaction needed to perform with the cellist. The barrier fell only when I decided to mingle with the listeners in the second part, preceded by Laitinen and followed by Pluciennik – all spontaneous decisions. The situation was designed to dissolve the hierarchical relationships between players and audience, and to allow a reversibility of roles.

The lack of explicit limits, other than the ones provided by the installation itself and from the facilitators’ initial gestures, caused the

situation to be interpreted (in 2016) as a free space, where anything was allowed. Some of the objects were misused (although luckily none were damaged) and the room was soon filled with dense layers of actions and sounds.

The alternative listening modality introduced by the soundboxes (and, in 2016, by the hanging microphones) also has consequences on the time level: each fragment is experienced and listened to locally, by small groups of two-three ‘sound explorers’; the layers of multiplicity are mostly unpredictable.

Above all, as happens in such an installation, and more broadly in the visual art context, time is no longer experienced in a linear way, on a (at least partial) temporal sequence of a timeline: the viewer/listener can move and create their own paths across the space and the material. This effect is multiplied in *Imaginary Spaces* by the visual layers of Pluciennik’s work, the projections appearing on various surfaces around the listeners (the black wall, the fixed objects, the inflatable half-sphere). The non-narrative, associative character of the images contributes to a sense of a non-linear perception.

Contrary to a visit to an art space, however, it is not an individual experience: the objects could be approached by more than one ‘sound explorer’ at a time, and the situation invites interaction (for example, the sphere being set in motion by a person and received by another one). The objects allow gestures of invitation, a tacit invitation to continue or imitate the neighbour(s)’s gestures, along with the choices to accept them or not, direct one’s attention or the other’s somewhere else, and so on (similarly to what happens in an improvisation setting). The shared situation of the concert is still there, but the mobility of the ‘sound explorers’ makes it less static, allowing more horizontal agency.

Virtually, the *Interaction* game could continue indefinitely; concretely, depending on the variety and the quantity of the injected sound materials, the situation is deemed to exhaust itself within a certain time frame. It is possible to sense the moment when the level of novelty, and of action,

start to decrease, and it then feels natural to move on to the following part – as it happened, more naturally, in the 2020 edition, when I also provided some instructions for the participants, as ‘rules of the game’.⁹⁸

3.5 Chapter summary and conclusions

Starting from the concepts of uniqueness and multiplicity, I open up a perspective on the ‘other’, both from an inside and outside perspective; the first artistic project, *Imaginary Spaces*, contains numerous layers of ‘otherness’, from the multiple voices scattered in the space to the inner otherness of the third part of the piece.

Embodied resonance is an important element at play throughout the work, both in the interactions between the three performers and the voicer/cellist, and in the way actions and energies spread among the audience, during the second part. The piece explores the Arendtian ‘in-between’ as “space of appearance” (see section 3.3.1) where unique individuals (the performers) reveal themselves to the world and to one another, through tacit, relational, and sensorial interactions.

As I will develop in the coming chapters, another level of ‘in-between’ is found in the “interstitial space[s]” (Ingold 2020 [2015], 33), which retain also a temporal character: in *Imaginary Spaces*, the transitions between the parts happen both in time and space, introducing changes of agency, from the machine (the scattered voices) to the audience (between parts one and two), and from the audience to the individual (between parts two and three) – with changes of perspective across the performative space. More subtle levels of ‘in-between’ are at play in the intermediate and internally dynamic character of the music (the changing sounds of the cello in part one), in the unexpected associations of human and instrumental grains

⁹⁸ See the document at: <https://www.researchcatalogue.net/view/511491/2116449>

(throughout the piece), or in the asymmetric relationships of human and instrumental voice (in the voicer/cellist).

In conclusion, the experience of *Imaginary Spaces* was a first important step, introducing challenging but fertile seeds to be developed in the following phases of the research: de-centralization of the listening point; non-hierarchical interactions between performers, and performers and audience; role of improvisation and performativity; multiplicity of artforms, languages, and cultures.

The latter aspect is reflected across the changing compositions of the working groups throughout the five artistic components. *Imaginary Spaces* is also the first of my works to have been developed in a group, which represented a step out of the classical composer's paradigm – a step of which I did not realize all the implications yet – and a shift in my working practices. For every collaboration I would have needed to develop new interaction skills, along with a certain amount of flexibility and patience (which is an ongoing learning path).

Chapter 4



Voices and Spaces: hearing voices.

Open spaces for the untold and the unheard

*Kiss me with your lips
but let my tongue be free
I want to tell you so many untold stories
Anonymous landay⁹⁹*

4.1 Do you hear me?

As I started to unravel in the previous chapter (3.4.2), voice as *phoné* is the forgotten sister in a cultural construct based on written transmission, often oblivious of the body. As Cavarero (2003, 126–127) asks: what if we learned to listen to the voices of the mermaids, instead of fearing their indecent appeal? Whose voices go unheard? What dares to emerge from the realm of the silenced?

The two pieces *The end of no ending* (2017) and *Between words and life* (2019) have to do with unheard voices, and with the questions of writing and performativity. I will try to disclose in this chapter some of the ideas and questions that formed the basis of the processes of the two works, as well as the contexts where they were presented (the concerts *Voices and Spaces*, 2017; and *Voice and Cello*, 2019).¹⁰⁰

⁹⁹ On this poem is based *Kiss* (2014-15) for voice and *ondes Martenot*, subsequently integrated in the vocal cycle *Senza parole, senza silenzio* (voice and guitar, 2015; included in the 2017 concert).

¹⁰⁰ See the respective concert programmes at: <https://www.researchcatalogue.net/view/511491/2153149> and <https://www.researchcatalogue.net/view/511491/2153194>

4.2 An introduction

In this chapter I examine voice from an internal and external perspective, starting from Ihde's phenomenological point of view. I put the accent on voice as an embodied phenomenon and on the importance of listening to unheard or silenced voices and stories. Through my earlier pieces, *Ohnfad* and *Onde*, I show how dealing with one's own voice means dealing with one's own identity; and how vocal content can permeate a work for strings, based on the performers' voices (real or imagined). If the voice of the single and its multiple mirrorings contribute to form layers of identity, it is in the interpersonal domain, in the intertwining of voices and stories (as in Woolf's *The Waves*) that voices can grow and be recognized in their uniqueness.

Through the two artistic components *The end of no ending* and *Between words and life*, I explore questions of interrelations — between performer and instrument, and between performers — as well as emotional geography and intercultural exchanges. I speak of the relationships between vocal and instrumental voice, in a context of the de-multiplication of identity into uncertain, changing, ephemeral doubles.

I trace back my bodily involvement in the creative process and narrate my experiences with materials and instruments. I conclude by opening the artistic, philosophical and psychological implications of bodies' and performers' orientations and positions, with a re-evaluation of a grounded balance over the predominant vertical orientation, of uncertainty over the pre-determined, closed processes, and of the interpersonal relationships over the individualistic focus.

4.3 Hearing voices: the voice within

If instrumental sound is not that other layer of voice (Ihde 2007 [1976], 115-116), then the resonating, sounding human being is but a

‘voicer’: she ‘voices’ her worries, her oppositions, in a word, her identities. The ability to ‘voice’ demands for a new ability to listen as well. As Salomé Voegelin writes, new ways of listening are needed as “a critical practice of nuance”;¹⁰¹ listening as an active practice, far from being “passive, immature, and irrational” (in Kant’s words), according to the history of aesthetics (McEnaney 2019, 88). This is a misunderstanding conditioned by the “masculine assumption of listening as passivity” (ibid.): McEnaney calls on Kate Lacey’s re-evaluation of listening as an embodied and critical activity, with public and relational dimensions – in this view, listening is emancipated from being a purely private, passive condition. Referring to Walter Benjamin’s *The Storyteller*, McEnaney introduces a much needed “ethics of reception”, that overcomes “the simplified division between orality and literacy” (Hirschkind 2006, 27; in McEnaney 2019, 88). Benjamin underlines the links between myth, fairy tale, storytelling and the written forms: the storyteller is an artist/artisan interconnecting “soul, eye, and hand” in their practice (Benjamin 2006 [1969], 377), a practice implying sensory aspects, with a sort of multimodal resonance (to say it with the present knowledge), wherein the narrating voice is joined, for example, by gestures.

As Benjamin’s storyteller encounters themselves in the act of telling, the ‘voicer’ encounters themselves in the act of hearing: what I propose is to call this ‘in-hearing’, hearing the other(s) within, the multiple layers forming us. Ihde also writes of “the ‘quasi-other’ who is ‘myself’, where the inner voice acquires a character of ‘otherness’ (Ihde 2007 [1976], 121). However, I disagree with Ihde about the linguistic nature of any “prelinguistic” or “preperceptual” levels, coming from the assumption that language is already inscribed in the human being from the very beginning (Ihde 2007 [1976], 115-116). I nevertheless find his account of the “polyphony of experience” rich with useful observations: from the

¹⁰¹ “Salomé Voegelin – The Political Possibility of Sound,” online lecture <https://www.youtube.com/watch?v=fo2UM-AxN2I> watched on 1.11.2022.

“*primary listening* that precedes” speaking, where sound is existentially significant to the listener – “a listening to voices,” where “things ‘speak’ to the listener;” to the essential relation of the newborn to the environment (see 3.3), as someone who already “entered the conversation that is human-kind,” listening to the surrounding human and non-human voices – underlying the relational qualities of any sound as voice (Arendt 1998 [1958], 9).

In this sense, ‘in-hearing’ also reveals a polyphony, in the “double modalities of perceptual and imaginative modes”, under the form of “*auditory imagination*”: in the former modality, the subject perceives itself as a correlate to the World (“within my self-presence”, Ihde 2007, 118), in the latter the attention turns to the “second voice,” the “imaginative voice,” experienced in thought and self-reflection, as “inner speech” (Ihde 2007 [1976], 117).

In Ihde’s phenomenological view, experience is “already always ‘intersubjective’” (ibid., 118). According to the author, aural experience always has a verbal character, that makes it intrinsically intersubjective, and a peculiarly human experience. While I find it interesting how Ihde underlines the vocal character of this experience and its intrinsic relationality, I would not limit the phenomenon to the solely human dimension, leaving this in-between area between music and language open for other-than-human species (see 2.3.4); it has been recently studied how some birds, such as cockatoos (Patel et al. 2009) and even mammals, such as harbour seals (Verga et al. 2022) show pre-linguistic musical abilities, for example sensitivity to periodicity (in birds) and vocal learning (in seals).

Healy draws upon Cox’s theory of mimesis (Cox 2001, 196; Healy 2018, 46–47) to underline the importance of *subvocalization* – “the inclination of a listener” to respond vocally to “instrumental music” (Healy 2018, 47) or recalling it to memory by silently humming or as if “singing along” with someone else (Cox 2001, 195); a phenomenon that is part of the “*covert* kinaesthetic imagery” through which listeners participate in an embodied way into music performance (Kim 2022, emphasis added; Kim 2023b, 66). Subvocalization is a bodily way of understanding “instrumental

music *in terms of vocality*” (Healy 2018, 47). According to Healy, Lakoff & Johnson’s conceptual metaphor “INSTRUMENTAL SOUNDS ARE VOCAL SOUNDS” (ibid.; Lakoff & Johnson 2003 [1980], 1999) well describes this “cross-modal mimetic behaviour” (Healy 2018, 46), enacted or lived in the process of transforming “nonvocal sounds into a form of vocal sounds” (Cox 2016, 78). As Healy shows in her examination of master-classes¹⁰² (Healy 2018, 126 ff.), this behavioural phenomenon is commonly found in instrumental music practice. Not only that but, as Cox reminds, “mimetic engagement” (Healy 2018, 46) is “a form of mimetic comprehension” (Cox 2016, 35) at play from infancy in any form of listening to the world – in particular, to “understand human-made movements” and “sounds” (Cox 2001, 196). In this sense, subvocalization happens in presence of any kind of sounds, and, as we saw above, even our thoughts are formulated in a subvocal way (as inner voice).

The primary dual polyphony within inner voice or speech is only the first step toward a construction of identity that is made up of all the significant voices we meet: our inner speech is an interestingly multiple phenomenon where not only our own voice resounds (an imagined version of it), but also those of others we usually interact with (in proximity) or who are or have been meaningful to us during the process of our lives.

As Ihde notes, this phenomenon becomes amplified in the case of pathology, as in schizophrenia, where the voices become autonomous and the subject can no longer tell whose voice they hear, their own or another, or whether it comes from within or without (Ihde 2007, 121). What interests me here is the bond between ‘innermost’ and ‘outermost’, the imaginative and the intersubjective (Ihde 2007 [1976], 117–118) – on a continuum made of many gradations, a variety of distances between the inner and the outer worlds (see fig. 4.3).

¹⁰² Including a violin masterclass, Healy 2018, 164. Interestingly, performers identified their soloist role in Mozart’s *Concertos* as an operatic singer’s role. See 6.1, Cypess 2010, and her derivation of the instrumental ‘*stile moderno*’ from the vocal ‘*stile rappresentativo*’ in Italian Early Baroque music.

In the sonic imaginative mode we can have experience of sounding worlds, a phenomenon that can resemble that of auditory hallucinations: as Saariaho recalled many times that as a child she asked her mother to “turn off the radio,” lamenting not being able to sleep, because of the sounds she heard.¹⁰³ Despite what Ihde calls their “disembodied” character, these auditory imaginations can have a certain presence and may remind one of previous sensory experiences – such as sound roughness or smoothness, colour, and so on.

In this sense “the ‘innermost’ is not distant from the ‘outermost’” (Ihde 2007 [1976], 117), in the binding the living subject to their surroundings – where even imagination can have such a presence as to become ‘more real than real’. As analytical psychology maintains, imaginations and the unconscious are real, and have a presence and a concrete impact in and on the subject’s life (Jung 1978 [1963]).¹⁰⁴

4.3.1. Two musical examples

The concert *Voices and Spaces* (2017) included some of the earlier works where I had addressed the question of voice, in some ways anticipating some of the themes of this research. Among these, *Ohnfad* (2000-01) and *Onde* (2009-10)¹⁰⁵ hold a significant place: *Ohnfad*, for female voice and electronics, starts with the mirroring of my own voice, joined by subsequent layers of two other voices (the singer Anne Rodier in the fixed media and the voice on stage, Tuuli Lindeberg); *Onde* ‘contains’ both concrete and abstract male voices, with the intent to connect the musical material to the performers’ voices (of Quatuor Diotima).

Ohnfad received its name from the phoneme that initiates Perse’s

¹⁰³ From the public conversation “Taidepiste: Crossing borders”, Helsinki 18.10.2022. See participants and recording at: <https://www.uniarts.fi/en/events/taidepiste-crossing-borders/> read on 7.12.2022.

¹⁰⁴ According to Jung, “dreams constitute the factual reality from which we must start.” Jung & Jaffé 1978, 212, my translation.

¹⁰⁵ See: <https://www.researchcatalogue.net/view/511491/2156579>

poem (“– ô monde entier des choses –”, from *Vents* (1960)).

Looking back at the working process, certainly it was not only a way to encounter and face my own voice, but to initiate a journey into the electroacoustic domain, to search for my own voice within it.¹⁰⁶ This utterance starts a process that is also a search of identity, where a voiced sound, a one-breath cell, initiates a cascade of voices: the material of the electronic part is entirely based on speech, the singer’s readings of the poem; it exploits the prosody and the phonetics not so much of the French language but of that particular instance of it that is the singer’s individual voicing of the poem. At the time I remember being fascinated by the element of wind, which inspired the title from Perse’s book: I recognize it now as a moving, dynamic force, provoking multiple changes of rhythm along the way, bringing something with it or sweeping it away, gently or violently. I remember being captured by the rhythm of the poetry, by its overwhelming qualities, its overflowing fantasy in which it was easy to get lost. A continuous flow of images and sounds that, like the wind, could start small and end in massive outbursts.

It is interesting to recall another case of the relationship between a string instrument and its player’s voice: Perse himself. As a child, the future poet became a passionate violin player, so much so that his father, since the child did not seem interested in anything else, seized the instrument and hid it. However, Perse did not completely give up: he asked the family gardener to build for him an instrument for him, a small violin made of solid ebony “with strings in silver thread... I took the violin and, for two years (...) I practiced an imaginary music. I heard it. My poetry retains its inner music” (Aigrisse 1992, 24, my translation).

Ohnfad was the first part I composed for the vocal cycle *Spazi* (2001-05), for one to five voices and electronics. Around 2000-03, I remember have being interested in the concrete phenomenon of the sound of wind, but I soon abandoned the idea of making outdoor recordings. Instead, the

¹⁰⁶ *Ohnfad* was realized at CCMIX, ex-Ateliers Upic, Paris 2000.

‘winds’ in the cycle are the whispering voices, from simple inhalations and exhalations to combinations of voiced and unvoiced sounds. The moving character of the wind inspired the convolution of the melodical elements, written without a time-signature or any bars; on the top of that, the undulating handwriting expressed this desire to mimic the freedom and unpredictability of the wind, with its sudden, ceaseless changes from stillness to motion. I imagined the voice taking liberty, accelerating and decelerating *a piacere*.

And yet, surely, this whole project brought to the surface the pleasure of voice – I remember that a colleague at the time commented that the recording of my voice sounded almost erotic. This had not been my intention, but I concede that a gendered, female voice can elicit such associations. This fact brings us back to the *phoné* as “vital desire for emission” (Cavarero 2005 [2003], 66): embodied sound coming from unique vocal cavities, carrying a sensuality that has been put aside if not refuted along the path of so-called ‘civilization’. A part of the feminine that is also connected to animality, the untamed, the unsubmitive.

I remember the utterance of my recorded voice (on the phoneme ‘o’) as a kind of existential sound, a way to feel “I am”. And one of the first experiences of my own voice with a mechanical reproduction device, with all the uncanny effects that come with it; but also with a curiosity to hear oneself, as a ‘quasi-other’. *Ohnfad* starts with two voices mirroring each other, the beginning of a relational act that is rather the relationship of the voice with itself – my recorded voice and my written voice – voiced by another. In this sense, it is an internal resonance.

The ‘ô’ of the poem brought, inscribed in its graphical sign, also summoned the image of an island: if on one hand it may hint at an isolated self, my comment for the programme note (2013) reads:

*it also hints at the concept of isolation, round – closed space;
far from meaning withdrawing into oneself, it is rather an open
space for the mind*

It is also worth noting that this “ô” in the poem is an exclamation of wonder (with all its imaginable polysemic nuances – a vertigo, a sigh, and so on) in front of the “entire world of things”. However, this section concludes on “all the faces of the living”¹⁰⁷ – underlining the connection with the human (the face) and the organic world (for further reflections on the symbolism of the sign ‘O’, see 3.2.2).

In *Onde* (2009-10), inspired by Virginia Woolf’s novel *The Waves* (1992 [1931]), the hidden voices, the imagined musicians’ voices emerge and re-emerge during the piece, connecting at unexpected points. They are not only gendered but situated voices, in the French language (the native language of three of the musicians, and the second language of the fourth). Moreover, part of the material was derived from the opening sound of my piece for bass-barytone and electronics (*Os*, IRCAM 2001)¹⁰⁸ – where Nicholas Isherwood’s speaking voice is condensed into a synthetic chord. I was interested in the dark resonances of his voice, which I found fitting to the dark resonances of the cello and the viola (which have a prominent role in the first movement and in the whole piece). That recording was done in French as well, although this was not the singer’s native language.

From my comment (for the first performance, 8.10.2010), referring to Woolf’s novel:

Every chapter begins with a poetic prose, where the author depicts with deep sensitivity and precision the inner landscape where the six characters live (...) As in the book, to every movement there is a short introduction, where one can hear the rhythm and breath of the following waves.

The novel provides the tone and character for the piece, as well as the idea for its formal organization – three parts with a short introduction

¹⁰⁷ Translator Hugh Chrisholm.

¹⁰⁸ On another part of Saint-John Perse’s *Vents*, later integrated in *Spazi*.

each, where each introduction is centred around a timbric idea.

From the same comment: “The waves are more related to the inner world than to water world: a ceaseless movement of thoughts and feelings.” The quartet’s parts derive their titles from inner landscapes (I, *Aurore*) or from water metaphors (II, *Onde*; III, *Rive*). Each name could be read in French or Italian, playing on the languages’ ambiguities that result in different sounds. At the end of every part there is a quote – the first from *The Waves*, the second from a poem by Arsenij Tarkovskij,¹⁰⁹ the third from Perse’s *Vents* (the closing verse of the text used for *Spazi* II, for three female voices).¹¹⁰

Part II of the quartet, which provides the title for the entire piece, *Onde*, is based on the male voice formants in French. The formant analysis was simply derived from Depalle’s study on a bass voice (1993). The vowels included are “nasal a”, “closed e”, “open e”, “closed o”, “nasal o”.

They were chosen as components of the words “onde”, “Franck”, “Pierre” – that is, the title and theme of the work and the first names of the viola and cello players.

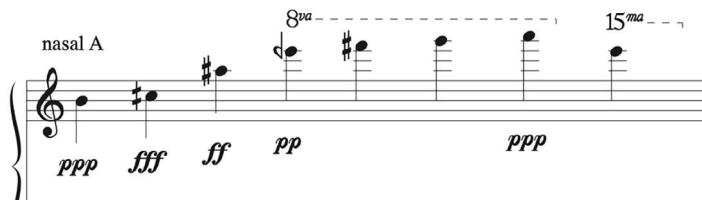


Fig. 4.1 Formant of French vowel [ɔ] (nasal AN)

¹⁰⁹ “And this I dreamt, and this I dream”, Tarkovsky 2007, 72. The quote is from the initial verse, which gives the poem its title. Verses 6-8 rely on the metaphor of the wave: “Wave follows wave to break on the shore, / On each wave is a star, a person, a bird, / Dreams, reality, death – on wave after wave.”

¹¹⁰ “La mer (...) à tous nos spectres familière”, S.-J. Perse, *Vents* 1960, 69.



Fig. 4.2 Ondes Part II, bars 3-4

The relatively high-pitched resonances are rendered as harmonics, in a generally fragile, undulating fabric with a dreamy character, as the poem suggests (“And this I dreamt, and this I dream”, Tarkovsky 2007 [2000], 72). The leading viola phrase was also the very first idea for the piece, already associated with the poem (March 2009). As voices within, they were also imagined voices.¹¹¹

¹¹¹ You can listen to the piece here: <https://www.researchcatalogue.net/view/511491/2156579>

4.4 Hearing voices: the voices without

The encounter with the ‘other’ is undoubtedly an encounter with ‘another voice’, another identity (since voice, as mentioned before, contains various layers of identities). In “*face-to-face speech*” the “‘singing’ of the human voice” makes itself present; we feel “*immersed*” in its sound, in what Ihde calls its “auditory aura” (Ihde 2007 [1976], 78).¹¹²

As I tried to sketch in the conceptual map below (p. 8), the different degrees of distance of the subject from the ‘other’ form both a physical and an inner space where different degrees and modalities of relationship become possible, from closer, more personal ones to multifaceted interactions with the environment (with and within social groups of different dimensions).

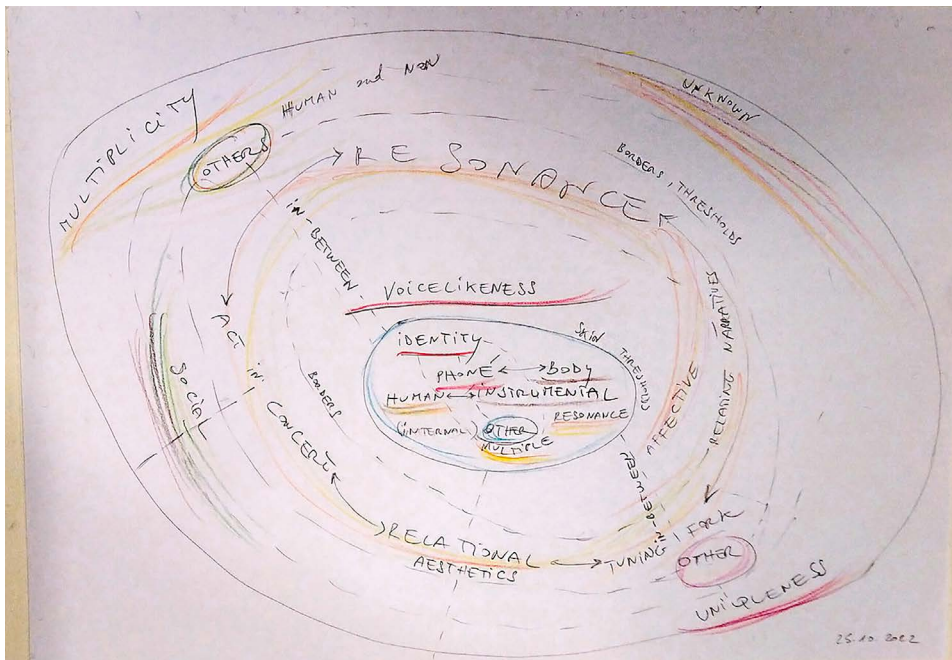


Fig. 4.3 Concepts map 25.10.2022.

See <https://www.researchcatalogue.net/view/511491/2158815>

¹¹² I will not follow Ihde on the spatial distinction of frontal and “encompassing” (surrounding) voice/sound, because sound spatiality is a more complex phenomenon, within which we can discern a variety of positions beyond the two mentioned here.

For our musical practice, one of the possible intermediary forms is particularly relevant: the group situation, that is a working group or an ensemble, seen as particular cases of social interaction.

While in the first artwork of this research, *Imaginary Spaces* (2016), there was a performers' quartet interacting with aural and present voices and bodies (the moving audience), in the following pieces *The end of no ending* (2017) and *Between words and life* (2019) the voices emerge from and are surrounded by larger ensembles (in addition to other non-present voices in the electronics). In the former artwork voices and musicians are disposed in different parts of the space, around the audience; in the latter, the human-instrumental 'voicer' moves in amphibious ways in-between the performative space and the ensemble, and across the space's various dimensions (real and projected), while the audience experiences the piece in a frontal position.



Fig. 4.4 Anni Elif Egecioglu, Suvi Tuominen, *In between words and life*. Photographer Antti Ahonen

Every piece creates a different intersubjective situation: compared to *Imaginary Spaces*, in *The end of no ending* we pass from one to two subjects (two female voices with frame drums), that become three over time (the *daf*, and the third frame-drum); in *Between words and life* the subject is a female voice with cello (with her own non-present voices in the electronics), and two silent companions, a dancer and a video performer; the female couple is de-multiplied on the sail-screen¹¹³ in real time, and they can also interact with their own images (by projecting video on them with tubes containing small projectors).

While in the former piece the couple is formed from two symmetrical, voicing performers, in the latter it is formed by a voicing and a silent performer: in both cases, the ‘other’ can be seen as a part of the voicing subject. In the first case, two voicers face each other in different situations: they are either two poles of the same line (in the front-rear position, part 1) or a mirror of one another (in the frontal position, part 4): the first position allows the vocalist’s voice (the darker, ‘other’ voice, with a background in jazz and experimental music) to emerge from behind the audience, while the soprano (the ‘pure’, ‘instrumental’ voice) emerges from the ensemble; nevertheless, the first part of the piece plays on their similarities and differences, in similar or identical registers, respectively associated with the instruments they play with (the drums’ resonances on which the piece is based).

¹¹³ See video at: <https://www.researchcatalogue.net/view/511491/2143654>

Daf skin_51 no. 8

daf_trad_51 str 1.4

dur. 4 sec

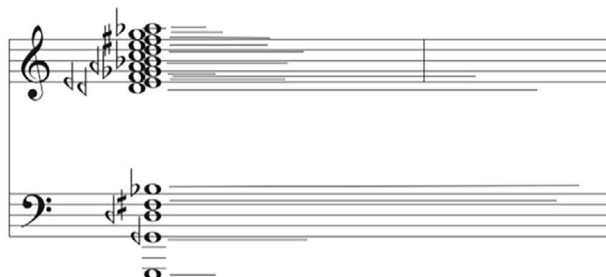


Fig. 4.5 skin daf spectrum (stretch factor 1.4)

It is worth noting that the *landay*,¹¹⁴ a poetic form inscribed in a culture that assigns an important role to poetry (that is true for the Middle East region at large), is often a sung practice, with or without the accompaniment of a hand drum. For this reason, I introduced the frame-drum as a relational instrument for the voices in *The end of no ending*. By integrating the Persian *daf* the voices of the skin instruments also provide the harmonic structures of the piece, based on their multiple resonances (spectral analysis of five instruments, the three frame-drums and two *daf*).¹¹⁵

¹¹⁴ See the following paragraph for more information about this poetic form and its cultural context.

¹¹⁵ See: <https://www.researchcatalogue.net/view/511491/2153149>

4.5 The end of no ending: positionality and emotional geography

The relationships between the two voices and with their collectivities (the ensemble and the audience) varied according to the dramaturgy of the piece, which was built around the four landdays. Their positionality reveals the underpinning intersubjective relations, and their relationships with their environment.

The dramaturgy of the piece moves from a silenced cry (Part 1) to the melancholy of an encounter (Part 2), to defiance in front of the community (Part 3), to a premonition of death (Part 4). The emotional geography in which the singers move follows this arch, from the intimate, to the relational, to the social, and then back to the intimate.

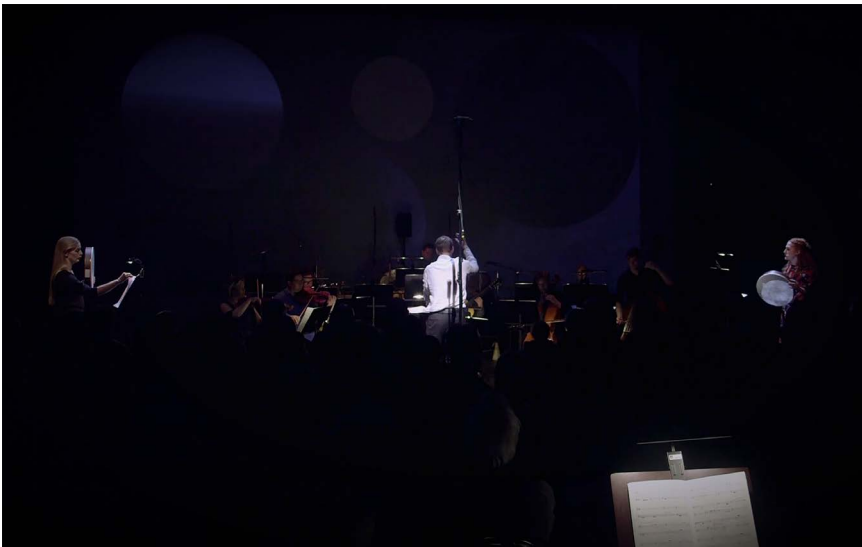


Fig. 4.6 *The end of no ending* (2017). Tuuli Lindeberg, Anni Eli Egecioglu. Image Otto Olavininen, Marek Pluciennik

In Part 1, the two female voices can be seen as two parts of the same character, each coupled to her own instrument and to its multiple resonances (up to four per instrument) orchestrated in the ensemble. While

initially distinct, the resonances gradually overlap, and the voices start to be part of neighbouring harmonic worlds. Along with the thematic of secret, of a silenced feeling (see score Part I), the voices are initially hidden in the ensemble as part of the instrumental fabric, underlining some of the spectral resonances and enriching them with live voice-drum resonances.

The soprano voice (who enters first) is visible in the front, while the other one emerges at the audience's back (as well as percussion 2 – the audience is surrounded by concrete resonances first, followed by virtual ones). The electronic part at the end of Part 1, built on the same resonances, follows the same movement, from the front to the rear of the hall, where it disperses.

disposizione/disposition I

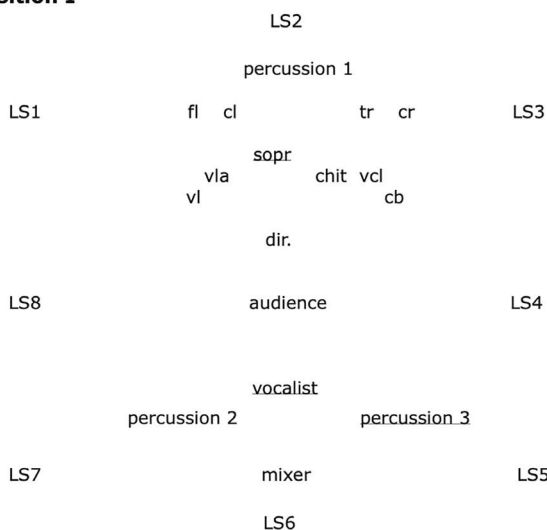


Fig. 4.7 The end of no ending, disposition chart Part I

In Parts II and III the movements acquire more importance, and the voices assume different roles: the introduction is a scene of call and answer, initiated by the *daf* player with his speaking voice and an instrumental rhythm. I notated in the score not only the position but also the performers' gazes, which are supposed to lead the movements: the *daf* player

looks at voice 1 ('soprano' in score) while calling her and she answers back, initially playing her instrument; she starts to approach Hosseini (bar 9), walking to the right half of the hall; then her call is echoed by percussion 1 (in the front, bar 12); her singing voice ("my beloved") is echoed by voice 2 (marked 'vocalist' in score; speaking voice, bar 15); voice 1 sits among the audience, while Hosseini plays looking at voice 2.

At bar 17 the new couple starts to elaborate on elements of the Macedonian folk song. The two slowly come nearer to each other: from the rear right, the percussionist is supposed to reach the front of the hall from the right side, to place himself to the middle left, while the vocalist is supposed to walk from the rear centre to the middle right (the two would face each other through the hall middle position, that crosses the space horizontally). In practice, the movements were simplified, and the gazes went more to the conductor than to the other players (during the rehearsals it became evident how much time and effort is needed for the performers to work on these kind of tasks)¹¹⁶ – at the beginning of Part 2 both Egecioglu and Hosseini played while sitting. When, after the introductory vocalization, the condensation of the tune starts (bar 26), the other voice reappears, as a hidden or a remembered voice. The tune is coupled with the landay's text ("come, my beloved"). After reaching her position on the middle right, the vocalist gives her own drum to the "hidden" soprano. Only during the improvisation does the percussionist walk towards the vocalist, who goes back for a while and then starts to follow him, both finally walking back to their positions.

¹¹⁶ There was little time to work with the light designer, moreover the fact to be in a concert hall limited the possibilities to follow the performers with the lights.

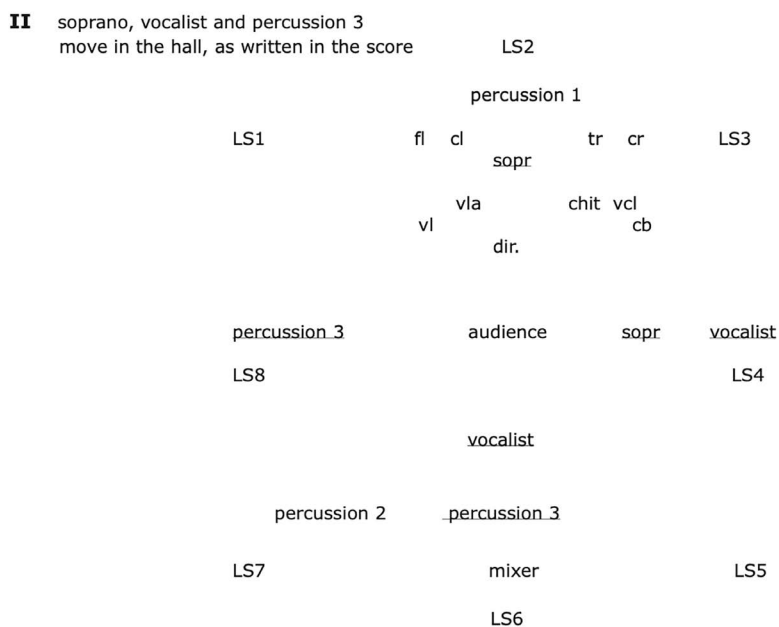


Fig. 4.8 The end of no ending, disposition chart Part II

The performative aspects are central in this part: the eye contact is important to making the action meaningful and underline the pauses (the sense of expectancy), interspersed by the rhythms of skin instruments (a sort of heartbeat). It was intentional to leave something mysterious. We do not know what will happen between the two; is it all imagination, or are the two voices even part of the same person, do they belong to two different women?

At the start of the second section (on the verse “life is soon the twilight of a fading winter evening”), the two voices are back to the positions of Part 1. The section is entirely built on the resonances of the *daf* and the voices are alone, without their frame-drums: only the tom-toms echo them, from the respective parts of the hall where they stand, facing each other. The electronic sounds (built on similar dark resonances) appear along with the voice in the front (b. 69) and slowly spread to the rear and the whole surround system (b. 78–89).

