Musika: The becoming of an artistic musical metaphysics

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Table of Contents

Acknowledgements

Back in 2015, having just graduated from the UvA with a Master's in Music Studies and looking for a PhD promoter, I met with a likely candidate. At the end of our long and positive conversation, he said, "Remember, this is just a PhD: think of it as a project, not as the Book of your life." I don't know what prompted this warning, for I remember thinking at the time, "Well, of course this is just a project, I don't mean to write the book of my life!" Yet. . ..

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List of abbreviations and glossary

All abbreviations are from Thomas Campbell's My Big TOE *(2003) with the exception of BwO and MRF*

AUM, Absolute Unbounded Manifold	AUM is the media of reality. An evolved version of AUO. AUM is more organized and able to do work, to diversify and compartmentalize itself.
AUO, Absolute Unbounded Oneness	AUO is the larger consciousness system made of information. A primordial consciousness entity, brimming with unstructured but structurable energy. At some point of its evolution, upon reaching enough complexity, it transitions to AUM.
BwO, Body without Organs	See in **Glossary**.
FWAU, Free Will Awareness Unit	FWAU is the 'player', the avatar, the 'incarnation' of the IUOF in a Physical Reality Frame.
IUOC, Individuated Unit of Consciousness	IUOF is a digital individuated consciousness 'unit' in a Nonphysical Reality Frame; our larger digital mind.
MRF, Musika Reality Frame	A (physical) reality frame, which, I propose, evolves sound/vibration-based consciousness units,
NPMR, Nonphysical Matter Reality	NPMR is all that is not PMR. A nonphysical (from PMR's perspective) reality, a superset.
PMR, Physical Matter Reality	PMR is the reality our bodies live in and its properties and laws. Includes the material universe and everything known and unknown that materially exists in it. A simulated virtual reality. A subset of NPMR. The playground for FWAU. Our PMR is carbon-based.

Glossary

Acousmatic: Introduced in the 1955 by the French composer Pierre Schaeffer to describe the experience of *musique concrete*, 'acousmatic' is music "that is heard without its origin being seen" (Chion 1999: 97). The acousmatic voice is a "voice in search of origin, in search of a body" (Dolar 2006: 60).

Assemblage: One of the main concepts in *A Thousand Plateaux* (1980) by Deleuze and Guattari. The assemblage (from French *agencement*) is often described as the dynamic side of a whole vs the static one, the territory. It is a "becoming that brings elements together"

(Wise 2005: 91) – a compound symbiotic collective becoming that negotiates variables (Deleuze and Guattari 2013: 116) and whose parts are characterized by relation of exteriority. The unconscious in person (Ibid.: 41), the assemblage sits on the top of a **Body without Organs**.

Becoming: Another concept of Deleuze and Guattari's. Becoming is a process of change or movement within an **assemblage**. It is a new way of being, influenced by other's feature, capacity or characteristic. Rooted not in imitation or resemblance, but in influence and attraction. Always creative, becomings are exploring potentials and have destratifying tendencies.

Bicameral mind: According to psychologist Julian Jaynes' theory on the bicameral mind (1976), self-consciousness emerged from the hallucinatory (un)conscious mentality of the so-called bicameral man only around three thousand years ago. In the mind of the Iliad's man, the functions of speaking and hearing/obeying were divided between the left and the right hemisphere respectively, hence, 'bicameral'. A subject to auditory hallucinations originating in the right hemisphere, the bicameral man interpreted these as the voices of gods, translated as commands and admonitions by the left hemisphere.

Body without Organs: A major concept of Deleuze and Guattari. It is the ground of reality pre-formation. The BwO is a virtual plenum, imbibed by a range of intensities, like speeds, consistencies, vibrations, dynamics, pressures; it is embodied in lines and curves, in jumps and smoothnesses. The BwO is characterized by high entropy, there are no structures and organizations that can be articulated within it. It is potential. It is the absolute limit you never reach, where you hang on a blade of grass to break through or break down. I see the BwO as a portal between reality frames.

Copenhagen Interpretation: One of the most authoritative and widely accepted interpretations of quantum mechanics, incepted and constructed between 1925 and 1927 by Niels Bohr and Werner Heisenberg in Copenhagen. It proposes that there is no quantum reality beyond what is revealed by an act of measurement or observation. Opposite to what the name suggests, the Copenhagen interpretation is against 'interpretation' in mathematics and quantum physics.

Duality paradox: Describes the so-called wave-particle duality. The latter suggests that matter's behavior is conditional – it manifests as particle (matter) or as wave (energy) relative to whether it is observed or not. The same ambiguous behavior is demonstrated by light.[1] The hypotheses and the experiments led to these discoveries, as well as their interpretations, are at the core of quantum mechanics.

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[1] "A heuristic point of view of the production and transformation of light" is the first of four papers Albert Einstein publishes in his 'miracle' year, 1905. There, he introduces the revolutionary idea that light is composed of both energy and particles, i.e. physical systems can behave both as waves (energy) and as particles (matter). For this discovery, he receives a Nobel Prize in 1921. In 1924, the French physicist De Broglie uses Einstein's equations to demonstrate that electrons can act like waves, just as photons can act like particles.

Explicate Order: A concept of David Bohm's. In 1980 he published his book *The Implicate Order* where he describes the two-fold nature of reality, each part ruled by Orders Bohm calls Explicate and Implicate. The Explicate Order governs the Newtonian universe of physical matter and objects, phenomena, parts, and 'immutable laws.' The Explicate Order abstracts events and things into actuality, only to enfold them back into the flow of the virtual **Implicate Order**.

Fundamental process: The Fundamental process is the second assumption on which Campbell develops his Big TOE (the first on is the existence of AUO). It is the process of evolution: explores all the possibilities, invests in what works.

Hidden variable interpretation: An interpretation of quantum mechanics from 1952, known also as **pilot-wave theory** or Bohmian mechanics, after the name of David Bohm. The theory explains the **duality paradox**. It treats particle and wave as two distinct physical entities. With a fully determined position at all times, each particle is surrounded by a quantum field represented by its wave function. The big difference with mainstream Newtonian physics is that Bohm's theory is nonlocal: the trajectory of a single particle depends on what all the other particles described by the same wave function are doing. The particle/wave interaction is ruled by the Implicate and the Explicate Orders.

Holomovement: A concept of Bohm's, the holomovement is "the fundamental ground of all matter" (Bohm and Peat 1987: 180). Bohm conceives of it as is an unbroken undivided totality, where its forms merge and are inseparable; it is the interplay between the Implicate and Explicate Order. What is is the holomovement, everything is to be explained in terms of forms derived from it.

Implicate Order: An ontological concept of Bohm's, along with the Explicate Order. Bohm considers the Implicate Order a deeper and more fundamental order of reality, out of which explicate events and forms are unfolded, or abstracted. It is the ground of consciousness. Made not of parts and objects, but of nonlocal **moments**, which like holograms contain the whole within, the Implicate Order is characterized by a whole unbroken movement; here, space and time are not fundamental, but are derivatives.

Moments: Moments are the 'building blocks' of the Implicate Order of Bohm's. "A moment cannot be precisely related to measurements of space and time, but rather covers a somewhat vaguely defined region which is extended in space and has duration in time (Bohm 2002: 263). As each moment is not entirely localizable, events are allowed to overlap, and are being connected, enfolded, in an Implicate Order. Each moment is enfolded (i.e. folded inwards) in the total structure and contains it within.

Musical: It is a concept I develop in this dissertation as the 'consciousness of music'. It is referred to as the 'music that is not in the score', 'the magical side of music', or the 'ineffable', as opposed to the 'music that is in the score', 'the scientific side of music', the Musinculus, the 'gnostic.' The Musical is a form of consciousness organization that emerges through the physical 'elements of music' but is not itself perceived as physical.

Musical assemblage: In my ontology, the Musical assemblage is an emerging, collective Musical entity and, simultaneously, it is the modus operandi, the procedure, the technology,

or even the method through which a given Musical entity performs. It functions as an organizer of a virtual musical consciousness potential, achieved through arrangement of various sentient (material- and immaterial-) becomings. The performance is a typical example of Musical assemblage; in it, I recognize three evolutions.

Musical entity: Musical entity is a general term I define as a self-contained interactive system based in organized sound, with the ability to evolve and to manifest different characteristics at different circumstances, upon different considerations, to different effects.

Musical meaning: Questions of how music, and especially instrumental music, means anything, being the non-representational art/activity that it is, as well as question of said meaning's location, have long concerned music scholars. Central to musicology and to **musicologica**, the problem of musical meaning is at the heart of my dissertation, too. Whether musical meaning is a purely subjective construction, whether it is socially and contextually contingent, emergent in performance or all of the above, is a matter of discussion and fine-tuning.

Musicking: A term proposed by Christopher Small in his eponymous book from 1998. The essence of music, Small maintains, lies not in musical works as such but in taking part in performance, in social action. Music is regarded as a verb. 'To music' is to take part in any capacity in a musical performance. The core of musicking lies in the relationships between the participants.

Musicologica: The term was coined by Jaap Kunst in his eponymous book from 1950, but became more popular in musicological circles through Menezes Bastos' research from 1978 on Amazonian tribe Kamayurá's phono-auditory system. Musicologica has been defined as the musical dimension of being, as a world-hearing, or as modes of thought about music as well as through music.

Musinculus: Analogous to the homunculus, the Musinculus denotes the obvious qualities of music by which we recognize it as such. I use the term to indicate the 'scientific', machinic, **explicate** phase of a Musical entity. Musinculus as the corpus of music is opposed and complemented by the **Musical**, music's consciousness.

Musika: Musika is a Physical Matter Reality which organizes and evolves consciousness based in sound. I regard it as a Musical entity and as a sub-totality abstracted from the **AUM** to become a universe of livings things sonic (in the way ours is the universe of living things carbon). Musika has higher entropy and a lower constraint level than our **PMR**, which renders a larger scope of possibilities but also makes the feedback of interactions between **Musiklings** vague – and feedback is necessary for without it growth is difficult. I propose that Musika does not offer the optimal environment and rule-set for the evolution of individual consciousness. For this reason, entities of Musika's reach out to hosts from other more ruly reality frames and enter in a mutualistic symbiotic relation with them. Although I sometimes call Musika "the country of music" (after Debussy), I argue that should we meet the entities native to Musika on their ground, we will not recognize them as 'music'. They become 'music' after a conversion to our reality frame. **MRF** + **PMR**= music

Musikon: A catch-all term denoting all considered Musical entities in both **Musika** and our reality frames, like **Musikling**, **Musinculus**, **Musical entity**, Music work, Performer, Composer, Musicker, the **Musical**, Tone, Raga, **Musical assemblage**. The term suggests the permeable character of the Musical entities – while they all are Musikons, each one of them problematizes and articulates certain capacities, and each has an accent, so to speak.

Musikling: An entity in Musika Reality Frame.

Relationships and connections of ideas:

Father	**Son**	**Holy Spirit**
Right HS	Left HS	Evolution
Bicameral	Subjective	Adaptation
Hierarchy	Rhythm	Integration
Music	Language	Syntactical Organization
Implicate Order	Explicate Order	Holomovement
Practice	Performance	Becoming-Artist
Me	I	Wholeness
BwO	Musical Assemblage	Musical
Musika	Musikons	Musicking
Musicologica	Musicology	Music
AUO/AUM	IUOC/FWAU	Fundamental Process
Information	Patterns	Meaning
Entropy	Organization	Improving individual consciousness
Ineffable	Effable	Physical

True Reality

Of this there is no academic proof in the world;
For it is hidden, and hidden, and hidden.

Rumi

Introduction

Questions

The research presented in this book discusses and relates questions of becoming in music, metaphysics and physics, and organizes the established connections into a model of musical ontology, motivated and informed by artistic experience and sensitivities. As such, this dissertation is as an exercise in artistic musical metaphysics. It traces the emergence of an idea, abstracted from the planes of theoretical physics, philosophy, psychology and musicology; an idea, which begins as somewhat ambiguous inquiry, continuously enfolds through various forms, to become tangible at the end.

My thesis conjugates variations of a bond, associating two phenomena, music and consciousness. Examples include:

- Music is consciousness
- Music is a conscious entity
- Music is a symbiotic species of consciousness' and a life form whose medium is sound
- Music is a form of consciousness
- Music as consciousness

The proposition 'music is (…) consciousness' is very broad and would benefit from an upfront clarification as to what it is not. From a certain perspective, everything and anything IS consciousness, in so far as consciousness is experience: the integrator and constructor of meaning (Koch 2018). In the world of phenomena nothing I perceive comes as it might be 'in itself': my consciousness is the filter, the interface of reality. The music I know, too, is a particular organization of the content of my consciousness: 'the music itself' – what this might be?! Thus understood, the idea 'music is consciousness' defines music – and, in fact, art and reality – relative to the consciousness of the beholder and locates meaning in the bodymind of the participant, framing music – and the cosmos – as a product of my faculties, my capacities and resources. The idea of an uncertain, undeterministic and undeterminable universe, where conditions and substances depend on the attention of an observer, lays at the basis of quantum physics; this interpretation of reality is not what I explore.[2] Neither do I

2 Albert Einstein was famously uneasy with the idea of a probabilistic uncertain universe and in the 1920s and 1930s had a series of public debates with Niels Bohr on the matter; the anecdote recounts

pursue the typical postmodern stance treating music as a cultural-historical event (Goehr 2015), bringing it 'back in the world' from the metaphysical dimension music has occupied in previous eras (e.g. from Pythagoras' 'music of the spheres' to music in Schopenhauer as 'copy' and embodiment of the Will). This interpretation, too, regards music as a result, albeit, in this case, not of my subjective consciousness but of the collective one, so to speak: as accumulated artistic practices and expressions suspended on the webs of cultures.[3] Finally, what this dissertation is not, is an apologetics of the glorious but moot construct 'Absolute music' and the formalist premise in general, which creates a deep gulf between certain examples of instrumental classical music defined as the high standard and most all else.

In my research, I treat music as an encounter and[4] a practice, an 'itself' and a process, as an evolutionary becoming and an agent on its own terms: if I become my consciousness, music becomes its consciousness, as I am, so it is. Here already a need for definitions makes demands. What is consciousness? Is it awareness, subjectivity, information, illusion? The term, the way it works in this thesis, has a dual meaning: 1) from a big-picture point of view, consciousness is the ground of reality, its fundamental nature: "the wind blowing toward the objects" (Sartre 1991), and 2) as an individual, constrained version of the latter, consciousness manifests in the phenomenal world as a continuum ranging from dim awareness (ameba) to one's ability to introspect (Sapiens), where quality is proportional to organization and integration – the higher the level of organization of the entity, the higher the quality of its consciousness. Both versions of the term are explored as participators in the musical project. What about music? Is it a phenomenon, an action, an art form, an entity, an organism? Although defining music is not an explicitly posed question of research, it is nevertheless a question that this work continuously inquires and in-forms, contributing to the study of musical meaning and to musical ontology.

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that, once in a walk with physicist Abraham Pais, Einstein abruptly stopped and asked: "Do you really believe the moon is not there when you are not looking at it?" (Mermin 1985).

3 In recent decades zoomusicology has plausibly added non-human species to the list of music-makers (F.B. Mâche 1993, Martinelli 2008, Keller 2012); however, the old warning of Jean-Jacque Nattiez still applies: "If we acknowledge that sound is not organized and conceptualized (that is, made to form music) merely by its producer, but by the mind that perceives it, then music is uniquely human" (Nattiez 1990: 58).

4 I have used the fonts Georgia throughout and Ariel for emphasis. Also, I have referred to professionals, e.g. 'composer', 'performer', or 'philosopher', and to persons in general with she/her/hers pronouns instead of he/him/his.

The inquiry tackled in this dissertation is three-fold, it discusses and plugs these three groups of questions into different configurations:

1) How are music and consciousness related? What is the character of their proposed relation?
2) Is music real and how? What means for something to be real?
3) What forms does music take? If music is a multiplicity, what is the kind of its multiples – events, works, things, beings, entities, agents, forms? How they interact with us, musickers?

And further, on an auxiliary note: Why music appears the way it does? What are the structures underpinning this appearance?

Structure

The whole of the dissertation could be thought of as series of zooms, which illuminate in increasing detail an idea, until in the last text, the InterZone, the zoom enters into the object itself. Alternatively and less ocularcentric, it could be said that the book is conceived as a series of funnels of increasing size, making a vague melody ever more audible, until in the end we find ourselves in the middle of it. There are five chapters and five interjections. While the chapters explore certain problems and map certain geographies, the interjections in-between the chapters deviate, connect and prepare, or tune-in ideas discussed in the preceding or succeeding chapters, essaying on issues the latter do not or cannot comment, e.g. the strangeness of music (III Interval) or the role an instrument plays in one's musicologica[5] (I Interlude). The idea of Chapters and Interjections is inspired by Deleuze and Guattari's contribution to musical ontology, specifically, by the concepts Refrain and Line of flight. The latter complement each other and in a way complete the musical project. The Refrain tries to capture music in number and measure, to chisel out its territory, to keep at bay forces of destratification and disintegration, to label and classify; it is also a means to preventing music, to warding it off, yet without it music cannot exist (Deleuze and Guattari 2013: 349). The line of flight, on the other hand, is the line of deterritorialization, driven by forces of creative destratification, "veering toward destruction" (Ibid.: 348); it could be said that music is composed by lines of flight. Probing into these two sides of music – the

[5] Although the term first appeared as a title of Jaap Kunst's book from 1950, it is through Rafael Menezes Bastos' research from 1978 that it gained currency today, especially in cultural musicology, in the sense of the "musical dimension of being" (Abels 2011 in Meer 2013) or as "world-hearing" (Van der Meer 2013), as well as "modes of thought *about* music as well as *through* music (Titus 2014).

territorial and the deterritorial – is a leitmotif that persists throughout the book. The conceptual pair appears under different hats, e.g. the scientific side of music vs. the magical one (Benjamin Britten), calculations vs. eloquence in music (Michel Serres), music score vs. music that is not in the notes (Claude Debussy), and ultimately, Musinculus vs. Musical (explanation follows further in the Introduction). Structuring the dissertation in this specific way, Chapters vs. Interjections, is a formal reference to the problem of content (refrain) and expression (lines of flight) – and an attempt for integration.

The first two chapters set the tone and the direction of the inquiry, preparing conceptually and logically Chapter 3, where I present a big-picture of reality, the basis of my thesis. Here, I introduce the reality frame of Musika and begin piecing together a model of music, from which a more elaborate ontology emerges in the final two chapters, populating reality with musical entities.

Music and consciousness

The starting assumption that music is a form of consciousness requires that music and consciousness are compared as subjects of their respective disciplines, musicology and consciousness studies, and examined for patterns and structures, processes and principles that show similarities and differences. Consciousness, as a subject science studies and philosophy contemplates, is introduced in Chapter 1 as a phenomenon exhibiting characteristics similar to music's. Consciousness and music are discussed in a few concise points, e.g. their wide spreadability range (from bacteria to Bach we are all 'conscious' and 'musical') and their subjectivity and flexibility of expression (qualia vs. musical meaning). While both consciousness and music engage matter in their becoming, they fully unfold upon expansion out of matter and into something less opaque, more ambiguous and unyielding to definition and categorization. In trying to approach this ineffable suchness, it is natural that one begins from the solid common point of the two phenomena: their material origin.

The strange behavior of matter has been at the heart of 20th century theoretical physics and it is on its territory where I continue my inquiry, to discover that 'what is matter?' is just as, if not more, of an exasperating question as the, now classic, 'what is consciousness?' The history of 20th century physics is a history of our evolving understanding of the universe, of our place in it, and also, of consciousness. Although the world we know appears fragmentary, populated by 'things' and ruled by clocks, science has demonstrated that reality is much more ambiguous and strange than its appearance. Quantum mechanics' insights and interpretations of reality add substance and high definition to the hard questions of

consciousness, language and music, blurring the borders between the study of things, the study of music and the study of mind: quantum physics demonstrates that what was considered separate phenomena in the old Newtonian world, unfolds into actuality from a universal field, from an underlying, always already emergent whole.

The Implicate Order

David Bohm's book *Wholeness and the Implicate Order* (1980) is an interpretation of physicist's Pilot wave theory, which in turn offers a solution to quantum mechanics Duality paradox. Bohm's theory is a philosophical journey into reality and consciousness; it informs his idea of two distinct but interlinked orders, which perform reality simultaneously: the Implicate and the Explicate Order. In some way these Orders reflect the two major paradigms in physics – respectively, the invisible, holistic quantum world of interconnectedness, nonlocality, and process, and the visible, classical Newtonian world of phenomena, parts, and 'immutable laws'. The Explicate Order abstracts events and things into actuality, only to enfold them back into the flow of the Implicate Order, which is nonlocal, dynamic, and holistic – like consciousness. Significantly, Bohm states that in listening to music "one is actively perceiving an implicate order" (Bohm 2002: 253), that the significance of music is in the "whole unbroken, living movement" (Ibid.: 252). Bohm asserts that music, like consciousness, is one of the best means we have at our disposal, for perceiving – and trying to grasp – the hidden side of reality.

The Implicate Order, then, focuses all three actors from my questions – music, consciousness, and reality. It is the hidden life, the virtual reality in which we learn, love, suffer and enjoy, but which often goes uncredited, for it is invisible. When we listen to music, we perceive it in our actual, explicate reality as sounds and silences, notes, beats, tunes and rhythms, we enjoy the musical content. But what we hearken, what we come back to repeatedly is the music that is not in the score. Many have contemplated on that 'magical' side of music. Nietzsche hails it as a 'mysterium tremendum' (1995); Stravinsky speaks of it as 'the music itself' (1962); Vladimir Jankélévitch dubs it the 'ineffable' (2003), for Deleuze it is the 'line of flight' (2013). The Implicate Order is a magnifying glass through which we can look at music's other side.

Chapter 2 explores the conditions that need to be satisfied in order for music to be considered an Implicate Order itself, as a step towards a model that regards music as an independent (of my consciousness) reality frame with its own set of Implicate/Explicate Orders. I build my case by investigating three propositions: 1) Moments, the building blocks

of the Implicate Order, correspond to what I name Musical transformations; 2) there are uniquely musical space and time, and 3) music and consciousness are enfolded in the Implicate Order as a single integral process. My argument includes a discussion of the so called 'metalinguistic properties of music' (Keiler 1981) – like an Implicate Order, music describes itself in terms of itself, through musical means: the thing doing the describing is the thing described. The distinct meaning and existence fundamental notions such as space and time receive when put in musical terms, as musical space and musical time, also contribute to the emerging view of music as a self-contained reality. The discussion of musical time specifically demonstrates the intimate link between, what could be called, the Order of music, and the Implicate Order of consciousness: true as it may be that my consciousness creates music, the opposite is also accurate: the movement in music educates my attention, molds and shapes my consciousness. The notion of musical time reveals the feedback mechanism in the physical-musical becoming. The latter I consider through the idea of the Musical assemblage, a concept of Deleuze and Guattari's. Finally, the physical and the Musical assemblage are contemplated side by side.

Two connections

As I have already introduced a few Deleuzian concepts, a few words on the major opuses that have influenced or inspired my model are in order. In addition to Bohm's Implicate Order, these are Deleuze and Guattari's *A Thousand Plateaus* (1980) and Campbell's *My Big TOE* (2003). In their projects, Bohm and Deleuze and Guattari present an augmented picture of reality, which features music as a force and herald of the invisible and the implicate. Campbell's model offers some concrete scenarios as to how the virtual and actual are interrelated. These ideas scaffold my big-picture view of music.

The book of French philosophers Gilles Deleuze and Felix Guattari's *A Thousand Plateaus* appears in the same year *The Implicate Order* is published, 1980. It is a significant coincidence, as these projects share a lot in terms of insight and vision, framework and ontology. Related in spirit are the oppositions Plane of Immanence or Consistency – Plane of Organization in Deleuze and Guattari and Implicate – Explicate Order in Bohm; the relentless living force of the Holomovement (Bohm) is echoed in the continuous variation of the Becoming (Deleuze), the notion of the Assemblage as striation on the surface of a Body without Organs (Deleuze) is analogous to the idea of composite enfolded Moments, abstracted from the flow of the Implicate Order and actualized (Bohm). In short, both projects prompt a vision of reality as limitlessly enfolding and unfolding origami (Murphy

1998: 221). The bridge between the philosophies of Deleuze and Bohm's, is the production of the virtual, which provides a base for a trialogue between music, consciousness, and reality.

Although it is only in the InterZone where I explicitly explore a musical problem via its frame of reference, Deleuze's concept-populated philosophy permeates my thesis in its entirety, negotiating and guiding like a whisperer. The metaphysics of immanence of Deleuze is committed to exploring the invisible, to eliciting a movement beyond the 'all too human' to an unlimited range of becomings, to inoculating the actuality with fantastic virtual potential. In it, music emerges as a force resistant to Newtonian laws, as an abyss and a cosmos,[6] as plenum of haecceities and becomings, speeds and affects – all entangled and flowing in a "continuous acoustic flow that traverses the world and encompasses everything, even silence" (Deleuze 1986). An "exercise in phenomenology" (Buchanan 2016), Deleuze's oeuvre (specifically *A Thousand Plateaus)* works as a probe into the nature, or, to use Bohmian term, the Order of both large and own consciousness. In a sense, it is an inquiry into the Implicate Order.