This hiatus between the two parts is important to underlining the

change of atmosphere: from a sense of closeness to a sense of loss – the time will end, and the separation (or death) will come. The character of Part 3 is more energetic and the performers' movements play an important role. Following the poem, this is the part of the challenge to the collectivity, to the established order – all desires will be satisfied, and the women's hair will be fluttering in the wind, free from socially normed constrictions.

There is an extension of the rhythmic discourse, with a different coupling of voices and instruments: voice 1 is coupled with the frame-drum 2, while voice 2 is coupled with a third frame-drum (which resonances already appeared in the orchestration and the electronics). Each voice is coupled with a brass instrument: voice 2 (at the rear centre of the hall) is coupled with the trumpet (rear right), while voice 1 (front left) is coupled with the French horn (rear left). The darker voice is coupled with a brilliant sound, and vice versa, so that "dark" and "brilliant" timbres find themselves on two diagonals across the hall.

In the beginning voice 2 is at the rear of the hall, from which she starts drumming (*"with a sense of challenge"*), walking to the front right. She is positioned on the same side of the trumpet (rear right); at bars 23-24 (*"As I will cross the village"*) voice 1 walks along the hall left side, while voice 2 does the same on the right side. The women are supposed to uncover their faces and hair, while walking to the rear of the hall – the score reads *"undoing hair"* (bar 39). The idea of the hair remained unrealized in the concert though, since the performers were worried about the spectral scales and the coordination with the ensemble; there was also another practical reason, since both were wearing headset microphones. At the end of Part 3 the singers are behind the audience, while the electronic sounds fade in and out (on the whispers *"tomorrow"*).

As the action unfolds around the listeners, the audience metaphorically becomes the collectivity, the village addressed in the poem (*"(...) I will cross the village with an uncovered face and hair in the wind"*). The movement goes from a state of concealment to an imagined moment of overt manifestation to the world. It is a second birth in a social dimension,

in the Arendtian sense (see 3.3.1). The collectivity fears the feminine body as a manifestation of identity: in this case, it demands the concealment of the face, one of the most human parts of the body, essential for interpersonal communication (see 3.2.1, Lévinas 1987 [1947]), as well as the concealment of the hair, an important attribute of femininity. In occidental societies, there is likewise a history of disciplining female hair, where loose hair is at best considered as disordered, and at worst overtly sexual, in any case socially unacceptable. The transformation of Medusa's beautiful hair into snakes has a similar meaning (see 4.5). It should be noticed that the sanction, as often in the myth as in reality, comes from another woman (in the myth, from Athena) – that is, the dominant order is maintained with the complicity of the injured party.¹¹⁷

In Part 4 the two voices are positioned frontally, facing each other, each on their precedent side (voice 1 on the left, voice 2 on the right) with their original instruments (frame-drums 1 and 2). The section is based on the low resonances of the heavy *daf* (played also live).

As in Part 1, there are no movements: we are in a dreamy land, and the poem tells of a premonitory dream about a lover who is in danger (interestingly, the premonition is once more regarding the hair – braided hair coming apart as a bad omen for the lover's lot).

4.5.1 Untold and unheard in *The end of no ending*

The choice of the texts, four anonymous poems by contemporary Afghan women, and their traditional form, the landay, establishes a link between the untold (either intimate or silenced) and the social dimensions it touches.

The landay is a short poetic form (two verses of 9 and 13 syllables, in the Pashtun language)¹¹⁸ traditionally composed by illiterate women, an

¹¹⁷ A mechanism well described by Arendt in *The Origins of Totalitarianism*, 1951.

¹¹⁸ <http://www.radicalwhispers.org/what-is-a-landai.html>, read on 29.7.2017.

ancient oral practice that may be accompanied or not by a hand drum: the themes vary from intimate to societal questions, expressed in a poignant and direct way, with the speed and force of a short snake (*landay* in Pash-toun means ‘short, poisonous snake’). The form is rooted in secrecy and silence, since it gives voice to themes women are not allowed to express in public. In their oral form the poems pass from woman to woman (or in a close circle), in an attempt to escape censorship: “Landays survive because they belong to no one.” They cannot be “ripped up and destroyed,”¹¹⁹ as a written form could.

They may also be a vehicle for social or political critique, if not revolt. The form was revived during the early 2000s, under the American occupation of Afghanistan (2001-2021); the first translations were published on- and off-line in the 1990s-2000s (Majrouh 1994, De Jager 2010, Griswold 2014). One of the best known, largest female literary groups is Mirman Baheer, a poetry circle founded in 2010 in Kabul, which for some years also had access to the radio and is presently still meeting in secret locations¹²⁰.

As the links I refer to reveal, there are some difficulties related to the diffusion of these texts; the risk is that the occidental perspective underlines a certain image of these populations and the political content of the poems, which is then inserted in narratives foreign to their origins. Working with these texts, the fine line of cultural appropriation is never far off (Ziff & Rao, 1997). Nevertheless, it is also part of a process of diffusion of extra-European contents in the so-called Western world, where the destructive side of conflicts can meet with the unexpected, creative potential of an encounter with the other and its culture(s). Recognizing that these are dangerous and complex boundaries, where the reciprocal positions and identities are constantly in movement, can be a starting point to avoiding the risk of appropriation. I will try to explain in the next lines the personal

¹¹⁹ <https://static.poetryfoundation.org/o/media/landays.html>, read on 29.7.2017.

¹²⁰ <https://time.com/5864973/afghanistan-coronavirus-lockdown-women-poetry/>, read on 13.12.2022.

and concrete aspects of encounter with this poetry, and with the web of cultural dimensions co-present in this piece.

Around 2014, what struck me about these landays was the combination of an extremely condensed form (comparable to the brevity of a *haiku*) with a potent expressive dimension of female voices – of silenced voices. The tension with the culture of silence from which these voices emerge made them feel close to my own cultural roots in a remote Sicilian village.¹²¹ An oral culture, transmitted as a body of family myth, where silence retains the ambiguity of a density of meaning that can be accessed only by intuition, through a shared cultural code; and the imposition of a cultural code with its own social rules. Notwithstanding the distance and the diversity of these cultures, both retain traits of archaism, with a sense of fate, honour, and the incumbency of death, that also result in a strong sense of vitality and attachment to life (in the Mediterranean area these traits are inherited from the pre-Greek, Greek, and Arab cultures – a complex blend also including Norman and Spanish influences).

Both cultures tend to allow female individuality only in silent or private dimensions. I am acquainted with the fact that the force of this exclusion can paradoxically generate an uncommon strength of character – powerful voices on the edge of silence.¹²²

¹²¹ As the daughter of a second-generation migrant from Riesi (Caltanissetta).

¹²² In the wake of this theme, think of the current Iranian voices in the movement “Woman, life, freedom”, autumn 2022.

4.5.2 Intercultural layers in *The end of no ending*

Another connection with these poems comes from real-life encounters with migrants' voices and their stories during the preparation of the acousmatic piece *Migramare* (2016-17),¹²³ presented with a new spatialization in the 2019 concert.

While collecting and recording stories of sea travels along the Balkan route from the Middle East to Finland¹²⁴, I had been struggling to find female voices. As became apparent, this work would have required a larger network of contacts and specific ethnographic abilities that I did not have. This was one of the reasons why I later chose to continue working on existing texts.



Fig. 4.9 Ahoora Hosseini with his daf

In *The end of no ending* there are other layers of cultural references, starting from the title: it is the first verse of a poem of Ziba Karbassi, an Iranian poet who emigrated to the United Kingdom in the late 1980s. The end of no ending is the opening verse of her poem *To Hell With It*, where the poet imagines mending the earth, which has been “broken up in tiny pieces” like a “ripped open woman,” by transforming herself into a healing hug. The very impressive second poem, “Death by stoning”, also certainly stayed with me: connected with this thematic, the verse “the end of no ending” bears with it a sense of unending pain together with a sense of endurance, in addition to a more abstract temporal paradox, alluding to infinity.¹²⁵

¹²³ For the exhibition “Kotimaa/Homeland,” The Finnish Museum of Photography, 2016. See <https://www.researchcatalogue.net/view/511491/2156579>

¹²⁴ The travels took place in 2015, the recordings on 27th and 29th January 2016 (Caisa Cultural Centre, Helsinki).

¹²⁵ Karbassi’s poetry is rooted in Persian literature; see poems such as “Patience”, which starts with a quote of Hafez. My piece *Dream light, shadow stone* (Tokyo 2013) was inspired by this poem.

This side of the web provides a useful intercultural link to the musical choice to include in the piece the Persian instruments *daf* and *tombak* in the piece. The former is especially important in the work, with two versions of the instrument providing interesting and complex resonances, on which Parts II and IV of the work are based.

I met Ahoora Hosseini and his *daf*/voice (see image here above) around 2014, together with his Kurdish Iranian family. The interconnectedness of music and dance, and their pervasiveness in the family day-to-day culture struck me. It is also an irresistible practice of intersubjectivity; although, at the same time, it is a practice rooted in a rich and refined music tradition of its own. In addition to the general association between Persian and Afghan poetry and music practices (the differences are more numerous than the similarities,¹²⁶ although the two countries share a border), the presence of the *daf* was connected with yet another cultural layer: an homage to a friend and fellow composer who disappeared in May 2017, Jovanka Trbojevic, through a quote of one of her favourite pieces of music, the folk tune “Jovano, Jovano” (quoted in Part II). Looking into its origins, I found out that, although it is Macedonian, the tune is found in a much larger area in Eastern Europe, beyond the Balkans. This fact made me think of the musical influences travelling across peoples and centuries, where, in the shape of a melody or a chord, something can be transported and transplanted over long distances in space and time. In this spirit, I decided to include this musical material in the piece, and to connect it to the cultural-geographic fabric that I am trying to disclose here. Another important decision was whether to preserve the improvisational character of musical materials that are orally transmitted and transformed, including a space for improvisation in the score.

Before and during the writing process, I met with Hosseini and the *daf* to exchange ideas and get more information and tips about the

¹²⁶ Not least, Hosseini’s family comes from Sanandaj, a mountain village in Western Iran.

instrument, and also to learn more about the rhythmic tradition(s) it is connected to. The rhythmic part of the score, especially Part II, is based on these notes (see fig. 4.10 here below). In June 2017¹²⁷ we realized two recording sessions together, with three different instruments (two in skin and one in plastic). From our preliminary work sessions, I especially recall the different ways we talked about beats and ornaments, and the ways to notate them (see Fig. 4.10).

What he called ‘ghost notes’ are non-accented notes with a background function; the ornaments are realized with a specific left-hand technique.

In the rehearsal process, while Egecioglu and Hosseini seemed to understand each other relatively well, it emerged an unexpected musical-cultural barrier emerged; although I knew that Hosseini could read music, I had not realized that he did not share the occidental classical way of rehearsing music, particularly through the codified gestures of a conductor (Hosseini was barely twenty at the time and had arrived in Finland only a year earlier). Even more interestingly, it came out that his way of subdividing rhythms followed a completely different logic (subdividing,

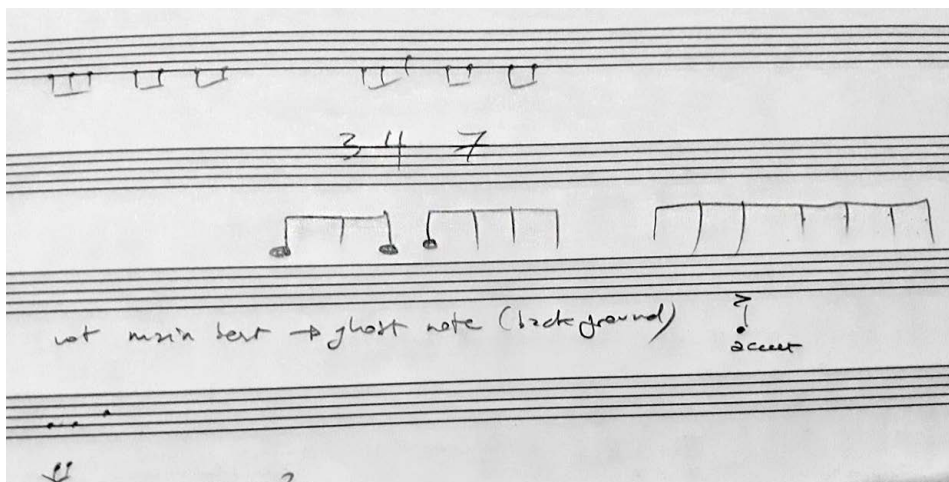


Fig. 4.10 Sketchbook with Hosseini's annotations (numbers and rhythms in the center)

¹²⁷ 12.6.2017, Helsinki Music Centre.

for example, 1 + 2 + 2 instead of 2 + 3 or 3 + 2, in bars of 5 units). It was only then that I realized how profound were the differences between our musical cultures, with one used to a higher degree of flexibility and improvisation skills, not to speak of the intersubjective plans, and the other highly codified and formally more rigid, both in a technical and in a social sense. We needed to invent strategies to overcome the impasse, a way for the two worlds to communicate more efficiently. After some talks, the conductor (József Hárs) proposed to meet Hosseini alone and go through the passages that created more misunderstandings. His role was vital into integrating Hosseini into the ensemble and resuming the rehearsals with the larger group; it was a mutual learning process.

4.5.3 Narration of identities in *The end of no ending* and *Between words and life*

Cavarero in *Relating Narratives* (2000) connects storytelling with the forming of an identity – as a relational process. Her fascinating hypothesis, which builds on Arendt's philosophy, is that the subject needs the other to narrate their identity, in order to recognize it as such and, at the same time, have it recognized from the external perspective (environment, community, etc.). The first example she gives is the case of Ulysses' story, as narrated by one of the Proci (Penelope's suitors): Ulysses obviously knows his own story, but hearing it in its entirety, narrated by a stranger, moves him deeply. It is as if he saw it all for the first time, in all its significance. This is the case narrated by Karen Blixen (Cavarero 2000 [1997], 1), where, at the end of a person's life, it will become possible to see the shape left by the ensemble of their actions, the traces left behind, condensed in a beautiful image – a stork, visible on the ground seen from above.

Without this relational narration, the sense of identity would remain incomplete. It is a narration from person to person, subject to subject – be it an unknown or an intimate one.

In the case of *The end of no ending*, my collection of Afghan voices is a

way to narrate them again, to translate them and connect them in a web of associations interlinking them with my own story. As in any relational process, the border between who is me and who is the other becomes porous and less defined, “the boundaries slip” (Voegelin 2021, 184): both are sharing skin, “a permeable and mobile skin” (Voegelin 2021, 201). This contact and exchange is present in the relationships between the two voices in *The end of no ending* (as two parts of one, or better, “more-than-one”), with and between their resonating skins (the frame-drums). The Afghan voices enter a new web of “sonic possibilities” (in Voegelin’s terms) that could have not been imaginable before their actualization in the compositional process, filtered through another subject and filtered through (interpreted by) a multiplicity of subjects (performers and listeners) in the performance.

I literally shared my skin with them, by including it in the visual part of the piece: the projected images in round circles (a continuation of the interest in round shapes that started with *Imaginary Spaces*) were based on microphotography of my own skin, filmed by Marek Pluciennik, as well as of my hair and eyelashes. The result was abstract, but I recall the filming session as an intimate and almost disturbing process; when I saw the result, it gave me a sense of the uncanny, as the extreme details of the skin revealed unsuspected geometric patterns and forms, similar to fish scales (with a sense of the “non-human” or “more-than-human”).¹²⁸

Salomé Voegelin relates the concept of individuality to the visual domain, while in the sonic domain the body, with its multiple sounds, is “vague and plural”, the “skin elastic, porous, expansive”, and “challenging the singular” (Voegelin 2021, 184). While I do not think it is necessary to bring the discourse on identity to extreme consequences – implying that individuality or individuation do not exist – I agree with the multiple and porous character of the individual, who is never a separate entity but part

¹²⁸ A similar sensation to that which Agnès Varda described in *Le glâneur et la glaneuse* (2000), where she marvels about a detail of her hand, which looks like part of a quasi-monstrous, prehistoric animal.

of multiple interpersonal dynamics: “*being-with*” (Nancy 1996) and “*being of*” the other (ibid., 190, 201; Kozel 2015, 4).

In this case, this means “desired but not accepted” identities (Voegelin 2021, 183), voices that emerged from an archaic, long silence, revealing themselves with a sense of disruption; the “sheer, stubborn presence” of the bodies (Iyer 2016, 77), being here, wanted or unwanted. This is a presence that can also be a meaningful absence (in this case, the voices are both absent, in the poems, and present, in their new actualization).

As Benjamin writes, “half the art of storytelling” is “to keep a story free from explanation” (Benjamin 2006 [1969], 366): the sense or “the psychological connection of events” is “not forced on the reader” (or the listener) but revealed by the story itself. Storytelling originates from the domain of experience (its “raw material”, ibid. 377), often a collective experience. It is a manifold thing, with many possible versions, within which we can move freely.

The work of art maintains this open character, where sense making is shared between performers and listeners, imagined and re-interpreted each time it is actualized, actively received by each individual it “touches” (Iyer 2016, 86).

4.5.4 *Between words and life*

Between words and life (2019) deals with identity in yet another way: it is a narration of Anni Elif Egecioglu’s Swedish-Turkish identities, where the co-presence of the two languages plays an important role. It happens through three poems by Gülten Akın: *Sözler (Words)*, which deals with a difficulty of expression (a vocal difficulty) – words are trapped in a mouth and it is dangerous to let them go (“who let them wing is copped”).¹²⁹ In the second, *Ney* (What) an acrobat silently walks “on the open rope” they

¹²⁹ Translation Beni Sorarsan.

“drew / between words and life”: this verse, giving the title to the piece, dwells on that rich in-between, the intermediate zone between voice/sound and life, where the acrobat (the individual, or the artist) is in perpetual search of a balance. The poem ends with a crucial question: “[T]ell me what to write and why?” This verse introduces the theme of writing, which is present in the next poem’s fragment as well, *Leke (Stain)*, lines 15-20), finishing with: “so quietly / the stain has seeped into the fabric.” Of course, it is an exquisitely polysemic verse, but I read in it, as well as in the poem’s title, a possible connection to the act of writing, the ink sinking into the page (be it a mistake or not – and finally, what is a mistake? Does such a thing even exist?). This verse also contains an interesting hint at temporality, with the stain seeping in over time. Another important theme of the poem is the co-existence of the person with the “other voices”: “[W]here are the world’s voices”¹³⁰ asks the poet; they are the single and the community, but also the individual embedded in a surrounding world of sounds.

While the piece deals with and elaborates on the performer’s vocal and instrumental voices (doubled and enlarged by the electronics and the ensemble), Egecioglu has a twin, an alter-ego, on stage, the dancer and performance artist Suvi Tuominen.

The piece opens with a sonically embodied introduction, where the two dwell into an imaginary circular sound built on Egecioglu’s cello bowing (“Senza tempo, con l’elettronica”). During the rehearsals, I asked them to move in a circular way, along with the delicate seamless-ness of the sound, a sort of circular breathing (diffused all around): in the same spirit, Egecioglu starts to vocalize on slow vowel changes, her voice gradually moving more and more, until the piece starts (at 1’44”). The third performer as well, the video artist (Pluciennik), is also supposed to join in the initial movement (although not visible in the documentation). While moving, the “twins” contribute to the visuals too, by each carrying

¹³⁰ Translation Neil P. Doherty.

and moving with a tube that contains a small projector, initially directed at the floor. It was interesting to see them work with the tube's affordances, its weight, length, balance, and projection angles. Searching for a balance is the acrobat's task *par excellence*, as well as also being what one does when developing an identity; a development that can hardly happen in isolation but is always relational. It is not a coincidence that psychoanalysis speaks of *projection*, although usually in a negative sense (the attribution of unconscious contents or qualities to the other, an identification phase to be overcome in successive, more mature phases of the relationship). To recognize oneself in the other is the basis of every human relationship, moulded on the model of the first relationship, the one with the main caregiver. In phases of approach and distance, identification and separation, the relationship's agents creatively seek for a balance, for a fruitful development – an eminently dynamic process.

In the piece, the acrobat can be seen as the individual or the artist, seeking for their movable identities, and for multiple relationships with their environments.

The projections happen all around: on the floor, on the suspended “sail”, and even on the performers' bodies (all dressed in white). They touch the various parts of the space: the performative, frontal, space in-between audience and ensemble; the suspended space of the sail (with its soft curvature), both imaginary space and outer space – it is there that the writing hand, as well as flocks of migrating birds, will appear. The live projections multiply the space and complexify the game, by capturing and superimposing the performers' movements. Performers and images move in-between reality and imagination, in a mist that is often not one thing nor the other, moving in the realm of the undefined. The video artist assumes a mediating role, working in-between the performative and the imaginary spaces. Although meant to be seen, he often hides in the folds of action, a discrete presence.

Part 1

The first part focuses on the relationships between Egecioglu's vocal and instrumental sounds: the electronics, worked out through the software AudioSculpt, often plays on the hybrid, and the human voice mirrors itself in the instrumental voice, but the mirror can happen to be a distorted one. I chose to privilege rich but unruly hybrids, dense in unstable, wavering components. The ensemble follows, amplifies, and enriches these textures, giving them body and resonance in performing presence. The acoustic and the digital, the vocal and the instrumental, tend to merge; both boundaries are permeable and fragile. At bar 39 the cello is asked to imitate the voice in the electronics – the whole part is indeed seeking similarities between the vocal and the instrumental. Another twin element is the other cello in the ensemble, often offering another mirror to the soloist. The quarter-tone accordion is in an in-between position between Egecioglu and the ensemble, with its ability to merge into the electronic texture (I thought of Grisey, who often used the accordion¹³¹ in the orchestration, as a reed instrument capable of approaching the purity of the sine wave).

The section's sonic colour delves into darkness, following the poem's phonetic content, where the vowel 'u' is a constant presence. Undulations, in both pitches and images, are a central theme of Part I: omnipresent in the human and instrumental voices, they intermingle with the undulatory motion of the flock of migratory birds on the screen (played live by Pluciennik). The dancer, on the other hand, underlines a sense of constriction and heaviness (video 3'35"-3'58"), inspired by the heavy human condition the poet finds herself in – a situation where opening her mouth to talk is difficult if not dangerous ("Words (...) Couldn't / Fit in a mouth as they grew up"). And yet the words do not cease to grow, to put pressure on the lips, with their need to go, to be heard, with a sense of inevitability (the poem continues, "Surely they were going to fly"). At bar

¹³¹ An instrument he was very familiar with, having been an accordionist, Goldman 2018.

70, p. 15 (video 4'10''), when the voice joins the electroacoustic chord, finally Tuominen's weight feels lighter, and the tube is suspended for some time over her head; as soon as it reaches the horizontal position, moving layers of colour open the monochromatic space on the suspended sail (previously interrupted only by the small circles projected through the tubes – see video 1'31'', 1'44'', 3'45'' right-below corner of the screen).

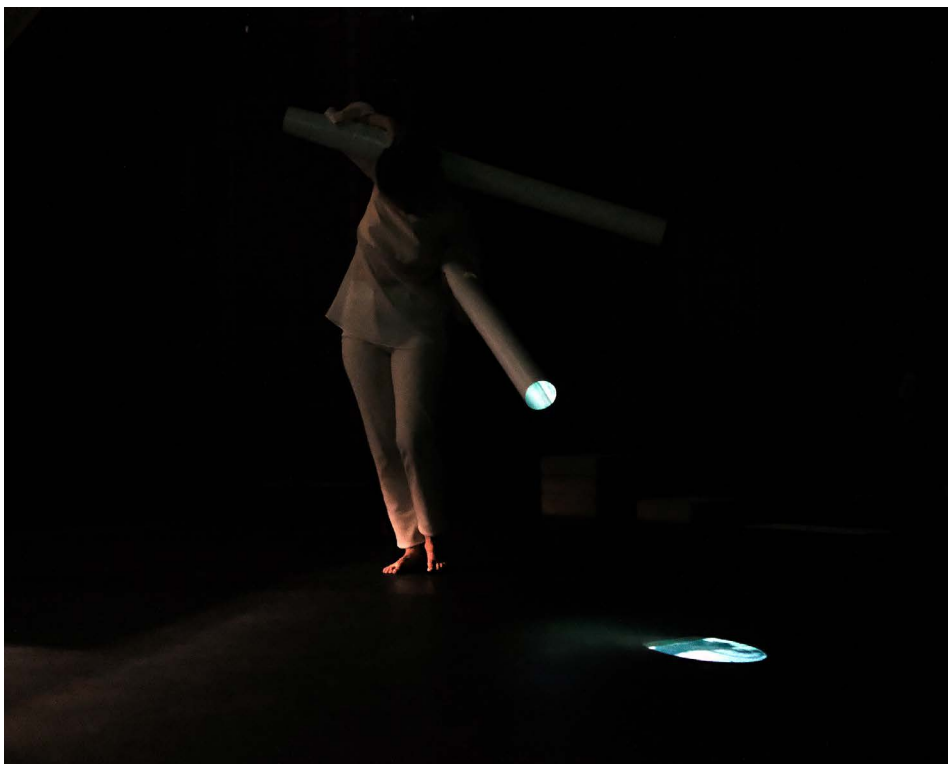


Fig. 4.11 *Between words and life* (2019) Suvi Tuominen projecting on the floor. Image Antti Ahonen

At 4'37'', the tube is suddenly dropped, when a high vocal partial in the electronics appears: the texture becomes brighter, followed by the live voice in a higher register.

Soon the chord redescends and the voice, again on 'u', mirrors its 'other self' in the electronics (bar 100, p. 20, video 5'07'') on the poem's final verse ("uçuranı tuttular", "who let them wing is copped"). On the voiced, undulating 'n', the colours on the sail move and change, while

Tuominen's double joins their dance – her body and tube re-projected live on the colours, animating them from within (at the same time the white “moon” projected by Pluciennik in the first part reappears, slowly surging from below, from 5'13" on).

The electronics slowly concludes the section, fading out behind the audience, while Egecioglu returns to the projection space, preparing for Part II.

Part 2

The second section starts on high frequencies, a continuous hissing that projects a contrasting light, compared to the previous movement. It is light not only in its brightness but also in its “weight”, since the texture is suddenly thin. Despite its vocal origins (among others the consonant ‘s’), its quasi-metallic resonance sheds a cold light, compared with the warmth of the first part. It is reminiscent of the “blank balance” of the second poem. Although the acrobat's “walk” is supposed to be “silent”, the entire section is paradoxically built on Egecioglu's spoken voice: the virtual voice (in Turkish) is stretched in various durations and layers, one of them providing the pitch space of the section – the live spoken voice is put in resonance with virtual objects (through Modalys). Soon the latter (at bar 16) turns to Swedish, Egecioglu's other linguistic identity, which adds another phonetic layer. The new language does not replace the first one though, and the two start to mingle. The verse containing the word “balance” is meaningfully pronounced in Swedish (b. 24), both in the electronics and live, while the word “acrobat” is in Turkish (“canbaz”), and the electronics concludes the section in the Swedish version.

Swedish is Egecioglu's daily language, while Turkish is the hidden one, re-emerging in her voice colours and in her vocal improvisations (often including guttural sounds); a meaningful one though, a layer of her personal identity, with the family legacy it brings with it, and the nostalgia for a country left behind (and currently, even less accessible). The particular

grain of her voice is audible in her way of playing the cello, if I think of the recordings we did together; slightly breathy yet vibrant resonances, sometimes dwelling on one sound, then suddenly opening, animating with fast energies – qualities shared by her bodily movements.

At 7'55" Egecioglu walks back to the cello. 8'03" red moon, 8'10" first stretch, 8'14" Tuominen in light, in the centre front, then immobile; after strong impulse, Tuominen moves again (8'30"), while fast flashes appear behind her; flight movements, slow rotation of right arm with spoken voice slow glissandos; pizz, live voice "susa, susa" ("silently"); 9'17" arm movement quality not far from Middle-Eastern dance style, with it a flashing of "moon" back and forth; 9'42" sail inundated with changing colours; 9'57" Tuominen opens arms as flying, while feet on the ground (acrobat); 10'08" and following, balancing as if on the void (acrobat); 10'14" her giant face on the screen; bass cl. then Tuominen bouncing back with arms on her head; 10'38" right pointy foot rhythmically advancing on and off the floor, then stopping in the air; 10'47" *balanserar* (balance, line 2), right leg extending slowly behind; "hey canbaz!" she comes off and walks on the left of the scene, takes a tube while Pluciennik comes forward and starts to capture and project her magnified image on the sail (11'13"); she steps back keeping the tube vertical (on the word "acrobat"), her arm inside the tube, as a continuation of her body, while her own image swinging back and forth is duplicated behind her; at 11'37" (after flute accent) she slowly takes her arm out of the tube and looks into it, as in a mirror (11'52"-55"), the light illuminating her wondering face – with the hissing sound you could imagine her blowing into it, then she raises the tube keeping it on her face; in the meantime, her image continues to be visible on the sail, her movements slowed down, repeated or just following her, until when, at 12'09" they disappear to make space to the flock of birds.

Suddenly, the black ink invades the screen, falling from above, while the birds disappear to the lower-right corner; then the space is divided, black on the right, falling ink on the left, delimited by a sharp angle; Tuominen moves on the opposite side, while the black ink seem to solidify

into a tube-like shape, a moment later the shape unravels in more ink; suddenly, at 11'32", some hand-written words appear on a white background, followed by a writing hand, while Egecioglu slowly speaks.

At 12'36" Egecioglu starts reciting in Turkish the last verses of *Leke* (*Stain* in Turkish), beginning the transition to Part III. At 12'51" the hand on the sail is larger and in colour, while Tuominen continues to move, with the tube kept vertical as a giant pen (as if writing on the screen), at the same time projecting colours on her own face. At 13'12", while the verse starting with "leke" ("the stain has seeped into the fabric") is visible on the top of the sail (13'12"): the writing hand hesitates, moves in the air trying in vain to write a "s", until when something reminding a reversed question mark comes out and Part III starts (while the hand finally writes the second last verse, "susarak susarak", "so quietly"). The electronics of this part is built on two excerpts from Part I (sounds 2 and 4). For a video annotation of the following part, see Appendix 1.

Part 3

The topos of the stain is at the centre of the third and last part, carrying multiple meanings: the stain occurring while writing – bringing back childhood memories, learning to write with an ink pen and a *pannolenci*¹³² (the word's soft sound brings back the pleasurable softness of the fabric, made to absorb the stains, and its colours, the dark stain on the fingertip, the ink seeping into the skin). It is a mistake but also a fortuitous occurrence, an occasion to do something unexpected (therefore precious in the creative process). At a metaphorical, symbolic level, the stain often assumes a moral meaning (from which the locution 'to be spotless, unblemished'). Here the "shameful thing" is "to be happy on your own" (a phrase Akın assigns to Camus), not to hear "other voices" ("[W]here are the world's voices",

¹³² "Soft, thin fabric that comes from the felt, lint-free and therefore does not require hems". The term comes from the producer, Lenci <https://context.reverso.net/traduzione/inglese-italiano/pannolenci>, <https://www.treccani.it/vocabolario/pannolenci/>, read on 2.2.2023.

asks the poet – in a broad sense, where is the sonic world we forget to listen to?) The mistake, the shame, is not to listen, to isolate (as an artist is often tempted to do), to sever the contact with the other(s), with the external world. The poet informs us, the stain “has seeped into the fabric”, it will not be easily cleaned (or perhaps no longer can be): the verse gives a sense of the slow action of the ink, silently seeping in (with all its sensorial levels), of something ineluctable. The mistake is also a Freudian slip of the tongue, something emerging from the subconscious: the blind spot, what we are not aware of but is still there, coming to disrupt our daily lives, bringing in them disorder and surprise¹³³. In section 4.5 this theme will connect with the one of the acrobat.

4.5.5 Embodied experiences in *The end of no ending* and *Between words and life*

As we will see in the coming chapters, a red line cutting across the artistic projects realized for this research is the performative aspect (it emerged *après coup* similarly to Blixen’s stork (Blixen 1938, 201; Cavare-ro 2000 [1997], 1). This has entailed an increasing direct, bodily involvement during the development process and in the performances themselves.

In *The end of no ending* I was invited by Marek Pluciennik to use my body for the visual part. Both of us were interested in the bodily traces and the sensorial layers present in the *landays*. I remember having been interested in including magnified versions of a human eye, as the gaze was one of the themes I considered important.

During the microphotography session, I recall the contact of the naked skin with the table and the sensation of tiny sections of my body being spied upon – small regions that I was not fully aware of myself. The process, intimate but also cold, mediated by the non-human, the camera,

¹³³ For a colourful book on this topic, see Georg Groddeck’s *The Book of the It*, 1949 [1923]. Groddeck was also a pioneer in psychosomatic medicine.

was very slow and long, and my body grew colder and colder. It turned out that to microphotograph an eye was the most difficult thing to do (I had imagined getting details of the iris). We included some close-ups of my eye and eyelashes. I remember having looked at a few close-ups of my skin and noticing how dry it was. This part of the process brought up a mixture of curiosity and a sense of ‘otherness’ – as if these magnified body parts did not really belong to me. The skin details looked like extra-human, and the eye’s dark pupil, isolated from the body, vaguely hallucinated/hallucinating.

These feelings contrasted with the abstractedness of the resulting images and of their geometric patterns, enclosed, in the performance, in round circles of different colours (though dynamically changing focus and dimension according to the sound’s intensities). Only the eye’s details conserved their troubling, almost disturbing character – the gaze that has such a prominent role in human exchanges; but also the gaze without and within, to bring in and out of focus fantasies and unexpected worlds from the surrounding multiple realities.

Frame-drums

Another layer of performativity and embodied involvement for this piece was my experiments with the frame-drums. It started as an exploration process to choose what instruments to work with, researching their main pitches and experimenting with different resonances, both with my hands (initially, with my knuckles) and my voice.

I “met” the frame-drum with the most interesting resonances (based on G) in the Sibelius Academy dance studio, during Outi Pulkkinen’s interdisciplinary course.¹³⁴ It is part of an instrument collection intended for pedagogical uses. As such, it is not a high-quality instrument, but its particular resonances captured my attention and stayed with me over time (the same

¹³⁴ Master’s Academy 2016–2017, a course combining Northern Europe’s folk traditions and a contemporary approach to vocality and improvisation.

instrument is in the performance philosophy video exercise of November 2022.¹³⁵ I chose the other frame-drums also on the basis of their dimensions – medium-size instruments easy to carry while voicing and walking.

After this phase of exploration and selection, I recorded multiple kinds of sounds in studio with the chosen frame-drums (June 2017). I had in mind to have material to work on their spectral qualities (hitting the instrument on different parts of the skin and with different parts of the hand), as well as continuous sounds to include in the electronics (processed or not). I remember it was a process lasting at least a couple of hours, with an extensive work of sound exploration, and the “discovery” of new ways to use my fingertips or nails, with different kinds of pressure, accelerating or slowing movements, and so on. It was a very sensorial work, guided by the touch of the skin on the instrument and the focused listening to the resonances.

Between words and life

For *Between words and life*, I collaborated with Pluciennik more actively to find and develop the visual material, based on the poems’ images and themes: the act of writing but also the difficulty or impossibility to let the (voiced) words go, in *Words*. The perilous and uncertain balance between words and life, in *What*; the “other voices” or the “world’s voices” in *Stain*. The first poem suggested the image of the written characters swarming on the page like a flock of birds, for which we found some pre-existing visual material; we both were fascinated by the changing geometries created by migratory birds over the fields: the tridimensional precision of the movement but also its organicity, with its changing, sometimes surprising rhythms, always conserving a seamless smoothness. The theme of migration was important at multiple levels, with the experience

¹³⁵ See <https://www.researchcatalogue.net/view/511491/2158815>, please scroll down.

of *Migramare* but also in our own lived experiences (family stories of migration).

Connected to the first poem, one of the materials filmed were my lips;¹³⁶ over twelve seconds, the image of the tight lips is morphed into the cloud of moving birds, and vice versa.