Both Bohm and Deleuze and Guattari explore philosophical matters consisting of stretchable concepts in topological dimensions, imaginary realms and possible realities: on this level one's elaborations are practically limitless. Physicist Thomas Campbell's *My Big TOE* (2003) comes to apply certain constraints and to organize these concepts and intuitions in 'concrete' terms. Diverging from the binary line of thinking that recognizes our reality as a play of the actual-virtual orders of experience, Campbell maintains that there is only Virtual; the Simulation hypothesis, a version of which Campbell works with, proposes that the Actual that appears so overwhelmingly real to us, is but a special effect, insofar as space is a 3-D extension of time. In his theory, the physicist presents a compelling big-picture view of information-based reality that unfolds logically from two basic assumptions: 1) consciousness is fundamental, 2) the process of evolution is fundamental. These two factors afford reality practically endless capacity and room for development and experiment. Our universe is just one of the possible existence protocols Campbell calls Physical Matter Reality; together with its associate and progenitor Nonphysical Matter Reality they form our system of virtual reality, with a unique rule set. For all practical purposes, physical to nonphysical is a ratio of the actual to virtual problem.

[6] See the section "O as in Opera" from the French television interview *Abécédaire de Gilles Deleuze* 1988-89/ *Gilles Deleuze from A to Z* 2011.

Musi-

After making a case for music as an Implicate Order in Chapter 2, i.e. as an 'image' of consciousness, I proceed with sketching, composing and expanding a model of the entity thus incepted, for "a change in meaning is a change in being" (Bohm 1986). Starting from the position that 'music' has become a crowded term that struggles to accommodate – or even to suggest – the lavish phenotypic variety of meanings we have come to burden it with, a term that has come to present us with more problems that it manages to address, I propose an anthropo-de-centric big picture view of music that provides it with its own Plane of immanence, its own Physical Matter Reality frame populated with a range of musical entities, landscapes and haecceities. In this line of thinking Earthlings are consciousness organizations based in carbon – from graphite to diamond, from tomatoes to Sapiens; carbon is one of the most abundant and certainly the most versatile elements known to men, a basic ingredient of all life forms. 'Music', I propose, is a catch-all term for consciousness organizations based in sound. These sound forms, I assume, have their own reality frame, which I name Musika: an alternative 'universe' where the 'life forms,' in all their versatility and diversity, are derivatives of media negotiated vibrations. My second assumption, based on Campbell's TOE, is that Musika is a reality frame with a lower constraint level and higher entropy than our own – in such realities learning rooted in experience is difficult due to the fuzziness of interactions, which makes the latter prone to wide interpretations, hindering growth. Uncertainty is among the likely reasons that propel Musika's forms to seek (physical) symbionts outside of their own reality frame. From these two assumptions I logically develop the possible evolutions of the Musiklings, Musika's sonic forms.

The introduced neologisms beg for a few words on musical concepts. Among these are, Musika and Musikling, already mentioned, and then, the Musinculus, the Musical, The Musical Individuated Unit of Consciousness, the Musical assemblage . . . the list is not exhaustive. All of these are Musical entities, along with some more familiar ones, such as Composer, Performer, Work, Rāga or Tone. I define Musical entity as a self-contained interactive system based in organized sound, with the ability to evolve and to manifest different characteristics at different circumstances, upon different considerations, to different effects. In order to emphasize the specific quality or the particular attributes or functions of the phenomenon, I designate the latter with an explicit label. To underline its aliveness, for example, I use the general term Musical Entity; to stress its mechanical, physical, 'scientific' phase I refer to it as Musinculus; Musikling stands for an agent inhabiting particular ecology, a reality frame like Musika; the Music work brings forth a

more enduring aspect that returns and persists through all the transformations. The dimension these entities inhabit is a hyperlinked, interactive, busy dimension of alternatively organized consciousness forms. In order to highlight the common ancestry in Musika's creaturedom, I consolidate all species or musical evolutions in the tag Musikon.[7] Like the philosophical concepts of Deleuze, the Musikons are akin to real, furry creatures with four paws (Deleuze 1986); simultaneously, they are a matter of something like an accent – with a tweak of intonation they defamiliarize meanings and cause you to see things differently.[8]

Musical & Physical

Once Musika and its denizens are introduced, I proceed by considering how the latter connect to our reality frame, on what basis this connection is established and how the musical and the physical units of consciousness get involved to evolve together. The notion of musical symbiont is examined along with its implications, through a parallel discussion on the origin of music and on music's relation with language. The theory of George van Driem on language as an organism (2001) and the hypothesis of Garry Tomlinson of the biocultural coevolution of music and language (2015) are analyzed and problematized. Chapter 3 ends with the introduction of the Musinculus. Analogous to the term 'homunculus,' 'musinculus' refers to the music-like quality of music as the 'homunculus' denotes the human-like qualities of man. Like the fact that I appear human – through my external and internal shapes and forms – do not begin to cover my humanity, the fact that music appears as organized sound and has characteristics we are used to recognize as 'music' does not reveal what is the really musical in music. As my humanity is not necessarily contained within my body, the musicality of music is not necessarily in its sonic corpora and assemblages, so to speak. Hence, the Musical is introduced. Focus of Chapters 4 and 5, the exploration of the Musical flows through discussion of classic musicological problems, like musical meaning and interpretation, and of notions like the Music work, Musical entities, and Musical assemblage. Through a constellation of musicological, philosophical and psychological reasoning, my argument culminates in the following proposition:

$$\frac{(self)consciousness}{man} \approx \frac{musical(ity)}{music}$$

[7] The neologisms are meant to evoke an association and to plug into already existing pockets of meaning; the Musikon is a nod toward the Pokémon universe. I explain in the eponymous interlude.

[8] *L'Abécédaire de Gilles Deleuze* 1988-89, "I as in Idea."

Once established what the Musical may be, in Chapter 5 I investigate its problems of becoming in physical reality frame while retaining its musical nature and evolving musical consciousness. This is approached through 'glitches', 'cracks' and 'shadows' I have encountered in my work with certain piano pieces by Chopin, and as a listener of certain voice pieces. The topic of investigation is the discrepancy between music that is in the score and music that is not in the score, between the deep psychological reading of music and the agonizing constraints of live performance. A number of tensions are explored, e.g. between melody and accompaniment, between voice and body, the auditory and the visual, the musical and the physical, while in the end all is transposed into the ultimate tension – between music and man. The chapter concludes that the Musical cannot be 'caught' in our plane of physical existence and of language-coached thinking: it is of a different dimensional nature, hence, doomed to always be distant, ineffable. But then, if we cannot 'bring' the Musical to our reality frame, can we 'go' to it: can we meet the Musical on its own territory? To grasp it through an alternative becoming? I say, let us try – through the Body without Organs.

One of the most prolific concepts of Deleuze and Guattari's, the Body without Organs is articulated as a ground of reality pre-formation, as a plane of immanence. The InterZone explores the dynamics and the encounters I experience as a visitor to the Body without Organs, via a particular performance of the Inuit throat singer Tanya Tagaq. The text focuses concepts and ideas from the entire dissertation, and as such it acts as both culmination and coda. I conclude that both the consciousness of music and the consciousness of man – as much as we are able to comprehend them – are of much more physical and organized character than is often assumed; they are 'ineffable' precisely because of their 'effability'.

Why physics?

The technique of indirection is a well-known approach in arts, in literature, in research. Through the method of displacement,

> one thing reveals something about the other and vice versa, e.g. doing philosophy by writing on music or researching music while writing philosophy; as Adorno put it: you have to shock people into seeing the misuse of a concept (Goehr 2015).

Even if the merits of approaching one thing (music) through another (physics) are obvious, the question still remains: why (grounding in and developing musical hypotheses through) physics – hard science, a distant field?

The projects of Bohm and Campbell incorporate mathematical and philosophical intuitions about reality in a plausible narrative, whose framework introduces new possibilities and suggests models that leave room for interpreting music as an interactive player into the virtual drama in which we are all actors. The status of a 'player' connotes a decision-making potential, which could hardly be entertained in the current model. This model presupposes that the body of ideas assembled by the big questions of music is not a chapter, read and dealt with once and for all, but it is rather a manufacturing facility, which exists upon the provision of further research, further debate incorporating different points of view, inviting imaginative and stimulating questions: it is a rhizome of interdependent and interpenetrating plateaus, sprawling wide and far. . . between the limits set by a non-negotiable constraint: music is a human (and if liberal, a mammalian or an avian) invention. As far as this invention is conceived, distributed, and received as an artifact, interpreted and exploited as a product, musicology deliberates on a Newtonian worldview basis. This is not surprising. Since its formal baptism in the 1920s, quantum mechanics has become a fundamental branch of physics with a good history of prediction and wide-ranging applications (e.g. computers, lasers, MRI); yet the popular collective imagination still works within a Newtonian frame of reference, describing the world in terms of isolated, divided parts. The problem with this fragmentary view is not only that it is inaccurate: it proves to be destructive to human relationships, to ecology and climate. Although the community of physics witnesses the breakdown of the fragmentary model in the 1930s,[9] for the general public this model's inefficiency begins to become apparent about 50 years later: with the adverse effects of consumerism and globalization, with the increased political concern for the environment manifested in real life changes (e.g. widespread recycling), with the greater environmental awareness raised by grassroots movements, with the support for renewable energy sources initiatives ensured by international organizations and local governments. . . we slowly begin to get it: we are all one.[10]

[9] The notorious paper of Einstein, Podolsky and Rosen from 1935 demonstrates the so-called 'entanglement' of particles, separated in space, where measurement of the one immediately affects the other; Einstein dubs the phenomenon "spooky action at a distance."

[10] Changes in musicological discourse in 20th century do reflect changing paradigms in physics. For example, throughout the century the location of musical meaning has shifted from the 'Master narrative' or the Composer-centered aesthetic theories, through the hermeneutical model in which the meaning resides in the work of art (Schenker), through the audience-centered model (Taruskin 2005), and currently hoovers above the head of the Listener (Kramer 2003), or the Performer (Abbate 2004). This shift loosely corresponds to the shift in our understanding of reality driven by discoveries and discourses in physics: classical physics with its world of objective things and eternal laws of nature parallels the Master- and the Work- hypotheses of meaning, while quantum physics with its stress on

This 50-year lag of society behind science is natural. As physicist Leonard Susskind points out, our brains were built for 3-D space, for rocks and sticks, and not for contemplating higher dimensions or curved spacetime. In order to make at all sense of quantum mechanics we use mathematics, and with enough exposure and practice we develop intuitions out of abstract mathematics and begin to think that way. But to explain these to the outside world that has not gone through the experience and the rewiring process could be extremely frustrating… so the best we can do is to use analogies and metaphors (Susskind 2015).

This brings us to the second reason why musicology may benefit of physics' insights. In both mathematics and music, awareness, pleasure, reason, and meaning are derived through recognition of abstract patterns and rhythms. Trained extensively and exclusively to observe the grouping and regrouping, inverting and juxtaposing of these patterns and to make sense of it, both mathematicians and musicians develop sense of tendencies, correlations, significances; new intuitions germinate. In this sense, both musicology and physics are, literally, poetic translations. Sharing this attractive but also uncomfortable position and comparing specific interpretations and methodology, should be a mutually beneficial, inspiring and insightful journey for both fields of study.

Artistic musical metaphysics as personal ontology

In 1963 Pierre Boulez pens an article titled "Sonate, Que me Veux-tu?" The original question is attributed to Bernard le Bovier de Fontenelle, a notable intellectual and encyclopedist of 18th century. Back in 1750s, Fontenelle was among those who, like Jean-Jacques Rousseau, could not make peace with the new form invading the music salons, the instrumental sonata; his exasperated – or perhaps ironic – question "*Que me Veux-tu*?!" was likely quibbling about the lack of meaning expressed loudly by the 'speechless' and 'empty' sonata (Jerold 2003). On a more general level, the question showcases a tension between the engagement music so palpably demands of us and its perceived lack of intelligibility. 200 years later, Boulez's use of the same question marks a profound change in our thinking of music – the instrumental sonata is now bursting with meanings; more so, it is able to observe itself, alert and aware that it is a music work. In his text the composer describes his desire to (write a

process and subjectivity favors the latter ones. As a speculative assumption, we might even sport the idea that Bohm's stance – i.e. despite the fundamental involvement of the observer in the construction of reality, particles (things) do have an objective existence, albeit altogether different from the one Newtonian physics prescribes – is also reflected in musicology, perhaps in the 'communicative' notion of meaning, i.e. as an emergent property of music (Cook 2001), or in music's capacity for transformative reflection (Kramer 2009).

sonata and to) change the idea of the music work as a complete in itself One and to free it into the multiple: to make from the Work a work-in-progress, to avoid the "straight trajectories of Euclidean geometries" between points of departure and points of arrival and to strive instead for the richness and freedom of the labyrinth (Boulez 1963).

These two meanings nested in the simple phrase *Sonate, Que me Veux-tu?* showcase a change in our relating to certain instrumental genres, but also to music in general. This change in attitude is only a consequence of changes in our attentions, scope, horizons. *Que me Veux-tu?* is an intimate question, like one's relationship with music is. It is a universal one, too, in the sense that we all pose it. What are you saying? What do you mean? What do you want of me? Just as Fontenelle and Boulez widely differ in their intentions, the meaning we place in our question is strictly personal – the answer, probably, too. Yet, the truly remarkable aspect is, perhaps, not in the diversity of the intentions and the cleverness of the answers: it is in the act of asking alone – the idea that we feel the urge to pose a question to something like music. What may we expect?

This dissertation is my attempt to formulate my own "*que me veux-tu*." As Deleuze says, everyone should be allowed to invent their own questions (2007: 1). The construction and the scaffold of a question, attending to it and witnessing its becoming are as important as the possible answers one finds, if not more so. Questions, like life, take time to grow. Finding my question has taken the better part of the last four years; now, in retrospect, I realize that it is simple: it is about the musical in music – a topic so many have contemplated and explored before me. But I could see this more clearly only after having walked the winding road of discovering the Implicate Order, learning about the Nonphysical Matter Reality, studying the weird psychology of the Performer, looking for the common core in numerous, diverse ideas of consciousness, imagining a Musika Reality Frame populated by musical creatures . . .. "A composer enjoys setting out toward a certain horizon and arriving in completely unknown countries, whose existence he scarcely suspected at the beginning," writes Boulez (1963: 44). His observation applies to the researcher, too. Starting off, I did not foresee that I am setting myself up with a task to create a new branch of musical metaphysics – this just happened in the process. Neither was I clearly aware that the questions I am asking about music are in fact questions about everything else, like life, existence, being, and that in pursing these questions I am creating a world-hearing and a personal ontology – through music. Indeed, the amazing thing is that precisely because music is musical it can speak of things that are not strictly musical, as Scott Burnham exclaims (1997: 326).

There is another question blinking in red for some time now: exactly how objective and relevant a research such as this is? I am not sure how to answer it. Once ethnomusicologist Anthony Seeger was asked about the practicality of philosophy-inspired complicated texts people may or may not want to read. Agreeing that it is healthy to examine the philosophical bases of the questions we ask about music, Seeger answers by outlining three of the dangers inherent in focusing on philosophical issues: firstly, the discussion remains on abstract level that may be difficult to apply to music; secondly, there is a possible problem with the ethnocentrism of the ideas. And then,

> A third (reason) is perfectionism – to think that if we cannot truly know something, it's not worth the effort to try for imperfect understanding. Clifford Geertz once remarked (…) that even though doctors know that perfectly sterile operating rooms are impossible to achieve, they don't therefore operate in sewers. Similarly, even though our approaches are inevitably flawed, and the difficulty of what we are trying to do may appear be overwhelming, that doesn't mean we shouldn't undertake it or that we should be unwilling to consider our biases openly. I tend to agree with Geertz on this. We need to be conscious of our own biases and epistemologies, but we should not because of them decide not to make the effort to do research and write (Seeger 2013: 6).

At the end of my research I find myself in a new, "completely unknown country" of which I have an imperfect understanding, supplied with a personal ontology, which provisions a place for both Me and the Musical as fair players with decent prospects. This is a kind of ontology that allows music, too, to invent and pose its own questions. Surprisingly, these are similar to mine. What do you want of me? asks music; what kind of sense are you making while playing and practicing? What can I give you? Funny enough, neither I nor music appear to hurry with answering: we just want to keep playing together. The answers, if and when they happen, fall as a collateral grace.

CHAPTER 1

Music and Consciousness

The ability to perceive or think differently is perhaps more important than the knowledge gained.

David Bohm

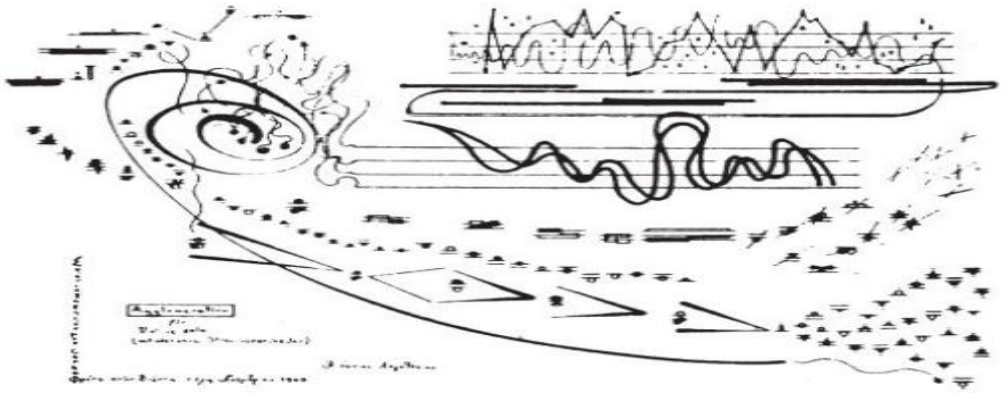

Figure 1// "Agglomeration" 1960 by Anestis Logothetis

Preamble

O, what a world of unseen visions and heard silences, this unsubstantial country of music! What ineffable essences, these touchless rememberings and unshowable reveries! And a privacy of it all! A secret theater of speechless monolog and prevenient counsel, an invisible mansion of all moods, musings and mysteries, an infinite resort of disappointments and discoveries. A whole kingdom where each one of us reigns reclusively alone, questioning what we will, commanding what we can. A hidden hermitage where we may study out the troubled book of what we have done and yet may do.

An introcosm that is more myself than anything I can find in the mirror. This music that is myself of selves, that is everything, and yet nothing at all – what is it?

And where did it come from?

And why?

Thus begins Julian Jaynes' only published book, *The Origins of Consciousness in the Breakdown of the Bicameral Mind* from 1976. Research from psychology, neuroscience, biology, history, and sociology Jaynes, then a psychology professor at Princeton University, weaves through with inferred evidence from religion and ancient texts, and bonds his multifarious material with the glue of intellectual speculation, to offer one of the most original consciousness theories. Jaynes proposes that consciousness emerged from the hallucinatory un-conscious mentality of the so-called bicameral man only around three thousand years ago. In the mind of the Iliad's man, the hypothesis states, the functions of speaking and hearing/obeying were divided between the left and the right hemisphere, respectively, hence, 'bicameral'. The bicameral man was a subject of auditory hallucinations originating in the right hemisphere, which were interpreted as the voices of gods and translated as commands and admonitions by the left hemisphere. Near the end of the Mediterranean Bronze age, about three thousand years ago, an important transition took place, during which the schizophrenic-like state of our brain switched to its integrated self-conscious mode as a radical neurophysiological adaptation to cultural change. To the brain, this was like an upgrade of an operating system.

Be that as it may, why does a book on consciousness begin with a rhapsody on music? It doesn't. The citation above is guilty of a couple of crucial substitutions in the first and eight line – of 'the mind' and 'consciousness' with 'music' – which fundamentally transform the function of the text from a poetic rant on self-consciousness to a poetic canticle on musical meaning. Self-consciousness and musical meaning are, by general admission, two separate, distinct phenomena. And yet, can one really tell the difference, reading Jaynes' lines? It is all there – the 'theater of speechless monolog,' the 'invisible mansion,' the 'lonesome kingdom,' the 'heard silences,' 'touchless rememberings,' 'unshowable reveries,' moods and musings . . .. Are not these the architectures, environments, building materials and habitants, the stuff that populates not only the country of the mind, but also the country of music?

Such were the questions I asked myself back in 2010, when first reading Jaynes' book. These questions were not new. Growing up with a daily quota of hours for practicing the piano (beginning at 7, practicing 2 hours a day by the age of 9 and increasing progressively to 8 hours a day by the age of 14), I have had plenty of time to lose and find myself into the territory, which could well indeed be named 'the country of music'. It was populated by moods and gestures, climates and sceneries, movements and encounters, by romancing

couples and lamenting silhouettes, moral standings, longings, and so many beings – always specific, real, tangible. Common sense frames the open belief in this most complex and sophisticated music demographics as childish naiveté, while contemporary musicology informs us that music is not a representational art: the palpable entities of music's are constructions of my imagination, illusions made-up in a cursory make-belief, products of my personal memories and unique experiences.[11] These reasonable claims have always seemed troublesome to me: how could the music beings be products of my mind, when most often they come as a surprise, when I 'encounter' or 'discover' them, sometimes I am even possessed by them? It is not that music makes me feel this or that – sometimes I don't even know how I feel until I find out in and through a seemingly random, never heard before, piece of music. Certainly, I can vouch that music knows me better than I know myself – like composer Rokus de Groot, I too could say, "No one knows me the way Bach does" (Groot, personal communication, September 2015).

So, in its core, this dissertation comes to address a personal matter. In order to understand the experiences of my younger self in terms other than mystical or esoteric, in order to make some sense of who I have become and how I am becoming, I need to probe into the foundations of one of my most significant relationships, asking:

Is music real? What is its relationship with reality?

What is the connection between music and consciousness?

What is the nature of the structures I call above 'music beings'?

I am not alone in asking these questions. Many people in many ages have wondered so before me, departing from their unique perspectives and arriving at different conclusions. And there are many candidates willing to claim ownership over musical beings. Besides my, apparently silently ingenious, conscious Mind, able to construct such fine entities, those could be thought to emanate from an osmosis-like connection between the Composer's and Performer's creativity, to take shape from my Instrument's *Umwelt*, to spring from the Collective Mind emerging in Performance, or, indeed, from all of these simultaneously coming together. It could also be argued that what I call a 'musical being' is a structure that makes up the bodymind of a mysterious entity called the Music work. D. H. Lawrence used

[11] The problem of representationalism in music is complex and has a long history. A concise summary is offered by Nicholas Cook in *Music: A Very Short Introduction* (1998), especially in the chapter "A Matter of Representation."

to say that novels are finely tuned, living "tremulations on the ether" that can make the whole man alive tremble (1936) – which is an easy thing to say, since novel's tremulations are powerfully representational, inviting me in plain language to identify with them. Music works are tremulations on the ether, too, but how do they make me tremble? How and where are they engineered? In music? In consciousness? In a sort of unifying field?

Not an intolerable thought. Strictly speaking, all we find in the country of the mind is manifestations of consciousness – perceptions, sensations, intuitions, feelings, memories, imagination, thoughts – pliable but organized energies, coalescing in the unique formula of the self, formula that shapes my inner world and subjective experience. As for music, who has not found herself "dreaming of an imaginary country, one that can't be found on the map" (Debussy 1901) while hearkening music? In such moments, do we not leave the known self behind, entranced, immersed in the ineffable reality of music's introcosm, entrained in the dialogs of the musical structures, to follow sounds there, where perceptions, sensations, intuitions, feelings, memories, and thoughts are assembled in such a way as to reimagine – extend and expand – the rhizome of selfhood? Music, or what we make of it, and our assembled self, fuse into one so naturally, that one can't but suspect them in a clandestine liaison: one that is at play under the thresholds of the watchful 'I'. Jaynes has a hypothesis on the different ways speech and music affect our consciousness, based on Boston Children's Hospital research on brain lateralization in 6-months old human infants. During the experiment, EEG electrodes were placed over Wernicke's area in the left hemisphere of the infants (crucial for human speech) and over the corresponding part in the right hemisphere (the proposed place of the auditory hallucinations heard as gods' voices): when presented with recordings of speech, infants' left hemisphere showed greater activity, as expected. Children's reaction to music, however, was quite dramatic:

> [n]ot only did the children who were fidgeting or crying stop doing so at the sound of music, but also they smiled and looked straight ahead, turning away from the mother's gaze, even acting as we do when we try to avoid distraction (Jaynes 1990: 368).

Jaynes connects this research to the possibility that brain is organized at birth to obey stimulation in what corresponds to Wernicke's area in the right hemisphere. Exploring the close connection between poetry – the voice of the right hemisphere gods – and music, he proposes that the invention of music, which, significantly, originated in the bicameral mind,

"may have been as a neural excitant to the hallucinations of gods for decision-making in the absence of consciousness" (Ibid.: 369).

Where I may not commit to the last proposition, the idea that 'understanding' of music predates 'understanding' of myself as an individual conscious being is an appealing one. Would not this be a plausible explanation of why music flashes recognitions of thoughts 'I' did not know I had, "finding its unsure way to something in us that knows and has known all the time, something older than the present organization of our nature?" (Jaynes 1990: 361).

Could not this be an answer to why music knows 'Me' better than my 'I' does?[12]

Does one not grasp in music more of oneself than any mirror can reveal?