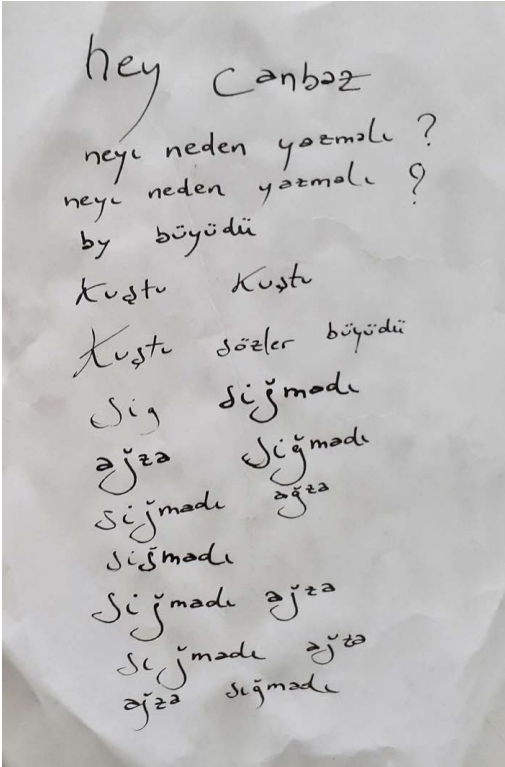


Fig. 4.12 Example of a hand-written paper for the video

We also intended to film some material connected with the act of writing: I looked for black ink and a calligraphy pen, and Pluciennik suggested laying the paper on a transparent surface illuminated by a light below. I found myself writing by hand some fragments of the poems, using the calligraphy pen (while, slowly, Pluciennik started to film). At first it was difficult to get the ink to flow regularly; I remember the friction of the stylus on the paper. Over time, the ink started spilling out of the paper, until finally I began to play with the stains (another central

image in the poems), directly on the glass surface: the ink was gaining most of the surface, and at a certain point I abandoned the pen and started to play and write with my fingers. I remember it as a moment of significance, where the act of writing lead to something more embodied; there was a shift from the controlled act of writing to the matter spreading around almost with a will of itself, finally taking over. It was also a feeling of playing with, interacting with the matter – something known from any artistic process,

¹³⁶ See video 2'06" at <https://www.researchcatalogue.net/view/511491/2143654>, please scroll down.

with a feeling at the same time of the ancient and the new (ancient as a childhood's game, new as something outside of ordinary experience). In a similar spirit, Pluciennik started filming drops of ink falling into a transparent glass container: it was fascinating to observe the smaller and larger ink drops, and the speed with which ink clouds formed and dissipated across the water; it was a process that was difficult to control, exquisitely unpredictable in its nature.

I was fascinated by the liquid nature of the ink, and by liquidity in general, which merged with my interest in continuity and fluidity, in both sound and gesture. Such continuity also included moments of lack of control, the spontaneous gesture, moments of improvisation. Micro-moments that also occur when practicing an instrument or in a performance, where one can let go, for the fraction of an instant, the intentional control of a movement, letting the bow touch the string by its own gravity, and so on. Kozel (2010, 216-217) interestingly writes of the fluids in the body, quoting Bainbridge Cohen's "experiential anatomy"; Kozel explains how this author distinguishes between feeling and sensing:

Feeling and flow are related to the fluid system including the circulatory, lymphatic and cerebral-spinal fluids.

(Kozel 2010, 217; Bainbridge Cohen 1993, 65)

While overt "sensing is related to the nervous system through the perceptions" (Kozel 2010, 216-217), in flowing movements there is a shift from the immediate perceptual level to "a different movement quality and temporality", where the body fluids are activated, with their "more subtle", "deeply internal (...) rhythm", accessible in determinate moments – for example when "pausing, meditating, and moving slowly." (ibid.)

"Moving from the fluids" (ibid.), with another kind of efficiency (in both slow and quick movements), is also at play in the fine motor controls needed when playing a string instrument. A "tacit sensing" that enhances

the sensitivity to the environment, including the mutual interaction with the instrument and with the space's resonances.

Interestingly, there is an etymological path that connects the liquid and the sonic worlds: the term 'sound' derives from the Old French *sonder* ("fathom, probe, measure the depth of, mid-14th c.") and from the Old Norse *sund* ("narrow channel of water c. 1300") or "from cognate Old English *sund* ("act of swimming, stretch of water one can swim across"). Both descend "from Proto-Germanic **sundam-* (...) to move, stir, swim."¹³⁷

Another connection occurs in anatomy, with the fluids in the ear: in the cochlea, the stereocilia move according to fluid movements caused by the soundwave, a movement sparking electric signals that are conveyed to the brain through the auditory nerve; the fluids in the inner ear, lined with hair cells, are instead reacting to body movements, and are essential for the sense of balance (see the theme of the 'acrobat' here below).¹³⁸

This interest in fluidity and liquidity will re-emerge in the context of the fifth and last artistic project of this research, *Medusa*, and in the follow-up project *Medusa's waters* (see 6.6)

4.6 The metaphor of the acrobat

Another important image from Akin's poems (Part II) is that of the acrobat. The acrobat is in a special position: "As if you'd found a blank balance / you silently walk / on the open rope you drew." Not only is the balance tentative ("a blank balance"), but the acrobat challenges herself with a task of their own creation ("the open rope you drew"). At the end, the poet interrogates the acrobat, asking to tell her: "[W]hat to write and why?" It becomes clear at this point that the acrobat is actually the poet, the artist herself.

¹³⁷ https://www.etymonline.com/search?q=sound&ref=searchbar_searchhint read on 11.11.2022.

¹³⁸ See <https://my.clevelandclinic.org/health/body/24340-inner-ear>, read on 27.2.2023.

The figure of the acrobat, a metaphor dense with philosophical meanings, appears in the work of both philosophers and writers, among which are Nietzsche, Kafka, and Sloterdijk. As Chris Danta (2015) points out, in both Nietzsche and Sloterdijk the challenge takes place in the vertical domain. Interestingly, in Kafka's short story "First Sorrow" (2008 [1924]) the tightrope becomes a tripwire, something much nearer to the ground.

Danta examines these three cases through the orientational metaphor 'happy is up; sad is down' (Lakoff and Johnson 2003 [1980], 15; Danta 2015, 76). He also references the topology of affect, where "the topological orientation of the subject deeply affects their mood" (ibid.).

The acrobat's challenge of themselves may take place metaphorically in the vertical domain, as the acrobat/artist strives for perfection, to attain higher and higher levels in their skill (be it physical or intellectual). The problem is that this sort of ascetic striving may not only, as Kafka writes, become a "tyrannical habit", but may also leave the subject "unsatisfied". Sloterdijk aptly describes a situation into which many musicians also fall: the "innate tendency in all radical artistry towards a constant raising of its standards... Nothing less than the impossible is satisfactory" (Danta 2015, 77) – what Sloterdijk calls "a negative theory of training" (Danta 2015, 78). With a risk well known to artists and virtuosos, to withdraw from the world to pursue "a life free of distractions" (ibid.), risking impoverishing, through the isolation of one's emotional life. Kafka's acrobat undergoes "a kind of psychic fall" (ibid.) when he can finally let go of his real feelings and cry. Danta writes that this is "what happens when the vertical collapses." (ibid.

Jung also lamented the tendency of occidental culture to look up to the sky too often, forgetting to acknowledge the necessary grounding on the earth, where our feet sustain us (1978 [1963]; Harris 2001, 86–87); again, it is a question of balance. Danta too writes of a healthier "downward-oriented" attitude, a "more mature form of consciousness", a necessary "psychic and affective re-orientation". He criticizes Sloterdijk for ignoring the human 'down-to-earthness'. Haraway (2016) also

reaffirms the value of the human (preferring the term ‘guman’)¹³⁹ as a living being rich in humus, coming from the earth. In a post-human and new materialist perspective, the human being is an equal among other living beings (“critters”), no matter how small or insignificant.

While there is a depressive orientation in Kafka’s perspective (the human is reduced to an insect), in both Jung and Haraway there is a re-connection with the natural dimension, with the recognition that there are layers of animality in the human being, of which we should not be ashamed. Interestingly, in Nietzsche’s *Prologue to Thus Spoke Zarathustra* (1997 [1883-1885], 9),¹⁴⁰ the rope is stretched between “the animal and the Superman — a rope over an abyss.” The reference to the abyss testifies to what Danta calls “acrobatic existentialism” (Danta 2015, 75).

The artist as acrobat

In this sense, reflecting on the performers’ body postures and bodily orientations means opening layers of artistic and philosophical implications. The artist’s work (beyond the extreme forms of Romanticism and Post-Romanticism) resides in this ‘in-between’ position, on a tightrope (or better, a tripwire), always on the brink of failure. She must face and recognize the void (and the silence), not only in the negative sense, but as pregnant with future possibilities (Terrile 1997, 42-43; Kozel 2010, 220: “the immense power of not-yet-materialized materiality”). And, as Duttlinger writes about Kafka, the real challenge is internal, “the true obstacles lie within” (Duttlinger 2013, 114; Danta 2015, 78).

It is an existential position akin to that of the *fool*, the trickster,

¹³⁹ Proto-Germanic and Old English, older form of human, “soiled with the earth and its critters, rich in humus, humane, earthly beings” (Haraway 2016, 169, note 3).

¹⁴⁰ Prologue 4, lines 2-3: “Man is a rope stretched between the animal and the Superman—a rope over an abyss. A dangerous crossing, a dangerous wayfaring, a dangerous looking-back, a dangerous trembling and halting,” Nietzsche 1997.

the *saltimbanco* (literally, ‘bench jumper’) – the actor-acrobat of Commedia dell’Arte – who cannot help acting so as to disrupt and surprise. In this sense, the artist is not only accustomed to risk but to uncertainty – Nietzsche’s “dangerous trembling and halting” – Kafka’s tripwire, according to Sloterdijk, is less “a device (...) to demonstrate (...) sureness of step than a trap to trip” the artist up (Sloterdijk 2013, 63; Danta 2015, 75).

Both Voegelin (2021) and Kozel (2010) re-evaluate uncertainty in the artistic context, referring to the late Merleau-Ponty.¹⁴¹ For Voegelin, a state of uncertainty opens the plurality of the possible (Voegelin 2021, 18) and is necessary for the subtlety of perception, to acknowledge the “fragility of the real” (28); besides, “uncertain paths between the self and the world” (24) offer new, free ways outside those determined by society or authority. Kozel (2010, 220) writes about uncertainty as that liminal state opening to “multi-sensory perception.”

Barad (2003) calls in Heisenberg’s “uncertainty principle” to build an argument about post-human performativity. Haraway (2016, 34),¹⁴² speaks of “creative uncertainty,” in the context of tentacular thinking and “thinking-with” the ‘other’.

To conclude, in a healthier process, if the artist fails, then they can socially and emotionally “re-enter society after falling” (Danta 2015, 78). If it is not only “success for the isolated individual” that matters (Danta 2015, 79), then not only will human orientation tend towards the higher regions (the air, Sloterdijk’s element of “anthropotechnical striving”), but humans will also become “ontological amphibians” (Danta 2015, 79), creatures of all the elements. They will appreciate multiple orientations, included the horizontal one where it is possible to meet the ‘other’ and enter into a relationship with other beings and the environment.

¹⁴¹ Especially to *The Visible and the Invisible*, published posthumously (1968).

¹⁴² About Nicole King’s lecture “Choanoflagellates and the Origin of Animal Multicellularity” <https://www.ibiology.org/ecology/choanoflagellates/> watched on 6.6.2023.

4.7 Chapter conclusions

Through the projects *The end of no ending* and *Between words and life*, I show how processes of identity unravel through resonance, both in contact with the instrument itself (the resonant bodies of the frame-drum or the cello) and with the collective dimension and its emotional spaces – the village / audience / displaced musicians and persons in the former example; the three performers and their de-multiplied versions on the screen, in the latter.

As in the previous piece, there is a layer of mobility for the performers, aiming to reinforce the music and language dynamics with possibilities to move, contrarily to a classic presentational modality where the performers' bodies are still, following pre-established positions and codified ancillary movements. Mobility is also an invitation to interact, be in resonance with, shape and be shaped by the other. On a philosophical level, it elicits the free act dear to Arendt (1958, 9), an act of which the scope remains open, since it is unfolding while it is performed. In contrast to *Imaginary Spaces*, in both pieces the performers constitute large groups, wherein a few individuals (the soloists) place themselves, their voices being reinforced, absorbed, or modified by the group – another layer of collective action. In the first piece, this role is mediated through the presence of a conductor, in the second through layers of technology (music technology, projections and objects, and, more prosaically, a click-track).

In all three pieces (2016-2019) appear elements of native language: in the first one native language is present in the multiple voices emerging from the virtual dimension; in the second one it surfaces during the improvised part, together with layers of native music traditions – in Egecioglu's Turkish-like vocalizations and Hosseini's Kurdish Persian rhythms; in the third one it unfolds in the co-presence of two native languages – Swedish and Turkish.

In the next chapter, we will see how these elements have been explored in yet different ways and in another context, through the fourth artistic project.

Chapter 5



Sounding Bodies: exploring voices

Beyond the words stay

the voices

(Lalla Romano 2001, 47)¹⁴³

5.1 Introduction

In the works presented in this chapter I approach the themes of bodily and vocal exploration, through human and non-human means, of poetic, acoustic, cultural, and social spaces.

In *Sounding Bodies*, the method can be defined as a form of ‘poetic writing’, a collective creation based on verbal material and poetic images. A sort of ‘image amplification’ (the Jungian technique used to interpret dreams) enacted in multimodal ways: a process where the psychic material is investigated through concentric circles of associations, where “meaning is reinforced and extended by all the conscious means at our disposal” (Jung 1970, 122).

In both *Sounding Bodies* and in the project *Plucié d’Orsi*, the focus is on perceptual and imaginative journeys, across varying states of body-mind.

¹⁴³ My translation. “Stanno al di qua delle parole / le voci”

5.2 A word about the location

Sounding Bodies (2020), investigates the relationships between human voice, string instruments, gestures, and sound qualities – through an acoustic and poetic exploration of a peculiar location, the Space for Free Arts: a former bomb shelter in Eastern Helsinki built during the Cold War, it is a deep cave in the rock many meters long.¹⁴² I chose to work in an unconventional space, exploring new ways of making music in it, finding multiple acoustic solutions, and creating a path within the unfolding of a musical form.

Still part of the University of the Arts but self-managed by the students' association, the Space for Free Arts is a place with a totally different social connotation, compared with the capital's main music institution, the Sibelius Academy (although Black Box, where the first three artistic projects took place, is a particular case in the building, having some autonomy and its own public). I also visited the space so often because of my familiarity with the Helsinki underground scene and my experience in the association of transcultural artists Catalysti,¹⁴³ of which I was a co-founder, together with Marek Pluciennik and five other artists (2013). It was in this context that I met Pluciennik and other important collaborators, such as Convertito and Lapitskaya ('dance makers'¹⁴⁴ in *Sounding Bodies*), Timo and Sampo Pyhälä (respectively, the double-bass player in the present project and the stage designer of *Imaginary Spaces*), and Roberto Fusco (media artist and co-sound designer in the first project of this research).

On the social side, the performance fell on 14 November 2020, during the first year of the corona pandemic with an audience of thirty people (shortly after that date, all the performance venues were closed to the public). All of the performers wore face masks: their use certainly impacted

¹⁴⁴ See <https://www.researchcatalogue.net/view/511491/2150980>

¹⁴⁵ <https://www.catalysti.fi>

¹⁴⁶ As they define themselves in the performance programme, see <https://www.researchcatalogue.net/view/511491/2153226> please scroll to the right.

their facial expressions and interpersonal communication, but they could also become a theatrical tool (the dancers did not wear them in the second and in the fourth parts).

Sounding Bodies was a site-specific work, conceived with an interest, developed throughout the five artistic components, in imagining different types of concert settings, where the musicians work on performative aspects in connection with other art forms, such as performance art, dance, and expanded cinema. As in some of the previous projects (see chapter 3), this idea includes the audience in a participatory way.

5.3 Context and instruments

At the core of the project was the intention to develop a closer connection between music, embodied performance, and expanded cinema. In *Sounding Bodies*, the collaboration with the live cinema and performance artist Marek Pluciennik¹⁴⁷ that started in 2016 with *Imaginary Spaces* was further developed – with the integration of expanded cinema instruments into the piece's fabric.

I was aware of Pluciennik's artistic practice, having witnessed many of his live cinema performances, such as the *Ephemeral Philm* series (2011–19). A few years earlier Pluciennik had also developed an interest in sound, including analogue projectors' optical sound manipulation in his film performances. While developing *Sounding Bodies*, I strived for a closer integration of visual elements into the performance – a question I further reflected upon after the jury's feedback on the presence of video and film in my works (the jury raised the question of the relationships between the visual part and the music). The projectors became a strong presence on many levels: as sound and visual sources but also as installation elements (changing the perception of a space because of their massive volume), and finally as almost non-human co-performers.

¹⁴⁷ See <https://marek-pluciennik.mystrikingly.com>

In the programme notes I wrote:

All kind of bodies are involved in this [performance] process: the performers' bodies, the string instruments' bodies, the mechanical bodies of the analogue projectors and of the electroacoustic instruments; and, last but not least, the composer's body.

This meant a change of perspective in my work, of which I became aware only afterwards: a post-humanist (see 5.4) and performative turn.

During the preparation process, we selected six analogue 16 mm projectors from the vast Pluciennik's vast collection, of which four would serve solely for sonic purposes. The machines are similar but, as with any instrument, they have their own characteristics; a fact confirmed by an interesting conversation I had with Pluciennik¹⁴⁸ about the uniqueness of an instrument (see 3.2): he said that even industrially produced machines (as projectors) do present peculiar characteristics, with every specimen being a world apart (a situation partially depending on the instrument's history and use).

In practice, this means that it is not possible to find two instruments (musical or not) that behave in exactly the same way – which draws a parallel between projectors and string instruments, with the important difference that the latter are usually hand-made.

For the sonic part of *Sounding Bodies*, the first choice was to focus on analogue music devices, in line with the analogue nature of the projectors and of the six string instruments – from the ensemble Jousitus, founded in 2019.¹⁴⁹

¹⁴⁸ Personal communication, spring 2022.

¹⁴⁹ Hermanni Yli-Tepsa, Maija Holopainen (vl), Dominik Schlienger (vla), Saara Viika, Aino Jutilainen (vcl), Timo Pyhälä (cb).

Together with Alejandro Olarte, who was present at the first tests (4 February 2020) and offered his expertise for the whole process (finally as sound engineer too), we decided to add an oscillator and some coils to the guitar pedals we already had.¹⁵⁰

With the first visit to the performative space (4 October 2020), I understood that the projectors were mechanical bodies with their own personality and presence, shaping the space they were installed in (we finally placed them in three of the four performance areas.¹⁵¹ The presence of the projectors pushed forward, with yet more urgency, the question of the relationships between human body and machine – seen as another quasi-living body (Haraway 1991).

Another question was how to integrate the string instruments with the projectors – separated by a gap of about four hundred years between their times of invention. A link can be found in the practice of transforming instruments – the modified projector¹⁵² as an analogue of an augmented musical instrument.

5.4 Materiality and ephemerality

The materiality of film and the ephemeral character of live cinema and of performance art are central points in Pluciennik's work. Materiality and ephemerality are crucial concepts in any live art performance, included music performance. The manipulation of film in a performance context¹⁵³ stems from Pluciennik's interest in the materiality of film:

I used 16mm film to manually manipulate it during the projection, which is an important aspect of the viewer experience: it creates a

¹⁵⁰ See <https://www.researchcatalogue.net/view/511491/2153226/491>

¹⁵¹ See floor maps: <https://www.researchcatalogue.net/view/511491/2153226/491>

¹⁵² A consistent part of Pluciennik's practice consists in modifying projectors to adapt them to his performance ideas. Similarly, the history of musical instruments is full of adaptations stimulated by aesthetic needs.

¹⁵³ Starting with his first performance *Viva Cinema*, Skulpturens Hus, Stockholm, 1999.

performance within a projection performance, where the audience is watching the screen as well as the performer embodying the projection process. The performance encompasses the immediate and improvisational aspects, using film and sound to create an original audio-visual experience for the viewer.

(Pluciennik 2018, my emphasis)

I find here multiple points of contact with my way of thinking: the accent on the “viewer [listener] experience,” which means both putting oneself in the role of spectator and, even more importantly, creating an “experience” to be perceived by others; and the accent on embodiment, with the “performer embodying the (...) process”: where the performer is an ‘agent’ who is both active and passive (Kim 2020, 4), and is implicated in first person in the artistic process (of the performance and of the creative process in its entirety).

I also share Pluciennik’s interest in performances containing meta-aspects and multiple levels: that is, inviting the audience to adopt not a single but multiple points of view, and various points of listening (see chapter 3 for the concept of multiplicity). Pluciennik writes about his performance *40000 Frames* (Uprooted Fake Nations Festival, Helsinki 2013): “In my most recent work, the physical unmediated presence of the viewer is at the center” (Wilhelmus et al. 2013): this passage underlines the unmediated character of the artistic experience and the strong presence of both performer and audience, in an experience that brings them together, beyond any traditional boundaries.

The manipulation of the film at the gate, in Pluciennik’s practice, is the result of a bodily action (stopping the frame at the gate for some seconds), resulting in the burning of the film (with rhythmical time variations). Another layer of manipulation and physical engagement is in the film development process, with techniques such as color

cross-processing (using his own formulas).

Pluciennik combines the expanded cinema practice with performance art – an art I grew interested in during the last decade, frequenting the rich Helsinki performance art scene.

The materiality of film introduces a parallel with the materiality of sound, a concept I am very interested in: during the 20th century, the importance of materiality has come to the fore in music aesthetics, although sound was traditionally considered an art of the immaterial – soundwaves being carried by the air. Thanks to the practice of music technology, around 1999-2000 my focus shifted from an abstract view of composition (previously based on notation) to a more concrete conception of sound, produced by ‘sounding bodies’. The contact with Saariaho and the spectral movement, in the early 2000s in Paris, showed me the possibility of delving into the acoustic materiality of sound, down to its smallest components. This way to look at sound as a complex phenomenon, considering the close links between harmony and timbre (Saariaho 1987, 1991), changed my way of thinking and working with sound (see for example *The end of no ending*, 3.2).

A materic approach can also be found in visual arts arts, for example in the Italian context of the ‘50s–‘70s. The adjective *materico* designates the art movements ‘materic painting’ and ‘informal materic art’ (Dorfles 1999 [1961], 44–54). The word ‘materic’, as well as the adjective ‘material,’ derive from the Latin *mater* (meaning ‘mother’), as does the word ‘matrix’: all terms implying a primary and generative state of the matter. In visual art, ‘materic painting’ “states the overcome of bidimensionality so that the resulting artwork has different perceivable levels, without being properly a sculpture.”¹⁵⁴ This is an interesting observation, mentioning the multidimensionality of the materic approach – giving matter, physically and conceptually, more space to expand.

¹⁵⁴ <https://english.stackexchange.com/questions/204346/whats-the-english-for-the-italian-materico> read on 15.2.2021

Artists such as Alberto Burri and Lucio Fontana put ‘materia’ [matter], at the core of their aesthetics. In his *Manifesto Tecnico dello Spazialismo*, Fontana (2013 [1951]) writes: “Movement, the capacity of evolution and development is the primary condition of matter: this exists in movement non in other form, its development is eternal” (Fontana 2013 [1951]). However, matter “requires a sign to trigger its *dynamic* nature and to put it in relation with the *surrounding space*.” (D’Incà 2009–10, my translation and emphasis).¹⁵⁵

Here it is important to note Fontana’s emphasis on the “developmental” and “dynamic nature” of matter. D’Incà refers to the pictorial sign but, in the context of performance, a performative gesture can also be considered a sign: a sign of “dynamic nature,” placing the agents “in relationship with one another and with” their “surrounding space.” It is interesting to compare the dynamic and performative gesture of the painter with the gestures of the performers, in a live art context.

A materic approach to sound can be found across the artistic projects of the present research, in *Sounding Bodies* and *Imaginary Spaces*, among others.

Philosophies of materiality

From a philosophical point of view, post-humanist authors such as Karen Barad, write of “how matter comes to matter” (Barad 2003, 801). Barad calls for a “*performative* understanding of discursive practices,” that challenges the “representationalist belief in the power of words” (ibid., 802). In her view, “matters of practices/doings/actions” elicit questions of “ontology, materiality, and *agency*.” (ibid., emphasis added). Interestingly, the concept of performativity descends from the “speech act” (Austin 1962; Kim & Seifert 2007, 234), where speech is seen as an action that

¹⁵⁵ “Il movimento, la proprietà di evoluzione e di sviluppo è la condizione base della materia: questa esiste ormai in movimento non in altra forma, il suo sviluppo è eterno’, tuttavia, essa necessita di un segno che inneschi la sua natura dinamica e la metta in relazione con lo spazio che la circonda” D’Incà 2009–10, <https://www.tesionline.it/tesi/brano/la-materia-dinamica/9113> read on 15.2.2021; Fontana 2013 [1951].

modifies both the receiver and the speaking subject.

Kim & Seifert (2007, 232) write of agency in interactive systems, where “human being and machines” are “a physically and socially coupled unity,” the interaction of which is symbolically mediated to constitute “meaning and reality.” In the philosophy of embodiment, body is conceptualized as embodied being, “neither (...) thing nor construct” (Kim 2020, 6), “situated within the world and entering into a *dynamic* interaction” with it (ibid., 4, emphasis added). Following Merleau-Ponty (1962 [1945], 401) and Gell (1998), according to Kim, interaction is characterized by a “chiasmus of *action and passion*” (Becker 2000; Kim 2020, 4); the musician starting to play an instrument (whether “mechanical or digital”) at first assumes the role of a ‘patient’ and is “affected by an agent” – the instrument –, with the “resistance” it offers. Only later will they fully become an ‘agent’, after having acquired certain skills. For Kim, the acquisition of musical skills is characterized by the continuous “oscillation” between these two moments, “affecting and being affected” (see also Hodkinson 2020, “moving and being moved”; see here 3.2.2).

Kozel speaks of “liminal, affective states,” “registration,” and “shimmering” (2022): in the “fluid process” of performance, “somatic practices” push at the boundary between “something and nothing” (a “material presence” that cannot be grasped). She defines ‘registration’ as a particular state of attention: “to be included, to notice, to record,” and, meaningfully, “to be situated on a range” – whether “instrument or voice” (Kozel 2022). Kozel derives the concept of ‘shimmering’ from Barthes et al. (2005 [1978]), meaning the ever-changing “vague and undefined nuances” between something that is and at the same time is not, a “changeability of affect” in the moment, through which somatic bodies resonate with “the fabric of life” (ibid.; for the concept of resonance, see 3.2.3).

Ephemerality

Coming back to expanded cinema and performance, Pluciennik declares: “The central point of my work is ephemerality, I find it beautiful and lasting precisely because it is gone in a moment” (Wilhelmus et al. 2013). The concept of ephemerality is common to live artforms such as dance, film, performance art, and music. Music performance is ephemeral in nature: it is only recently that the possibility of mechanical reproduction (Benjamin 2008 [1928]) has challenged this fact – before that a meaningful performance would remain ‘only’ in human memory.¹⁵⁶ The same is true for dance: according to Merce Cunningham (Coessens 2009, 107), performance is “nothing but that single fleeting moment when you feel alive,” an ephemeral moment *par excellence*.

Moreover, cinema and music are both time-based arts, in which the focus is not on the production of a physical object, as it is for example for painting, sculpture, or installations. The concept of ephemerality is not far from the re-evaluation of fragility and uncertainty in the context of artistic research (Kozel 2010; Voegelin 2021; about uncertainty, see here 3.4).

Materiality, performativity, and ephemerality play a large role in *Sounding Bodies*, through the matter of the sounding bodies and their performativity, the ephemerality of performance, and the fleeting character of improvisation.

5.5 A poetic method

Using the term ‘poetic method’, I intend to translate the creative process of *Sounding Bodies*, a piece based on different kinds of text, functioning as drivers of images and energies, materials around which the collaborative process and the performance take form.

In its ancient origins, ‘poetry’ descends from the Greek *poiesis*,

¹⁵⁶ Except for written traces, such as letters or articles.

from the verb *poiein* meaning “to make form” (Malloch & Threvarthen 2018, 12). Heidegger (1999 [1936]) invites us to return to the original concept of *poiesis* (from Pre-Socratic philosophy) as “bringing-forth” [Her-vor-bringen] through a radical creative gesture (Heidegger 1993 [1953], 12).

The *Sounding Bodies* working group consisted, besides Pluciennik and myself, of six string instruments players, two ‘dance makers’ (Giorgio Convertito and Vera Lapitskaya), and a light designer (Jere Suontausta). One of the reasons for involving dancers was to invite them to share their gestural and spatial skills with the rest of the group. Additionally, Convertito and Lapitsakya had previous experience with movement and speech; I remembered their collaboration in *Obvious Unexpected* (2018), a work making use of movement and word in an improvisation setting:

[A] “*space of encounter and interaction of verbal and non-verbal, of words and movements. We want to tend to our inner poetry and choreograph which emerges into instant dances, approaching speaking as a physical experience and creating a tridimensionality for the spoken word.*”¹⁵⁷

(Convertito 2019, emphasis added)

In addition to the “interaction of verbal and non-verbal” acts (here verbal is associated with word and non-verbal with movement, although the distinction is not that clear-cut),¹⁵⁸ what also interests me here is the bodily approach to speech “as a physical experience,” giving “tridimensionality [to] the spoken word” (see chapters 3 and 4). The connection between “inner poetry” and “instant dances” (the improvisation method) is relevant for the work we would do together in the Space for Free Arts. In

¹⁵⁷ <http://www.giorgioconvertito.com/obvious-unexpected/> read on 4.2019.

¹⁵⁸ Non-verbal parts of speech are an important part of communication, Kim 2023a; besides, in a broad sense, even speech act can be seen as movement (a complex coordination of movements is needed to articulate words).

the same light, dance was defined in the past as ‘poetry of the foot’ (1660s) or ‘poetry of motion’ (1813).¹⁵⁹

The texts chosen for *Sounding Bodies* deal with the themes of embodiment and performance and include: a fragment from “On a twirling shoe” (Solstreif-Pirker 2019), a short piece of artistic research in the form of poetic prose, and seven fragments from poems by Lalla Romano (2001), from the collections *Il caro odore del corpo* [The dear smell of the body] and *La bocca arida* [The arid mouth]. Each text was translated, in a collaborative way, in the performers’ native languages: Finnish, Swiss German, Italian, and Russian; English was used as well, in the soundtrack, in order to provide the listeners with some points of reference in the linguistic layers.

I developed the first structure of the piece by associating each text with a different area in the space,¹⁶⁰ thus building a path through the Space for Free Arts: the idea was to sonically explore it through the voices and the movements of the performers and of the instruments. As a method, we used guided improvisation (about the process, see 5.6).

This was the first large-scale work where I used improvisation as a method – although improvisatory elements were present in some of my previous works (see chapters 3 and 4). This choice marked a significant change in my way of working and in the trajectory of the research: it signified crossing the boundaries between rigidly separated roles and entering the performative space in first person. In this project, more than in any of the previous ones, the boundaries between ‘movers’ and ‘musicians’ dissolved; finally, the project took on a ‘theatrical’ dimension that required something similar to stage direction skills (here my collaboration with Jere Suontausta, the light designer, was important).

The result was a site-specific work, where the texts ‘inhabited’ the places where they were ‘installed.’ However, the transitions between

¹⁵⁹ <https://www.etymonline.com/search?q=poetry> read on 20.5.2023. ‘Motion’ is also a central term in cinema, Pluciennik often defines his work as ‘moving image.’

¹⁶⁰ See structure draft: <https://www.researchcatalogue.net/view/511491/2153226/491>

the areas proved to be of crucial importance – in line with the concept of the Arendtian ‘in-between’ (see 3.3) and of the significance of interstitial spaces (Ingold 2020 [2015], 33). This was even more important because *Sounding Bodies* was a *dynamic* exploration of a space, where the audience was invited to follow the performers through a proposed path, occurring both through space and time.



Fig. 5.1 *Sounding Bodies* (2020) Part 1: Saara Viika, Dominik Schlienger, Hermanni Yli-Tepsa, Maija Holopainen. Image Antti Ahonen

Going back to the selection of the texts, I had met Solstreif-Pirker (whose text opens *Sounding Bodies*) in Calgary, as a co-participant in the Artistic Research Working Group led by Annette Arlander, Bruce Barton, and Johanna Householder (2019)¹⁶¹ The working group’s method ‘Performance, Response, Extraction’ was a fruitful one and gave birth to a chain of responses.¹⁶²

¹⁶¹ The group, named “Performance, Response, Extraction – Elasticity of Artistic Research”, was part of the conference Performance studies international #25, Calgary, 4.-7.7.2019.

¹⁶² Published here: <http://psi-artistic-research-working-group.blogspot.com/2019/>

Concerning the choice of poems, the writings of Lalla Romano (1906–2011) had accompanied me through some decades; I remember an interview (1986) where she talked about the spark, the sudden understanding through ‘illumination’ that art can give (Romano 1986). She wrote of herself: “During her whole long life there was never a gap between the so-called real existence and her writing (or painting). (...) ‘as one lives, so one writes. (...) Her existence, as her work, was never planned. It has been a slow growth, an almost imperceptible change. A persistent identity throughout time”” (Piemontese 1989, 299; Di Paolo 2012, 36; my translation).¹⁶³

Romano’s essential yet intense style, almost reminiscent of *haiku*, and her predilection for silence, captured me a long time ago – my piece *Solo il silenzio vive* [Only silence lives] (2009)¹⁶⁴ is named after a verse of her poem *Musiche nascono e muoiono* [Musics are born and die] (Romano 2001, 102).

5.6 The creative process

The preparatory work consisted in creating sonic and visual layers, that would later be combined. In June 2020 I realised some recordings with Convertito and Lapitskaya,¹⁶⁵ asking them to read the chosen texts in their own native language (Italian and Russian), and in English as well. The vocal material was intended to serve as basic material for a soundtrack, to be printed¹⁶⁶ on a new 16 mm film by Pluciennik, shot with both dancers (the duration was fixed to 4’33”, that is the duration of one film reel); the other sonic material for the soundtrack was recorded with the double-bass player

¹⁶³ “Per tutta la sua lunga vita non ci fu mai divario tra l’esistenza cosiddetta reale e il suo scrivere (o dipingere). Lei afferma: come uno vive, così scrive. (...) La sua esistenza, dunque, come il suo lavoro, non fu pianificata. E’ stata una lenta crescita, un mutamento quasi impercettibile. Una persistente identità nel tempo.”

¹⁶⁴ See: <https://www.researchcatalogue.net/view/511491/2156579>

¹⁶⁵ Sound engineer Julius Johansson.

¹⁶⁶ At Dejonghe Film Postproduction, Kortrijk, Belgium.

Timo Pyhälä.

From the start, I thought of this fourth artistic project as an experimental work that would involve improvisation as a tool to explore and develop materials and ideas. The first building block of the work was the composition of the soundtrack, for a new film diptych to be shot by Pluciennik with the two dance makers. The preparation work included recording sessions with the dancers reading the poems (both in their native language and in English), as well as a session with the double-bass player (Timo Pyhälä). The work combined different layers of improvisation; for example, Pyhälä improvised on the speech recordings of the dancers – interacting and ‘responding’ to their voices’ rhythms and prosody. Similarly, the dancers improvised on the ready soundtrack, during the filming sessions.

The films were shot in the Space for Free Arts (Convertito) and in Pluciennik’s workroom (Lapitskaya): it was interesting to combine layers of different yet comparable places, in both their architecture and atmosphere (see the combination of the projections with the live performance).¹⁶⁷

The process through which the musicians and I collectively developed *Sounding Bodies* included a form of deep listening¹⁶⁸ guided by the verbal structures, with their full and empty spaces, rhythms and timbres.

The six musicians were invited to deeply listen to their own voices reading the texts in their native languages, and to look for similarities between the qualities of their voices and the qualities of the sounds produced through their instruments. Subsequently, they were invited to combine the sonic layer with body movements and gestures. The intensive week in the Space for Free Arts resulted in a laboratory where it was possible to address, in an experimental way, the main research question: Is there a relationship, and of which kind, between one’s spoken voice and the ‘voice’ of one’s music instrument?

¹⁶⁷ See video starting from 37’ at: <https://www.researchcatalogue.net/view/511491/2150980>

¹⁶⁸ Inspired from Pauline Oliveros’ *Sonic Meditations* (2013 [1974]).

The dancers also took part in some of the sessions, providing a significant contribution on the gestural level. I knew Convertito's work with musicians, from the previous projects *The Helsinki Meeting Point* (2006–2012) and *Liquid* (2013–) – “a dance and music improvisation ensemble focused on re-imagining the relationship between dancers and musicians on stage”.¹⁶⁹



Fig. 5.2 *Sounding Bodies Part 2*. Image Antti Ahonen

¹⁶⁹ <http://www.giorgioconvertito.com/bio/>

5.7 How it happened: performance narration¹⁷⁰

The performance narration presented here is meant to transmit my lived experience of *Sounding Bodies*, as reconstructed from my memories of the performance.