Music and consciousness

My thesis is this: music is a form of consciousness, which evolves in mutualistic relationship with sentient beings in order to gain experience and to grow; consciousness here is understood as the fundamental nature of reality.[13] The aim of this first chapter is to prepare the ground and to examine the scope of such a proposition, i.e. to clarify and define the two phenomena, to inspect their points of correspondence and possibly convergence, to consider certain moments of contention in their respective fields of study, and finally, to introduce the conditions that should make possible to consider music a subset of consciousness. In other words, this chapter and the following one, set the course and stir the flow of ideas to the longitude and latitude of Chapter 3 and 4, the core of my dissertation. It is only natural for such an inquiry to begin with a comparison, for upon general observation consciousness and music, as phenomena science approaches objectively, exhibit a number of similarities.

To begin with, both music and consciousness are widespread phenomena. From bacteria to Bach, to borrow philosopher Daniel Dennett's expression (2017), we are all conscious, albeit in different degrees. In the words of Stefano Mancuso, a plant physiologist, "We exist on a continuum with the acacia, the radish, and the bacterium; it is the quantity, not the quality of intelligence that sets us apart" (in Pollan 2013). Obviously, in the case of bacteria we don't

[12] The power dynamics between 'I' and 'Me' is explored in the Intermission *On Practice*.

[13] This definition of consciousness, as well as the nature of physical, nonphysical and musical reality are discussed in Chapter 3. In brief, the view widely known as panpsychism contends that consciousness is fundamental, it is a working hypothesis for scientists like David Bohm and Thomas Campbell, philosophers Galen Strawson and David Chalmers, neuroscientists Giulio Tononi and Christof Koch.

mean subjective reasoning, but rather dim awareness and ability to respond to changes in the environment. From bacteria to Sapiens we all are musical too. Similarly, when discussing the effect of music on fungus (Jiang, ShiRen *et coll.* 2011)[14] or yeast and bacteria (Sarvaiya 2015)[15], we don't assume these organisms actually hear and appreciate musical sounds; instead, we refer to their ability to perceive and be affected by vibrations and patterns of vibrations, which, in strictly physical terms, is what music is – various changes in vibration. As sound communication among animals, music is an activity ubiquitously spread among several living species, subjects to zoomusicology. As for Homo sapiens, there is not a single human culture that does not engage in music making.

Both conscious experience and musical meaning are subjective constructions. The qualia, or 'what is it like to be something' – the raw and unique experience of sensations, feelings, color forms, movement, sounds and emotions centered on the body and its responses – is described by the American philosopher Ned Block as phenomenal consciousness (1995). This is perhaps the most personal part of our 'self,' the unique canvas on which the *access* consciousness assembles, articulates and expresses our personalities through accessing previously stored information, reasoning, introspection, reportability (Ibid.). Analogously, sound is often considered "the minimal condition of the musical fact" (Nattiez 1990: 43), along with its elements pitch, duration, intensity and tone color. But just as phenomenal consciousness' stimuli need to be embedded in an access consciousness network in order to acquire significance, so a single musical event is not music, as musical paleontologist Iain Morley reminds us: "it only becomes musical in the context of its relations to other, similar elements – and the consistencies and differences between them" (Morley 2013: 7). As soon as there is a context of relation to other sounds, we detect movement, direction, spaciality, pattern and sequence… in other words, we detect certain spaciotemporal organization and understand it as 'music'. Musical qualia[16] are the ability of music to impact us with its sounds, and also with its affordances of emotion or entrainment. They emerge from various

[14] The sound comprised of classical music celection mixed with cricket voice increased the mycelium growth of six kinds of mushrooms by 10.2%~21%, accelerated their fruiting, advanced the body fruiting harvest time by 1-5 days and extended the picking period by about 3-8 days.

[15] All tested bacteria and yeast treated to Indian classical music were found to register a better growth, with one exception. Music affected the production of bacterial pigments and increased antibiotic susceptibility.

[16] Musical qualia are defined as the non-compositional, multi-layered, enacted and situation dependent non-Cartesian properties of music – all residua that remains after the reductionist scientific analysis of 'measurable' elements, such as duration or loudness. More on musical qualia, see Joseph A. Goguen's eponymous paper (2000).

levels of musico-physical organization to produce a raw experience, or what the French philosopher Gilles Deleuze defines as 'affect' – an intensive product of the encounter between two bodies, an affected and an affecting one. The moment we inquire into the nature and the effect of this raw experience or 'raw feels', we reach to our access consciousness and begin contextualizing the sensation through internalizing, introspection, remembrances, and associations. Musical meaning, for example, is not 'raw' but 'cooked feels'.[17] Therefore, where both consciousness and music may be rooted in the very raw and ineffable, subjective and individual way one experiences reality within one's bodymind, both phenomena emerge as complex processes from series of context-dependent sequential interactions and integrations. This leads to the question of how.

"How did evolution convert the water of biological tissue into the wine of consciousness?" asks philosopher Colin McGinn (2000:13), summing up the essence of what philosopher David Chalmers casually dubbed the hard problem. How this most private, invisible reality that is our consciousness, emerges from electrochemical interactions of neurons, but is (seemingly) not material, i.e. cannot be created, located, numbered and measured? The debate sprawls across a panoply of disciplines, drawing intellectual power from philosophy to neuroscience, from physics to psychology, from cognitive sciences to religious studies, from biology to sociology. Similarly, the question of musical meaning has acquired an almost ontological status in musicology. Musical historian Richard Taruskin floridly describes the debate on musical meaning as one of "the most conspicuous arenas of social contention" in musicology (Taruskin 2009: XIV), or more bluntly, as a "cursed question" (Taruskin 1990 in Viljoen 2004). In the past century, prevailing was the notion of musical meaning as socially constructed, negotiated through homology-based approaches on the premise that music has (been) developed (in) a way to reflect normative patterns in society or ideology through its own material and according to its own formal laws. This view operates, albeit to different ends, along what I call the 'sociological-postmodernist' axis Adorno – New musicologists (in Martin 1995: 100, also see "open and closed" hermeneutics in Kramer 2016a: 1-2 and Kramer 2016b: 1-2). Another school of thought, maintaining that musical meaning is inherently musical and is to be understood in purely structural terms, populates the 'autonomous-formalist' axis Edward Hanslick – Heinrich Schenker – Robert Hatten. Both projects arise as reactions to and extensions of 19th century aesthetics' vacillation between

[17] 'Raw feels' is a term the behaviorist E.C.Tolman introduced in 1932 and defined as the material from which the mental and the physical is constructed: "Raw feels may be the way physical realities are intrinsically, i.e., in and for themselves" (Tolman 1932: 427). Tolman contended that qualia or the raw feels, although perhaps crucial to understanding, cannot be studied scientifically.

the “transcendent move from the worldly and the particular to the spiritual and the universal” and a “formalist move which brought meaning from the music’s outside to its inside” (Goehr 1992: 153). The edge of the either-or debate has relaxed somewhat in more recent years by certain both-and approaches, among which the idea of meaning as comprised of many “diverse phenomena, only vaguely connected” (Sparshott 1998), or, more generally, as an emergent property of music (Cook 2001). So, it is safe to state that musical meaning, this “great bane of contemporary musicology,” to cite yet another metaphor of Taruskin’s (2010: XVII), has been approached through numerous perspectives, most of which agree that it emanates from sound organization and music conventions at a certain level of complexity, but it can neither be explained by nor reduced to them. The problem with musical meaning and what it really is about is vividly exemplified in the metaphor of the ‘musicological juncture,’ as ethnomusicologist Charles Seeger names the particular conundrum – the “linguocentric predicament” – of the musicologist, forced to use words to express what lays beyond words:

> Twenty-five centuries of talk about music by people highly adept in the compositional process of speech but little or not at all adept in the compositional process of music have left us a vocabulary in the English language of a scant half dozen words of strictly musical meaning. We must, therefore, use words with meanings devised for reference to things other than music. Used in connection with music, these words bring with them those other meanings (Seeger 1977: 180).

And further, additionally fine-tuned:

> The meaning of something is what it stands for, unless, by rare exception, it stands for itself, which is next to meaningless. I find that the imputed meaning of music is precisely that (Ibid.: 183).

The linguocentric predicament or how we talk about musical meaning is one thing. What, how, and where the meaning comes to be – another. That side of music which, although we may lack the adequate conceptual or symbolic tools to decipher we still understand, if subliminally, the side of music which we attend to, which worries and affects us, is the side of music that supplies materials to the laboratory of musical meaning. Here, the pivotal question of McGinn’s applies with full force, too: how does the water of sound turn into the wine of musical meaning?

Both projects – the hard problem of consciousness and the cursed question of musical meaning – have an aura of urgency about them, and understandably so: 'solving' their mystery would be a bold advancement towards resolving that most fundamental of query, how does human being become, or come to be? Interestingly, while repeatedly married to non-physical essences, such as soul, mind, spirit, the innermost self, truth, noumenon and God, both consciousness and music have had difficulties fitting in Charles Darwin's Theory of Evolution. Researchers like Daniel Dennett have proposed that consciousness is but an illusion, albeit a "salient and convincing" one (2017). Others have attempted to circumvent the conundrum by developing methodologies 'proving' that consciousness does not exist at all: this, for example, is the thesis supported by the school of radical behaviorism established by John Broadus Watson in the early 20th century. Third, consider the problem by radically changing the question – not whether and how it exists, but what is its point, utility and function: Julian Jaynes, for instance, famously asks: Is Consciousness Necessary (1976: 46)? To its credit, consciousness has kept its wits during all tumultuous debates over its existence and usefulness, and has continued working as ever, maintaining a high-performance standard.

Music too, has been dismissed as a superfluous character in the evolution game: Darwin's position that musical faculties are "of the least use to man with reference to his daily habits of life" (Darwin 1871 in Morley 2013:1) has been reinforced by the infamous 'auditory cheesecake' argument served up cold by Stephen Pinker: "As far as biological cause and effect are concerned, music is useless" (1997). This diagnosis has reinvigorated the debate, stimulating coordinated research into the biological basis of musical predispositions, and the evolution of musical abilities. As a result, many of the carried investigations suggest that rather than being a byproduct of other evolutionary processes, music is a complex biological adaptation (Trehub 2006, Sridharan et al. 2007, Morley 2013).

It would appear that the angst surrounding the possible origin of music and consciousness is sponsored by the uncomfortable fact that we don't understand much, let alone everything, about these phenomena that we, people, allegedly 'produce' – not only is their origin speculative, their very is-ness is a matter of interpretation. We all know what the terms mean, intuitively. The difficulty arises when we try to unambiguously define consciousness and music as facts in the world. The problem of what music is, even in its scaled down version as what the music work is, is notorious in philosophy of music – whether most agree that music works are ontologically multiple, their nature is elusive. "Mental entities," "actions," abstract objects," "collections of concrete particulars," and even "historical

individuals embodied in but not constituted by physical things such as scores and performances" (Rohrbaugh 2003): when scanning through the definitions of contemporary philosophy (Kania 2017), one cannot help seeing them all as but footnotes of Plato's ideal object. Juggling with language and logic, one might even concoct the argument "There are No Things That are Musical Works" (Cameron 2008). But in the end, what each and every proposition that music works are abstract objects of any kind faces, is the question of how the composer has epistemic access to abstracta (Ibid.)? Catching the musical in music and its multiple entities is like a game, a philosophical whack-a-mole, where at the instant a problem is solved, another pops up, winking, at a different location.

Yet, despite their troubles, philosophers of music at least have the splendor of the abstracta toolkit. Scientists, in contrast, are by default restrained by concreta in their investigation of consciousness; as the acclaimed neuroscientist Christof Koch reminds us: no matter, never mind (Koch 2012: 153). In the past twenty or thirty years, science has made great strides in understanding the phenomena of consciousness, but even a convinced 'romantic reductionist' like Koch refers to four types of consciousness: a common sense one, behavioral, neuronal and philosophical. Adding to the plethora of meanings and definitions the phenomenon already bears, one can conclude that, indeed, the term "means many different things to many different people, and no universally agreed 'core meaning' exists" (Velmans 2009: 7). Similarly, music still roves around bearing the thorny crown of a "supreme mystery" (Levi-Strauss 1970), with no "single and intercultural universal concept defining what music might be" (Nattiez 1990: 55).

We have now seen that music and consciousness – in some of the ways they (don't) yield to objective reasoning and investigation and despite their different choices of medium and building material for the foundations of their respective countries – are engaged in a similar behavioral pattern. Both consciousness and music elude univocal definitions; as wide spread phenomena they both cover an analogous range of organisms; both are individual, subjective constructions; both challenge us with specific 'hard problems'; both are suspected of maintaining uncanny liaisons with the 'spiritual realm' and clandestine affairs – with Darwinian evolution. And there is another similarity, the *modus operandi*: 'consciousness' and 'music' are both compound events, comprised of three distinct stages – i) external stimuli, ii) integration/ internalization, and iii) experience/meaning. The attention of the experts who study them is usually engrossed by the second and third stages, for it is there where the two phenomena become particular and specialize. The first stage is taken as a donné. However, it is worth taking the time to zoom in the reality of the 'external stimulus'.

Could it be that there, outside of music and outside of consciousness, we find an objective common ground of both music and consciousness?

In the case of music, the reality of 'the stimulus' would be the reality of sound.

The sound of music: a possible life

Sound is a physical perception of energy motion. It is caused by a movement in a medium – air, water, solid object – in the form of pressure waves. The differences in pressure are caused by the changing motion of particles (atoms and molecules) through matter (air, water, solid object). The initial action, which will be registered by our ears as sound or noise, causes the form of matter of the medium to alternatively compress and expand. These compression and expansion cause pressure changes in the air around our head, which are picked up by the ear as pressure changes felt upon the eardrum. Without an eardrum to detect it, there will not be any sound or noise.

Music is not sound. In any case, not any more than a cow is the grass it eats, or coffee is the plant Coffea van *Rubiaceae*. Before becoming music, sound has a long voyage and intricate life. Firstly, the sound-to-be is conceived in the particular reality of its host-environment, establishing a nuanced relationship with the *Umwelt* of the medium: the density, motion, viscosity, and temperature of the latter ultimately in-form the speed of sound, its frequency and amplitude. The sound wave is a result of the interaction of pressure and time, which determines the properties of sound, like pitch, intensity, timbre, and duration.

These characteristics constitute the genetic make-up of the sound.

Ready to go, the sound is birthed in the world of shared sonic reality where it endures a second articulation: it becomes a tribal, cultural entity by interacting with others as part of a specific habitat – a forest, urban, ocean soundscape – which to a large extend determines sound's further fate.

Now the real life begins.

Depending on its medium and environment (nature and culture), the sound could become a random, fleeting, destratified murmur on the lips of the wind – a moody ruffle,

Plus vague et plus soluble dans l'air,

Sans rien en lui qui pèse ou qui pose.[18]

Alternatively, the sound could find itself articulated as a signifier in a message – a howl, a tweet, a word. In such a manifestation, there is not much space for freedom, so to speak: the sound is coded and confined to a small territory – in order to be (meaningful) it has to comply with the given order. Compliance and pliability are the means to the desired materiality. "Sound is language's flesh, its opacity, as meaning marks its material embeddedness in the world of things" (Bernstein 1998: 21). Indeed, the sound might be the least controllable of all sense modalities, inasmuch as we cannot handle it or push it away, we "cannot turn our backs at it, we cannot close our eyes, hold our noses, withdraw from touch, refuse to taste, we can't close our ears though we can partly muffle them" (Jaynes 1990: 96). There once was a painter who suffered an illness in his childhood, which left him profoundly deaf for several months:

> His memories of that time are vivid and not, he insists, at all negative. Indeed, they opened a world in which the images he saw could be woven together with much greater freedom and originality than he'd ever known. The experience was powerful enough that it helped steer him toward his lifelong immersion in the visual arts. 'Sound imposes a narrative on you,' he said, 'and it's always someone else's narrative. My experience of silence was like being awake inside a dream I could direct' (Prochnik 2011, 13).

Sound is an aggressive storyteller. But we can't really blame it, for the sound itself is not free – it is never free, because it is always a product of action, of someone else's action, of someone else's intent. It is not the freedom that is of value, then, but the chance to be, the capacity for expression. And even then, while it is true that all kinds of agents have expressive timbres, for the sound to be someone's timbre is but a duty, a 9-to-5 job, a utilitarian expression – when I am a howl, I stand for the wolf, I mean wolf. Language is an order-word that compels obedience (Deleuze and Guattari 2013: 88).

speak white and loud

yes what a wonderful language

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18 Paul Verlaine (1944-1896), "Art Poétique" (1885): (Of music before everything/ And for this like more the Odd—) Vaguer and more melting in air,/ Without anything in it which weighs or arrests. Translation Eli Siegel, 1968).

for hiring

giving orders

appointing the hour of death at work

and of the break that refreshes…[19]

On the other hand, music, unlike language, approaches employment of sounds with a motherly attitude – you have to conform and study and learn, so you find a decent place in the world, so you shine with your own light. Or rather, sing with your own voice. Music is coded, perhaps even more coded than language; in a single musical phrase there is an organization on multiple levels with not much chance to zigzag. So again, it is not a freedom of expression that music offers, but a perspective and a voice. The perspective comes from exposure to and community work with others – the sound is taken out of its natural zone and commanded to a certain address through an artificial medium – a musical instrument – created with the sole purpose to accommodate and the ability to re-produce a specific kind of sound. Skin suit. An exoskeleton. Commanded into the high register of the oboe, for example, the sound finds itself into the family of flutes and clarinets, but it is also very aware of its neighborhood blending violins, horns and trumpets, piano and harp sounds – all very present, very intentional. The sound would have never found itself in such a learned company, if it was not for music. Music territorializes the sound, and, while it liberates it from the sedimentary confinements of a signifier, it codes and stratifies it into a highly controlled disciplinarian system. "To be chosen by music, I must be special," the sound thinks; "it's a lot of work with a steep learning curve, but. . . I get to mesh with others. And if I am to play the solo, I get to be, to be someone with my own voice people recognize, remember, anticipate, listen to, and hearken. And love."

And this is the pinnacle in a possible life of a sound – to be listened to for what it is. Listening affords it individuality, a creaturehood. When the oboe soars above the strings in a baroque *adagio*, one listens to the riveting succession of sibling sounds, and in that moment, one is not oneself, for one becomes-sound.

[19] Michèle Lalonde (b.1937), "Speak White," 1968: Speak white and loud!/ (Qu'on vous entende/ De Saint-Henri à Saint-Domingue)/ Oui quelle admirable langue/ Pour embaucher/ Donner des orders/ Fixer l'heure de la mort à l'ouvrage/ Et de la pause qui rafraîchit/ (Et ravigote le dollar).

> Consider what it is to listen and understand someone speaking to us. In a sense we have to become the other person; or rather, we let him become part of us for a brief second. We suspend our own identities, after which we come back to ourselves and accept or reject what he has said. But that brief second of dawdling identity is the nature of understanding language; and if that language is a command, the identification of understanding becomes the obedience. To hear is actually a kind of obedience (Jaynes 1990: 97).

When we listen to the sound, we are equals. In that, the sound has acquired a pure voice, unpolluted by semantic meaning, plentiful of information. By objectifying sound, music has subjectified it; by disciplining sound in its abstract machine, music has gifted it a selfhood. Sound has ceased to follow sense, music has made sense of sound.[20]

To frame it otherwise, where sound is the flesh of language, music is the consciousness of sound.

The physics of reality

No sound – no music, no body – no consciousness. The fable above defines sound as the physical perception of energy motion or movement. While we could confidently claim that sound is a 'thing' with materiality, as it literally moves our eardrums, energy is not a thing, and neither is movement. Therefore, the becoming of sound is an example of how a nonphysical energy movement inoculates a process of in-forming, converting and interpreting, before it eventually materializes in the physical reality as a sense percept. From no-thing-ness a thing is created, what-is is defined by what-is-not, what you don't get is part of the identity of what you do get. As in the dialectical joke from Ernst Lubitsch's classic film *Ninotchka*, made famous by Slavoj Žižek (Žižek 2016: 291):

- Can I have coffee with no cream, please?
- Sorry, sir, we are all out of cream. But can I get you coffee without milk?

Or better yet, the interplay between what-is and what-is-not, is poeticized by Lao Tse:

Thirty spokes meet in the hub.

[20] A paraphrase on Bernstein's in *Close Listening*: "When sound ceases to follow sense, when, that is, it *makes* sense of sound, than we touch on the matter of language. This is the burden of poetry; this is why poetry matters (1998: 21).

Where the wheel isn't

Is where it's useful.

Hollowed out,

Clay makes a pot.

Where the pot's not

Is where it's useful.

Cut doors and windows to make a room.

Where the room isn't,

There's room for you.

So the profit in what is

Is in the use of what isn't.[21]

Matter, or physicality in general, is a fundamental constituent of both music and consciousness. The behavior of matter and its reality, then, should be of keen interest to the committed inquiry of musical meaning. The science that studies matter, and along with it, the behavior of the observable universe, the mapping of the phenomenal world, the production of 'things' out of 'no-things' and most of all – what is real – is the science of physics. It is in this capacity that we now turn to the field to probe a few relevant hypotheses on reality and to introduce a few important for my thesis names.

The fecund no-thing-ness of Lao Tse informs sound, the subject of hearing, but it informs our sense of seeing, too: the act of seeing also consists of converting and interpreting a no-thing, in this case light, into neuronal signals. Light is even more ambiguous than sound, in that on a fundamental level it exhibits dual properties. Understanding the matter with this duality (pun intended) is important for my discussion on consciousness and music, so let us consider. The basic unit of light, the photon – a bundle of electromagnetic energy – is a subject to the so-called Wave-particle duality, which postulates that under different circumstance the photon behaves as wave OR as particle. First, the dual nature of light was

[21] Translation Ursula LeGuin, 1998.

proposed by Albert Einstein in 1905.[22] Once this ambivalence was introduced, it soon led to more unsettling discoveries. In 1924 the French physicist De Broglie used Einstein's equations to demonstrate that electrons can act like waves, just as photons can act like particles. The phenomenon, also known in quantum mechanics as the Duality paradox, points towards the non-committal nature of reality, as it suggests that any given quantum object shares both particle and wave character, relative to its physical environment.

The quantum mechanics' revolution from the 1920s exposed unequivocally the limitation of the old Newtonian model, proposing that on a deeper level the universe is an indivisible whole rather than the sum of interacting constituent elements that are separately existent. Niels Bohr, a leading founder of the field, emphasized the wholeness of the process – the interaction between the observer and that which is observed. Yet he insisted that there is no way to make a concept of this underlying whole (the no-thing-ness), to make it intelligible. Mathematicians, he felt, could refer to actual results from the experiments but cannot discuss what is happening; anything beyond the empirical fact he would regard as a speculation (in Bohm 1989). Bohr proposed a solution of the Duality paradox with the Principle of complementarity, which states that the wave and particle function of light and matter are complementary but exclusive: "the dual nature of light and matter is like the two sides of the same coin that could display either face but not two simultaneously" (in Kumar 2011:375). This proposal was unsatisfactory to many, including Einstein, and was one of a few reasons of debate between Bohr and Einstein. The apple of discord was a matter of interpretation of quantum phenomena. Bohr proposed and stuck to, what is now known as, the Copenhagen interpretation (1927), according to which a particle swims in a quantum cloud of possibilities represented by its wave function; until a particle is observed – which causes his wave function to collapse – we can say nothing about its location. The conclusion and the essence of the Copenhagen interpretation is: "there is no quantum reality beyond what is revealed by an act of measurement or observation" (in Kumar 2011: 375):

> There is no quantum world. There is only an abstract quantum physical description. It is wrong to think that the task of physics is to find out how nature is. Physics concerns what we can say about nature... (attributed to Bohr, see Frayn 2007:431).

[22] In the first of four papers published in his 'miraculous' 1905, "*A heuristic point of view of the production and transformation of light,*" Einstein introduces the revolutionary idea that light is composed of both energy and particles, i.e. physical systems can behave both as waves (energy) and as particles (matter). In his theory of special relativity published in the same 1905, "On the electrodynamics of moving bodies," Einstein suggests that light has a momentum - which is classically equal to an object's mass multiplied by its velocity - even if photons have no rest mass.

In essence, the Copenhagen interpretation is a positivistic suppression on any inquiry and also interpretation of the meta-physical (at this point) reality that may have an existence independent of the observer. This limiting view was never accepted by Einstein and many others, for they felt that should we adopt it,

> We would forever be denied the possibility of saying anything meaningful about a world that was not being observed – the world as it might be in itself (Stannard 2010).

Niels Bohr left us a world in which that tree, this flower or the Moon are but constructs of our mind – a reality in which nothing exists outside of the current focus of the observer. Many felt that the complete indeterminacy of this novel situation we find ourselves in is unsatisfactory. Among the attempts to find alternative explanations, a notable one is the Broglie-Bohm hidden variable interpretation proposed in 1951, known also as the Pilot-wave theory, or more generally, Bohmian mechanics, after its creator. David Bohm, a next generation physicist, presumed that there must be some hidden reasons and circumstance explaining the Duality paradox and the strange behavior of entangled particles. In essence, his theory suggests that the particle and the wave are two real and distinct physical entities, and not one interchangeable entity, as suggested by Bohr. Each quantum particle has a fully determined position at all times. It is surrounded by a quantum field represented by its wave function. In addition, there is another mathematical entity called 'pilot wave'. On it, the particle swims like a surfer, until it reaches its location; then the pilot wave collapses and reveals the exact position of the particle. The big difference with mainstream Newtonian physics is that Bohm's theory is nonlocal: the trajectory of a single particle depends on what all the other particles described by the same wave function are doing. Given the fact that the wave has no geographical limits that means that the universe is interconnected in ways physics has not yet considered possible. The quantum field and the particle come together, organized by a hidden, Implicate Order, which accounts for the nonlocal correlations of particles.