The piece starts with an introduction, with the audience still standing. Neither the audience nor the players are fixed in a stable and univocal perspective; they can move and change position, observing each other, facing each other. The idea is to artistically interpret and embody Solstreif-Pirker's text, written on a photography of a 'dance and draw' performance (2017). A text written from the point of view of a performer, exposing the fragility and the power of the moving body and the interactions of a living organism with the surrounding space. Solstreif-Pirker's phrase "the emergence of a diagram – that opens up a new type of reality" suggests the opening to the second part and the introduction to 'another' world, where we will first hear the electronics.

The second part, taking place in the adjacent area (further in the main hall), deals with unfamiliarity and familiarity: it is the paradox of the encounter, where the 'stranger' (who, by definition, does not speak the same language) becomes 'familiar,' a close person with whom to share another 'language'. In Romano's paradoxical verse: "Only with you, stranger, I can speak my language" (Romano 2001, 59; my translation).¹⁷¹ The stranger here is thought of as the 'other', different yet familiar, when sharing the same existential situation or the same lived space (see chapter 3 for the concept of 'other'). This part of the work plays with this paradox, with each dancer speaking their own native language, yet at the same time being in connection with one another.

¹⁷⁰ This is a narration of the performance written on 4.2.2021. For the complete version see Appendix 3.

¹⁷¹ "Soltanto con te, straniero, / posso parlare nella mia lingua."



Fig 5.3 Sounding Bodies Part 2. Image Antti Ahonen

This is the part where (see fig. 5.2–5.4) the mechanical bodies are first introduced: two analogue projectors, one played by me, the other one by Pluciennik (for abstract projections).



Fig 5.4 Sounding Bodies Part 2. Image Antti Ahonen

I start to build on the optical sound, making it richer and louder, while the ensemble elaborates on and around the main pitch, varying the timbre with all sorts of extended techniques.

By the time I introduce the oscillator, making the sound gradually richer and noisier, the ensemble stops playing. Now I am alone with the machine, exploring textures and enlarging the sound more and more. In the crescendo I feel the growing vibrations, as if I was raising my voice.

This recalls the phenomenon of “sound of arousal” (Wallmark 2014, 40–48): namely in jazz, musicians subconsciously mimick the kind of human voice produced in extreme situations (for example, in proximity to danger) to connect bodily and emotionally with the audience. The author observes that in these cases, as happens in the human voice, the timbre also changes, increasing its noisy components; this phenomenon is seen frequently in jazz, as “growling saxophone[s]” and “screaming” trumpet[s]” (ibid., 49; 158-162).

As Spencer already noted (ibid., 26; Spencer 1951 [1857]) “physio-

logical arousal and exertion”, as well as the correspondent affective states, “leave a mark on the timbre of the voice” (Wallmark 2014, 43). According to evolutionary theories and recent brain studies (see chapter 2), the human “auditory system evolved to be exquisitely sensitive” to such charged timbres, “somatically marked to engage a whole network of autonomic nervous system responses” (ibid.). Moreover, “*brightness* [a component of noisy timbres] is essential” to identifying a sound source (for example, to distinguish an approaching bear from a deer), a characteristic that may have developed for an “adaptive purpose” (ibid., 59). Interestingly, Wallmark notes that “physical arousal” is at play in animal species as well (ibid., 42; Fitch et al. 2002).

Subsequently, the attention shifts onto the couple and their words, mutual exchanges and explorations. The verses bring us into a daily – and at the same time intimate situation: a neighbour pacing in the room nearby (“I am your neighbour / Can’t you hear my step in the room nearby?”) (Romano 2001, 58).¹⁷² They are verses about proximity but there is also something uncanny in them. Who is this other whom I hear stepping by? Is it someone unknown or a lover? Someone in a way uninvited into my intimate space – the steps question, invite my curiosity, but also alarm me. They are everyday words but at the same time very revealing ones.

On these words, the dancers and the musicians start to guide the audience, a step at a time, into the acoustic reality of the “room nearby” – the outside corridor lit in red and pink.

In the walking transition, the sounds slowly mutate from ordinary to uncanny, taking on noisy components. In the meantime, we start hearing the call of a high pitch sound, ‘screaming’ from the space nearby, more and more audible as we approach.

Finally, we find ourselves in yet another reality, this time also physically and acoustically other. There we listen to the “deep sound (...)

¹⁷² “io sono la tua vicina di casa / Non senti il mio passo / nella stanza accanto ?”

in the blood” (Romano 2001, 24).¹⁷³ As the poem suggests, we enter the body and its inner cavities, as if it were the exploration of an unknown territory. We go through a narrow corridor, dimly lit, leading to the end of a larger corridor, closed by a heavy metal door, lit in red. In front of it there is a table with two projectors, two loudspeakers, and other pedals and oscillators.

The audience, previously divided between the narrow corridor and the open door of the main hall, starts spreading in the area where the corridor is larger. It is yet another point of listening, where the audience is standing and can move in the space. At the end, the massive sound goes down, and there is a moment of silence.

The musicians start reciting the fragments of the poem *I am in you* (Romano 2001, 25),¹⁷⁴ while walking back into the corridor – a journey from an acoustic room to another, through the narrow vessels of the body. The moment of passage between the narrow corridor and the large room instantly reveals the sudden change of acoustics as well as of emotional temperature.

Back to the main space, voice fragments emerge from the duo I form with the double-bass, playing some the film’s optical tracks. The gestures of the film manipulation invite and react to the double-bass player’s gestures. The content of the tracks is the same as the film that will be shown at the end; the idea is to show glimpses of it as if coming from another dimension.

After this *intermezzo*, the performers and audience swarm to the bottom of the hall, where the projection of Pluciennik’s film diptych (one per dancer, projected in parallel) takes place, while the musicians exit. Through the soundtrack, we can now hear all the fragments of the poems previously performed. The two dancers create layers of movements in dialogue with their own images in the respective films, and with one

¹⁷³ “Un suono profondo è nel sangue”

¹⁷⁴ *Io sono in te*

another. The musicians slowly appear again along the walls, playing pizzicato sounds. They finally align in front of the listeners.

The dancers start calling each other across the distance (“Your voice afar is solitude, more than absence”)¹⁷⁵ (Romano 2001, 47), to reunite, together with the musicians, on the verse “Beyond the words stay / the voices”¹⁷⁶ (ibid., 70). They finally join the musicians on the last verses, while we all reunite in front of the audience.

5.8 The collaborative process

The working group of *Sounding Bodies* was generally cohesive and shared similar intentions and aesthetic goals, although there were, as it is normal, nuances and personal differences. It is one of the rare cases in which I can say there was a ‘co-hearence,’ that is the group members were able to ‘hear’ each other (for the concept of ‘co-hear’ see 7.1). Most of the participants shared a background in experimental art and improvisation, and some of us had already worked together. These factors made the atmosphere generally relaxed and facilitated the communication.

After the performance, we were supposed to have a debriefing meeting, however it unfortunately could not take place because of the pandemic. Instead, I collected the performers’ feedback through an online survey (sent on 8 February 2021; most of the answers came from the musicians). The survey results shed some light on the challenges and questions that emerged during the collaborative process. The questions (most of which were open) were about the collaborative method, group dynamics and work process, the results of the exploration of human and instrumental voice, the role of native language, and of gesturality and interactions, and possible future projects, ending with free comments and suggestions.

The most interesting answers were about the collaborative method,

¹⁷⁵ “La tua voce lontana / è solitudine / più che l’assenza”

¹⁷⁶ “Stanno al di qua delle parole / le voci”

human and instrumental voices, the question of native language, and group dynamics. I will categorize and comment on them in the following six sections covering the topics of method, research question, timing, space, human voice, and group dynamics.

5.8.1 Method

Concerning the method, the opinions were divided: some said the method “allowed a nice balance between a ‘free’ and a ‘composed’ side,” while according to others “the project was not about improvisation” and they felt their “creative output” was not needed; according to some, it was “rather an aleatoric composition where the players are meant to follow a verbal score as precisely as possible.” Some remarked that “[i]t could have been useful [to get] more clear instructions in this type of project,” or had wished to receive “some elaborate instructions before the rehearsal/concert week”. Some missed “a more ‘leading attitude’ from Paola as it was sometimes a bit unclear if something was good/bad or as intended/really off topic (...)”. This comment conflicts with my memories, where I commented on the content of the improvisations and gave directions for the development of the piece, but it could be that I was not always clear or explicit enough in the moment.

On the other hand, some appreciated that: “[W]hat us musicians were supposed to do, was not dictated, and we were given a certain amount of freedom. We had to learn to ask questions in order to clarify to ourselves what to do, and then it worked well I think. There were discussions between us and the others and we got feedback, which also led into some changes in the approach.” This point is relevant, since it stresses the importance of being pro-active (to pose the ‘right’ questions is a skill in itself) and of sharing ideas and observations in the group, in a context of collective creation.

Three other participants were satisfied with the method (“it was easy to suggest my own ideas throughout the process”), and one under-

lined that the daily group tuning-in moment (“the repeated collective moment”) was important to create an “atmosphere of security/familiarity” which “was fruitful.” On this last point, I learned from previous group experiences that the first important thing to achieve is to establish a sense of trust and, over time, of cohesion in the group. The introductory work also helps the participants to move from an everyday situation to a focused situation, where it is possible to do creative work.

5.8.2 Research question

The question about human and instrumental voices was formulated in two versions for musicians and dancers – for the latter being about human voice and gestures. The question asked about the performer’s personal experience and the possible results of this exploration.

The question was: “Focusing on your own experience (for musicians): what was/were the result/s of this exploration between spoken voice and instrumental sound qualities? Did you find out anything new?”

It came out that for some of the group members the combined use of both their own voice and the instrument’s was a new experience: “I shied away from this so far, and doing it now was very interesting, opening up many questions about the nature of music and language and their connection”; “Before the project I had a thought that it was technically very difficult to produce spoken voice kind of sound material with certain instruments” and that it would make “no big difference in the resulting musical/sound material” whether it was “speech or not”; one commented: “I found some new interesting ways of producing sounds with the instrument.”

Themes that are of some interest emerged from these answers: the reluctance of some musicians to use their speaking voice, as if it were perceived as a different layer, a field afar from playing an instrument; another person speaks of the supposed difficulty to produce comparable sounds in both modalities and of the discovery of the possibility to do so; for the same person, the two modalities though are thought not to be clearly separate

(would it make a “big difference” if it were “speech or not”?). Interestingly, the last answer was reported in the dancer’s section, which may suggest that gestures helped in the process, or that the person had experience in both music and dance? (I later learned that some of the participants did, but they had not disclosed it during the project).

5.8.3 Timing

Some participants pointed out that the process could have provided more time for personal investigation, before the group practice started: “[W]e could have had more time to practice producing the sounds with instruments and developing the appropriate techniques (...) individually, before the joint rehearsals”; “with [a] great amount of practicing one could get the sounds of spoken words and instrumental sounds really close and could ‘speak’ with the instrument”, they needed more “time to (...) develop and experience or research beforehand”. “There were so many aspects that we could’ve explored as a group (space, moving, reacting to others) and as individuals ([...] (especially the language or [...] going [...] even deeper to the more personal aspects of speaking) that it could’ve been even a few weeks longer time for researching.”

I was aware of the limited amount of time and resources but it is interesting to reflect on what kind of preparation this kind of projects requires – not only in terms of materials shared with the group, but of preliminary time that every participant could have spent on the research question, as a personal exploration prior to the group work.

5.8.4 Space

Other comments regarded the space and its challenging acoustics: “(...) the space was not optimal for this kind of exploration, quite the contrary. It was hard to hear oneself or the others in such an echoing space,” this made it “quite hard to notice any subtle differences in the voice” (the

play became more about “rough nuances and different tempos”); “I found it difficult to produce the found ‘results’ (technically) as there was so much going on (...) (other players’ motives/moving)”. “Communicating in the space with huge reverb, masks, and safety distances was quite hard.”

These remarks expose the challenges of an otherwise interesting and stimulating space: I knew that the acoustics would not be easy but, in my view, the challenge was to explore and let the peculiar resonances the space had to offer emerge (knowing that the acoustics would be very different from that of a concert hall). During one of the visits in the space, Olarte even recorded a constantly present soundwave, probably from a machine for air circulation.

5.8.5 Human voice and language

About the role of native language in the process, some pointed out their “love-hate relationship” with it; others noticed the words in their native language “were loaded with strong *affective* (social etc.) meaning”; “mother-language *affects* so much the colors of the sounds. Rhythms, pitch, tempo, accents etc. Basically everything” [emphasis added].

These observations about the affective and cultural layers of language (even more, in the case of native language) are important, as noted in 2.6.9 and 2.7. Interestingly, a participant mentioned the relevance of timbre in the interplay of human and instrumental voice – a subject that has long been at the centre of my interests. Even more crucially, the person reported that native language had an impact on all musical parameters.

Another observation about the use of language in music performance pointed out the shift of focus from meaning to a non-verbal use of language, or to language as sound (“mere voice”), in a social situation: “[I]t was harder to abstract oneself from (...) meaning and to focus on mere voice, especially (...) as we were in a group-situation,” while words “were heard by others which also reminds one of a normal communicative situation.”

This is a subtle observation: as we saw above (5.6), an important goal of the project was to develop a dynamic and communicative way to interact among the performers, in either modality. Nonetheless, when using full words or short phrases in the process, some ambiguities undeniably emerge; ambiguities that underly the kind of communication elicited by language (conventionally intended) and music. Although, in my opinion, there are more similarities than differences between the phenomena of language and music as means of communication (see chapter 1), this comment also exposes the differences, and the unease created by a situation perceived as uncertain.

On the other end of the spectrum, someone else said that native language “didn’t feel like (...) played any role in the process. It felt the same (...) as to use English (...) the fact I’m so used to work in different languages plays a role in my personal experience.”

Another said: “I might have been even more comfortable with English (...) because its [sic] a language that (...) i [sic] can keep a certain distance to (...)”. But also “[u]sing my mother tongue is interesting.”

They also pointed out the non-everyday language used in the proposed texts: “not the kind of language I would normally speak, but more like something I would read;” something that created “a certain distance;” although in the native language “I recognize this distance in a different way than I would in English” (which seems to suggest that the mother-tongue adds a layer of familiarity to something otherwise perceived as unfamiliar).

These observations about intimacy and distance, in relation to native language and the English language (an international but, in this case, impersonal idiom) are interesting, as were the observations about written and spoken language. About the second point, although I agree that most of the chosen texts are literary texts, I still recognize a sounding character in most of them (especially in the case of poetry, where the sonic matter ‘matters’ – to say it with Barad 2003, 801).

Finally, some participants appreciated the multilingual character of the environment and of the piece: “It would’ve been interesting to have

even more multi-lingual group of players” (the string instruments group was quite homogeneous in this respect, with five Finnish native speakers out of six); “many languages it was a good idea” but “it is a challenge [sic] to follow the plot. But we live in multilingual [sic] world.”

This last observation seems to imply that, although multilingualism made the piece richer, it was possibly a challenge for understanding the content (although the intention was not to build a proper plot, but rather a dramaturgical unfolding of events).

5.8.6 Group dynamics

In the question about interactions (how easy or difficult was it to interact with each other, on a scale of one to ten), one participant voted 10, two 9, one 8, two 6, one 5. It looks like that for half of the players it felt easy to interact, and for the other half not so much. The following answers to the open questions provide more insights on this point: some pointed out that “it was easier to connect with the participants who attended the majority” of the rehearsals; another pointed out that “it was also a good opportunity to make internal research on one’s placement in the group (or A group in general) and how one reacts in this kind of *hierarchically open* [emphasis added] quite intense period of group work.”

The second answer touches on an important point, the hierarchical or non-hierarchical approach to creative group work (see chapters 2 and 6). The person is observing themselves in a non-hierarchical context and implicitly questioning themselves about freedom: if, on the one hand, playing and interacting in a context of this kind gives more freedom to each person, it is also true that, while leaving open how to act and ‘to react’, it demands that choices be made. Interestingly, this also includes making choices about how or where (physically and metaphorically) to place oneself in the group. The participant seems to believe it would be the same in “[a] group in general,” which, as we have seen for other projects, may not

be the case, as context and situation do strongly influence creative work and group dynamics.

5.9 A follow-up project: Plucié d’Orsi

As I stressed before (5.3), the experience of *Sounding Bodies* meant a fundamental change of attitude as a music maker for myself, with the extension of my role in a performative sense. The following year there was the occasion to present this part of the research in Tallinn, at the conference “Doctors in Performance” (3 September 2021), together with the paper “Melting sound: listening through corporeality”. It was a good occasion to make another version of our performances in *Sounding Bodies* (Parts 2 and 3) and it also became the start of a duo – later called Plucié d’Orsi.

The challenge was not only to make a short version of the performances but to coordinate our ways of working in the context of an expanded cinema projection. In the two parts of *Sounding Bodies* where we played together, not only were the projections improvised and of an abstract character, but we sometimes exchanged roles, with Pluciennik playing ‘music instruments’, and myself playing the film. In this case, although in some moments we still crossed disciplinary boundaries, our roles were more distinct; Pluciennik mostly worked on the projections, and I mostly shaped the sound.

Above all, the sound was intended to (cor)respond to the projections, although in a non-linear way – a situation reminiscent of audiovisual performances in the expanded cinema context. The film used was derived from the diptych of *Sounding Bodies* (about 10’ from film 1 and 8’ from film 2) and, as in other Pluciennik’s performances, was manipulated live (that is, it was presented, or ‘performed’, in a non-linear way). A part of the sound material derived from the film as well, and it was hand-manipulated by me; this time I used a new mechanical device with a

crank,¹⁷⁷ which made it easier to control the film as well as its speed, and the speed of the printed sound.¹⁷⁸ Although I lost a layer of hand-manipulation (the direct contact of the skin with the film), the control of the glissandos, of the *accelerando* and *rallentando* (after a period of habituation), became more effective and varied.

As it reads a note written after the performance reads: “Chamber music making, intimacy, shared space – emotional communication (...) Intersubjectivity, communality, companionship.”

About working with the film, I noted: “Putting myself in that reality (...) my sonic interpretation of that space, the quality of those movements – interpret them with a sonic gesture – the rhythm and fluidity of those personal movements.” Broadly, I remember having associated my hand-cranked film (containing Convertito’s voice) with the first part (‘his’ film) and the *balayage* of harmonic frequencies built on the projector’s fundamental with the second part (Lapitskaya’s film); other kinds of sound were obtained through the coils and the mirror.

About the improvisation I wrote: “Sensing the next transformation, the next action, how to smoothly transition in between different actions, sound worlds. Sensing the duration, building up, accumulating, slowing down, going towards a conclusion.” It is a sort of description of the performance flow, where the key word is ‘sensing’: a combination of intuition and sensation, let the body send and capture signals, in a pre-reflective, flowing state (about sensing, see 4.5.5; Kozel 2010, 216–217). There was the double connection with the filmed and recorded bodies (of the projections and sounds – the voices), and with the present bodies (of the performers and the machines). While playing, I remember interacting with both, in a mediated (in the first case) or immediate way (the second case).

Kozel (2013) writes of “somatic materialism” and the “phenomenology of affect” (ibid., 157): she invites us to consider that the “somatic

¹⁷⁷ Pluciennik designed and built the instrument.

¹⁷⁸ See video at: <https://www.researchcatalogue.net/view/511491/2150980>

body is more than a ‘hunk of meat’ mechanistically conceived” and opposed to mind: “[T]he soma has intelligence, a particular logic, and myriad ways of holding and revealing memories” (ibid., 156).

According to Kozel, affect is what “bleeds across the borders of a single body”: she defines it as “the passage of forces or intensities, between bodies that may be organic, inorganic, animal, digital, or fictional” (ibid., 159). Both points have relevance for my discourse: a conception of body as soma, with the accent on its multiple capacities and complex relationships to layers of memory; and the importance of affect as a multifaceted bodily connection between agents where, with an eye to new materialism, the “human body” is no longer “in a dominant position” (Kozel 2022), meaning that all agents, human or not, are on the same level.

About the interaction with Pluciennik, I wrote: “Consciously and subconsciously connecting to each other, listening without watching each other.” In the new performance setting, each of us was standing behind a projector, and we were usually too busy to be able to look at each other (besides, we were both focusing on the film, projected on a small round surface¹⁷⁹ in front of us, at the centre).¹⁸⁰

As my supervisor, Jan Schacher, brought to my attention, having multiple instruments (a projector for the sound, the hand-cranked machine, a Koma field-kit, guitar pedals, coils, a flickering light, and a mirror) in play required almost ‘table-turning’ abilities – I remember to have rehearsed how to move from one instrument to another, learning the required timings for the gestures, the devices’ reaction times, and so on.

In the notes, the contrast between the memory of the moment (feeling like “being focused and, more or less, in control”) and seeing myself on video (“sensing me trembling, me trying to pull myself together, do I look so insecure?”) is visible. The theme of identity emerges here:

¹⁷⁹ Designed and made by Pluciennik for this occasion.

¹⁸⁰ See video at: <https://www.researchcatalogue.net/view/511491/2150980>

How do you accept yourself? How do you allow yourself to do things? How do you allow your voice to be heard? How come your voice is so different from what you would like, you would imagine? And my body, how is it seen? How am I seen?

(16 September 2021)

It is a questioning of identity, of accepting oneself or not, allowing oneself to do or not to do (new) things. It is interesting that the note passes from the second to the first person, when coming to the body – in its objective (“how is it seen?”) and subjective reality (“how am I seen?”).

In another passage, I write of how it feels to perform: “This moment of risk and going for it, going against my nature or towards a new part of myself.” Finding the courage to taking risks, jumping into a new situation, which also means finding a new voice: “Finding a voice to say the unspeakable or the unspoken” (here I referred to composition in general, as an intimate yet public activity). See an account of the duo interaction through the notes taken in those days in Appendix 4.

That autumn, we also performed at the cinema and sound art festival “Final(e) Affect” (Helsinki, Cable Factory, 12-13 November 2021),¹⁸¹ under the name Plucié d’Orsi. Interestingly, the event took place in the same hall, Valssaamo, where the second version of *Imaginary Spaces* was performed for the second time (2020). But, once again, the different disposition, the different objects installed, another group of artists, other visuals and sounds, another public, made the space feel and sound entirely differently.¹⁸² The numerous projectors in the hall were disposed for an exhibition that was open during the day, while in the evenings they were programmed expanded cinema and sound performances: for some of them (among which, ours) the space was divided into a larger portion

¹⁸¹ Curated by Pluciennik as part of the Causatum Live Cinema series, (2017–2021) produced by Catalysti.

¹⁸² See concept and full programme at: <https://www.catalysti.fi/?event=finaleaffect>.

at the bottom of the hall, with some of the artists projecting on the bottom wall (as we did) and some on the wall perpendicular to it; two other performances took place in two adjacent spaces, delimited by movable walls. The second evening was dedicated to group performances: the whole space was open and made use of the largest wall, where the projections partially or totally overlapped, with interesting layering effects.

Making sound for a projected film (*Black Hole Tween Frames*)¹⁸³ was a new situation for me. Nevertheless, performing felt easier than before, since I had less elements to control and could focus more on what was happening on the screen.

About the rhythmical dialogue going on between us, I noted: “The beauty is that the [projector’s] movement, although rather regular, is never exactly the same (...) now and then Pluciennik stops the image, or performs some variations. He alternates that with the sound loops.” Our rhythmical coordination was improving, and I noted: “I really enjoy this *material* work with the sound!” (emphasis added, see 5.4).

I wrote in a note (14.11.2021): “It is an interesting multimodality, listening and watching. Reacting with sound to shades of light or colours, rhythms – slow changes – changes that sometimes feel too slow (...) (getting lost, but it’s also the beauty of it).”

The second evening I joined a group improvisation, in which, in addition to seven cinema artists, there was a percussionist playing live (Otzir Godot). I noted: “I felt more confident and joined in the improvisation now and then – I had also quiet spots.” Since the improvisation became quite loud, I remember trying to understand when and what was worth playing, which resulted in a duo with Andrea Saggiomo: “I tried to bother him, to find parts of spectrum where I could be heard. At a point, I went with this *voicelike* [sic] scream, I did a strong crescendo – with all my energy. That was beautiful, that I found that courage”.

¹⁸³ See video at https://marek-pluciennik.mystrikingly.com/#gallery_3-4.

About performance, I wrote:

That something going through you, overwhelming and transforming. Going through that special tension, that vertical time – going through death and coming out safe (but not unchanged) on the other side.

(14 November 2021)

In autumn 2022 the duo underwent yet another transformation: a performance at the Helsinki Winter Garden¹⁸⁴ gave us the idea to connect to the tropical plants inhabiting that space. With Pluciennik, we started planning to use sensors to get data from the vegetal beings for the sound. We considered the various possibilities of working with different kinds of sensors, for light (colours) and humidity (soil moisture), and the latter proved to be the best alternative. With the help of Jan Schacher we built a four-track oscillator connected to four humidity sensors (of two different kinds):

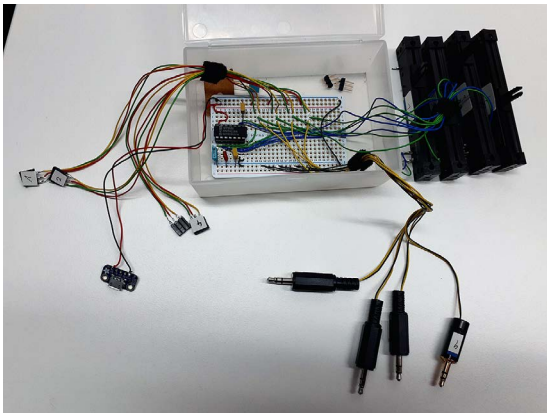


Fig 5.5 Four-track oscillator for sensors (Jan Schacher, 21 September 2022)

¹⁸⁴ For the Elollinen concert series, curated by Lucy Abrams-Husso <https://www.lucyabrams.net/elollinentalvipuutarha> (scroll down to see the concert programme).

The new instrument, with its four sliders (see picture above), allowed us to work on different frequency bands on a continuous pitch-line, and to polyphonically combine four different layers.

One issue was the stability of the sensors' position, which tended to change over time: I soon learned that this element of instability was part of the system, and I had to come to terms with it (for instance, it is difficult if not impossible to get the same result twice, once the sensors are installed and removed); it was to be another layer of the improvisation challenge.



Fig. 5.6 Sensors test in workroom, 22 September 2022

Before the performance, I recorded myself while talking to a plant in the cactus room (an empty and silent place, at that time):¹⁸⁵ although I enjoyed playing with non-human living beings, I questioned myself about the opportunity of “exploiting plants to make sound,” searching for suitable

¹⁸⁵ This action was partly inspired to the experience I had that summer in Weimar, during Annette Arlander’s workshop “Attending to Remarkable and Unremarkable Trees” (2 July 2022), where the participants were invited to choose and connect to a plant in the near historical park, with means of their choice.

spots by grabbing the leaves and drawing them together to fit them in between the sensors' metal blades – I realized, as I say in the recording, to not be “that kind to these plants anymore.” The same thing had happened in the workroom, where it was even worse, since the plants were considerably smaller. As we will see, this will have consequences on the later version of the duo.

The performance setting was similar to the one in the Cable Factory (a 35 mm projector with the same film and the amplified metal reel), but the soundscape differed considerably: this time we chose not to play on the mechanical rhythm of the projector (the public garden situation called for a gentler sonic treatment) but to build on chords produced through the sensors and treated with a couple of guitar pedals. In the following weeks we left for a small *tournée* in Southern Italy (Sant'Agata dei Goti, Naples, Atina), where I further built on these experiences, for example playing with layers of treated and non-treated sounds.

As a conclusive reflection, the choice to play with plants, as ethically questionable as it might be, translates into a living connection with the territories where the performance takes place: in Italy, I found not only a different flora, but also changing social situations, moving from an institutional situation (a city garden with links to the university) to self-organized communities of artists and citizens.

A further step in this process was the Alert Live Art Festival (Yö Gallery, Helsinki, 26 January and 9 February 2023). Following my reflections, I got the idea to place humidity sensors not only in vegetal beings but in my own body, specifically, in my hair: intuitively, the mass of curly hair I had at the time (with which I had played in the ‘performance philosophy’ video (21.5.2022)¹⁸⁶ and in *Medusa's waters*, see 6.6) was comparable to a bush or a tuft of grass.

I started experimenting with this idea, with my hair slightly wet: on one hand, it limited my movements (I had to be careful not to drop the

¹⁸⁶ See <https://www.researchcatalogue.net/view/511491/2158815>, scroll down.

sensors or step on the wires); on the other, it deeply affected my state of mind and changed the way I interacted with the music instrument. It felt like a step towards performance. I felt like a non-human (or more-than-human) being, or an extended human being; my actions were no longer limited to the movements of fingers and hands, but the instrument now reached the upper part of my body. I started paying more attention to my head movements and to the movements of my torso and legs. As I wrote in a note after the first performance, at the festival opening:

To perform with my hair: it was a special feeling, new experience. To be entangled with the wires, be careful not to step on them, have my movements scale limited – long wait before it started.

(28 January 2023)



Fig. 5.7 Hair installation, from rehearsal (25.1.2023)

I wore the sensors for a couple of hours before the performance, which was an experience in itself; at a certain point, I was invited to leave the backstage and to show myself to the people. I wrote about that moment:

(...) it felt so strange. I felt as a cyborg, a strange humanoid – or somehow, masked. People moved around me without having the courage to really interact

(28 January 2023, my emphasis)

From the note above emerges the theme of the mask: to mask oneself means to assume another identity, to add another layer to it, something different from what we know and recognize ourselves in, something uncanny (for the concept of ‘uncanny,’ see Freud 1953-74 [1919], where the troubling feeling of uncanny is elicited, meaningfully, by a quasi-human doll). As I wrote in a note of 19 September 2022: “The uncanny in technology – something that interrogates us, that puts us in unusual situations.”



Fig. 5.8 Marek Pluciennik, *Nonnihil* (Yö gallery 4.2.2023) with Anastasia Trizna, Matteo Fantoni, Giorgio Convertito

5.10 Chapter conclusions

The experience of *Sounding Bodies* was unique in many respects and certainly represented a turning point in my artistic development: as a working method, showing me the possibilities of group improvisation; and as a propellant of engagement, showing me under a new light the challenges and possibilities of performance. Both aspects had consequences on the fifth and last project, *Medusa*: an improvisatory method allowed me to further explore and enrich my vocal writing, while I joined the performers' group with my spoken voice and a variety of percussion instruments and objects.

This work represented also a closer exchange with the field of expanded cinema, through the collaboration with Marek Pluciennik – a collaboration continuing through the project *Plucié d'Orsi*.

The unescapable presence of projectors, string instruments, and synthesizers made my post-human sensitivity and thought evolve, making me consider instruments as semi-living co-performers.

Sounding Bodies further developed my sense of the materiality of sound, for instance through the tactile experience of playing with film: a tactile relationship with instruments played an important role in the development of the soundscape in *Medusa*, as well as in the follow-up project *Medusa's waters*.

Last but not least, through *Sounding Bodies* I first confronted myself with questions of dramaturgy and theatricality, another important step towards *Medusa*.

Chapter 6



Medusa: Voices of Myth

Tempora maturae visurus longa senectae (...), si se non noverit
If he but fail to recognize himself, a long life he may have
(Ovid, *The Metamorphoses*. Book III)
v. 347–348, transl. Brookes More, 1922 [8 CE])

6.1 At the origins of the vocal-instrumental relationships in Early Baroque music

The fifth artistic component of this research, the stage work *Medusa* (2022), builds connections to a very interesting historical period, the Italian Early Baroque, between the end of the 16th and the beginning of 17th century: a period of important changes in music, with the lengthy transition from modality towards tonality and the passage from polyphony to monody, culminating with the birth of opera – with Jacopo Peri’s *Dafne* 1598, Monteverdi’s *Orfeo* 1607, and other less well known or lost works. In *Medusa*, the music of Carlo Gesualdo (1566-1613) whose madrigals are renowned for their refined chromaticism, plays an important role. As I will show later, this novel language has deep connections with the musical theory and practice of the time (see 6.2). However, to start with, I will trace a brief history of the connections between vocal and instrumental music in Italian Early Baroque music, with a special focus on the relationships between the two vocal modalities central to this research: speech and song.

In the discussions of the Camerata de' Bardi during the 1570s, the question of the relationships between speech and music played a central role. These discussions, led by Count Giovanni de' Bardi in Florence, took place among a group of intellectuals, musicians, and amateurs including Vincenzo Galilei, Giulio Strozzi, and in particular Giulio Caccini (1581–1618) – who would be the first to use the name ‘Camerata,’ in his dedication of *Euridice* to Bardi (1600). The Camerata hosted discussions not only about music but also about many other subjects, including “poetry, astrology and other sciences” (Palisca 2001).¹⁸⁷ As an occasion for friends to meet, it also included music making, such as singing together.

The phenomenon of the Camerata was born in the context of a larger movement in early 15th century Renaissance Italy, Humanism, with its ideals of “fortitude, judgement, prudence, eloquence,” inspired by an awakening interest in classical culture – Cicero’s *humanitas* as the “educational and political ideal,” and the “development of human virtue, in all its forms.”¹⁸⁸ The continuous references to ancient Greek and Latin cultures in the Camerata culminated with Galilei’s research into Greek music, based on Girolamo Mei’s research (see his treatise *De modis*, [*About the modes*, 1566–73] in Restani, 1990).

Two important manifestos emerged in the context of the Camerata: Bardi’s discourse to Caccini (ca. 1578), and Galilei’s *Dialogo della musica antica et della moderna* (1581). Following Mei, both agreed on certain principles: the ancient modes (*tonoi*) should be imitated, as they provide a link between the expression of the text’s affections and certain voice ranges; a monodic stance, relegating counterpoint to the accompaniment; and, most meaningfully to us, that rhythm and melody should “follow carefully the manner and *speaking voice* of someone possessed by a certain affection” (Palisca 2001, emphasis added).

¹⁸⁷ <https://doi.org/10.1093/gmo/9781561592630.article.04652> read on 21.2.2023.

¹⁸⁸ <https://www.britannica.com/topic/humanism> read on 21.2.2023.

These ideals led to the conception of the ‘recitar cantando’ (speaking in tones) developed in Early Baroque operas – for example, in the role of Messaggiera (the Messenger) in Monteverdi’s *Orfeo* (1607). As Järviö (2011, 194) points out, rhetoric – “the art of speaking or writing effectively (...) as a means of communication or persuasion”¹⁸⁹ – as well as figures of speech are central to understanding how affects are represented in Early Baroque music. Their importance is also reflected on the harmonic structure: the “unusual dissonances of 1500–600 can be explained as figures of speech” (Järviö 2011, 195). I will come back to the links between modal thinking and the affects in the next section.

Another important development in music history, with some significance for the question of voicelikeness, is what has been called “the emancipation of instrumental art” from vocal art (Gallico 1991 [1978], 53; my translation). This process had already started in the 15th century, when instrumental music practice included music derived from vocal forms, in addition to other music for dance, including forms with a vocal origin: “adaptations of vocal compositions” with the additions of ornaments (ibid.), through “tablature [*intavolatura*] of vocal lines” into music “for lute or keyboard” (ibid., 56); “polyphonic paraphrasis of traditional melodies,” used as ‘cantus firmus’; “canzone, canzone ‘da sonar’,” later named “sonata” (ibid., 58). The names of these last forms, especially “ricercare” (“ricercare il tono,” [to search the tone] as used in a vocal context), may betray a vocal origin (ibid.). Another important phase in this process was marked by the first music publications, among which was a collection of music for lute (Venice, Petrucci 1507–1508) and the first prints of keyboard music (ca. 1545–1607, which included works by Luzzasco Luzzaschi, a composer who would be important for Gesualdo), as well as the publication of ‘concerti strumentali’.

¹⁸⁹ <https://www.merriam-webster.com/dictionary/rhetoric> read on 16.4.2023.

Among others, Cypess (2010) pointed out important links between vocal and instrumental music in Italian instrumental works of the 17th century: the author examines music for violin from 1610–1640, which she calls “the first period of experimentation and innovation” of the instrument (Cypess 2010, 182). The author specifies that it is useful to distinguish between music composed in Italy and music by Italian composers, some of whom were active in other European countries, in this case in Germany. In the words of the musicologist and humanist Giovanni Battista Doni (1594–1647): “Of all the musical instruments” none other than the violin “better expresses the human voice, not only in song (...) but in speech itself” (ibid. 181; Doni 1640). Cypess emphasizes that theorists of the time were keen to consider the imitation of song as “a necessity for all instrumentalists” (Cypess 2010, 181; Rooley 1995, 51–56).