The Hidden variable theory suggests a holistic world, a reality, which is much more communicative than we have thought possible, as everything in it is mutually interconnected and interpenetrated. While Bohm developed his theory based on Bohr's presumptions, he insisted that we should try to understand – and therefor talk about – that-which-is-beyond-the-experimental-data, not only for the sake of physics or mathematics, but also to make

connections to other disciplines and fields of study. For there, in the wholeness beyond current mathematics, is the beginning of our understanding of consciousness (Bohm 1989).

The trouble with interpretation: the language variable

It is only *a prima vista* that a detour to physics might appear out of place in a musicological paper: the further one descends into the rabbit hole of reality, the more concepts, questions and intuitions from distant disciplines, like musicology and physics, seem to gravitate toward each other, as if attracted by a hidden variable. Can't we, for example, entertain for a moment the idea that the frictions between the musical performance and the score, or between the multiple instances of the music work and the music work 'itself' are tensions between different frameworks or orders, the perceived incoherence being caused by their different scale, order, mechanics, like the tension between Newtonian physics, relativity and Quantum physics? One of the frameworks accounts for the causal materiality of the actual Musical assemblage here and now (performance), and the other – of the countless possibilities of the virtual and the imaginary (score)? Both physics and musicology struggle with the problem of interpretation: Niels Bohr's reluctance to probe human reasoning beyond the abstract domain of numbers is shared by a number of musicologists who find that speaking of music, or more precisely of musical meaning, is naïve or speculative, or even unfair. For them, the compulsion to interpretation is, to twist musicologist Nicholas Cook's expression, a little like telling secrets (Cook 1998: 268). The trouble is, Cook observes, that by telling how music is, we often tell how music is not (Ibid.) – we say what music does not say, as if we find it an inefficient communicator, and see to compensate its shortfalls. After all, it is a well-established fact that "music has no meaning to speak of" (Rorem 1967).

Although the pros and cons of interpretation appear to reflect particular problems in particular disciplines, the question is more general. It cogitates into the core belief of what and who we are: are we created by a tacit wholeness – the ultimate Other – as living products of evolution's "unintelligent design" (Dennett 2017), or are we co-creators? In the first case, we are dramatically separated by the wholeness, cast away parts that don't spare efforts trying to recreate the manual. We discover mathematics and initiate it as "the language of the universe" (Galileo 1623, in Burtt 2003: 75). We sacralize music and see to record each beat of "the soul of the universe" (attributed to Plato), minimizing risks along the way. To the parts, any attempt to understand the wholeness by imagining, groping, reaching, empathizing with it, would be naïve at best and speculative at worst, for the wholeness is a separate Other. As a subset we cannot possibly know anything about the superset, so why trying?

But there is an alternative belief, one that maintains that we create the tacit wholeness as much as it creates us, that we are co-creators in a communicative, symbiotic universe, which evolves not by competition and survival instincts, but by cooperation and teamwork (Margulis 1999). The wholeness is permeating everything that is and permitting everything that is not (yet), we are connected with it, as we are made of the same stuff.

> If, indeed, it be necessary to speak the truth, the contact with divinity is not knowledge. For knowledge is in a certain respect separated or distinguished from its object by a sense of otherness. But prior to knowledge - as one thing knows another - is the uniform connection with divinity, which is suspended from (or caused by) the gods, and is spontaneous and inseparable from them (Jamblicus, in Hitchcock 2013).

This 'uniform connection with divinity' – whether we call it God, soul, love, universe, the ineffable, consciousness, life, the quantum realm or the plane of immanence – however fuzzy or undertone it may be, informs, motivates and chaperones the creative endeavor. The reluctance to expound upon or to interpret it, is not necessarily a matter of denying its existence and neither it is a form of ekphrastic fear[23] (W.J.T.Mitchell 1994). Strangely though, it does seem rooted in language.

Among all things mediating our 'connection with divinity,' music must be one of the least controversial and most widely accepted. And remarkably, it could do this without words, too! Music and words have a difficult relationship, they are like affectionate but irascible lovers, their perennial affair marked by bold ultimate breakups and passionate penultimate makeups. It is complicated. More so, because we have introduced an asymmetrical power dynamic into the case, similar to that between the general and the particular, by inadvertently placing our loyalties on one of the sides – the words we use to think, communicate and create concepts with about everything, including music. How do we speak of musical meaning, or even, how do we not speak of musical meaning? Instead of remaining a backstage *scherzo*, an intrigue between musicians, the question of musical meaning has grown into a quest, a battle involving Marxists and pious alike, hermeneutists and formalists, performers and historians, cognitive scientists and philosophers. How the ineffable produces meaning that we could articulate? And is this a viable question of research?

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[23] "(Ekphrastic fear) is the moment of resistance or counterdesire that occurs when we sense that the difference between the verbal and visual representation might collapse and the figurative, imaginary desire of ekphrasis might be realized literally and actually" (W.J.T.Mitchell 1994). "The motive for ekphrastic fear is the sense that verbal paraphrase may work too well, that it threatens to engross and supplant the representation that it describes" (Kramer 2001:18).

The French philosopher Vladimir Jankélévitch, author of “Music and the Ineffable,” remarked that music has ‘broad shoulders’" to bear whatever specific meaning we ascribe to it and "will [never] give us the lie," (1961, in Abbate 2004). Indeed, it will not, for how could it? Perhaps nowhere in musicology does a resentment of language transpire more, than in the discourse on performance, which emphasizes music’s visceral agency. Take the lenient attitude towards the gnostic in Carolyn Abbate’s article “Music – Drastic or Gnostic?” (2004): on every page almost, we are treated with an mix of focused sarcasm and intellectual prowess, ‘deconstructing’ an array of perspectives engaged in ‘deciphering’ music (Ibid.: 512). “When real music is present (…) questions about musical meaning become absurd” (Abbate 2004: 511). But, one should think, this situation is not unique to music. When we are in the presence of something or somebody performing a statement, for example, perhaps at the time we don’t think of said other statement’s enunciation: we listen to it. But the questions of meaning assault our blank and fully receptive mind with the first thought afterwards. To the claims that music is a “black hole… down which the thought disappears,” musicologist Lawrence Kramer responds this:

> Even if performance did put the mind to sleep (but does it? Who’s mind? And don’t vivid performances actually *wake us up*?), there is nothing to prevent us on reflecting afterward on what we’ve heard. (…) One sentence is all it takes to open the door to language and the symbolic order (Kramer 2016: 2).

The debate between the drastic and the gnostic in music is on-going. Ineffable as it may be, music is to be talked about not despite, but precisely because of its ineffability. And it is not likely that humans will give up discussing this particular capacity of music’s – its production of meaning – for musing over it gives us much pleasure and intellectual stimulation. Like Seeger with his linguocentric predicament, Jankélévitch too pins the issue with music ineffability down to language conventions:

> Everything hangs upon the meaning of the verb **to be** and the adverb **like**, and just as sophisms and puns slip without warning from unilateral attribution to ontological identity—that is, make discontinuity disappear magically—so metaphysical-metaphorical analogies about music slip furtively from figural meaning to correct and literal meaning. (Jankélévitch 2003:14*)*

And if the problem with interpretation of music has implication most only for *Homo musicus*, the paradigm of interpretation in quantum physics envelopes reality of existence as a whole.

Niels Bohr is acutely aware of the fundamental – and limiting – role language plays in the construction of meaning:

> We must be clear that when it comes to atoms, language can be used only as in poetry. The poet, too, is not nearly so concerned with describing facts as with creating images and establishing mental connections (Bohr 1920, in Giles 1993: 28).

Bohr felt that we are "suspended in language" (1963, in McEvoy 2001: 291).[24] Preoccupied with establishing the relationship and the level of commitment language has with reality, Bohr was tortured by the lack of clarity in language, comparing it to the lucidity of mathematics and logic. He insisted that we can never be cautious enough with the kinds of statements we make about reality and pointed towards expanding the investigation of the possibilities of observation and descriptions in atomic physics (Bohr 1949, Ibid.). When considering the atomic world of quantum mechanics, we should be as subtle and as precise as possible, providing there is an agreement that we can never penetrate the phenomena, but investigate their possibilities (Ibid.).

The gravity and the effect of language constructs on our understanding and even perceiving music is distilled below by Nicholas Cook, apropos musical performance:

> (T)he idea that performance is essentially reproduction, and consequently a subordinate (…) activity, is built into our very language. You can "just play," but it's odd to speak of "just performing": the basic grammar of performance is that you perform something, you give a performance "of" something. In other words, language leads us to construct the process of performance as supplementary to the product that occasions it or in which it results; it is this that leads us to talk quite naturally about music "and" its performance (…) as if performance were not already integral to music (…). Language, in short, marginalizes performance (Cook I 2001).

But then, how to go about language that constricts and restricts not only the precision, but also the very expression of meaning, and yet it is our major tool for understanding?

> Bohr suggested that "the description of the experimental arrangement and the recording of the observations… be given in plain language suitably refined by the

[24] This belief was shared and endorsed by Bohr's contemporary and proselyte, philosopher Ludwig Wittgenstein, who stated that "The limits of my language are the limits of my world" (Wittgenstein 1922, in McEvoy 2001: 291).

> usual physical terminology" and *no language at all be used to refer to the quantum event*, because "plain language," with its analytical form and causal ordering of events and times, cannot adequately deal with the wholeness and indeterminism of quantum events (Murphy 1998: 116, emphases in original).

Hence, the Copenhagen interpretation in physics, hence the perceived offence by a deep hermeneutical reading of meaning in music (in performance).

Counting to occupy or occupying without counting

> Our neural wiring, the thing we inherited by our ancestors (the worms in the muck) through evolution, was not build for quantum mechanics, for higher dimensions, for thinking about curved spacetime. It was built for classical physics, for rocks and stones, all the ordinary objects, and it was built for 3-dimensional space. And that's not quite good enough for us to be able to visualize and internalize and ideas of quantum mechanics, the general relativity and so forth. So instead (…) we use mathematics. Eventually in time we develop intuitions out of abstract mathematics, we get better at it, and we begin to think that way. But that could be extremely frustrating when trying to explain to the outside world. The outside world … has not had that experience of going through the rewiring process, from converting their minds into something that can deal with 5 dimensions, 10 dimensions, or the quantum mechanics' uncertainty principle. So, the best we can do is to use analogies, metaphors (Susskind 2015).

Stanford's professor of physics Leonard Susskind is one who embraces, if reluctantly, the necessary evil, our thinking tool, language. However meek, however unsatisfactory or even inadequate, the effort to dress in words our experiences, feelings or intuitions is still our best bet for making sense of anything. In fact, music's very illusiveness and linguistic resistance in counterpoint with its carnal, tangible impact, is perhaps the reason the musical process has been an inspiration for those who seek to understand the illusive and resistant, yet mundane nature of consciousness and being. We shall see how Bohm and Deleuze and Guattari independently reach similar conclusions about the nature of reality through music, using the latter as a leaven boosting their philosophical concepts. Later in this and in the following chapters, in turn, I use these concepts to investigate the phenomena of music, bringing the travelling ideas full circle, home.

Like Bohr, Bohm, too, felt that language usage is not only crucial, but is at the crux of penetrating phenomena: he saw that language reflects the fragmentary Newtonian paradigm, where the formula subject-verb-object rigidifies the three agents and articulates them as separate entities; he, too, thought the invention of a completely new language with new rules and structure, unpractical. However, Bohm was not discouraged. He sensed that a more flowing, process-oriented language will enable us – literally – to go deeper into the quantum phenomena. Thus, he introduced a new mode of language, the *rheomode* ("rheo" is coming from Greek, "to flow"),

> (i)n which movement is to be taken as primary in our thinking and in which this notion will be incorporated into the language structure by allowing the verb rather than the noun to play a primary role (Bohm 1980, in Bohm 2002: 44).

In all good intentions, the value of the experimental rheomode extended a little beyond its theory.[25] But perhaps it was this kind of open-minded search for immanent flow-movement-process applications that led Bohm to music.