In the 1620s composers started to explore the instrument’s “capacity for affective animation” and its “dramatic potential” (Cypess 2010, 182). The phenomenon was part of the emerging *stile moderno*, an instrumental style characterized by increased virtuosity. The author places this innovation in relation to the vocal *stile rappresentativo* of early 1600s (developed in operas, ensemble madrigals, and solo songs) (ibid., 184); in both styles, contrast and invention played a major role, together with metric flexibility: all elements conveying a sense of spontaneity, thus creating the illusion of improvisation, still a common practice at the time.

In vocal music, this translates into the concept of *sprezzatura* (from *disprezzare*, to despise), one of the salient characteristics of *recitar cantando*: “in Renaissance and Baroque music,” it signified a performer’s “dexterity without skill, free diligence, inattentive accuracy” (Järviö 2011, 11-12); the effect could be achieved in various ways, “ranging from the flexible handling of tempo to the handling of shorter durations, the way in which long and short syllables are shaped, the control of dynamics, articulation, phrasing and timbre.” (ibid., 12). According to Järviö, *sprezzatura* would entail “almost all the embodied skills” needed from the “singer-musician” to interpret “Early Baroque repertoire” (ibid.).

Interestingly, the printed instrumental music examined by Cypess contains “instructions for interaction with an audience” directed to the performer, including “staging, imitation and role-play” (ibid.). These are strikingly modern elements: for example, Cypess cites the case of a work for three violins by Biagio Marini (*Sonata a 3 in ecco*), where violin is the only one visible, while the other two are meant to play from behind the stage, creating an echo effect. The development of technical devices typical of *stile moderno*, such as double- and triple-stops, was often intended to create the illusion of the presence of other performers (Marini’s *Sonata* plays on this ambiguity).

Staging, together with the above-mentioned musical means, was intended to raise a sense of wonder in the audience – wonder (*meraviglia*), being one of the key concepts of Baroque times, the desire to surprise and amaze.

Echo and imitation¹⁹⁰ were two typical devices of the Baroque age, both in music and in visual arts: in music, it was not uncommon a taste for the imitation of animal voices or of other sounds (either with voices or instruments) – as in some ‘representative madrigals’ of the end of 16th century (for example Banchieri’s *Contrappunto bestiale alla mente*, 1608). Cypess (2010, 210–219) cites Carlo Farina’s *Capriccio stravagante* (1627), where the violin is supposed to imitate not only other instruments’ sounds (among which the tremulant register of the organ), but animal voices such as the hen, rooster, dog, and cat.¹⁹¹

Mimesis is notoriously one of the features of the human voice (see 2.5.3); the capacity to reproduce sounds from the surrounding environment being one of the procedures that lead, according to some scholars (Tolbert 2001b, 460; Mithen 2005, 170), to the development of language.¹⁹²

¹⁹⁰ About mimesis, see 2.3.3 and 2.5.3.

¹⁹¹ It is noticeable that in this period already appeared what we consider today instrumental extended techniques, such as *col legno* and *sul ponticello*, together with the use of *glissando* and *scordatura*. Farina 1627; Cypess 2010, 183, 211.

¹⁹² See 2.5.3, note 44, for Cox’s publications on mimesis, and 4.3 for mimesis and subvocalization.

Still more relevant for the present research, the development of instrumental music and the virtuosity associated with the *stile moderno* pushed the musician to assume a dramatic role akin to that of an actor or a singer: someone in charge of dramaturgical timing, whether improvising or faking improvisation, a performer supposed to impress and entertain the audience (Cypess 2010, 210).

To come back to vocal imitation, the *stile recitativo*, in the new *stile rappresentativo*, intended “to imitate in song a person speaking” (Peri 1600,¹⁹³ in Murata 1998; 659–60; *ibid.*, 210). Frescobaldi’s *Toccatas*, according to Cypess, can be considered an instrumental version of Peri’s recitative (*ibid.*, 192). Frescobaldi wrote, in the preface to the *Toccatas*, that the musician “should follow the manner of modern madrigals (...) by carrying the beat now slowly, now quickly, and suspending it in the air according to their affects, or the sense of the words” (Frescobaldi 1980 [1615]; *ibid.*, 191).

Affects (see 6.2) played an important role in both vocal and instrumental Baroque music, according to Cypess – by the way, the word *rappresentare* (to represent) was used by 17th-century theorists with the meaning to portray “the affects of the soul” (*ibid.*, 185). If the actor-singer on stage was supposed to verisimilarly represent the affects of a real person (with a spontaneous voice, including “laughing and crying,” and the use of movement) (Strozzi 1644 in Rosand 1984, 232; *ibid.*, 196), the musician similarly carried a sort of dramaturgical role.

Cypess notes that, not by accident, in instrumental music the most virtuoso passages underline the most theatrical moments of a piece: novel instrumental techniques can be considered “metatheatrical”¹⁹⁴ and “self-consciously dramatic,” bringing performer and listeners closer by breaking the fourth wall and calling the audience’s attention to the performative and mimetic processes unfolding on stage (Abel 2012 [1963]; *ibid.*,

¹⁹³ Preface to *Le musiche sopra l'Euridice*.

¹⁹⁴ Cypess signals the concept of ‘metatheatricality’ as a starting point for the concept of ‘performativity’, *ibid.*, 198.

198).

Just as in vocal music, instrumental music may vividly evoke emotions and images in the listeners, even in the absence of text. In 1610s–1620s, both vocal and instrumental music employ an “emotive syntax,” make use of rhetoric, and pose for spontaneity (associated with a sense of unpredictability) (ibid., 222).

These historical examples show how the domains of vocal and instrumental music never ceased to influence one another. In the later *opera seria* the voice will thoroughly assume an instrumental behaviour, with the diffusion of extreme virtuosity. This is a tension still alive today in the discourses about ‘instrumental writing’ for voices.

Looking at the terminology, it is interesting to consider the origin of the term ‘concert’: from the end of the 16th century onwards, it designates a harmonious combination, a well-tuned group of voices and instruments playing together. The historical terms include “concerto di voci in musica”, “concerto di viole”, “sonare in concerto”, “strumento da concerto” (Bianconi 1991, 34–35). On the other hand, ‘Concerto’ derives from Latin ‘con-certare’, “to fight together” (*cum-certare*), “to contend, dispute, debate” (where *certare* comes from *cernere*, to separate, distinguish, decide);¹⁹⁵ the term only later develops into the meaning “to bring into agreement”. Looking at the neighbouring term ‘concordare’ (to agree, comply), where ‘corda’ (string) derives from Latin *cor* (heart), Bianconi suggests that ‘accordare’ (to tune) also means to tune two “hearts,” recalling the ideal of universal harmony that was so important in the Baroque age (ibid.).¹⁹⁶ It is interesting to notice that, at the end of 16th century, ‘concerto’ was almost synonymous of ‘concento’, from ‘con-cantare’, to sing together¹⁹⁷ – another demonstration of the close links between the vocal and the instrumental domains.

¹⁹⁵ Preface to *Le musiche sopra l'Euridice*.

¹⁹⁶ Cypess signals the concept of ‘metatheatricality’ as a starting point for the concept of ‘performativity’, ibid., 198.

¹⁹⁷ <https://www.etymonline.com/search?q=concert> read on 21.2.2023.

According to Bianconi, the verb ‘concertare’ came to mean “to coordinate, to harmonize” disparate elements, that would not stay “spontaneously or naturally” together. In this sense, the concept of concert implies the “multiplicity, the diversity of components of a music performance, or of a musical composition.” (ibid., 37). It also fits the “stylistic pluralism” of Italian Baroque music, with its “open and centrifugal” character (ibid., 38). This last meaning of ‘concert’ has interesting resonances with the concept of multiplicity (see chapter 3), and with the Arendtian concept of “to act in concert,” “to act together as plural yet unique individuals” (Arendt 1998 [1958], 179; see 3.3).

Another etymology of ‘concert’ indicates the possible shift of Latin *concertus* with *consertus*, from *conserere*, to join, fit, unite (see note 195). This other possible origin confirms the deeply interpersonal and social sense of the term.

6.2 A time of changes: affects as a link between modality and early modern time

In this section I will look at the links between modality and musical affects in the Early Baroque era. It is an important question, not only when considering the relationships between language and music, but especially when approaching Gesualdo’s madrigals (written between 1594 and 1611): music written at a time when modality was still strong, although the long transition towards tonality (accomplished more than a century later) had already started.

Musical affect, what Caccini called “*muovere l’affetto dell’anima*” [to move the soul’s affect] (Caccini 1987 [1601]) had to do with the interest of the Italian composers of the early 1600s (Peri, Caccini, and Monteverdi, among others) to “the influence of music” on the audience, “what happens in a person listening to music and how performers can cause that event” (Järviö 2010, 196; my translation).

Caccini added: “until then, I never heard the harmony of a single *voice* on a simple *string instrument* to have such a force to move the soul’s affect as much as those madrigals” (ibid., my translation, emphasis added). Although here the composer praises the vocal performative power over that of a string instrument, by doing so he implicitly recognizes their affinity – or better, he reveals similar ways of thinking vocality and instrumentality.

Järviö underlines how *recitar cantando* (‘speaking in song’) aims to reproduce “the way of singing and speaking of a common person,” that is natural speech and song, which must be revalued and recovered in a singer’s practice. This shows the link between speaking in tone and natural language, a novel means to bridge speech and music in the intentions of the Camerata.

As seen above, Early Baroque music exploits linguistic means (such as rhetoric and figures of speech) to elicit musical affects in the listeners. Although the so-called ‘theory’ or ‘doctrine’ of the affects was conceptualized much later (by 19th and 20th century German musicologists such as Kretzschmar, Goldschmidt and Schering) (Buelow 2001),¹⁹⁸ many mid-17th century theorists included affects in their works, both “categorizing and describing types of affects” and writing about “the affective connotations of scales, dance movements, rhythms, instruments, forms, and styles” (ibid).

Affects are the modern translation of Middle Age *ethos*.¹⁹⁹ they related to the modes as early as the 11th century, since Guido d’Arezzo classification of six (then eight) ‘modes’, each coupled with a different *ethos* (*Micrologus*, after 1026) (ibid.). “Listings of modal affects” are found in many “Medieval and Renaissance sources” (ibid.) to accompany the eight modes of Gregorian chant. Each mode was a combination of a diatonic fourth (*diatessarón*, ‘through four’) and a diatonic fifth (*diapente*, ‘through five’) (Knowles 2014, 77).

¹⁹⁸ <https://doi.org/10.1093/gmo/9781561592630.article.00253> read on 16.4.2023.

¹⁹⁹ Musical ethos derives from the Platonic doctrine of ethos and pathos Powers 1981, 430.

Already for Guido d'Arezzo, the modes were "likened to (...) parts of speech" (ibid.). Johannes in *De Musica*, chapter 10 (1978 [1100]), underlines the parallel between speech and modes: "It seems very fitting that all that is said is contained in eight parts [of speech] so all that is sung may be governed [*moderetur*] by eight modes." It is important to notice the degree of symbolism connected with modality since very early on, with the modes being connected not only through affects, but through the philosophical and physiological ideas of their time.

With the advent of the Renaissance and Humanism, the reference to the modes of ancient Greece is reinforced and new music theories, such as those of Glareanus (1547) and Zarlino (1558), come to include up to twelve modes. Scholars such as Meier (1963,1969) consider that "modal ethos" plays a key role in the "setting of textual affects" in polyphonic music composers such as Rore and Lassus (ibid.).

6.2.1 Vicentino's theoretical innovations and their impact on Gesualdo's music

Among the processes of change that occurred between the 16th and the 17th centuries, there are the inclusion and transformation of modal structures into an evolving polyphonic context, the diffusion of printed instrumental music, the passage from polyphony to solo song, and the birth of opera.

Nicola Vicentino, author of *L'antica musica ridotta alla moderna prattica* [*Ancient music adopted to modern practice*] (1996 [1555]), was the most influential theorist for Gesualdo.

He was one of the first theorists and composers to consider the bass "as the principal modal voice;" until then, "the highest voice" (the *discant*) was the prominent one, to be composed (when not already existing) "with a modal structure and affect in mind." (Powers 1981, 431).

Modality also had to do with the voices' ranges and their clefs: high

clefs and low clefs became “the polyphonic equivalent” of authentic and plagal (Powers 1981, 431).

Dressler (1914–15 [1563]) identifies the control of “contrapuntal beginnings and cadences through the modes” as crucial, comparing them once more to the structure of speech (ibid.):

*What the periods and commas are in speech the cadences are
in poetica musica*

(Dressler 1914–15, 239)

Dressler founded his theory of composition on rhetorical terms such as *exordium*, *medium*, and *finis*: as “the poet put forth in his proposition in the *exordium* and the first lines, so we in music – whose alliance with poetry is very close – should express the tone in the *exordium* itself” (ibid., 244). Here, I would underline the ‘alliance’ of poetry and music, which parallel structures scaffold both poetical and musical works. Similarly, Vicentino (1996 [1555]), affirms:

The cadence was invented to show (...) that composers mean to denote the final falling-off at the conclusion of speaking or, in other words, the ending of the composition itself. And because the syncope, tied as it is, has this effect (seeming to fall thus conclude a speech), it is called a cadence.

(Knowles 2014, 59; emphasis added)

In Gesualdo’s madrigals (the ones considered here are from the Fifth Book of Madrigals), the bass starts to emancipate itself from the other voices and the cadences punctuate the discourse, strictly following the structure of the poem. At the same time, the musical discourse is still developed more horizontally than vertically, and the logic of the cadenzas follows a modal and affective logic. We will see that his harmonically

innovative solutions were born in a musical environment rich in experiments and chromatic research.

Both Vicentino and Gesualdo worked at the d'Este court in Ferrara, Vicentino in the 1540s and Gesualdo in 1594-97. Vicentino was already dead when Gesualdo arrived, but he certainly encountered his work through his colleague Luzzasco Luzzaschi (1545–1607), among others. The court became a centre of the new music of the period, Alfonso d'Este's *musica da camera*, including even a *concerto di donne* – a renowned ensemble of three female singers and composers that performed around Italy (among whom were Lucrezia Bendidio, Tarquinia Molza, and Laura Peverara); many composers, besides Vicentino and Gesualdo, composed for them. In this context, the term 'musica reservata' (in Vicentino 'musica riserbata') came to signify music intended for a select, musically educated audience, dealing with advanced, harmonically complex music (indeed, the repertory of the *concerto di donne* is said to have been “a secret repertory jealously guarded by the duke”) (Strainchamps 2001).

Willaert (McKinney 2009, 9; Miller 2011, 11), Vicentino's master, was already interested in the enharmonic and chromatic genera, derived from the ancient Greek music theory. Vicentino would develop Willaert's approach, considering modern music to be “a mixture of the [three] genera” (diatonic, chromatic, and enharmonic) (Miller 2011, 6):

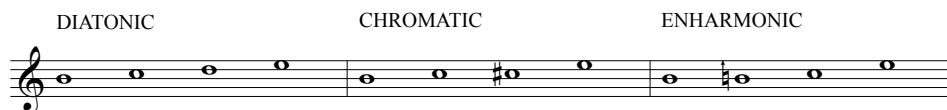


Fig. 6.1 The three genera in Vicentino (1996 [1555]).

Both Willaert and Vicentino were particularly interested in the intervals of the chromatic and enharmonic genera, since they provided “more interval sizes” than the diatonic one – hence, a greater palette to express the affects of the text. Vicentino designs a microtonal system where the octave is subdivided into 31 unequal parts, complicated by the presence of two kinds of dieses, marked in his scores with a dot above the note (Miller 2011, 20). They correspond to two unequal semitones, of which the ‘major’ is “twice the size of the ‘minor’,” the major and the minor together being “the size of a perfect fourth minus a major third” (Knowles 2014, 146–147, see table here below).

Interval	Ratio	Cents	Interval	Ratio	Cents
Perfect Fifth (P5)	3:2	702	Major Tone (MT)	9:8	204
Perfect Fourth (P4)	4:3	498	Minor Tone (mT)	10:9	182
Major Third (M3)	5:4	386	Major Semitone (MS)	16:15	112
Minor Third (m3)	6:5	316	Minor Semitone (mS)	25:24	71

Fig. 6.2 A possible interpretation of the size of Vicentino’s intervals (Knowles 2014b)

Although it is not clear how the system was applied in practice, Maniates (1996) suggests that it may have corresponded to the Ptolemaic system based on integer ratios, presently known as just intonation (*ibid.*, 75; see above fig.3).

Interestingly, for Vicentino “the direction of the interval and the speed at which it is performed are the most important factors in determining affect” (Miller 2011, 22) – that is, the same interval could elicit different affects if direction and speed vary.

The theorist subdivides the chromatic tetrachord into three chromatic species:

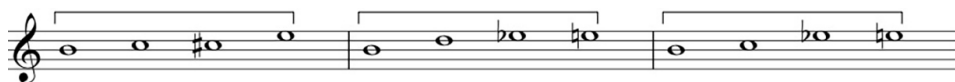


Fig. 6.3 Vicentino's three chromatic species (Knowles 2014, 98).

Moreover, he introduces the technique of 'displacement', that is the substitution, inside the original mode, of the diatonic species with the chromatic species, thus obtaining eight chromatic modes, as in the following example:

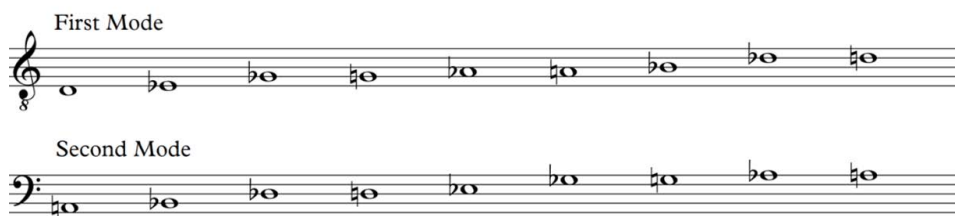


Fig. 6.4 First and second mode after the substitution of the diatonic with the chromatic species (Knowles 2014, 92)

Chromaticism, as later in Gesualdo, was adopted with the intention of better representing the affects; in Vicentino's words:

The composer's sole obligation is to animate the words and, with harmony, to represent their passions—now harsh, now sweet, now cheerful, now sad—in accordance with their subject matter. This is why every bad leap and every poor consonance, depending on their effects, may be used to set the words. As a consequence, on such words you may write any sort of leap or harmony, abandon the mode, and govern yourself by the subject matter of the vernacular words.

(Vicentino 1996 [1555]; Knowles 2014, 64; emphasis added)

In this passage it is interesting to note the justification of compositional means otherwise inadequate (a “bad leap” or a “poor consonance”) in the effort to adhere to the text: the composer can take any license to fulfil this scope, use “any sort of leap or harmony,” explore harmonies outside the modes; in a word, “govern” themselves at will, provided that the words are set in a faithful way. These are all distinctive characteristics of a new style, the *moderna prattica*.

Vicentino did not limit his ideas to theory and, in addition to composing music after this system, also built a new instrument based on the subdivision of the octave in 31 unequal parts – the archicembalo: a ‘super-harpsichord’ with two manuals, with a key for every microtonal pitch, probably used to train and accompany voices (Knowles 2014, 88). Luzzaschi still played the instrument and composed for it when Gesualdo was in Ferrara, and it is known that a musician who had been with him, Scipione Stella, subsequently constructed a similar instrument in Naples, named ‘tricembalo’ (ibid., 147).

Vicentino’s ideas and practices not only show how Gesualdo’s chromaticism is embedded in the musical technical and cultural innovations of his time, but also introduce the controversial question of temperament. According to Lindley (Lindley 2001; Knowles 2014, 144), in Italian music “[w]ell before the end of 16th century (...) the use of equal temperament was normal for fretted instruments while keyboard instruments were tuned in unequal semitones.” As Knowles observes, however, just intonation makes it difficult to move in between harmonies or to sing or play chromatic music (Knowles 2014, 144; Howard 2013).

The tempered system may have already been adopted by Gesualdo and some of his contemporaries, as it offers a practical compromise (ibid., 145). Moreover, as a lutenist, Gesualdo must have been familiar with it (ibid.). Interestingly, it is known that his madrigals were occasionally played on the viols (ibid.; Watkins 2010, 57); that is, possibly in equal temperament.

If, on one hand, I intentionally left aside the question of temperament²⁰⁰ while working on *Medusa*, the modal and chromatic theories of above, embedded in the cultural values of the early 1600s, have been important to better understanding the logic underlying Gesualdo's music, especially his madrigals. The techniques presented by Vicentino have inspired me in the re-elaboration and transformation of Gesualdo's musical cells.²⁰¹

In the next section I will explain how *Medusa* came to include Gesualdo's music and what cultural and psychological themes the work deals with.

6.3. Medusa: a quest for identity

In August 2022, the fifth and last artistic project of this research, *Medusa*, was performed in Helsinki at the Aleksanterin Teatteri.²⁰² The project originated from a collaboration initiated in 2019 with visual artist Sara Orava, singer and cellist Piia Komsa, and choreographer Milla Elooranta.

As a group, we decided to turn to ancient myths for inspiration, and thus the figure of Medusa became a central point. Yet, we still wanted to preserve a link to more recent times, including the episode of Caravaggio's wounding in Naples, a historical event that occurred in 1609.

Michelangelo Merisi da Caravaggio (1571-1610) had a twin in the domain of music, his contemporary Carlo Gesualdo da Venosa (1566-1613). Although the two artists probably never met, both led violent lives (Gesualdo committed a femicide in 1590, Caravaggio a homicide in 1606), and both had protection from the higher spheres, noble families and the church

²⁰⁰ For practical reasons: not only it would have required a long time for the performers, but also the choice of the instruments was incompatible with other temperaments, since it included, for instance, vibraphone and marimba, together with the Japanese koto.

²⁰¹ See examples at: <https://www.researchcatalogue.net/view/511491/2153351>

²⁰² Three performances on 18, 20, and 21 August 2022.

– it is known that cardinal Federico Borromeo protected both (Sica 2019, 51). They were unconventional innovators in their respective artforms: for these reasons, we decided to develop *Medusa*, a stage-work combining music, dance, and visual art, in dialogue with some of their artworks.

The question of identity, so central in this research (see chapters 4 and 5), permeates *Medusa* as well. While there is only one main voice on stage (the singer and cellist), she impersonates multiple characters and voices: the seer Tiresias, whose prophecy gives sense to Narcissus' story and death (see this chapter's opening verses, as in Prologue); Narcissus and Echo, as two sides of the same person, and as the archetype of the couple (Part 1); Caravaggio's young model provoking Caravaggio himself, in the Naples episode (Part 2); and finally Medusa herself (Part 3).²⁰³ As the dancers contribute to the sound world with their voices and a few percussion instruments, they can be seen as a sort of choir, a way to de-multiply the single voice. As an introduction to *Medusa*'s themes and to its three parts (performed without interruptions), here there are some thoughts from my notes (5 March 2022):

*Medusa's themes are so important, and heavy
desire, and frustrated desire, unrequited love
identity and the death of identity (Narcissus' death)
- well, of a wrong identity
the dissolution of identity*

*Violence, direct confrontation
preceded by denigration, contempt
a false sense of joy, the illusion of a festive community
danse macabre*

²⁰³ See <https://www.researchcatalogue.net/view/511491/2150981> scroll down for the video documentation.

*Medusa, the ocean
someone flying over, bringing death, thought that kills
but also sacrifice, the severed head, blood giving birth
so that life can spring again - Pegasus, the possibility of the
impossible
is the price the killing of the feminine monster? a femicide?
or killing the monster that wants all attention on it,
destructivity, depression?*

Writing this note was significant in the process of identifying the main themes, and what was essential to convey through them. One central theme is narcissism – the artist’s narcissism, seen as a both a creative and destructive force, and the artist’s quest for identity.

I will present some thoughts about each of *Medusa*’s voices of myth and their relevance for the question of identity: Tiresias, Narcissus, Echo, and Medusa; I will also introduce the characters of the young model and of Caravaggio, as seen through the lens of the myths.

6.3.1 Tiresias

Questioned by the nymph Liriope about her child’s lifespan, Tiresias answered in a sibylline way, linking Narcissus’ future to the encounter with his own self. I thought long about the meaning of this enigmatic phrase: one interpretation being that Narcissus cannot live because he only loves himself, that is, he is incapable of relating to ‘the other’, remaining trapped in his own world. On the other hand, the exploration of these verses that I decided to attempt, through my own body and voice (in autumn 2021), opened up some other horizons: it was a visit into my own dark thoughts, and, in the making of the performative act, came a sense of the long, painful life that Narcissus may have had (“a long life he may have”, Ovid v. 348). This insight arose from the old Tiresias’ perspective

and, by extension, it felt could be regarding any human life.

After one of these recordings,²⁰⁴ I noted:

*Sure, it is a kind of monstrous or sub-human expression!
Visceral, coming from my body – I was down, with my knees
bent, my head and hair down, between my legs – close to the
ground.*

*Long life, long pain – and also, oh what darkness or something
I do not approve? do not love? is down there, inside there. So if
I meet it I die – or will feel like dying, lose my life?*

This experience, it is me collapsed, fallen into myself.

(24 September 2021)

It was an improvisation process in search of extended vocal expressions, to explore the vast domain situated in-between voice and word. I remember to have been guided by the duration of my own breath, while I was working on each syllable with the intent to keep it as long as I could – associating each breath with this sense of a long, painful life.

The body position, crouched and hidden by my hair, turned to the floor (close to the earth), was crucial in finding and acting on the vocal fry register. The metaphor of the fall mentioned in the note (*it is me collapsed, fallen into myself*) was embodied in the act of crouching, that accompanied the sensation of finding myself somewhere else (in both literal and metaphorical sense); having my face covered by the hair contributed to making me ‘blind’ (as Tiresias) and to taking a step out from everyday life – a dimension where women are culturally encouraged to keep their hair under control (see 4.5).

²⁰⁴ See examples at: <https://www.researchcatalogue.net/view/511491/2153351>

The familiarity of the room (my own home studio) and the time of the day (at dusk) facilitated this immersion in another dimension. It was also clearly an attempt to connect with Tiresias's character as I imagined it, a seer in the act of divination – that is, in the act of receiving messages from the gods, or, in modern language, from the subconscious.

During the improvisation process, I also got the idea to modify my voice through some resonators (simply using pots of various dimensions). The act of vocalising into these objects added to the sensation of an other-than-human voice. It was also inspired by the idea, proposed by Sara Orava, to build large wooden boxes whose covers would have hidden paintings, to be opened in the course of performance; this could have been a musically useful idea, but was abandoned for practical reasons a few months later (January 2022).

The cipher of Tiresias's myth is ambiguity: they are not only someone in-between two worlds, the world of humans and the world of gods, but in-between genders – their voice being neither male nor female. In this sense, I was also looking for an indistinctly gendered voice, which pushed me to explore my own voice's low register.

At the end of October 2021, I shared this musical idea for Tiresias with Piia Komsu for the first time. Still unsure whether this part would become improvised or not, I brought her a draft of the transcription. The draft already included the idea of directing the singer's voice inside her instrument, the violoncello; it also reproduced the environmental situation, "in the dark":

In the dark, on the knees, the head between the knees, hidden by the hair. The cello lies on the ground, voice into the instrument's openings.

(Prologue, 3 October 2021)

I was conscious that both proposals, to use the fry register (and other vocal extended techniques) and to voice into the instrument, could have met some resistance from the singer. However, Piia Komsi immediately started to try out the passage (we would discuss the other point later), which was for me a transformative experience. After our encounter, I noted:

Happy that she left with me, with this “rhino’s milk” idea of a somehow monstrous voice. Astonishing to hear her first transformation, interpretation

(...) it is me but not me, it is fully her. How different. Oh, you can do it like that too.

To make another version of what I do. Another instance of myself.

That’s the paradox of the composer: whose is this voice on stage? If you sing my piece, my voice is somehow there (my states of mind, my emotions, thoughts or whatever)

but sure, it is your voice at the same time.

Your interpretation of my voice

(29 October 2021)

This note opens up another layer in the question of identity, the shift from the composer’s to the interpreter’s identity (and vice versa, through further versions of the score) that happens in the process of interpretation: in that moment I understood that what I had done could be re-interpreted in many other personal ways. As I noted earlier (see chapter 3), a score inherently contains the possibility of multiple voices – that of the composer, the interpreter, and the listeners.

The allusion to the ‘rhino milk’ derives from an interview with Federico Fellini about his film *And the ship sails on (E la nave va)* (1983), where he declared:

*The protagonist survives because he nourishes himself with the rhino's milk (...) it is an acceptance of the deformed, animalistic side (...) of the dark and irrational sides of yourselves.*²⁰⁵

(my translation)

Fellini's words open the theme of the monstrous voice, which would also be central in the character of Medusa; a theme already introduced by my own note, after the improvisation (*Sure, it is a kind of monstrous or sub-human expression! Visceral etc.*, p. 8; emphasis added): in this after-practice note are linked the categories of 'monstrous', 'sub-human,' and 'visceral': all alluding not only to something/someone other-than-human but pointing to the body in a double way – the adjective signifying a place down into the body (deep into the internal organs), ““instinctive, unreasoning’ (not intellectual),” as well as “dealing with crude or elemental emotions” (earthy)”²⁰⁶ I will come back later, in the section dedicated to the myths of Medusa (6.3.3), to the various associations opened by these words.

To return to the process, I reflected in that period on improvised and written music, that is whether to realize the prologue in the form of a guided improvisation (with instructions for the singer to re-create my experience, which I knew was almost impossible), or in the form of a transcription. Despite the limits of notation, I chose the second option, as it leaves room for interpretation – allowing our voices to merge in a dynamic, intermediate sonic space.

A note taken during the transcription process reads:

Lava-like expression vs. codified writing. How to contaminate the two fields?

(31 January 2022)

²⁰⁵ <https://www.youtube.com/watch?v=pSgOwDAhHtI> watched on 18.10.2021, my translation.

²⁰⁶ See examples at: <https://www.merriam-webster.com/dictionary/visceral> read on 13.4.2023.

This shows the difficulty of finding a notation that could serve as a bridge between the two states, a more instinctual/uncontrolled one (compared with the natural phenomenon of the eruption)²⁰⁷ and a codified one (the culturally established standard notation). I had considered the option of graphical notation, but I finally opted for a hand-made transcription of a spectral analysis – working on the data elements, turned, when possible, into musical cells.

As mentioned above, the monstrous voice is meant to be merged with the instrument's resonances: I tested this idea during some experimentation sessions in spring 2022 (at the Centre for Music and Technology, Helsinki), finally deciding to place two microphones inside the instrument's body and another one on the body's lower half: the amplified resonances contribute to create a hybrid voice that mirrors the ambiguity of Tiresias.²⁰⁸ Moreover, it is an important element underlining the intimate relationship between the musician's voice and her instrument's voice: the proximity of the person's face and lips to the instrument's openings creates an unusual situation, where the instrument is touched by the breath's droplets, and the person has a different perspective into the instrument's 'bowels'. As it became clear through the experimentation, the resonance is more easily produced through fast breath emissions, as in short and accented consonants or vowels.

The 'f-holes' (or 'soundholes') are crucial to string instruments acoustics, since they let the sound produced by the strings to be diffused into the environment – a first-degree amplification process (Pätynen & Lokki, 158). In this case, the hybrid voice is further amplified through a second-degree amplification process (in my initial intentions it would have been through a surround system, but I finally opted for a simple stereo pair, which fitted better the traditional theatre where the work was performed).

²⁰⁷ It is interesting to note that Haraway writes of the 'eruptive character' of the Gorgons, Haraway 2016, 54; although here it is a question of Tiresias, there is a mobility of vocal materials in the work, see *Medusa Part 3* and *Medusa's waters*, 6.3.3, 6.6.

²⁰⁸ See <https://www.researchcatalogue.net/view/511491/2153351>.



Fig.6.5 Piia Komsu as Tiresias; in the background is Sara Orava's *Narcissus dyptic*.
Image Maarit Kytöharju

6.3.2 Echo and Narcissus

The myth of Echo and Narcissus has a major role in the work, and it is active in it at various interconnected levels, those of mirroring, identity, and narcissism.

Since the beginning of the artistic process, the myth of the Narcissus mirroring himself in a pond of water suggested visual and sonic ideas. At first, we encountered the myth through Caravaggio's *Narciso* (ca. 1597–1598),²⁰⁹ of which Sara Orava would make her own version (in two mirror paintings). What we found immediately striking was the modern interpretation of the myth: Caravaggio shifts the classical story from the usual bucolic environment of much iconography to a common street, where

²⁰⁹ There is no consensus about the authorship of this painting though. Some scholars ascribe it to Giovanni Antonio Galli, known as 'Spadarino', 1585-1652. Cicconi et al. 2023, exhibition "The Sovereign Image. Urbano VIII and the Barberini Family," Gallery Barberini Rome, visited on 4.5.2023.

a young man kneels to mirror himself in a puddle – a metaphorical fall of status, the son of the nymph becoming a son of the Roman bourgeoisie.

While the bodily position²¹⁰ conveys a sense of fall and weight, the face of the young man seems to express some concern, perhaps the signs of a troubled adolescence (or, simply, the weight of being a modern man). The idealization of the young man transformed into a flower (according to the Greek myth transmitted to us by Ovid) seems very distant, when looking at Caravaggio's painting.



Fig. 6.6: A scene from *The Purple Bird of the Heart Flies Through the Night* (2019).

Image Mirka Kleemola

From the first dramaturgy plans (see Sara Orava's plan, 16.2.2021), Narcissus' story suggested ideas of mirroring, both in the visual part and in the choreography (for which Sara, who would later become the stage director, suggested some ideas). The continuity between the pictorial elements

²¹⁰ It is significant that I assumed a similar position during the vocal experimentation process, and later, in the follow-up project *Medusa's waters* (June 2023, see <https://www.researchcatalogue.net/view/511491/2186564>)

stemming from Caravaggio's works and the choreographic movements was an important element across our collaboration – a key element of what Sara Orava called 'synaesthesia', meaning the coming together of various art forms working around the same themes. The term appeared in one of the first presentations of the project, in connection with a previous work realized by Orava, Komsu, and Eloranta in 2019, *Sydämen purppuralintu lentää yön läpi* [*The Purple Bird of the Heart Flies Through the Night*] (Museum Ateneum, Helsinki, 2019) – a staged concert with *Lieder* by Webern, Schönberg, and Zemlinsky sung by Komsu, with Orava's paintings and lights, and Eloranta as dancer/choreographer. The experience of this work led us to come together as a group and realize a more ambitious work for the stage.

It is interesting to further reflect upon and compare the concept of 'synaesthesia' with the concept of multidisciplinary (about the multimodal nature of experience, see 2.5.2). Although, in the context of the arts, both terms seem to point to a similar area, the first one has to do with the perceptual level; synaesthesia meaning "a concomitant sensation; a subjective sensation of a sense (as in colour) other than the one (as in sound) being stimulated."²¹¹ While the second designates the coming together of a multiplicity of disciplines, with 'multidisciplinary' meaning "combining or involving more than one discipline or field of study".²¹² As Ward & Mattingley (2006) note, synaesthesia "has been a hot topic in psychology and philosophy of the late 19th and early 20th centuries," after which the concept regained "scientific and media interest" in the 1980s (in neuroscience as well).

Although the phenomenon of synaesthesia has been considered by psychology to be a rare, particular occurrence (with a 'genuine' kind of synaesthesia being experienced only by a minority of people), studies in embodied cognition, such as Mrocko-Wąsowicz & Werning (2012, 3),

²¹¹ <https://www.merriam-webster.com/dictionary/synaesthesia> read on 20.4.2023.

²¹² <https://www.merriam-webster.com/dictionary/multidisciplinary> read on 20.4.2023.

consider, from an enactivist point of view, “the omnipresence of synesthesia-like processing” in most cognitive processes, which are supported by “multisensory, sensory-motor, or cross-activation mechanisms” in the perceiving organism, embedded in its environment through continuous action-perception loops. “Mirror systems” (ibid., 3; Rizzolatti & Craighero 2004, 169–192) would play an important role in synaesthesia, multimodal perception and “inter-modal analogies” being rather common, for example in many “shared associations” – such as “experiencing higher pitch as lighter and smaller” (Mrocko-Wąsowicz & Werning 2012, 3) (about mirror neurons, see 2.5.3).

What is of interest here, however, is how this perceptual level can be translated into the group context of a multidisciplinary collaboration – that is, how can the shift from a phenomenological, first-person level²¹³ to an ethnographic level happen, in a group of artists from different disciplines. In this phase of the project, we started from the assumption that forms of synaesthesia could be achieved through the combination of images, sounds, lights, and movements – ‘synaesthesia,’ in Orava’s interpretation, corresponding to an ideal of unity of the arts.

From the start, there was a common intention to blur the arts’ boundaries, as it reads in another process document (application draft, October 2021): “a visual artist can direct, dancers sound like instruments, and a singer can also dance.” The initial idea was for all of the performers to use their voices and to play small percussion instruments, for everyone to contribute to the sound world.

The idea was to translate Echo’s character into the acoustic phenomenon of which she carries the name: in this sense, the intention was to fill the stage with human and instrumental voices ‘in echo’ – a sonic equivalent of the visual mirroring. In the story of Echo and Narcissus, Echo oscillates between the status of a real person (when they first meet) to reveal herself,

²¹³ By the way, the personal level already contains an interpersonal component, Mrocko-Wąsowicz & Werning 2012, 3.

over time, to be only Narcissus' double, nothing else than his echo. In the myth, at that point Echo's body is no longer visible, but her voice is still heard – until it dies out and she is transformed into a stone.

At a deeper, psychological level, to mirror oneself in another person is to recognize oneself in the other; in another sense, for example in the couple caregiver-child, the caregiver who is able to mirror the child allows them to develop their own sense of self, to feel recognized and worth of becoming a person (Ferrari 2002, 77-92;²¹⁴ Miller 2008 [1996], 39). The same process is at play in the adult couple, where mutual development is reinforced through mirroring (Hillman 1996, 186-187).

On the other hand, mirrors can also deceive: on the psychological level, a person can remain trapped in images of the other that do not correspond to reality. This is what psychology calls 'projection,' (Freud 1993 [1915], 200–201) that is to project partial ideas of a person on someone, or not to be able to leave a projection, remaining attached to a previous phase of the relationship (projection belonging to the initial phase of any human relationship) (Carotenuto 1987, 48–58).

Although the first of Ovid's texts that I found was the myth of Medusa, in the genesis of the text, we started with the myth of Echo and Narcissus and with the concept of mirroring.

A sketch of 8 June 2020 already contained the idea of a work in three parts:

1. Enigma: Narcissus, who are you, who am I?

Medusa: mystery, danger

2. Homicide or violent part, the mask falls? Btw. texts of court proceedings.

3. Distance [or separation], death

(my translation)

²¹⁴ Ferrari mentions the importance of the concept of mirroring in Wallon 1931, Lacan 1936, Winnicott 1967, and Dolto 1984.

The main themes of *Medusa* are already present in a nutshell, first of all the question of identity (with Narcissus' 'enigma'); the second, 'violent' part already contains texts from the court (but not yet Caravaggio's satirical poems); in the third part, there is already the idea of separation and death. Interestingly, we did not know where to place Medusa yet, but her attributes are clear. At the time, the work's name was *Caravaggio*, which then became simply *C* (the name *Medusa* would be chosen only in autumn 2021).

The first version (5 March 2021), with annotations by both Orava and myself, includes the whole myth, from Liriope consulting the oracle to the rebirth of Narcissus into a flower. Among the annotations, mine (in Italian) reads: "Mirrors, echos / Piia and the young boys – Narcissus, Milla and Mira. Echo cannot be seen but she can be heard;" while Sara's reads: "The scene is dark, the lights underline the black, reflecting, mirror-like surface of the boxes."

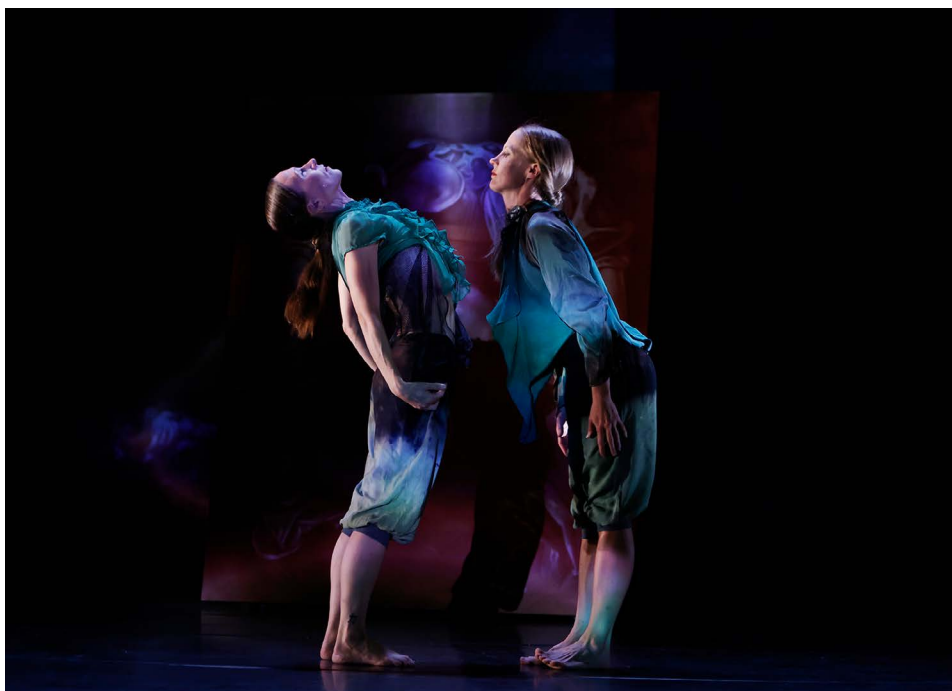


Fig. 6.7 Milla Eloranta and Mira Ollila as Narcissus' companions, mirroring movements. Image Maarit Kytöharju.

The most remarkable element here is that the scene is populated by a group of persons, Narcissus' companions; before Echo's death, there is even a detail from Pausania's version of the myth, where "Piia/Narcissus is pursued by two men (dancers)." The annotations above do not only stress the importance of the mirroring element but also mention another crucial decision, to set the scene in the dark.

With the aim of making the dramaturgy more compact, this choral character will later diminish, although it remains in the score, where the dancers are supposed to take on the companions' roles (by using their own voices); in the final realization though, the only dancers present on stage would be the two female dancers, while the other voices would be the musicians' (myself included), and occasionally a dancer's voice from behind the scene.

The first version where all the elements of the texts are present is from 23 September 2021: this version still included Liriope's question ("will he have a long life?") with my annotation in red "[is] the question necessary?" More importantly, it contains the goddess Nemesis' curse ("If he should love deny him what he loves!") (Ovid 1922 [8 CE], v. 580); and, for the first time, it integrates two texts from Gesualdo's *Fifth Book of Madrigals*, no. 19 (*O tenebroso giorno [O day of darkness]*) and no. 2 (*S'io non miro non moro [If I do not watch I do not die]*);²¹⁵ the second part is almost complete, including the *danse macabre* and the motet (*Ne reminiscaris [Remember not]*). However, there is no trace of the third part yet.

These initial ideas underwent some transformation during the process, as we will see in the next section.

²¹⁵ The choice of the madrigals was already done in September 2019, while the motet was added in autumn 2021.

6.3.3 Medusa

For the third part, the idea was not to include a full text but to work on a situation and on un-worded sounds. The myths say that Medusa attracted Poseidon's attentions or that she was raped by the god in one of Athena's temples: for this desecrating act, she was blamed and punished by the goddess, condemned to be eternally pregnant. Only when Perseus (or Athena herself) decapitates her can she give birth to the mythical beings Pegasus, the winged horse, and Chrysaor (literally, golden spear).

Medusa's story is that of an abused woman, blamed for what happens to her by one of the guarantors of social order (significantly, another woman). After the fateful act, she hides in a cave by the ocean, protected by the three Graeae (mythical female beings, eternally old).

According to Hesiod, Perseus flies above the ocean as "swift as thought" (Hesiod 1914, v. 223), in search of Medusa's hiding place. He can kill her thanks to magic objects stolen from the Graeae, and by using his polished shield as a mirror to avoid her glance. The abused woman is blamed and forced into hiding, and her voice cannot be heard until she gives birth, an act revealing her feminine powers.

The first version of the script that included the third part (7 February 2022) sets another situation in three acts: after a short introduction about the myth (mentioning Medusa's mortality among the three Gorgons and her eternal pregnancy), the scene places Medusa hidden in a cave by the ocean, asleep among her protectors, the Graeae – feminine mythical beings born old and custodians of the magic objects that Perseus will steal.

The first action sees Perseus looking for Medusa with the intention to kill her. The phonemes of this part are from Hesiod's verse "He was flying swift as thought" (2006 [1914], v. 223): Hesiod depicts Perseus flying over the ocean to look for Medusa; the poetic density of this verse hit my imagination, with its combination of the images of thought (the speed of thought, in its quasi-immediacy) and, implicitly, of the wind – a verse recalling *Genesis* 1:2, "darkness was over the surface of the deep, and the

Spirit of God was hovering over the waters” (2011 [1973]; De Luca 1996, 17;²¹⁶ Givone 1995).

The second action is the ‘imprisonment’ of the winds by Aeolus and the appearance of dawn (called by Lucifer, the god of light). The text reads “*Scene slowly lit.*” It was agreed with Orava that in this part the figure of Medusa would be flanked, mirrored by that of the Christian Mary: Mary as a double of Medusa, being often portrayed as the one who defeated Evil by stepping on the snake (another element that connects her with Medusa, whose hair was transformed into snakes). Orava’s idea was to work through Caravaggio’s painting *Death of the Virgin* (1606) and in particular on its upper part, the red drape.

The third action is the scream of the Gorgons, who, like Medusa herself, suddenly awake at the killing of Medusa, beheaded by Perseus. The idea was to combine the double meaning of this scream, a scream of horror and death but also of birth – as the myth tells, it is only when Medusa is killed that she can finally give birth. This first draft contains an idea later abandoned, to enlighten the angels’ wings from *The Seven Works of Mercy* (1607), a detail later included in the scenography of Part 2 – in this section, it was to recall the wings of Pegasus, one of Medusa’s mythical sons.

Interestingly, the first idea was to give voice to Medusa’s snakes, which, in Hesiod’s version, intone a funeral lament: this is said by Pindar (*Pythian* 12, 22–24) to have inspired Athena’s polycephal (many-headed) song, a piece of skill played only by the best players of the *aulos* (the Greek flute; Guidorizzi 2012, 495).

The script also reads “Medusa/Maria is dead,” where the comparison between the death of the mythical figure of antiquity and the death of the preeminent feminine figure of Christianity is clear. While the figure of Mary is the archetype of the mother in the Jewish-Christian culture, Medusa can be seen as a figure of archaic maternity – and, more broadly,

²¹⁶ *Rûah*, “primal breath”: “and the wind of Elohim breathes on the faces of the water” (De Luca 1996, 17, my translation).

of archaic femininity. At the end of the work, Medusa will join Mary, in a reunion of the two mythical figures.

The feminine

My discovery of the feminine and feminist sides in the figure of Medusa happened in two steps, besides the reflections of above, developed together with Sara Orava: first through *Le rire de la Méduse*, an article by Hélène Cixous (1975) about feminine writing; and then through Donna Haraway's *Staying with the Trouble* (2016). Between these two moments (January-February and June-July 2022), I took a hint from Julia Ulehla²¹⁷ for Medusa as an ancient, pre-Greek goddess (I will return on this point later).

Cixous' writing, which followed the approach of the feminism of difference (back then at its beginnings), had a definite impact on me during the composition process, during a rather problematic phase of the compositional work. On 30 January 2022, I wrote:

As Cixous points out, pleasure, jouissance in voice. (...)

she says: if you look straight into her eyes [Medusa's], you see her finally, this feared, rejected feminine.

Words I share about the difficulty of writing – to dare to write. To dare to be an artist. Take a step outside what's been prepared for you, in a totally other direction. It needs a lot of courage, a lot of energy.

In that period, I was looking for vocal expressions beyond the accepted registers of speech and song, a “liberated voice, voice of irrational, of crazy...” (from the same note) but also the bodily pleasure, the “joy

²¹⁷ Supervision session during a professorship selection, Sibelius Academy 8.6.2022.

of voice” (same note). In the same period, I was listening to the inspiring works of Meredith Monk (*Volcano Songs*), Maja Ratkje (*Joy*), and Diamanda Galás (*The Homicidal Love Song for Solo Scream*, based on Baudelaire’s *Les litanies de Satan*).²¹⁸

Together with her interesting reflections, I appreciate Cixous’ captivating, lively prose; about feminine writing she says:

all of her passes into her voice, and it’s with her body that she vitally supports the ‘logic’ of her speech. Her flesh speaks true. She lays herself bare (...)

she inscribes what she’s saying (...) she draws her story into history.

(Cixous 1976, 881, emphasis added)

Here, Cixous touches on important points that namely have to do with the vitality of voice and body (she asks herself “Why this privileged relationship with the voice?”), but also with the capacity to lay oneself bare, to bridge personal and collective stories (Cavarero 2000 [1997]). Hers is an invitation “to break out the snare of silence” (ibid.), “to knock the wind out of the codes” (ibid., 882). Although it is not possible “to *define* a feminine practice of writing,” (ibid., 883), Cixous maintains that it is nonetheless something that exists, in its multiform plurality. With compelling resonances with my chapter 3 (3.3.2) writing, in Cixous’ view, means “working (in) the *in-between*, inspecting the *process* of the same and of the *other* without which nothing can live” (ibid., emphasis added), an unceasingly dynamic and interpersonal process.

²¹⁸ Interestingly, Galás often performed in mental hospitals at the beginning of her career, as part of a collaboration with the Living Theatre in the mid-70s and drew inspiration from the voices of schizophrenic women, Galás 1981–1982, 60; Wilson 2016, 75. See Anaka 2006 on the vocal theatre of Monk, Galás, and Oliveros.

According to her, female writers were constrained “between two horrifying myths,” Medusa and “the abyss”: writing women were seen as “sowers of disorders” inhabiting a “negative,” “dark,” and “empty” land, made even believed to be an “unexplorable” land. Cixous overturns this ‘reasoning’ by writing: “*The Dark Continent is neither dark nor unexplorable*” (ibid., 884), but it only needs to be explored, to be worked out.

In this context, Medusa is the epitome of the “fear of the feminine” (ibid., 885): all what it takes is to look back at her, to look “straight on her to see her. And she’s not deadly. She’s beautiful and she’s laughing” (ibid.). The element of laughter gives Medusa a disruptive character, reminding one of the laugh of Baubo, the Greek goddess of obscenity (Pinkola Estés 1992, 336–340). As we saw above, Haraway (2016, 54) also sees in Medusa an eruptive rather than emerging character. As with the unruly, liberating laugh of Angelica (Claudia Cardinale) in *The Leopard* (Visconti 1963), it is a visceral laugh projecting her outside of the *status quo*. There is also a laugh scene in *Medusa* (Part 2 no. 15, b. 154–156; video 25’20”), the irreverent laugh of the apprentice (amplified by the bass clarinet), in a satirical poem written by Caravaggio against his rival Giovanni Baglione.²¹⁹

Finding Medusa’s voice(s) also meant for me a descent (or a visit) into another dimension; on 10 March 2022 I noted:

I am so tired of how things are framed (...)
I die for the desire to do things differently - but how?
and how differently, from a feminine point of view?
(...) the key is: find my own way
beyond all the pre-constituted attitudes

²¹⁹ The sonnet rapidly spread across Rome and was reported in a police statement, since Baglione sued Caravaggio for defamation, Zuffi 2017, 15–24.

Some of those “pre-constituted attitudes” may be the ones mentioned by Cixous, the framing of ‘feminine writing’ into certain kinds of expectations – often the most stubborn obstacles lay inside oneself, into sedimented attitudes transmitted through one’s own culture(s). In any case, beyond gender(s), to be able to write also means to silence certain voices, to make silence within.

Medusa’s voice emerges from the silence of sleep, in a cave by the ocean. The sounds of the ocean (initially imagined as concrete sea sounds) envelope Medusa’s voice during most of the episode, interrupted only by the sound of the winds preceding the dawn (bar 100, no. 16).

It is a plural voice, oscillating between different emotional states: whispering as awakening from sleep, but with an enchanting character – Medusa’s myth contains “magic and folk elements,” making it a “prototype of fairytales of magic” (Guidorizzi 2012, 494, my translation); with a “strangled voice (unstable pitch)” (b. 31–32); fry voice emerging from a closed mouth (as if constrained to silence, b. 38–39); the use of different registers and large, slow to fast glissandi in-between them (no. 6–7); various kinds of oscillations (initially slow, then intensifying until becoming trills); chest voice in spoken, rhythmic passages (no. 12, *forte with rage*); the same whispered, as hallucinating (no. 13, *forte feverish*); imitating wind sounds (no. 16); repeated glissandos terminating in ‘screamy’ figures (no. 17, *gradually sempre crescendo*): this last vocal expression goes from controlled short cells to rawer and rawer screams (b. 119–124) – screams of death and birth. Komsí would interpret this last section while lying on the floor, through penetrating ‘suoni filati’ (lit. ‘spun sounds,’ *pianissimo* sounds in a high register).



Fig. 6.8 Piia Komsu as Medusa (Part 3). On the left, Orava's painting inspired to the *Death of the Virgin*. Image Maarit Kytöharju

Before embarking on the questions in the working group about the role of the dancers, the musicians and the concrete sounds in Part 3, I will present Haraway's interpretation of Medusa as a chthonic being and an ancient goddess in her own right.

Haraway (2016, 53) places Medusa among the "chthonic ones," from *chthonios* "of, in, or under the earth and the seas" (ibid.) – an acute extension of the term *chthonios*, usually associated exclusively with earth (from the Greek *chthōn*, earth).²²⁰ As with the Gorgons and other chthonic beings, Haraway emphasizes that Medusa does not have a proper genealogy – contrarily to the 'official' gods of the Olympus, whose order is based on "succession and authority" (Haraway 2016, 54). The chthonic ones are "underworld powers" challenging the established (so-called 'natural') order and (as with the Erinyes, or Furies) avenging the crimes committed against it. In the Greek version, Medusa is punished by Athena, not only a

²²⁰ <https://www.merriam-webster.com/dictionary/chthonic> read on 7.5.2023.

“virgin goddess of wisdom and war,” but the “head-born” daughter of Zeus, a “motherless mind-child” (ibid.). It is interesting how Haraway underlines this side of Athena, thus reinforcing her stance of an “earthbound”²²¹ humanity who is “of, in” and “under the earth and the seas,” in connection with other human and non-human living beings; in this way, taking a distance from the objectifying *logos* of Greek philosophy and culture.

Similarly, Cavarero (2005 [2003], 3) writes of recovering a feared and repudiated part of the *logos*, like the voice of the Sirens (a voice “under the seas”), an “irresistible voice that gives pleasure to whom hears it” (Cavarero 2005 [2003], 104): the embodied, fleshy part of the *logos*, vibrating with vital and unruly energy. As the author notes, the Sirens “narrate by singing” (ibid. 105) through a voice that is alike to “an animal cry” (ibid. 103). Meaningfully, they carry another kind of knowledge; according to Homer they affirm to “know all [idmen]” (ibid. 105).²²²



Fig. 6.9 Mistress of the Beasts. Pavia, Basilica of San Michele Maggiore, capital (1155).
Image Martin M. Miles

²²¹ Term borrowed from Latour, “Terriens” (Haraway 2016, 175).

²² Homer, *Odyssey* book 12, line 44. A combination of wisdom and monstrosity also to be found in Medusa, at the same time a monster and a magician.

As noted before, Medusa was revered as a goddess well before Greek times: Haraway recognizes an antecedent of Medusa (“Ur-Medusa”) in Potnia Theron, the Mistress of the Animals (a terra-cotta figure from Rhodes, dated at 600 BCE and conserved at British Museum) (ibid.) – a goddess from “Minoan and then Mycean cultures” (ibid., 52): “a potent link between Crete and India” (ibid.), Potnia also appears in a winged version, Potnia-Melissa, Mistress of the Beas. Meaningfully, Haraway ascribes to her multimodal perceptions, combining the senses of hear, touch, and taste.

With Haraway, I wonder how the story would change if, instead of refusing and killing Medusa, we would be capable of “politely greet[ing]” her as one of “the dreadful chthonic ones” (ibid., 54) and of hearing her voice(s). Following Cavarero (2003, 115–129), Medusa’s voice(s), like the monstrous voices of the mermaids (another emblem of the negative feminine, attracting the hero only to destroy him), call to be heard and listened to, with ears capable of appreciating and accepting their unsubordinated fleshiness.

In the process of creating and exploring *Medusa*, the category of the ‘feminine’ slowly invaded many layers of the work. The myth of Echo and Narcissus can also be read in this key: Narcissus has a strong feminine side (the young man, the ephebe) and Echo can be seen as his feminine double – as we saw above, in the myth she finally loses her body, her consistency, as if she were not an independent character. Gritti (2021, 106, 139–140) sees a symptom of a distorted relationship in Echo’s dependency on Narcissus – the situation of a woman dependent on a narcissistic man: she will risk losing her own ‘consistency’ by limiting herself to echoing his words; even worse, she would lose touch with her own inner world, entirely absorbed by her admiration for her companion’s world (an admiration the narcissist needs to nourish his own world).

In *Medusa*, though, narcissism is not simply gendered: although Narcissus, Caravaggio and his apprentice (a young painter) are in principle male characters, two of them (Narcissus and the apprentice), are played by a female singer. Even Caravaggio’s gender identity is not rigidly defined:

he was probably bisexual, and it is possible to imagine that he was abusive²²³ to his young models (it is known that he was one of the first painters to use models from the street, including sex workers).

6.4 The collaborative process: realized and unrealized ideas

6.4.1 Working group dynamics

In this section I will explore my working methods and the collaborative process, with some quasi-ethnographical observations about the working group dynamics. The realization of a multidisciplinary work is always a complex and, at least partially, unpredictable process, even more so when it is realized under the strain of production and not in a pure research context.

The group members' backgrounds had more visible differences compared to the previous projects: in the initial working group (Livorsi, Orava, Komsu, Eloranta) two artists out of four had a music background (Komsu and myself), one was a visual artist (Orava), and one a dancer/choreographer (Eloranta). For the first time, the working group's language was Finnish (myself being the only non-native speaker).²²⁴ The meeting group size varied in the different phases of the project; in practice, it meant that the decisions were not always immediately communicated to the rest of the group. In the rehearsals, the number of group members grew to eleven members – the singer/cellist, four musicians, five dancers, and a stage director (Orava).

²²³ The conception of abuse at the beginning of 17th century was certainly based on different social values compared to the present ones. The issue of sexual abuse was present in many group discussions: Orava proposed it in relation to Caravaggio, although, as far as I know, there are not reported episodes in his biographies.

²²⁴ Both English and Finnish were used during the last phase of the rehearsals (for the presence in the ensemble of another non-Finnish person, the clarinetist Angel Molinos).

6.4.2 Multidisciplinary work: blurring the boundaries

The intention of realizing a cross-disciplinary work proved rather difficult to realize in practice. Some silent assumptions emerged during the process: while a part of us (Komsu and Eloranta) considered it important to place the work within the opera and ballet tradition, Orava and I were more interested in finding more unconventional solutions. While developing the script, we advocated for a non-linear dramaturgy, which was then partially contradicted by the choreography and by other solutions taken during the rehearsals in the theatre. The working group members' anchoring in different artistic disciplines made the task of blurring the boundaries between them more difficult. Some external factors undoubtedly influenced the final outcome as well, such as the limits on time and resources, and the particularities of the performative space.

On my side, I must admit that I tried to bring on my terrain collaborators used to working in different contexts. I had the ambition to extend music theatre's boundaries and optimistically tried to propose unconventional solutions (for example audience's participation)²²⁵ in the context of classical music and dance.

In a note taken on the day of the second rehearsal (29 May 2022) I wrote:

as far as I'm concerned, there is no such thing as a singer and an orchestra: the interest in this work is that there are no tight walls between the two areas, but we collaborate and exchange between musicians and dancers, we use our voices etc. This is not an opera in the proper sense.

²²⁵ I thought that the audience could have been whispering together with the dancers, as part of the voices surrounding Narcissus in Part 1; an idea that was promptly rejected by my collaborators.

My choice to bring in elements from period music practice, such as frame-drums and tambourines, proved to be a challenge for the dancers. I then decided to take on the second percussionist's role: aside from practical reasons, this decision also arose from my interest in communicative group performance, in letting the music go through my body instead of being 'only' an initiator behind the scenes:

(...) performing made me feel so well, almost drunk of it! Going through emotions, a sense of connectedness (the Arendtian "playing/working? in concert"), the joy to listen and (re)act.

The joy of sound above all... how it touches our bodies and minds. How it goes through us and in between us.

(29 May 2022)

But I also noted:

I feel this childish joy to do things I didn't do before! To launch myself in new adventures.

Rationally, I know also the risks of it. But in a way, I don't care too much.

I thought of myself more as a performer than a musician, someone trying to bridge different disciplines and ways of working, functioning as a *trait d'union* in the working group: for this reason, I was present for most of the stage direction and dance rehearsals, not only witnessing the work (which was essential for research purposes) but also rehearsing the percussion part with the dancers – which proved especially important to develop the Part 3.

On 13 June, after the first rehearsal of Part 3 with the dancers, I noted:

*rubbing drum with my hand while lying on the ground around it
slowly looking at them dancing, connecting to their gesture
- the quality of the gestures (the musicality of the gesture),
the speed, the what? something that starts to be connected,
coordinated without thinking*

One question that emerged during the first rehearsals with the dancers was how to integrate the frame-drums into the choreography. Eloranta was of the opinion that it was better to leave the dancers' arms free for dance movements, rather than have them bound to an instrument to carry; certainly, the fact that I looked at choreography as a 'visual art,' played a role in this choice. In my view, the kinaesthetic and haptic parts of dance are instead what brings dance and music performance so closely together (about the substantial equivalence of dance and music, see 2.3.4); from this perspective, a movement felt, perceived from the inside and the corresponding affective and bodily states matter more than how dance looks like, as a form of visual art.

Some of the dancers were more open to playing and using their voices, for instance, Anneke Lönnroth (Medusa in Part 3), who played the frame-drum in Part 2 (she chose the skin instrument with darker resonances). Some dancers used their voices or played small objects and percussions; unfortunately, the lack of time did not allow us to further develop these elements. Nevertheless, in some parts (such as the spoken transition following the attempted murder and Part 3) we achieved a good collaboration in this respect.

6.4.3 Sound and technology

The exploration of materials through my own voice and body became an important part of the methods used to develop *Medusa*. Sound exploration and sound development continued in the spring 2022, in parallel with

the development of the score. The experimentation phase included an idea later discarded by the group: to work with water resonances.

Both the myth of Echo and Narcissus and the myth of Medusa feature water as a central element: in the former, as we saw above, the reflective surface of the pond; in the latter, the ocean, in the proximity of which the Gorgons and Medusa are hiding. As an important link between the two myths, water was in my opinion a sonic element worth developing and working with. In January-February 2022, I proposed using a metal basin with amplified water in Part 1 – which I would have played myself, producing a variety of sounds from a side of the scene.

For Part 3, however, the shift from the delicate, ethereal mood of a pond to the massive presence of an ocean would have required a sound with different qualities. Finally, I made some recordings with Jan Schacher (in Koivusaari, Helsinki, on 5 May 2022, see image here below). We both liked the idea of anchoring the recording to a place not far from where the performance would happen, which meant situating the piece in its natural environment.

From a vocal note taken on the same day:

Sea against the rock, wind and sea (...)

it feels really good to record on the field (...) to have the connection with the land, with a specific place (...)

[and to have someone] to do this with



Fig. 6.10 Recording location, Koivusaari (Helsinki) 5.5.2022. Image Paola Livorsi

The idea was unfortunately later discarded: among the reasons were avoiding possible technical complications, in addition to the nature and the dimensions of the space (too small to allow the installation of a multichannel system). The group also expressed a growing desire to work with means as near as possible to those of the Baroque era (except for artificial lights). The only exception remained the Prologue, where the light voice amplification and the resonances of the instrument are integral parts of Tiresias's ambiguous voice.

An alternative solution was found in a concrete electronic music approach, including instruments such as two waterphones, a collection of small objects (shells, small stones and pinecones, rice) placed in frame-drums of various dimensions,²²⁶ and the use of extended techniques in the ensemble (see Part 3).

²²⁶ See images at: <https://www.researchcatalogue.net/view/511491/2153351>

From a note written on the first day of rehearsals in Cable Factory (29 May 2022):

it was so magic... I love to make sound like this. (...). I put small objects I had (btw. small shells I had brought from the seaside) inside the big frame drum; I tried also rice and that's fantastic, we can get rich sea sounds. I'll research even more (...)

Technology also played an important role in Renaissance and Baroque eras (also called 'Early Modernity', Pérez-Magallón 2012): from the introduction of perspective to Leonardo's machines, not to speak of the first theatrical machinery, technological innovations were constantly appearing. Caravaggio made use of optical devices, such as mirrors (Longhi 2013 [1952], 46-48) and, as we saw above, technological novelties such as chromaticism and the invention of new instruments (the archicembalo) were part of Gesualdo's immediate environment.

6.4.4 Methodological differences

It is a common experience that artists from different disciplines may 'speak different languages', that is give different meanings to similar concepts, and remarkable differences exist in working methods as well. During the first rehearsal (28 May 2022) a symptomatic episode occurred that exposed important differences in the working methods of musicians and dancers (by the way, the first rehearsals were organized to record music materials for the choreography): despite having made copies of the score for all of the performers, it became clear that the choreographer and the dancers not only did not precisely follow the score but fundamentally did not need it. This was not a surprise for me, since I was already accustomed to work in multidisciplinary settings and with artists from different backgrounds; in contrast, it was a shock for Komsí, who, with the musicians,

considered the score essential “to learn the music” (in her words), an indispensable reference to go back to whenever there would be a question or a problem. On the contrary, the dancers said that for them it was essential “to hear the music” (in Eloranta’s words); they would start “to work on it by ear” and learn it during daily practice (relying on memory, as it became clear during the June rehearsals).

From my notes on 29 May 2022:

I tried to explain (...) that dancers have their own strategies and we should trust them. We need a new language to communicate between musicians and dancers, we have to look for it. Luckily I had printed copies of the libretto with marks for the dancers (when they have to speak or play...)

The rehearsal process also exposed contrasting attitudes towards improvisation: while classical musicians tended to stick to the score (although being flexible during improvised episodes, as in Part 3 – a beautiful moment was when we played it for the first time in the Cable Factory, on 3 June 2022),²²⁷ dancers used improvisation to create and develop the choreography.

Another contradiction emerged during the working process. I had written the score from the point of view of an artist mostly working in non-hierarchical settings: in this sense, all of the performers would be all, also literally, on the same level. The musicians and dancers would interact without a separation between them, the performative space would be shared – at most, the musicians would surround or stay alongside the scene. As I wrote in a note of 3 June 2022:

²²⁷ The dancers and Orava, who were sitting, played along with the frame-drums.

if we could drop all these roles and just enjoy making music and theatre, as if we were children. What's wrong with that? Without being so worried of the result.

Just enjoy the music making together.

This note exposes the attitude of so-called ‘professionals’, who are constantly worried about maintaining high standards, and thus risk sacrificing the “making together” in favour of perfectionism. If, on one hand, it is understandable to focus on quality, an excess in this attitude can cut off the performer from interacting with the rest of the group; they will also be less available to understand or learn from other ways of working, outside their own discipline.

I came to realize that my collaborators were mostly used to working in strongly hierarchical environments (such as opera theatre and ballet). Between the hierarchical and non-hierarchical attitudes, chamber music practice was as an important median point (at least for us musicians).

Finally, a radical solution was adopted in the theatre, in the sense of the opera tradition: the use of the orchestra pit. Unfortunately, it meant abandoning a non-hierarchical conception, which would have allowed more opportunities for interaction among group members. Nevertheless, most of my collaborators thought it was the best solution in that hall, leaving the stage empty for the performers and the stage design.

As it always happens, the realized performance is only one of the possible ways to perform a work: the working group finally came together in a beautiful way, and, in that context, the result was actually very good. This process led me to further reflect on the collective and unpredictable nature of a multidisciplinary work, where the final performance is the result of a chain of perceptions, experiences, and decisions that always contain elements of surprise. This fact can be a challenge but also an opportunity, if one manages to keep an open mind.

6.5 Opera or music theatre? An open question

During the development of *Medusa*, I tended to shy away from the term ‘opera’ as a historically charged definition in the frame of a consolidated tradition (generally meaning the 19th century opera tradition). I prefer terms such as ‘multidisciplinary performance’ or ‘music theatre’. Nevertheless, upon closer consideration, the dichotomy ‘opera’ / ‘music theatre’ may be a false one. As Robert Wilson declared, “all theatre is opera” (Wilson 1996, 303; Ingólfsson 2018, 57), since the term ‘opera’ descends from Latin *opus*, meaning work. Ingólfsson sees in the origin of the term a hint of the fact that the opera form contains in itself the germs of its “extended meaning” (Ingólfsson 2018, 58).

The composer advocates for a broader definition of opera, with which I totally agree. As in theatre, he writes, it is question of weaving together various layers (and different artforms) such as “text, costumes, stage design, lightning, sound and movement” (ibid., 57) – layers that the author is meaningfully tempted to call “*voices*” (ibid.): their interrelations follow a ‘musical’ logic, comparable to “counterpoint” techniques. Here the term ‘musical’ is also intended in a broad sense: theatre is opera since “all organised performance of text and sound is music” (ibid.). In addition, every theatrical layer is organised in temporal terms: in this sense, any “form-layer” can “sing” (ibid., 58) and “dance” (ibid., 59) – that is, it develops over time, with its own rhythm and timing.

A fundamental point behind this conception is the idea of a continuum between speech and song (a fundamental idea in this research as well): in this view, “To talk is to sing” (ibid., 55), that is, everyday speech, especially when slowed down (either purposely or artificially, through digital means)²²⁸ reveals melodic and rhythmic features (a technique I used, for

²²⁸ A technique I used in the second part of *Between words and life*, see chapter 4. On a perceptual level, the repetition of speech components also makes them seem closer to music, Simchy-Gross & Margulis, 2018; Shilton 2023, 4.

example, in *Between words and life*, see chapter 4). In this perspective, the two phenomena are closer than we think, as is found, for example, in the “chanting” traditions of “classic French theatre” or of the Japanese “Noh theatre” (ibid., 56). We can approach the phenomenon of vocality from the perspective of the “song axis” or from the “speech axis,” as Ingólfsson says: in the first case, the question is “how much the vocal performance resembles song,” in the second “how close (...) vocal style” comes “to ordinary speech” (ibid.). From either perspective, it is only a question of the distance of one phenomenon from the other, without any clear boundaries. In this view, there is no reason for the opposition between “opera singing” and “spoken text” (ibid., 56).

Referring to early operas (a relevant subject in this chapter), Ingólfsson rightfully questions whether they can even be considered operas in the developed sense, since they lack what are considered the main ingredients of ‘opera’; that is the employment of “opera singers,” “an ordinary plot or dialogue,” and the division into “acts.” In addition, they were not yet “staged in opera houses” (ibid., 55).

Ingólfsson also mentions the predominance of text and literature in modern theatre and opera, a phenomenon inscribed in a certain time and cultural tradition, akin to the dominance of the score in classical music: a prevalence that risks to tight theatre and opera to a narrow vision, making us forget what theatre and music theatre have been and still may be in the future. I wrote about the predominance of (written) text earlier in this research, which risks to make us forget the sounding part of word and to determine performance in close ways.

Coming back to *Medusa*, it is tempting to try answering the question: Is it an opera? According to the categories proposed by Ingólfsson, only two out of four criteria are present: the presence of an opera singer (although with an extended vocality and an ‘instrumental voice’) and the staging in an opera theatre (Aleksanterin teatteri is an Italian opera theatre in miniature, although it also hosts dance productions and prose theatre as well). *Medusa* is not divided into acts (the prologue and the three parts are

intended to be played without interruptions), nor does it have an “ordinary plot.” Interestingly, Ingólfsson observes that the use of classical myths dispensed the authors of the first operas from telling a story with a “linear plot.” (ibid., 63). Additionally, classical myths were part of a common heritage, something the public knew in advance, which made easier to follow complicated plots (ibid., 62; to some extent, this is still true today).

In the author’s opinion, a theatre work needs “*narrative coordinates*” more than a plot (ibid., 63): images and situations that the spectator will reconstruct autonomously, everyone through their own backgrounds and imagination, putting together one or even “many plots.” (ibid.). A multiplicity of views that is certainly needed to receive *Medusa*, where the myths intertwine with (early) modern situations.

6.6 A follow-up project: *Medusa’s waters*

While composing *Medusa’s* third part, in the spring of 2022, I realized that not only had my vocal explorations been indispensable as a working method, but also that the emotional temperature of *Medusa’s* character would remain within me for some time. The strong experience of the writing and of the first rehearsals played a role in the idea of continuing to work at it in other forms. In a note of 3 June 2022 (after the recording with the musicians), I wrote:

I’m not looking forward going back to my solitary work. (...)

it is clear that the music is not in the bars, in the building elements - not only at least

it is this flow of energy, this sense making through sound

and theatre -

I was even acting with my voice, whispering moving, playing, dancing

And, about movement and sound making:

*playing the frame-drum while moving is so much easier
- even walking
the most you are behind a music stand, the worse
such an embodied activity*

This experience, combined with the curiosity to hear how the vocal elements of this section would work together with the water sounds, pushed me towards the idea of a new work, *Medusa's waters*. More than a new work, it is a work-in-progress that, for the moment, only exists in the form of a video.

The haptic and kinaesthetic sensations perceived during the rehearsals at the Centre of Music and Technology for *Medusa* (spring 2022) had remained as attached to my skin. At both the symbolic and acoustic levels, the contact with the water was an important experience, in the creative process of *Medusa*. In March 2022 I took some vocal notes where the theme of water is recurrent; for instance, the following example has metaphorical and psychological resonances (see the links with the theme of uncertainty, see 4.6):

*as water floats, as waves as... everything is so unstable but...
yes, also in a beautiful way
(4 March 2022)*

A few days later I recorded myself saying the following, after the first practice with water (9 March 2022):

*elated sense of discovery – it's so liberating!
to have your hands in the making, my hands in the water
how many things, sounds you can make (...)*

only [with] your hands

hands can find quite many different small gestures

I really enjoy (...) performing with my hands (...)

I want to keep it as the main thing



Fig. 6.11 Alejandro Olarte and Esther Calderón Morales, 9.3.2022. Image Paola Livorsi

In this note I reflect on the organic nature of hand gestures, whose elasticity and flexibility cannot be compared with the use of objects (that I was anyway trying out, in my first explorations); it is interesting that the hands themselves take like a life of their own (they find their way, invent gestures as by themselves).

In a written note, I return to the theme of water in both a figurative

and a concrete sense, writing about the effects this practice had on me:

When it is possible to go on, one feels more open and permeable. (...)
Still thinking about the magic of water -
what is this other state? you can touch it but never keep it
(...) sometimes it is also a pleasure to let go and dissolve
or simply let go and be lulled by the waves
(13 March 2022)

In the beginning of the note, I speak of water in a metaphorical sense ('going on' refers to the writing work of *Medusa*). I remember having noticed how playing with water impacted on my way of thinking, in those days – as if I were capable of reaching a sense of 'letting go' and 'floating' in a body-mind state different from usual. One can definitely think with one's fingers (for more on fluidity, see 4.5.5). Merce Cunningham compares "ideas on dance and dance itself to water (...)," a "fluidity" that makes both water and dance "intangible" (Cunningham 1985, 27; Coessens 2019, 108); the same can be said for sound.

I envisioned *Medusa's waters* as a performance wherein to re-enact and explore the main work's vocal materials – the unruliest of them. In a note of 3 June 2022, I wrote (of *Medusa/Komsi*, and of the musicians):

I really want her to scream, to be out of herself (...)
(...) I'll have to ask them to be rough – I hope that theatre
will help.
Especially for Medusa it is important, to let go and express
these instinctual parts - let oneself go over the top –

It was also an act of empowerment: I strongly felt *Medusa's* energies overflowing through my voice and body, as if calling back *Medusa's*

rejected figure. There is also a part about Tiresias, with the combination of my vocal improvisations (a practice I continued in the studio, while experimenting with the cello's amplification) and the work with water: I imagined Tiresias crouching on the water (as Narcissus did), divining through the basin on the ground. I shot videos where the two parts of Tiresias and Medusa are distinct, although connected – characterized by the different bodily positions I worked with: in Part 1 (Tiresias), I focused on a crouched position, next to the ground (a position dense with meaning, see 6.3.1), my face mostly covered by the hair; in Part 2 (Medusa) I slowly get up while expanding the vocal improvisation, using my body more extensively.

The choice of the space was an important one – the main hall of the villa Lill-Kallvik, a wooden house next to my home: a quiet, intimate space, gently separated from everyday life; but at the same time a place in contact with nature,²²⁹ with a wooden floor, a place also used for dance and other art activities. A mixed effect of exposure and hiding (backlight) was in my intentions, since the work mirrors two situations from the stage work: Tiresias performing a divination ritual (wondering about human lifespan) and Medusa awakening, while hiding by the ocean.

Another step was the choice of the instruments: I had bought a small collection of metal bowls of various dimensions for the project, but I was positively surprised when, on 27 June 2022, I found some others in the location: not only were they larger, but of different materials, such as glass and metal – I experimented and recorded with both materials.

For the technical part, I collaborated with Pluciennik for the video and with Andrea Mancianti for the audio part. We decided to install two microphones on each side of the water bowl (placed at the centre of the 'stage')²³⁰ and a hydrophone in it, while, in the part of Medusa, the sea recordings would play on two loudspeakers placed at the corners of the

²²⁹ See videos <https://www.researchcatalogue.net/view/511491/2186564>

²³⁰ The arched space in front of the windows.

‘stage.’ I was aware that it was a fast arrangement that would not technically be the best, but I also knew that it was worth realizing this experience before the summer, since I felt I would not be in the same state of mind later on.

I chose to be alone in the space, to feel free to experiment and perform. In my imagination, however, I performed as if someone was there; at the same time, I found myself in a mythical horizon, in a space out of time. I remember the quality of the light changing, as the evening approached – signalling the passage of time and providing an inspiring environment for Medusa’s part.

In my mind, this experience was also a challenge to myself, although much remains to learn and develop. I noted:

*great that I can visit that folly like that, being unharmed by it
so many energies within
to be unleashed (...)
I probably know all too well her [Medusa’s] constrictions and
now I can liberate her
(27 June 2022)*

As I wrote above (6.3.3), I wanted to give space to the unruly ‘voices of folly’ through Medusa, finally liberating both her and them.

6.7 Chapter summary and conclusions

In this chapter, I show how the last work of this research, *Medusa*, has its roots in the Italian Early Modern period and culture – including the artistic and technical innovations that constituted the background of Caravaggio’s and Gesualdo’s art. The mythical figures of Tiresias, Echo, Narcissus, and Medusa are seen in the identity’s perspective.

This part of the research also contains an important methodolog-

ical turn – the turn towards grounded theory. As explained above (1.3), starting in autumn 2021 I applied a combination of methods (grounded theory, autoethnography, ethnography) to both the research development and the work with the artistic components (in this case, *Medusa*). The work included process trace collection through (written and vocal) journaling, sketching, mapping, audio and video recordings (with annotations), and images; it also included observing the working group’s dynamics and language, the distribution of agency, the turning points in the process, and the evolution of the group across the lifespan of the project. In short, a collection of different kinds of materials useful to retrace the path of *Medusa*, to disclose the artistic and collaborative process, and to share examples of my thoughts and states of mind across this creative journey. Of course, a grounded theory process can never truly be concluded, and is only limited by the time at our disposal (since it is unlikely that it will get to the ‘theoretical saturation’ point mentioned by authors) (Charmaz 2006, 12; Flick 2018, 312; Cullen & Brennan 2021, 3).

The results of this process can be seen in this written work and in the online materials, as well as in the follow-up projects *Plucié d’Orsi* (5.9) and *Medusa’s waters* (6.6): projects that testify to a turning point in my artistic trajectory, towards more intersubjective and performative ways of making music.

The experience of *Medusa* was fundamental since it allowed me to discover new layers of vocality and experiment closer relationships of vocality, instrumentality, and gesturality (see the voice and cello solo, *Narcissus death*, my use of speech and percussion in Part 2, and the collective improvisation layers in Part 3, involving musicians and dancers).²³¹ This work also gave me the possibility to further reflect about the points of contact and of difference between multidisciplinary collaboration, opera, and music theatre – on a research path for future performative forms.

²³¹ See <https://www.researchcatalogue.net/view/511491/2153351>.

Finally, the re-evaluation of the mythical figure of Medusa carried with it a new attention for the potentialities of the feminine, with a recovery of their unruliest aspects – which I am interested in further investigating. During the last years, multiple signals of interest for the figure of Medusa seem to indicate a collective need to re-integrate in the present culture previously refused aspects of the feminine (see Turunen 2019, Edwards 2015, Burton 2021, Hewlett 2021, Bear 2023).

7. Conclusions

7.1. A meaningful intersection of lines

Through the present artistic research, I bring into the spotlight a phenomenon that often goes unnoticed: the phenomenon of voicelikeness between the human voice and string instruments. Considering the continuum of speech and song, I show that these two ways of being vocal (2.1), the human and the instrumental, are but aspects of the same phenomenon: the uniqueness of an identity – be it human or musical.

From a phenomenological viewpoint, any sound can be considered a voice (Ihde 2007 [1976], 115–116): a voice coming into existence (Arendt 1998 [1958], 9), questioning the ‘other’ (Lévinas, 1987 [1947]), and calling for attention in a social environment – an ‘in-between’ as “space of coexistence and plurality” (Cordero 2014, 249). I consider voice as *phoné* (Cavarero 2005 [2003], 3), a voice rich in fleshiness and *jouissance* (Conley 1984, 82–83), aspects long rejected by occidental culture and philosophy (in favour of a disembodied *logos*). In addition, voice, in its essence, has a double nature: it is addressed both inwards, as ‘inner voice’ and outwards, to the world. In this sense, both human and instrumental voice are deeply relational.

Through six chapters, I show the multiple nature of the relationships between human and instrumental voice, investigated through an artistic path. In chapter one, I start with positioning and methods, introducing the artistic trajectory developed over the arch of the research (2015–2023). In the second chapter, I present existing theories on the origins of music and language (considered in a broad sense), from a multidisciplinary perspective (human evolution, music psychology, and human development).

Chapter three is dedicated to the concepts of multiplicity, ‘otherness’, and ‘in-between’ underlying the first artistic component, *Imaginary*

Spaces (2016/2020). The chapter concludes with reflections on human and non-human agency, a particularly important point when dealing with instrumental voice: in my view, instruments have their own uniqueness, presence, and agency.

The fourth chapter presents voices within and without, through the artistic components *The end of no ending* (2017) and *Between words and life* (2019): both pieces deal with untold and unheard voices in an intercultural context, and with the narration of identities (Cavarero 2000 [1997]); in *Between words and life* the theme of the acrobat is viewed through the prisms of philosophy and literature.

Chapter five investigates materiality and ephemerality through the case of *Sounding Bodies* (2020), a piece representing a turning point in the research – with the use of collective improvisation and my involvement as a performer: I reconstruct the ‘poetic’ and ‘poietic’ method and the collaborative process, including the voices of the performers in comments and insights gathered *après coup*.

I conclude, in the sixth chapter, with a review of the historical links between vocalicity and instrumentality in Italian Early Baroque art and culture. I retrace back the origins of the musical affects to the ancient modes and present Nicola Vicentino’s chromatic innovations, which had an influence on Gesualdo – whose body of work is situated in a particular historical moment, at the intersection of modality and tonality. The chapter discloses the creative and collaborative process of *Medusa* (2022), the last artistic component of this work, where the theme of identity plays a central role. The chapter closes with some reflections on opera and music theatre.

Among the results of this research there was an unexpected ‘performative turn’ in my practice: at first in an indirect way – participating with my body in the visual parts of *The end of no ending* and *Between words and life* – and then in a direct way – taking on a performer’s role in *Sounding Bodies* and *Medusa*. The two last projects each led to a work-in-progress, respectively *Plucié d’Orsi*, and *Medusa’s waters*. This was a meaningful development, implying an extended way of viewing the

composer's work, overcoming the formal distinctions between composer, musician, and artist. Looking at this process in retrospective, I see now that it was a consequence of my interests, already present from the start, in other art fields and in developing unconventional, multidisciplinary art forms. Another important thing I learned in this process is that intervening in the way that music is presented (in alternative concert forms) has consequences for the way music is perceived and received by the listeners: in this perspective, the listener is included in the concert paradigm, making the distinction between presentational and participatory music porous.

On this basis, I stress the importance not only of listening as the foundation of any music making but also of 'hearing', in the sense of 'hearing the other' within and without. I propose two novel concepts, which I named 'in-hear' and 'co-hear'. Translating my point of view into a 'point of listening' (note of 29.9.2021), I derived 'in-hear' from 'insight' – implying a shift from the visual to the auditory modality; expanding on the word's phonetics, 'in-hear' could also be read as 'in-here', underlining the phenomenological anchoring in the moment:

Insight, inhear [sic] – in-sound? With-sound.

(29.9.2021)

Exactly a month later, I wrote in a presentation that, at the beginning of the research process, all I had was:

*this piece of personal knowledge, these moments of insight
(or should I rather say, inhear?) where I could recognize my
own voice in this instrumental voice – the glimpse of an
identity*

(29.10.2021, emphasis added)

Prior to the development of these two concepts, there was a shift from

‘voice’ as noun to the act of ‘voicing’, of sounding through the voice:

voicing my opinion, worries, concerns, opposition

– my identity

(11.11.2022)

Finally, I wrote:

*‘voicing’ demands for a new ability to listen, ‘in-hearing’:
hearing of the other within oneself; and ‘co-hearing’, hearing
of the other without; but also ‘hearing with’ the others around
the ‘voicer’: a ‘co-hearing’ community rich in ‘co-hearance’,
united by coherent practices of listening; a co-haerere not only
of concepts but of humans who adhere/ad-hear, are committed
to hear each other’s voices.*

(14.11.2022)

Another unexpected result was acting on the realization that the seed of the research was to be found in my past violin practice (only a vague intuition at the beginning of the process): at the end of 2022 I took up my instrument again and approached it in a novel way. It was astonishing to find the same correspondence with my voice that I remembered, but this time, ‘sounding’ clearly meant re-awakening a part of myself – a piece of identity I had deemed lost. Although I am aware that I will not be active as a violinist again, this meaningful act signified me reconnecting with my own instrument and exploring it in the light of the new vocal and bodily experiences acquired during this research. As I noted:

it put my body on the move (...)

deeply listening, exercising attention

put my body, my soul in resonance

the intention to sound and resound

to voice (...)

(1.1.2023)

*(...) thinking of the continuity of the sound, of its flow outside
and through the body*

– the bodies, the instrument's and my own –

playing awakens [my body] in a new way

I believe it makes me think differently (...)

(12.1.2023)

It is through this process that the human voice transforms into an instrumental voice, in the passage from an introspective state ('in-hearing') to a state of resonance with the world ('co-hearing').

7.2 Future research

I wish that the present work inspires other music practitioners and composers to (re)discover the hidden relationships between human and instrumental voice. I am fully aware that this is a huge and complex topic of which I have barely touched upon only some aspects, and that will deserve further study and investigation. I hope that this question will now remain under scrutiny for a longer time, instead of, as has happened so far, resurfacing and disappearing from the researchers' attention at irregular intervals. For this, an interdisciplinary approach will be needed, although I believe that the contribution of artistic research will remain indispensable to shedding light on this phenomenon from an experiential, (micro) phenomenological, and psychological perspective.

7.3 Voice lost / voice found: a narrative conclusion

My insights as a young violinist about vocal and instrumental sound offered not only the background but the seeds for this research. Now, at the conclusion of this not-always-linear research and artistic path, I can read this personal story in a new light. It is significant that one of my main motivations to make music with a string instrument, instead of a piano, was an extension of a vocal practice: playing a string instrument meant developing another way to express myself vocally (I had developed the habit of singing along while practicing the piano).

The story of how I abandoned violin playing before my twenties shows an interesting connection with this vocal layer. Moving from the provincial town of Alessandria, where I was born, to a metropolitan city, Turin, represented a shock in my teenage years: I found myself abruptly uprooted and disconnected from my environment, music making included. I felt like an empty shell, a shadow of myself. That resulted in the loss of the instrumental sound I was able to produce, which, over a very short time, had lost its qualities.

It felt as if I had lost my voice, and with it my trust in myself and in any meaningful connection with others and the outside world.

After this dark period, my relationship with the instrument was lost but another thread that had already been there since the beginning, music writing, became the focus of my attention and work. My voice was to be found there (a voice within more than without).

Many years later, I could not rationally understand why the question of the relationships between human and instrumental voice still regularly resurfaced in my thoughts, as something that did not want to leave my mind. I now understand that one of the motivations to start the present research was reconnecting with what had been lost many years before.

Initially I looked at the research question on a literal level, being conscious that it was extremely difficult to draw any valuable results from

simple observations (by recording musicians and analysing their voices and sounds). Later, I understood that other, deeper layers were involved in this process: how a vocal relationship to the instrument meant a bodily relationship to music that had been lost in my life as a composer.

However, as I discussed in a conversation with my colleague Uljas Pulkkis (Siba Research Days 2021), there are phases in the composition process where one closely imagines how an instrument is played, and the bodily memories from one's own experiences certainly play a central role in the process. My interest in colour and timbre, on the other hand, was never purely abstract but from the start, was connected with the materials and the embodied ways through which the sounds are produced.

Across the different layers of this research, including what I have been calling 'performative aspects', that connection with an embodied approach to music making has unexpectedly resurfaced. After having spent a long time thinking that performance was not for me, I found myself on the other side.

Stimulated by the new environment I found myself in, a community looking at music making, improvisation, and composition from another angle, compared to the so-called classical approach, I started to explore music in other ways. I joined in some improvisation sessions, which made me understand how closely related improvisation and composition are, as two facets of the same act. I found myself playing percussion instruments (including the rain-drum from Brazil that I had received as a gift), with found objects, or with my voice (particularly useful was Outi Pulkkinen's transdisciplinary course Master Academy, at the folk music department, 2016-2017). Slowly, this practice invaded the artistic components as well, starting with *Sounding Bodies* (2020), and leading to the two follow-up projects *Plucié d'Orsi* (2021-) and *Medusa's waters* (2022).

Previously, it has been less evident even to me why these specific artistic projects had been realized in this order. There have been of course conscious intentions and specific interests that were developed throughout the years. But now I notice that my own body slowly started to be more

implicated in what I did, and I think this is a significant turn in the research process.

In the first performance, *Imaginary Spaces*, I found myself performing with the audience, even though it was not intentionally planned. Only later, during the process of research and reflection, did I understand how my position as a composer had changed, in the collaborative process, and in the new setting I chose for the piece. The exchange with the musician and composer Juho Laitinen had become so close that at times it was difficult to distinguish what I could ‘sign’ as mine: even though I composed the score and had a major role into developing the piece, it was also true that there were parts inspired by Laitinen’s practice, by his instrumental and artistic research. The same was true for what I developed in connection with Marek Pluciennik (whose impulse had been fundamental to this work and across the research), as well as with Roberto Fusco.²³²

The act of opening the piece up to the audience, that is to anyone else, decentred my position in a radical way. It was something that required further reflection from me, something I could only understand and resolve better with the second performance of *Imaginary Spaces*, four years later. In the projects of 2017 and 2019, my body became involved in non-present, yet sensorial ways (see 4.5.5). All of these experiences led me to the final project: *Medusa*.

I can say that an unexpected result of this research has been to recover in new ways my musician’s voice, which had been lost decades earlier. It allowed me to look at my experiences, including the most difficult ones, in a new light, and to expand in new directions.

It allowed me to recover parts of myself that were buried or silenced and gave me the opportunity and the courage to bring them out and to share them.

²³² For this reason, all of us are listed as co-authors.

Any voice is valuable.

Any voice hopes to be listened.

Any voice calls to be shared.

*This particular voice, no matter how small,
no matter how insignificant.*

Any voice / any sound.

(29 August 2022)

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Appendices

Appendix 1: Dialogues with the musicians

Appendix 1.1: Interview with Juho Laitinen (10.11.2022)²³³

P.L. Across the years (...), what I reflected more and more it is that, well, the voice is very personal because (...) it is one characteristic we cannot change, and it depends on the body, and on how we are made, it's not something that we chose but, at the same time, we develop [it as] a form of communication... in any case, we have one. [Through] the experience to play a string instrument, [I know that] you also build the sound, somehow.

J.L. I'm not sure I agree (...). I'm not sure that everybody has a different sound when they play.

P.L. But... for example, if you have more musicians [to] try out a violin, [think of] the way you approach [the instrument]... of course the instrument has some characteristics, it's built a certain way, [it] has probably to respond (...) to certain standards (...), I agree about that. [But]... if you would give your instrument to other musicians, would it still sound the same?

J.L. (...) I don't know how I would feel... What is the sound? 'cause if you play an instrument you project many aspects of your personality into the playing, also things that have nothing to do with the sound – how you sit, how you move...

²³³ Interview realized at café Johan & Nyström, Helsinki. See also online interview, 5.11.2022, and instrument at: <https://www.researchcatalogue.net/view/511491/2116449>

P.L. Well, exactly!

J.L. And maybe, it's difficult to separate them... I think my position is that, for example, there is a standard cello sound and there are many variations of it, so, when different people play a cello it sounds kind of the same to me; but there isn't much personality into, in the voice, the personality is somewhere else, in, for example, how people talk and... how they interact, how they walk, and how they do...

P.L. Exactly, but that was also one thing that was at the core of the research, that's why originally (...) I had a camera when we recorded (...) to capture all these aspects, but they are very difficult to analyze, in a way. But [this is] connected actually with the question of identity. You say, it can be in other things than in the voice or the sound of the instrument, but isn't it that all what is your identity, in a way, as you said, reflects somehow in your way of playing?

J.L. Well, I think it's dangerous to think that your identity is connected to playing an instrument (...). [We should consider] the sociological and psychological aspects of making music, we should be aware of that... some people, some musicians for example, find it difficult to use their actual voice but it's easier (...) to try to use the instrument as a vehicle for expressing yourself and often it seems that it would be beneficial to try to express yourself without the instrument.

P.L. To speak more, yeah...

J.L. To say, to use your voice to say what you want to say.

P.L. (...) I see what you say, in a way that's true that there is a bit of danger, we develop these areas [modalities] that are different and some, or some musicians, have difficulties with other forms of communication.

J.L. But of course (...) there are cases, for example [if] somebody is autistic or has some psychological problems with interaction, then using the instrument may be very helpful... but for me, it's very much connected with the expectations that the society, and by society I mean the artistic society, poses (...): what should we do, for example, when you play the cello, you should be expressive, and expressive usually means that you have to be very emotional (...).

P.L. Well of course, that's maybe one of the misinterpretations (...) [to] demand that kind of approach to music... because of course we know that music has much more levels than that, or [it] doesn't stop at this emotional content.

It's common experience in a way, the difficulty to use your own voice for many (...) [also in the case of] the musician, it's not always given that you are available to use it... well that's one reason why actually I think, I came to collaborate with musicians who had, at some extent, some experience of the voice.

Because I know (...) it takes time, (...) to develop a sound (...) to come to use your voice with your instrument or... it's not something that you normally do, right?

(...) How did it happen to you, because I know that you use [your] voice, and, what's interesting (...), not as a singer, in the sense of what society would demand from a singer, but in other ways; and also, you had some pieces where you used the voice and the instrument, so... how did it happen?

J.L. Mmh... well, I studied singing at the same time that I did the cello, so uhm...

P.L. Ah yeah, I didn't know; so, classical singing?

J.L. Yeah, and for... for a brief moment, I wasn't sure which way I would

go on, whether I should focus on playing or singing; then I realized, I just chose the cello... (...) it seemed more interesting; [the] world of singing seemed boring to me (laughs).

P.L. How old were you then?

J.L. Sort of Conservatory time, so nineteen to twenty-three? But I had already taken voice lessons before that, so... then, I did discover this similar thing that many people speak about, that (...) the sound of the cello is quite close to the barytone range of singer... and then, maybe I already, for fun, experimented a bit with playing and singing the same thing, which then later I developed into the piece - much later. But I took a long break from singing, after I finished the Conservatory then I continued to study the cello but I didn't really sing at all... and maybe after five years, I kind of rediscovered it... but I didn't find any application for it, I didn't know how to use it, I just did it for fun and I realized that I had difficulties in... not thinking of the kind of trained singing voice, to not think of it in an ironic way (...).

P.L. You mean, [the] singer's voice or... opera singer's.

J.L. Yeah (...) not because of the sound itself but because of mannerism and... let's say, professional aspects, that are connected with it (...). Uhm, but I think, when I became more liberated with the cello, then perhaps that was the time when I started to incorporate it again to... to non-ironic music-making, and now I don't see (...) it's (...) ironic to me at all! I mean, there is some funniness still, (...) I think, in the operatic and *Lied* tradition, but I'm so detached from it now that I don't really think about it. Now the voice to me seems a really good and direct way to be present in a given situation... like this, like talking... and you know, (...) I think it's really beautiful to discuss these matters with choir singers because they are, I mean these people [I am working with now], they are all untrained... they

don't have any desire to use the voice to be a famous person, they gather together because they like to sing. It's connected to my Cardew project [*The Great Learning*],²³⁴ so we talk a lot about meaning and the subjectivity of it: you cannot determine the meaning of the content from the outside, you have to discover it yourself from within, from your own experience, from your own understanding of your body and your voice; and I think that's... even the main thing that I'm interested in music now, so I don't really care if it's the voice or is it the cello or an electronic instrument, but that... whatever decision you (...) make, it is based on trying to understand what it is that *you* want to do, (...) not because somebody else wants you to do that. And that's the kind of voice that I'm interested in. And of course, you can use it in dialogue, you can interact all the time, and ... and we do, but it's, it should be [a] democratic and levelled interaction.

P.L. Yeah yeah, well, that's true. But exactly, that comes to be the same anyway about subjectivity (...); (...) also [in] identity or subjectivity, (...) you develop it with the many voices you need, or with yourself too, or... how many voices do we carry in a way? And then [we] develop our own thinking.

Back then [in 2015-16] I was interested in, (...) there were some texts from [your] *Manifesto of Sounding* [Laitinen 2013], for instance you write that you would like to purify the practice of performance from artifice and hierarchy? Do you still think the same?

I also think, about hierarchy, I came some way, in the sense that I also think in (...) groups or in general, [a] more horizontal way to relate is more productive; I also have the tendency, a bit character to... not to be the leader, [I do not want] to impose what I want (...) how would you continue on those questions?

²³⁴ Laitinen is realising performances of Cardew's *The Great Learning* in Helsinki with the support of Kone Foundation, see <https://static1.squarespace.com/static/54dc5b73e4b06f5c6237480e/t/634ea-215d36b8e1eb0bec456/1666097685569/summary+in+english.pdf>, read 16.1.23

J.L. When I wrote the *Manifesto*, well I wanted to write a manifesto, I wanted it to be (...) polemical, subversive and in the tradition of the avant-garde. Uhm, (...) I wouldn't seriously talk about it anymore [that way] because I think basically, I've lost interest in art, I don't really care about art anymore, I think the most interesting artistic experience is for me now the ones that... [as] self-made art, you know the term 'ite' [Finnish for 'self'], 'ite taide' [self-made art]? It means 'self-made life', 'itse-tehty elämä', and I've been to a couple of events recently (...) for example, somebody playing their own music (...) and I thought (...) it's quite wonderful that it doesn't feel like art.

(...) So that's the difference between those times of the manifesto which is now nine years ago (...), maybe everything I do is a manifestation.

I see society differently now, I make music all the time but I make music, a lot of music with amateurs now, people who have no training (...) [and] the way they think about music is so different... you know, *The Great Learning* in Cardew's thinking, (...) is first of all of course the subjective process ... well, Confucius says that (...) the aim is to look straight into your own heart and act upon what you see, so [access] that subjective knowledge that comes from within, and [it's an ability] shared by everybody, professionals, amateurs, etc.

The Great Learning [is] the great unlearning of what you think you know. (...) I find it wonderful because it's my unlearning, I'm the one doing the most unlearning probably... or have been doing, now I think I've already unlearned a lot.

P.L. Yeah...take a distance from your own prejudice and your preconceptions.

J.L. Yes, and the musical phenomena that I'm interested in, I constantly now find that it is very difficult for me to achieve with trained professionals because there is no time, there is no commitment to that, and... you could probably get both if you had a lot of time and you could have a lot of

dialogue about what the aims are... (...).

P.L. To dedicate time, that's true. Yes, I remember too, the time management of course can be [challenging] (...) it can become an issue easily. There is always this, balance, or unbalance, as you say, between [needing] to develop things or develop something further you need more time, but (...) then people are committed for a limited amount of time...

J.L. The thing that helps me is, I still work with professionals, I don't want to give that up, is that I try not to think about individual projects (...) this work is connected to the work we did five years ago and it's also connected with whatever is gonna happen next.

P.L. ...it's not only an immediate scope, and you have also scopes somehow...

Well, I know we work anyway [in] a bit different way but then there are things that come a bit closer, for instance I think your own pieces isn't it that (...) they are more in your memory... it's not written material, especially it's not focused on the writing, (...) or was it just what I was thinking?

J.L. Well, I haven't been active in that way for a while now, so everything is in the past now, the multiphonic piece... I don't really think about it anymore and I certainly never played [it again]. (...) For example, that piece (...) was in my mind, I did write something down, but I guess notation at that time implied that you do it because you want others to use it. If I'm the only one who uses it, then who cares if it's written down...

Previously, I would have thought that I don't want to give the material to anybody, now if somebody approaches me, like a cellist saying "I hear you've done multiphonics, can you show me?" then I'd be happy to do that. But... (...) still to have somebody else play[ing] that piece would be pointless to me, I would rather say "here's the multiphonics and you do whatever you want to do with them."

P.L. (...) through these projects and through this research, I reflected a lot [too] about what is writing and what do you need to write at all, there are maybe things that you don't need to write or of course what is the relation to improvisation, (...) as a valid way to produce material and to develop a thought, and so on. And I think *Imaginary Spaces* was a bit like a first attempt? Because I remember I really wanted to have sort of [an] open score (...) then you or we as a group, we can decide how long a section is, or, what do you do with this material, so that it was not fully developed in the writing. But at the same time... (...) I don't know, how did you feel about that?

J.L. Oh, it's been already such a long time that...

P.L. Well, last time two years ago about...

J.L. Yeah, it's true, it's only two years but I try to remember the initial work... uhm, I remember that perhaps it was... (...) I remember these feelings of unclarity of what, what should happen (...), what should we do? There was perhaps some discontinuity between what you wanted and how it worked with those ideas... in the sense that the open score, I'm sure you also didn't want to define it, but maybe it wasn't so clear always what is being kept open, where is the openness in the score? Not in the score, but in the work (...)

P.L. Yeah, that's true that I remember (...) it was a work of exploration, that was also a part of indeterminacy that a bit belonged [to the process]. (...) In the score it was more (...) in the time frame... in the rehearsals (...) I could see that it tended to stabilize around a certain duration [also because of the sound files].

[I remember to have asked you, would] you agree to put some fingerings?

J.L. No, I don't think that would make any sense because every instrument

may respond very differently.

P.L. Well yeah exactly, what you said...

J.L. In that sense it's very...

P.L. Uniqueness, yes...

J.L. I don't find it personal, it's just very... specific to... to my cello, I'm guessing. Because I did a version of the multiphonics piece with two other cellists later, and they sounded very different.

P.L. Yes, that's true, that is also the instrument that is unique (...)

J.L. (...) I sometimes think about these two camps of the composer-performer relationship: there is Saariaho (...), where she tries to write really well-written idiomatic material for somebody, because they tried it out and it's an organic thing; and then there is the Globokar approach, where he doesn't want to have anything to do with somebody playing the cello, or any instrument, he just like, imagines and then leaves it up to the performer his invention, [they] are worthwhile, I mean they are playable... almost all of it I think, and I'm much more interested in that... I think the Saariaho approach to me implies still (...) a very problematic relationship between composer and performer.

P.L. At least, they were able to bring a bit further the language for the instrument...

J.L. Yeah, maybe... but in a very classical way, that you now have this very classic sounds that you make and notations (...).

P.L. That's true that the notation makes it possible in a way, or reproducible at some extent... but that's true (...), and I am interested (...) that not everything has to be reproducible, exactly, (...) I've become a bit more critical about the idea of always having a score, in the sense of notating everything, (...) with the idea that it is always reproducible, but maybe it is not.

What I was interested in the sound that we used together or came from you, it was maybe something that I tended to do also [in my scores], maybe something that contains (...) some inner instability (...), [as] a sound that becomes richer and richer over time, with a sort of continuity, if I think of *Imaginary Spaces*, [in the] first part [it] was a gesture on [the] cello (...) on different strings, something undulating, that... oscillates and changes colour slowly... so that it is something a bit analogous [to what you do], I don't know if you see that...

J.L. Not really.

P.L. Yes, because the multiphonics you developed is something [unstable, that is] not possible to write hundred per cent, because it's something of a phenomenon that is always in-between (...). I find it interesting anyway to be a composer [even though] it's always a bit problematic, how do you transfer that (...) you look for your own sound (...), what you imagine and what you develop (...), but then someone else will interpret that.

J.L. Yes...

P.L. Or, you need the other somehow to bring that voice out... and of course it's always these translations, some negotiation and...

J.L. Yeah, and it's one part of a work aspect that I don't really understand: why don't composers play their own music? Why don't you play your own music?

P.L. I do, actually! (laughs) I sort of came like also to perform a bit (...) I did [it] in *Medusa* actually, some soundscape with percussion instruments and... percussion at large, [some] objects (...).

J.L. But you [may] develop [a] really strong understanding of an instrument and then work on that all the time. Why do you compose? I don't understand why it's [like that in] this period from our culture... (...) Because in the past, thinking of, it was the norm, that you would write music for yourself... if you were Mozart, you would play your concertos yourself, not somebody else.

P.L. That's true. (...) I think that anyway most of us [composers] have some experience [with playing] an instrument... (...) but that's true that then you start [writing] for any instrument that you don't have a direct connection with.

J.L. But why? Why don't you write for your own instrument?

P.L. Well yeah, I know, but... because we can imagine also many other kinds of sounds.

J.L. And that's fine, it's just...

P.L. [Besides,] if you only write for your own instrument, then maybe it is even more difficult, despite that you know [it] so well... maybe in the sense of unlearning, as you said, then you have to unlearn (...) maybe [the] common things that you are doing with the instrument, and try to think a bit larger than what you do every day... with it.

J.L. Yeah.. and of course, there is the business, there may be someone who's asking you to write the piece for them and you get money for it, or fame or whatever... but then (...) you could ask an instrumentalist, why don't you

just write your own music? And the correct answer cannot be “I’m not a composer;” (...) if you decide to be a composer you can, in the sense that a composition is [moves objects on the table] made by using components, that’s... (laughs) now I was a composer, it’s not more... it’s not more complicated than that.

P.L. Yeah, that’s true! All the received values, or 19th century values (...) that we still have in a way, [they are] more damaging than [useful]...

J.L. And so many things would be possible now, [instead] there isn’t a lot of variety...

P.L. That’s clear [there has] been this disconnection between the practice and the writing and also... with the body in a way, because of course it’s more like (...) intellectual developing and [we have been] forgetting the other side...

J.L. Plus you get the idea of how to use your voice; for instance, you have an interesting piece for voice and instrument but you present it (...) [in] very traditional, conservative circumstances, then for me it might be a misguided way to use your voice, because using the voice is also where you do it and with whom you do it, and for what (...) so, this is also what’s drawing me to the non-professional ‘ite’ way of doing it, because the context becomes so much more important there.

P.L. That’s true... in that sense, I think it was a positive experience to have the second time [of *Imaginary Spaces*] in Cable Factory, because it was in a different context, (...) I think it was more fitting with this idea of [having] different arts and... (...) I think I had already a bit more experience with what improvisation is (...) I see (...) in my projects that’s been a contradiction... (...) sometimes it’s been very difficult with (...) musicians (...), in the sense that you want to do things that are not so common (...) but at

the same time the context it is what it is... (...) But at the same time, my intention has been (...) that we need to inject this kind of more disruptive ways of making or, I don't know, alternative or whatever way you want to call it, inside this other way, (...) [making] things evolve; but at the same time, sometimes you get (...) at the border of it. [That's why] I've had too an interest to hear, and go, and see much more interesting stuff happening outside of the official circuit (...).

J.L. You can do, we can do so many things, we can work with whom we want to work, it's... I find it very liberating that I don't, I don't really need to be part of the established scene anymore or... in a sense, I am part of it, (...) I generally always go play when people ask me to do so... (...) so I have (...) a bit of connection to that world and it's fascinating because I look at it differently [now], it's not my scene anymore...

P.L. Yeah, in a way you can be [freer], it depends ... (...)

J.L. But it's very important... (...) I think it's easier than people think, but it's hard if you hold on very strongly to what you think you should be doing; (...) fifteen years ago I was envious of people who were freelancers, who were in demand (...), and now I think (...) it would be such a waste of time for me to travel to different places...

P.L. Yeah, that sort of concert performer life...

J.L. Yes! So, I'm glad it didn't happen... but I was not glad then, I needed to mature, in a sense. But that's part of the voice discussion too, to find that voice (...).

Or being in an orchestra, for somebody who doesn't take it too seriously, it's an excellent job because you have a lot of free time, then you can do whatever other things, you get a nice salary and all that... But I think for somebody like me, it would have been impossible, because I would have

been constantly unhappy, always questioning why do we have to play this symphony, why cannot we play some other one? And I wouldn't have any power in the discussion about that, just have to follow the decision taken by other persons all the time. But maybe orchestras are disappearing so... maybe they will be substituted with something more up to date.

P.L. They also have some *hallitus* [Finnish for organism of government] here etc. but it's very hierarchical, the *intendentti* [intendant], the conductor etc., and the industry...

J.L. But I'm sure it's possible to have a wonderful life as a musician in the orchestra, it's just that...

P.L. It depends if you are the right kind of person or character also...

There are a lot of questions about society, and context, and...how do we make music, what are the values?

[To come back to the questions] you wrote²³⁵ "What kind of group 'sound' are we looking for – synthesis? chorus? fusion? soundscape?" What did you mean?

J.L. (...) I just tried to imagine some ways to connect the [human and instrumental] voices and... I think probably that I would like [a] more radical approach to group composition now... (...) to maybe start from further back, putting a work group together and imagine, if we were to work together, what would we like to do? And then the process would be really long (laughs). (...)

What a fusion might be, it's like a chemistry that you fuse the things together, however that might work.

²³⁵ See above note 231, previous online interview.

P.L. “Synthesis, chorus, fusion, soundscape”: maybe they are a little different terms to say something similar.

J.L. Well, synthesis would probably be quite interesting to me now, that you will, you have an idea, but you don’t address it directly, like, I imagine this sound on an instrument and you play it, which is the standard composition-performer relationship, but then you would (...) maybe reverse the role to synthesize, to try to discover what’s behind that idea (...); maybe the interesting thing is not that sound but it’s an idea of doing something together, and then you would find a way to synthesize it together. I haven’t thought about this before but I’m now envisioning that it could be quite nice to focus on the process of discovering what it is that everybody wants to do, and then you find a way to do it. Like, (...) to use that string quartet example again, (...) you come together and you have decided that, ok, we’re gonna work on Haydn today and then everybody has [the] score, and then you start talking, and you realize that nobody wants to play Haydn but we want to drink coffee, something like that, and then you find a way to put the same kind of effort into drinking coffee than [in] playing Haydn. You know, maybe instead of having a concert [you] just invite friends over...

P.L. Well of course, like chamber music...

J.L. But without music and the chamber; you know, you can, that’s also what I mean by this seemingly unlimited amount of freedom that people can have if they choose to use it.

P.L. Use more liberty, but I wouldn’t say it’s infinite because you have also other limitations or circumstances anyway; you would have another room, you cannot have a coffee without a room!

J.L. Yes, yes, and we need to breath, and we need to eat an all that... but I mean, in the phase where you are imagining things, you don’t have to

imagine that instead of Haydn we play Mozart, you can imagine very different things. But I also understand that many people don't, not everybody wants to do that! (...) I think I've done enough, I don't think I have any need to make more music happen in the world, so it's also a question of acoustic ecology, (...) there is so much music already, the world doesn't need my music anymore, but it's what I happen to be doing and it's what I know best perhaps, so... it's an easy choice for me.

P.L. Somebody can have different motivation, yeah, that's true... but in a way, it is also, (...) there are enough people in this world, like you and me here...

J.L. Maybe the easy answer is there are the ones that are close to you, need you, and [if] there is a lot of love then you can share (...). But, when I say that, "I don't need to be making any music," I'm talking now about artistic music: 'cause you know I can go on a walk and I can enjoy my footsteps, and that's a musical statement.

P.L. What I thought when you said that not all of your identity is in playing the instrument or in the music, I think it is [there] anyway, (...) but at the same time I see of course that we are (...) a larger being than (...) what we do.

J.L. Hopefully yes, and it is something that I really consciously wanted to distance myself from, to certainly not think of the cello (...) as an extension of my personality.

P.L. [Take your] identity [for what] it is...

J.L. Because everybody knows, if people love you for what you do, that's gonna disappear, eventually, it's gonna come a day when you don't play so well and what's happening to your world then? That's what I mean by the

danger...

P.L. The danger, yes of course...

J.L. But if you base your wellbeing on (...) professional aspects, and this is of course not limited to artists, it could be anybody, it could be a barista or...

P.L. It's very limiting...

Appendix 1.2: Online interview with Sergio Castrillón 7.-18.11.2022)

See instrument images and vocal answers on the Research Catalogue.²³⁶

The recording session with Castrillón was realized on 1.2.2017,²³⁷ with a modified cello.

P.L. Why and how did you decide to modify the instrument?

S.C. The instrument has been modified little by little from 2009 in order to meet some of my artistic necessities and my artistic thinking, which is mostly experimental and based on chance and aleatoric procedures. Therefore, part of this modification process includes random and unexpected events and incidents (...). On the other hand, the modification process also includes a thorough search for new timbral features and sound phenomena, [such as getting “more sharp sounds out of it,” see note 236]. That's why I have been experimenting with and modifying different bridges, bows, strings, etc. (...) [I]n 2018 I found the bridge that I currently have made in 2018 by Guy How. Since then, I have been using only that bridge.²³⁸ But

²³⁶ <https://www.researchcatalogue.net/view/511491/2153149>

²³⁷ Recording of speech and cello sounds at the Helsinki Music Centre.

²³⁸ The edges are longer than a traditional bridge, in order to give space to rub the bow more comfortably and get more sharp sounds out of it, 18.11.2022.

my modified-cello is an idea of an instrument that changes while I change as an artist, that changes along my technical development and expansion (...). The only two features that have lasted for long time as they are, and that I consider until now essential/stable parts of the instrument are: [t]he tuning (...),²³⁹ established in 2013; the bridge, made in 2018; and the removable microphone (T-Bone condenser for cello) established as part of the current sound of the instrument in 2021.

In any case, (...) the instrument will continue to change as I do.

Appendix 1.3: Online interview with Maria Puusaari (19.11.2022)

P.L. How do you consider your relation between your own voice and your instrument's voice, and how it changed over time?

M.P. I bought my violin²⁴⁰ in 2014 after many years search. The sound was always the main issue: I was looking for a special sound but did not know how it should be. I fell in love with my violin from the first tuning. It is hard to describe: I just knew it was there. I tested the violin during 3 weeks, tried to analyze and be critical, but the inner feeling and sensation of the sound did not change. I knew I have to have this violin. It was like falling in love with your partner.

My violin has a good sound quality in all registers, from the deep g-string sound to the bright high e-string. As a second violinist of the FRSO, I also need strong and colourful middle register, which is often lacking in many violins. My violin is also easy to play and get the sound.

During the years, I have tried to conceptualize the violin as my sound to make my playing easier and to find new perspectives in perfor-

²³⁹ String I, A 442; II, G# – a minor ninth below string I; III, C#, a fifth below string II; IV, F, a fifth lower than usual.

²⁴⁰ Casper Strnad, a Czech violin from the early beginning of the 19th century. Bow: Victor Fétique, Paris, 1915.

mance practice. However, I do not actively think that the violin would have my sound. It has its own, and thank's to that sound, I can learn more about music, violin playing and even about myself as a performer.

Nowadays I have got used to my violin sound. Therefore, it is sometimes hard to realize, if the violin needs repair and clue - if it is "opened" from some corner. Sometimes I play my other violins to refresh my sense of sound. I own 3 violins, I got the first one when I was 13. Hence, I can reflect my development as a violinist through those different violin sounds. After holiday, it always feels good to back to my current instrument.

Generally, I try to find a richer palette of sounds and also enrich my performance through electronics.

P.L. How did the recording²⁴¹ we did together or the concert you played in change your perception of this relation? Did these experiences bring to your attention any new insights or observations?

M.P. The concert [2017] and the recording [10.5.2018] did not change my perception. By that time, I had played with Strnad [see note 238] violin already three years. However, your research topic and your beautiful works made me aware of different perspectives and the importance of personal sound. Especially the work with the Kurdish Iranian drum player Ahoora Hosseini joining the Uusinta Ensemble in your second concert made a huge impact on me. The way you combined different cultural and musical sound traditions was really touching. Hence, you gave me a lot of ideas to think about.

The biggest change for my sound happened in 2015, when I replaced the shoulder rest by a foam pad, which is flatter and lower. It changed the violin position on my shoulder (...) [M]y shoulders and back feel freer, I can move my arms more freely while I play. Compared to the shoulder rest, my body is more active with the pad.

²⁴¹ Recording of speech and violin sounds, Helsinki Music Centre, 10.5.2018.

P.L. Is there in your opinion any feedback or overlap with your own research? Could you mention in which respects?

In your concert, I was playing two string quartets and leading the Uusinta Ensemble. Hence, your project overlaps with my research. My doctoral project is called “Exploration to the Edge of the Sound by Leading - My Perspective on Artistic Research.” My doctoral concert series “At the Edge of the Sound – Violin as the Medium for Composers’ Expression” consists of solo violin works and chamber music composed after the Second World War. I want to find out by playing, reading and writing, what has happened in the violin music of this particular era and how these works are related to their composition time.

Working with your recording [on 10.5.2018] provided me a possibility to dive deeper in your compositional and research practices (...).

With the help of the works in my concert series, I explore *leading*, that is multimodal bodily interaction and communication between musicians. “Leading” in this context refers to directing or conducting a music ensemble with physical indications while playing an instrument (...).²⁴²

Appendix 1.4: Online interview with Dominik Schlienger (11.1.2023)

P.L. How do you consider your relation between your own voice and your instrument’s voice, and how it changed over time?

D.S. I feel the relationship between my voice and the viola to be quite strong. I often develop lines or licks by singing them to myself, with a ‘shared voice’ somewhere between the sound of my voice and an imitation of a viola sound. I have developed over the years of playing a certain viola-sound-vocabulary with my own voice. As the viola is in contact with

²⁴² See Puusaari’s article “Leading” as a mode of interaction and communication in contemporary music performance-practice, Ruukku, July 2021.

my jawbone when playing, there is a certain vocality to the viola which is hard to share, similar to how one's own voice cannot be heard in the same way when recorded. This vocality is shared between me and the viola, but cannot really be shared with other people.

P.L. How did the recording²⁴³ we did together and/or the piece we developed together change your perception of this relation? Did these experiences bring to your attention any new insights or observations?

D.S. I have only through taking part in your research started thinking about this relation, but since then I'm thinking about it quite often!

Appendix 1.5: Online interview with Anni Elif Egecioglu (19.5.2023)

P.L. How do you consider your relation between your own voice and your instrument's voice, and how it changed over time?

A.E. For me the tone formation on the cello²⁴⁴ has from an early stage been connected with sound timbre of the voice and vice versa. The power of the listening ear.

My connection to cello playing has had much more of an intellectual angle to it due to studying it intensively during many years in comparison towards my attitude to singing which has come to me very naturally and is purely autodidact. By starting to improvise on the cello, with a more sound-base attitude, I learned to use and value other sound aspects and qualities of the instrument. My singing has developed a lot through for instance free improvisation from where I've found new dimensions to my voice. By using singing and cello playing simultaneously I've noticed new aspects in

²⁴³ Recording of speech and viola sounds, Helsinki Music Centre, 12.4.2016.

²⁴⁴ See instrument at: <https://www.researchcatalogue.net/view/511491/2153194>

relaxation of the mind and body which have been very healthy and developing.

P.L. How did the recordings²⁴⁵ we did together and/or the piece we developed together change your perception of this relation? Did this experience bring to your attention any new insights or observations?

A.E. By working with your music I've explored softer and smaller sounds both in voice and on the cello which has opened my perception and care for the subtle sounds 'in between' the more somewhat articulated and fuller textures. The first piece of yours I was included in, 2017, was an eye opening experience from which I learned a lot. At this time I only had performed a few contemporary pieces as only a singer this is quite something else than performing new music as a cellist for instance. The second piece we did together in 2019 included both cello and singing and focused more on the subtle sounds in between as I already mentioned. At this time the visual elements were more present and this was also inspiring. (...) My insight in the possibilities of simultaneously combining voice and cello has broadened a great deal.

Appendix 2: Video annotation of *Between words and life*

See video at: <https://www.researchcatalogue.net/view/511491/2143654>

Tuominen keeps the tube horizontal stepping back, the resulting projection in front of her, her face turning green with the upper projections (13'35"); on the screen the word "susarak" ("silently") appears; the hand is on the page, as if thinking of writing more, going to the line's head and away, it restarts writing, when the cut comes; at 13'46" a big ink stain

²⁴⁵ Recordings for *The end of no ending*, 12.6. and 1.7.2017; recording of speech and cello sounds, 30.5.2018.

appears on the sail, taking the most of it, while Tuominen slowly enters with the tube from the right side: her face is hidden, only her arm and the tube, kept as a weapon, are visible; she points it at Egecioglu (who is now sharing her space), walks with the other tube, painting her shirt green. They start to “write” on each other with the tubes (14’17”); on the screen, a hand plays with the stain, a finger going back and forth as if writing on the stain, while Tuominen slowly turns to the audience, then to Egecioglu; Egecioglu sheds light on Tuominen, following her as with an ox-eye, the light making visible portions of her body; then suddenly Egecioglu’s face is under Tuominen’s moving projections, appearing and disappearing while walking back to her cello. The hand is moving on the stain as if it was suspended on it, slowly oscillating and still writing (the movement of the hand from side to side may remind the movement of a bow). A black and white round projection with a writing hand is superimposed on the image (15’15”), travelling on the sail.

16’16”-18” Egecioglu voicing and playing first-plan (“susarak”); 16’24” Tuominen walking on left, slowly bringing tube to Egecioglu (16’43” ca. Part III). 17’01” close up of Egecioglu and Tuominen rotating the tubes from horizontal to vertical position (on “s”); 17’05” suddenly, ink falling from above; 17’17” ink expanding behind them (from below to above); 17’19” close up of tubes, Egecioglu’s face looking to left (“tyst” etc.); 17’28” overall view; 17’32” sound ends, staying still; 17’53” close up of Egecioglu and Tuominen looking to the left, lights on.

Appendix 3: Sounding Bodies: performance narration (4.2.2021)

See video at: <https://www.researchcatalogue.net/view/511491/2150980>

The piece starts with an introduction, with the audience still standing. Neither the audience nor the players are fixed in a stable and univocal perspective; they can move and change position, observing each other, facing each other. The idea is to artistically interpret and embody Solstreif-Pirker's text, written on a photography of a 'dance and draw' performance. It is a text written from the point of view of a performer, exposing the fragility and the power of the moving body and the interactions of a living organism with the surrounding space.

Sounding Bodies was developed based on actions and acoustic situations suggested by the texts: Solstreif-Pirker's phrase "the emergence of a diagram – that opens up a new type of reality" suggests the opening to the second part and the introduction to 'another' world, where we will first hear the electronics. The transition between the two parts, and the two worlds, is of course crucial. This part required many rehearsals, where I insisted on the importance of building and keeping the tension, while preparing for the following situation.

The second part, taking place in the adjacent area (further in the main hall), deals with unfamiliarity and familiarity: it is the paradox of the encounter, where the 'stranger' (who, by definition, does not speak the same language) becomes 'familiar', a close person with whom to share another 'language'; in Romano's paradoxical verse: "Only with you, stranger, I can speak my language" (Romano 2001, 59; my translation).²⁴⁶ The stranger here is thought of as the 'other,' different yet familiar, when sharing the same existential situation or the same lived space (see chapter 3 for the concept of 'other'). This part of the work plays with this paradox, with

²⁴⁶ "Soltanto con te, straniero, / posso parlare nella mia lingua."

each dancer speaking their own native language, at the same time being in connection with one another.

The second part introduces the mechanical bodies, the two first analogue projectors: one played by me and connected to a chain of pedals, a synthesizer and other small instruments (two coils, a mirror); the other one played by Pluciennik, who will use it mainly for abstract projections, on the opposite wall.

While we gradually hear the optical sound fundamental pitch (a slightly augmented G, the frequency of electricity in Europe)²⁴⁷, the ensemble, gradually dropping the use of their voices, reach the second space, further into the long hall in front of the spectators. A space delimited by a few rows of chairs for the audience to sit, and two pairs of microphones and loudspeakers (already in use during the first part).

I start to build on the optical sound, making it richer and louder, while the ensemble elaborates on and around the main pitch, varying the timbre with all sorts of extended techniques. Over time, I start to use the coils, exploring the gesture of approaching and leaving the range where the electromagnetic field starts reacting, using it as if I was playing with a string instrument bow. The ensemble picks up on that and we start interacting with one another. Pluciennik also starts using a coil, producing a range of different pitches – he and I start alternating two different chords; this is a bodily process as well, he is playing sounds and using the physical film to produce fleeting images on the opposite wall.

By the time I introduce the oscillator, making the sound gradually richer and noisier, the ensemble stops playing. The two worlds, the acoustic and the electronic, are no longer compatible; the power of electricity takes over the human dimension and englobes it. Now I am alone with the machine, exploring textures and enlarging the sound more and more. In the crescendo I feel the growing vibrations, as if I was raising my voice.

²⁴⁷ The string instruments were tuned at that pitch.

Now I divert the projector's light with the aid of the mirror on the optical sound sensor, and the blasts start. I try to control them rhythmically, but it is difficult to do a precise job. The section starts coming to an end, going back to the initial sound, and Lapitskaya steps in with the first poem fragment, "Only with you, stranger" (in Russian). She looks for and finds Convertito, they start exchanging on the same words, but in their own languages. The ensemble accompanies them, restarting from the same pitch and elaborating on it now more rhythmically and slowly opening it up harmonically. The focus is on the couple and their words, mutual exchanges and explorations.

Then the verses bring us into a daily and at the same time intimate situation – a neighbour pacing in the room nearby ("I am your neighbour / Can't you hear my step in the room nearby?") (Romano 2001, 58).²⁴⁸ These verses are about proximity but there is also something uncanny in them. Who is this other whom I hear stepping by? Is it someone unknown or a lover? Someone in a way uninvited into my intimate space – the steps question, invite my curiosity, but also alarm me. I don't know why they are there, what they mean. From the point of view of the poet (the noun 'neighbour' has a feminine ending), I am the lover pacing in the room nearby, I invite myself near you, my thoughts bring me near you as if I were pacing up and down the room next to yours. I pace up and down the room of my memories, I imagine myself next to you. They are everyday words but at the same time very revealing ones.

On these words, the dancers and the musicians start to guide the audience, a step at a time, into the acoustic reality of the "room nearby" – the outside corridor lit in red and pink.

It is the second transition, where the sounds slowly mutate from ordinary

²⁴⁸ "io sono la tua vicina di casa / Non senti il mio passo / nella stanza accanto ?"

to uncanny, adding noisy components (*sul tasto*, *sul ponticello*, bow pressure variations, among others). In the meantime, we start hearing the call of a high pitch sound, ‘screaming’ from the space nearby, more and more audible as we approach. This element has a vocal antecedent: during *Art (ex)-change*,²⁴⁹ Outi Pulkkinen suddenly started to sing (almost to scream) from the same corridor – her high-pitched voice surprising the audience who were in the main room. Pluciennik and I experimented with different sound qualities and registers in order to understand what could be heard from the other space, and the most effective solution was to choose a very high register, with a ‘screaming’ character.

Finally, we find ourselves in yet another reality, this time also physically and acoustically other. There we listen to the “deep sound (...) in the blood” (Romano 2001, 24).²⁵⁰ As the poem suggests, we enter the body and its inner cavities, as if it were an exploration of an unknown territory. We go through a narrow corridor, dimly lit, leading to the end of a larger corridor, closed by a heavy metal door, lit in red. In front of it there is a table with two projectors, two loudspeakers, and other pedals and oscillators. Pluciennik is playing the electronics, I join him and take over, while he focuses on the film; he is performing on the physical film while showing it, drawing with markers on it: beautiful pink lines start to dance on the irregular surface of the wall.

A musician (Dominik Schlienger) grabs the third loudspeaker, located behind the table, and starts performing with it, creating a kind of pan on the spot. The sound bounces against the irregular walls of the cavity while he walks and moves. Three other musicians, the two cellists and the double-bass player, stand on the sides of the corridor, playing along

²⁴⁹ *Art (ex)-change* (6.4.2019), “an invitation to musicians and performance artists to interpret space through sound and voice” <https://www.catalysti.fi/?event=art-ex-change> read on 4.2.2021. The event was curated by Diana Soria Hernandez and me, as part of Catalysti program “Diversity in Art: Art in Diversity” 2019-2020.

²⁵⁰ *Io sono in te*

with the electronics when possible, as the material becomes even rawer and noisier than before.

The audience, previously divided between the narrow corridor and the open door of the main hall, starts spreading in the area where the corridor is larger. It is yet another point of listening, where the audience is standing and can move in the space, if they wish to.

I start using the coils again, this time going for the very high pitches obtained through their contact with the electric cables. A violinist (Hermann Yli-Tepsä), from the other part of the corridor, picks up on that.

Finally, the massive sound goes down, and there is a moment of silence.

The musicians start reciting the fragments of the poem *I am in you* (Romano 2001, 25),²⁴⁹ and the rhythm is accompanied by various purely percussive sounds (on the instruments' bodies and on the back, among others) while walking back into the corridor – a journey from one acoustic room to another, through the narrow vessels of the body. The moment of passage between the narrow corridor and the big room instantly reveals the sudden change of acoustics as well as of emotional temperature.

Back to the main room, some voice fragments emerge from the duo I form with the double-bass, playing fragments of the film's optical track. The gestures of the film manipulation invite and react to the double-bass player's gestures. I hold the film in my hands, looking for the optimal tension while I pass it on the sound sensor: it works a bit as the hair of a bow, not too tense not too released, not too fast not too slow. I adjust the speed of the film to the content of the audio track, varying the speed accordingly. Voice fragments pop up and disappear, the sound duration stretches and compresses, producing endless glissandos. The content of the track is the same of the film that will be shown at the end; the idea is to show glimpses of it as if coming from another dimension.

After this *intermezzo*, the performers and audience swarm to the bottom of the hall, where happens the projection of Pluciennik's film diptych (one per dancer, projected in parallel) is displayed – while the musicians exit. The audience can sit again, some on the chairs, some on the carpets on the floor.

Through the soundtrack, now we can hear all the fragments of poems previously performed, this time mostly in English. The two dancers create their layers of movements in dialogue with their own images in the respective films, and with one another. They dance in front of the projections, the space opens and multiplies, unfolding through the illusion of cinema: the film with Convertito (with the printed soundtrack) reproduces the same space where we find ourselves now – at the bottom of the hall where the first dance duo took place (in Part 2); the film with Lapitskaya was shot in a different yet similar space, with other corridors and rooms. Pluciennik developed this second film himself,²⁵⁰ through experimental colour techniques, adding hand-painted elements to the last part: lines and colours start dancing more and more lively, flickering back and forth.

The musicians slowly appear again along the walls, adding pizzicato sounds to the soundtrack. While the films simultaneously end, they start approaching to the listeners, finally aligning in front of them.

The dancers take opposite directions, until Lapitskaya reaches the opposite side of the hall: the two dancers start calling each other across the distance (“Your voice afar is solitude, more than absence”)²⁵¹ (Romano 2001, 47), to reunite, together with the musicians, on the verse “Beyond the words stay / the voices”²⁵² (ibid., 70).

The themes of distance and time, of absence and waiting, come from the poem of the neighbour (Part 2, see above pp.17-18): the poem

²⁵⁰ The other one was developed in Belgium, with the soundtrack printed on it.

²⁵¹ T“La tua voce lontana / è solitudine / più che l’assenza”

²⁵² “Stanno al di qua delle parole / le voci”

opens with the hyperboles of “endless spaces” and “slow rosaries of hours”²⁵³ (Romano 2001, 58), opposing the wide spatial and temporal distance between the two persons to their intimate situation of proximity (as neighbours and lovers). Once again, the acoustic hint in the poem translates into an acoustic and emotional situation in the performance. The dancers finally join the musicians on the last verses, until we all reunite in front of the audience.

²⁵³ “Spazi senza fine / (...) e lenti rosari di ore”

Appendix 4: Notes on interaction in Plucié d’Orsi (Tallinn, 3.9.2021)

I took a few notes about the long conversation we had a few hours after the performance (meaningfully I noted “surprise[d] how could someone else have had such a different experience”): it turned out that we disagreed about how we had interpreted our plan (a sequence of ‘modules’, actions and materials on which to improvise). His interpretation of my choices was that, since I was nervous, I “forgot things.” During the general rehearsal, the evening before, I remembered having noticed that, finding ourselves in a different place and situation (in comparison with the rehearsals in Helsinki), the duration and order of the modules may not have been the same; I remembered asking him whether it mattered to him if I introduced a module later, and I thought to have understood that it did not. However, after the performance Pluciennik said that this change (me starting to manipulate the voices later than agreed) “came as a surprise in the flow” and he started thinking “is there anything wrong?” The delay gave him a sense of uncertainty (from the conversation, it became evident that his experience in performing was much longer than mine).

I also noted: “I remember (...) wanting to give enough time to build up the sound, before starting this other action.” And I reported the choice to introduce the voices later, “introducing the rhythmic element first,” reacting to the projector’s rhythm that, in my opinion, had started earlier than during the rehearsals.

From these notes, it is interesting to assist to the web of memory layers we are confronted with while improvising (“how do I remember this order, and did that matter? Was that to be fixed or not?”) It makes me reflect about the importance of agreeing about things beforehand and deciding what is changeable or not, what degree of freedom one can take when performing with someone else.

Watching the video, I noticed that the ‘mistake’ anyway made some-

thing unexpected emerge: the words “The body, so gently embedded in space and time” and “It doesn’t matter, if there are to fill endless spaces...” fell into the transition between the two films, the white, void space left by the projector’s light. It was sort of fitting with the idea of a body “embedded in space and time,” and “endless spaces,” wide distances to be filled in.

Appendix 5: Video annotation on Medusa's waters

(18.1.2023)

See video at: <https://www.researchcatalogue.net/view/511491/2186564>

00:06 walks in **slowly**

00:12 reaches crouched **position, looking ahead**

00:16 slowly on her knees, towards the bowl

00:35 right **hand** in water, first sounds

00:46 **looks at** her hand

01:00 **slowly** turns hand palm (each time)

01:05 let water fall in a **circle**, water **pitches variations**

01:22 water **rallentando**

01:29 **head** on the bowl, **hands** on sides, voice starts

01:39 sonorous **growling**

01:41 adds **breath**

01:45 takes **breath** in

01:46 voice **growling 2**

01:51 sonorous **growling 2**

02:01 voice **low frequencies**

02:08 **breath 2**

02:09 voice **growling 3**

02:19 “closed” **growling**, less sonorous

02:23 **diminuendo**, body **moving up**

02:26 **breath**, transition to next part

02:29 **hand** in water + voice, on word “**longa**”

02:37 “**longa**” 2

02:48 **looks at hand**, ends in **breath**

02:51 “**longa**” 3

02:58 long **growl**, sonorous (**out of bowl**)

03:02 takes water with **both hands**, **lifting** them as well as body
03:11 let water fall in **circle (from higher position)**
03:14 long “n”, “ga” **stacc.**
03:18 “**longa**” 4, **whispered**
03:20 **breath + growl**
03:28 **finishes voice with water drops (always)**
03:29 “**longa**” 5, **whispered**, water longer, more **itches**
03:32 one **forte drop**
03:36 opens **hands**, **looking in front**
03:38 “**vita**” 1, **one hand**, **semi-whispered**
03:41 voice glissandi on “i” – starting **hand water tremolo**
03:42 less whispered, **adding voice**
03:43 adding some **growl**
03:50 **fingers speed**
04:00 “-ta” **semi-whispered** – fast breath, “**vita**” 2
04:02 **crescendo**, **voice and gesture**
04:03 “**senect**”, **percussive voice**
04:15 “**vita**” 3, glissandi, **moving head to side (expr.)**
04:20 voice **downward gliss**, **dark**
04:23 “-ta” **percussive**, **voiced**
04:24 “**senectae**”, **voiced crescendo**, **ends with water**
04:27 long “**s**”, **bending down** to bowl
04:29 **water moving**
04:33 **hair moving down**
04:36 “si” **tormented**, **growling voice**, **body movements**
04:39 “se”, **bending down**
04:43 **growling** grows
05:03 fast **breath**, **body up** “si se”, “se” **higher pitch**
05:04 fast **breath**, “non noverit”
05:07 adds voice on “o”, **getting up**
05:10 some **growling** with **two hands tremolo**
05:13 **vowel changes** to “a” (or in-betw. o-a)

05:14 percussive “n”
05:16 “noverit” **nervous cresc.**
05:18 “si se”, poco growl., **tormented, hands continue** (one or two),
cresc. accel.
05:33 «non» **growling ff**
05:37 «noverit» !
05:39 si se» **spoken, forte**
05:41 «non noverit», spoken, **perc. «t»**
05:42 “si” **higher pitch** “se non noverit”, **accelerando – hands follow**
voice
05:49 changes **position, hands on the floor, head lower in bowl**
05:51 last **powerful “t” in bowl**
05:55 **long pause**, starts to **get up**
05:59 **looks ahead**, still
06:05 starts to **get up**
06:08 **hands** again on floor, to get up
06:10 body **up, hands close** to ground
06:12 finishes to get up, **standing**
06:13 **stops** a moment, **looking ahead**
06:15 turns and starts to walk away

Categorization (22.5.2023)

Tempo: slowly (3) (continuous action, body movements during first 13 seconds)

Hand(s): in water (2), on sides, takes water with both hands, open hands, one hand, hand water tremolo, two hands tremolo, hands continue, hands follow voice, hands again on floor (2, btw. 05:39–06:08), hands close to ground; fingers speed

Music terms

Agogics: crescendo, voice and gesture; voiced crescendo; nervous cresc.; cresc. accel., accelerando; rallentando (water); (fingers) speed.

Pitch: pitches variations, more pitches, higher pitch (2), dark (timbre); vowel change (timbre / movement)

Tremolo (2) hand water tremolo, hand tremolo

Voice (music and body)

whispered (5, 2 semi-whispered)

breath (9): fast breath (3) adds, takes breath; breath in, breath + growl

voiced /spoken: voiced, voiced crescendo; spoken (2) between 05:39–05:41

glissando: 3, between 03:41–04:20 (1 downward)

growling (9, of which 4 sonorous growling)

percussive: 3 voiced, one on “n”; one on “t”; all between 04:03–05:41

Dynamics: forte (2), ff, powerful

Conclusions: ends in breath, ends with water

Beginnings: voice starts; starts with water tremolo

Affects (adjectives): expr. (moving head), tormented (2), nervous (cresc.), powerful (also dynamics)

Body movements:

Walks in, walks away; reaches crouched position, on her knees; changes position; moving up (3) get up (3 btw. 05:55–06:12), moving up, body up, getting up; bending down (2), (hair) moving down (down actions btw. 04:20–04:39); standing

fingers speed (also in agogic, hands)

Looks: ahead (3), at hand (2), (looking) in front

Position respect to bowl (6): head on the bowl; towards the bowl; out of bowl (growl sonorous); bending down to bowl; head lower in bowl; in bowl (powerful “t”)

Head: head on the bowl; moving head to side (expr.); head lower in bowl

Body (5): body moving up; as well as body; body movements; body up (2)

Repeated / relevant: slowly turns hand palm (each time); takes water with both hands, lifting them as well as body; let[s] water fall in a circle (2, one from higher position); hair moving down; finishes voice with water drops (always); one forte drop; “si” tormented, growling voice, body movements; “si se”, poco growl., tormented, hands continue (one or two), cresc. accel.; “si” higher pitch “se non noverit”, accelerando – hands follow[s] voice

Combined: right hand in water, first sounds

hand in water + voice

breath + growl

head on the bowl, hands on sides, voice starts

long “s”, bending down to bowl

let[s] water fall in a circle, water pitches variations

looks at hand, ends in breath

takes water with both hands, lifting them (hands) as well as body

whispered, water longer, more pitches

opens hands, looking in front

one hand, semi-whispered

voice glissandi on “i” – starting hand water tremolo

crescendo, voice and gesture

“si” tormented, growling voice, body movements

“si se”, poco growl., tormented, hands continue (one or two), cresc. accel.

“si” higher pitch “se non noverit”, accelerando – hands follow[s] voice

Combinations of

movement + sound (or vice versa) (11)

two kinds of sound (3)

different kinds of movement (2)

I went through the annotations in a few loops: at first, I put the recurrent terms in bold, or terms that looked relevant to me; then, I started forming categories and sub-categories.

I added in parenthesis the number of occurrences, specifying when they all fell into a similar temporal frame (a method that will give interesting results, see here below).

The categories Music Terms and Body Movements had more entries: while annotating, I remember to have paid particularly attention to movements (especially of the hands), the distances from the bowl, and, obviously, to the musical content (musical actions).

Music Terms contains Voice, which in my view pertains both to the music and the body domains. Rather than having a category Body, I found it more relevant to have one called Body Movements (to which, at the end, I added also Body). A good part of the body movements, as we will see in the section Combined, have a direct sonic relevance and some have an indirect relevance (for instance, the closeness to the bowl, where I was also closer to the microphones); additionally, bodily positions (for example, the crouched one) also correlate to the kind of voice emission, and vice versa (see 6.3.1).

Meaningfully, the category Hand(s) is one of the first I formed, since the term occurs multiple times (13 occurrences), of which 7 are musically relevant and 6 ‘only’ gestures – interestingly, the use of the hands is almost equally divided between sonic actions and gestures; in the category Combined, though, most of the occurrences are in the sub-category ‘movement + sound (or vice versa)’ (11 out of 13, see above).

Another important categorization is the one regarding Repeated/ Relevant and Combined actions – a few of them falling into both categories; a couple of times I annotated ‘each time’ or ‘always’: for “slowly turns hand palm,” and, more relevantly, “finishes voice with water drops” (a combined action underlining a conclusion – see music elements).

Through the annotation of the categories falling into similar temporal frames, I noted: spoken voice occurs only in a specific place, towards the end of the video, on the words “si se non noverit,” after which I put my hands on the floor; it is the same section where the glissandos occur,

and the percussive vocal sounds (on consonants ‘n’ and ‘t’). Even more meaningfully, three out of the four adjectives in the category Affects fall in the same section: tormented (2), nervous (cresc.), powerful. This is an interesting result, since it demonstrates the multimodality of the climax section in the video, the one most emotionally charged, where meaning, voice, gesture, and affect combine to build the same effect.

On the other side of the spectrum, the adverb ‘slowly’ occurs three times, all in the first thirteen seconds: they all refer to continuous bodily actions, contributing to the ritual pace of the improvisation.

Looking at the category Repeated / Relevant, apart from the multiple occurrences, I selected single relevant actions, such as: hair moving down (I have been interested in playing with my hair)²⁵⁶ – it is a theatrically strong gesture; an occurrence of sonic relevance (a big drop of water) – which was actually a sort of mistake; and complex combined actions, two of which on “si” (if): tormented, growling voice, body movements; poco growl., tormented, hands continue (one or two), cresc. accel. (by the way, the longest annotation); to finish with the whole phrase (“si se non noverit” [If he but fails to recognize himself]) on accelerando - hands follow[s] voice.

All three combined actions are multimodal in nature, it is interesting that the last one ‘hands follow[s] voice’, that is, movement, in this case follows vocal expression – that is, voice elicits bodily movements.

²⁵⁶ See video exercise at <https://www.researchcatalogue.net/view/511491/2158815>.



This artistic research explores the relations between human and instrumental voice, seen from an embodied and performative point of view, starting with my experience of violinist and composer.

Voice is a unique mark of human identity: if this is particularly true for vocal timbre, something similar is at play in the 'instrumental voice', as a unique expression of personal and musical identity.

From 2016 to 2022, I investigated the question of voicelikeness through five multidisciplinary art projects. Among the research outcomes are the re-evaluation of vocal layers in personal and musical identity, considering music making as a relational practice, and an exploration of the porous boundaries between the roles of composer, performer, and listener.

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