I his seminal book *Wholeness and the Implicate Order* (1980, I use the Routledge edition from 2002), Bohm introduces his idea of the two fundamental frameworks for understanding reality. In some way the Implicate and the Explicate Orders reflect the two paradigms in physics – respectively, the holistic quantum world of fluidity, movement and process, and the classical Newtonian world of phenomena, objects and parts; we perceive the latter, but we feel the former.[26] As F. David Peat, Bohm's colleague, friend and collaborator states, Bohm considered what we take for reality

> surface phenomena, explicate forms that have temporarily unfolded out of an underlying Implicate Order . . . Bohm gives the Implicate Order much deeper status and suggests that it is the ground from which reality emerges (Peat, in Carvallo 2013: 304, also Bohm 2002: 190).

[25] Through his rheomode experiments with the staff and students of Brockwood Park, the famed Krishnamurti's school in England, Bohm concluded that the mindset associated with the orthodox noun-centered thinking is too strong: the students began using the verbs in the rheomode as nouns. Bohm introduces and offers discussion on the rheomode in *Wholeness and the Implicate Order* (2002: 34-60). For the history of the idea, the experiment, and of Bohm's discovery of the 'ideal' Blackfoot language, see F. David Peat's account in *Pathways Of Change* (2007: 68-69).

[26] This idea will return in the discussion of the smooth and the striated.

Bohm was not a musician himself, but music has captured his attention in more than a few aspects. After all, music might be as close to the 'ideal language' as it gets – the implicate reality of music, as composed by movements, flows, structures, and processes, inspired Bohm in the early 1980s, almost two decades before finding its proper musicological grammar in the verb musicking, famously coined by Christopher Small in 1998. In *The Implicate Order* Bohm first reaches to music as an example in his discussion of 'measure,' and of the fundamentally different ways the 'East' and the 'West'[27] have internalized this concept. In Western civilization, founded on the ground of Ancient Greek's thought, measure is "the essential key to a healthy, happy, harmonious life," proposes Bohm (Ibid.: 26). It lies in the core of notions such as medicine, moderation, meditation, ratio, reason. Furthermore,

> Whenever we find a theoretical reason for something, we are exemplifying this notion of ratio, in the sense of implying that as the various aspects are related in our idea, so they are related in the thing that the idea is about. The essential reason of the ratio of a thing is then the totality of inner proportions in its structure, and in the process in which it forms, maintains itself, and ultimately dissolves. In this view, to understand such ratio is to understand the 'innermost being' of that thing (Ibid.: 27).

Here, Bohm reminds us that in Ancient Greece, "a grasp of measure was a key to the understanding of harmony in music (e.g. measure as rhythm, right proportion in intensity of sound, right proportion in tonality, etc.)" (Ibid.).

It is curious the position of the 'Eastern' thought in regards to measure. Bohm points that the word for measure in Sanskrit, *matra*, and the word for illusion, *maya*, are obtained from the same root, which is an "extraordinarily significant point": what the 'West' has come to consider the key to the essence of reality, the 'East' regards as "false and deceitful:"

> In this view the entire structure and order of forms, proportions and 'ratios' that presents themselves to ordinary perception and reason are regarded as a sort of veil, covering the true reality, which cannot be perceived by the senses and of which nothing can be said or thought (Ibid.: 29).

[27] The terms 'East', 'West' and 'Western', as well as 'Occidental' and 'Oriental', are used here within quotation marks with full awareness of their contentious, outdated, and colonial connotations. Wim van der Meer offers an in-depth discussion on the history of the terms and their alternatives, particularly with regards to musicology (Meer 2013, 2015). Here, for simplicity, I keep the terms in question as used by Bohm, Deleuze and Boulez in their original writings, with added by the quotation marks caution and awareness.

Music is important in this discussion as a mode of thinking, as a musicologica (see Glossary). It is precisely measure that is in the foundations of musical systems – what differentiates a Tyrolean yodeling song from a Hawaiian one, Gregorian from Buddhist chant, if not their different measures of sound articulation, the measure of space (interval ratios, scales, tuning, range, intensity) and time (tempo, pulsed or non-pulsed time, length). It is precisely in measure where the divide between musical 'East' and 'West' cuts through, too:

> (t)o the transcendent, organizational plane of Western music based on sound forms and their development, we oppose the immanent plane of consistency of Eastern music, composed of speeds and slownesses, movements and rest (Deleuze and Guattari 1980, 2013: 315).

The divide between 'East' and 'West' performs not only the forms, modes, tonality, rhythm, equal temperament, sound intensity, and even time, but, more generally, the expression, the ethos, and the 'musical logic'. In his text "Oriental Music: A Lost Paradise?" (1981) the composer Pierre Boulez shares his impressions of the musical Far East and India. His observations point towards the complementary duality of the 'Oriental'/'Occidental' musical landscapes: the composer is impressed by the ethics of existence ('East') vs. esthetics of enjoyment ('West'). Boulez expounds on a number of differences in the treatment of fundamental musical concepts. Time, for example, is "stretched" in the 'East,' measured by "long, unmetered tones" (in Campbell 2014: 119); the work of art is admired as an element of spiritual life, and not as a masterpiece; the technical aspects, glorified in the 'West', are rather inferior in the 'East;' there is a difference even in the orientation of the intervals: Boulez admires the fineness of the horizontal 'Oriental' interval disentangled from the thick polyphony (Boulez 1981: 421-422). In reference to "certain intermediary dimensions in improvisation, especially in the wonderful Gagaku" (the ancient Japanese court music and dance performance), Boulez writes:

> I like this not wholly defined dimension, which gradually becomes defined. There is here no masterpiece achieved for all time; one learns to live within the music and to make one's choices there. The influence of India and Japan is thus an influence of thought (Ibid.: 422).

This "not wholly defined dimension, which gradually becomes defined" is what Boulez as composer has been interested in for decades, negotiating between spontaneity and system, between structure and ornamentation, exploring and distending the boundaries of musical time, of musical organizations, and, we could say, of music itself. The body of his work as a

composer and polemicist inspires Deleuze. The latter pays homage to Boulez's musical thought on a number of occasions, performing composer's flow through his own conceptual filter, which renders the musically-philosophical philosophically-musical. The outlined by Boulez "not wholly defined dimension" Deleuze frames as "occupying without counting" juxtaposed to "counting in order to occupy space-time." What Boulez hears as differences between the musical 'Orient' and 'Occident,' Deleuze treats fundamentally: through the juxtaposition "occupying or being occupied without counting, without measure" (Deleuze 1986, in Angelaki 1998: 70), he articulates the double quality of being, the two-way we experience reality.

Another important export of musical ideas concerns another conceptual pair, smooth vs. striated, which Boulez introduces in *Time, Notation and Coding* (1960). Here we find both dimensions – of 'being occupied without counting' corresponding to the smooth (nonpulsed or filling time) and of 'occupying' corresponding to the striated (pulsed or counting time). Boulez uses these modes to account for the direct link and the causal relation between these musical times and the musical actions, states, and conditions they create. Inspired by the vivid terminology that conjugates binary oppositions, Deleuze and Guattari borrow the musical terms and expand their territories. From musical temporal modes in Boulez, in Deleuze and Guattari they become two planes of existence– the Plane of immanence and the Plane of organization, insofar as the striated concerns fixed, distinct things, organizing and producing "'order and succession', and the smooth is the continuous variation, continuous development of form" (Deleuze and Guattari 2013: 556).[28] While Boulez uses the factor of time as an envelope, "opposing the two temporalities as an effective means of articulating form, of playing with perception, and of establishing or inhibiting orientation and direction" (Campbell 2010: 236), Deleuze and Guattari take the musical ideas of the smooth and the striated and inject them with a conceptual boost to create their form of ontology of consciousness. By superimposing the smooth and the striated on other entangled multiplicities, like nomadic/sedimentary, becoming/progress, topology/geometry, Deleuze and Guattari illuminate different aspects of the opposition, maintaining that while both spaces are distinct and even contrasting in nature, they exist only in mixture (Deleuze and Guattari 2013: 552) – infusing, inflecting, inaugurating each other.

[28] The smooth and the striated is one of the *Thousand Plateaus*. Significantly, philosopher and translator of *A Thousand Plateaus* Brian Massumi, defines the whole volume as "an effort to construct a smooth space of thought" (Ibid., xii).

Here we can extrapolate that the smooth and the striated are not only two musical times or two forms of consciousness, they are two modes of musical consciousness. When we perceive, we follow a protocol and therefore occupy a striated spacetime. The musician, who is learning and practicing a work of music, dwells in a striated mode of rehearsing oneself, of overcoming and mastering a piece of music according to its number and measure. The pianist who performs a program of pieces with beginning (middle) and end, the listener affected by the drastic side of music, the musicologist who analyses a work of music as a part of a system, the baby enjoying the musical qualia, are all perceiving, counting, and evaluating music as sound configurations in a three-dimensional physical matter reality, as sonic spacetime assemblages. The smooth reality of music transpires from beyond the obvious firmament of the striated, over it we have "no control" (Boulez, in Campbell 2010: 235). Smooth is the spacetime the musician aspires to achieve with her practice, the effort-less, count-less state she strives to transport to. It is the mindspace the performer occupies during performance, the ineffable quality of music the musicologist fails to comprehend in the incessant deconstruction/reconstruction of musical analysis,[29] it is what makes the baby listening to music smile, or cry. In other words, we experience the smooth spacetime when we relax our rational mind and let the music in, to conceive a world in our own image. While we perceive the striated, we create the smooth. Smooth is the conceptual, nonphysical meta-reality of music, where

> Number has not disappeared, but has become independent of metric and chronometric relations, it has become cipher, numbering number (…) and no longer measure, and instead of dividing up (…) a closed spacetime in view of the elements which make up a block, on the contrary it distributes in an open space-time the elements circumscribed in a bubble. It's like the passage from one temporalization to another: no longer a Series of time, but an Order of time (Deleuze 1986, in Angelaki 1998: 71).

'Order' is an important word not only with regards to the discussed distinctions in our relating to music. It is 'order' that acquires an ontological status in Bohm's *Wholeness and the Implicate Order*. To understand the Implicate Order and music's significance to it, as well as its significance to music, we must revisit Bohm's framework.

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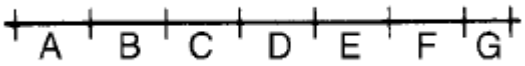
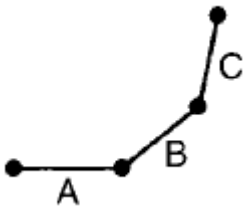
[29] "(T)he word 'analysis' has the Greek root 'lysis', which is also the root of the English 'loosen' and which means 'to break up or dissolve' (Bohm 2002: 159).

The Implicate Order

In his search for alternatives to the Copenhagen interpretation, seen as a turning point in physics, Bohm introduces a set of concepts and neologisms, i.e. Implicate/Explicate Order, enfolding/unfolding, holomovement. The notion of Order is fundamental.[30] With the stipulation that this subtle a concept we can understand only tacitly and by implication, Bohm begins elucidating 'order' with the suggestion that we perceive it when we give attention to similar differences and different similarities (Bohm 2002: 147). The similar differences' relations he illustrates with the example of the geometric curve. Bohm shows how the elements constituting the curve are relating to each other: A:B::C:D::E:F are exhibiting one independent difference, in position:



Curved in, the same elements show a second independent difference, in direction:



The helix will introduce a third, a dimensional one, and so on.

We can easily transfer these differences to music. The whole note (four counts) relates to the half note (two counts) as the half relates to the quarter (one count), as the quarter relates to the eight (half count), etc. The first independent difference would be in duration. If the cited note values are placed on a staff, respectively on the first, second, third and fourth line as e-g-b-des – all minor third apart – they would exhibit a second difference, in pitch (or frequency). Alternatively, we could use here the Pythagorean interval ratio,[31] in which case the intervals following the template A:B::B:C::C:D would be G-g-d1-g1 (octave – fifth – fourth). Intensity could be a third difference, if the notes receive the dynamic signs, respectively, p-mp-mf-f.

[30] Bohm uses the word in two ways – as a fundamental low, a code to reality (e.g. the Implicate Order) which I distinguish with a capital, and more simply, as the sequential way in which things and moments are organized.

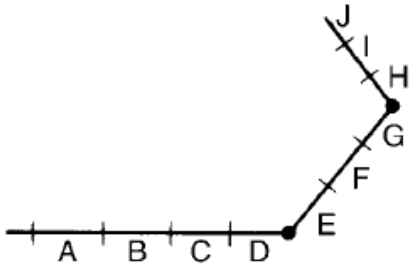
[31] http://www.phys.uconn.edu/~gibson/Notes/Section3_2/Sec3_2.htm

This example shows a number of similar differences in the proposed musical succession, where the ratio's organizing principle is univariant – A:B::B:C etc. Further, Bohm considers a second degree of difference where we could observe not only similar differences but also different similarities, as in

$$A:B:^{S1}::B:C$$

S1 here stands for "the first kind of similarity," i.e. in direction (or in music, duration). The whole curve then will look like this:

$$A:B:^{S1}::B:C::\ C:D \text{ and } E:F^{S2}::F:G \text{ and } H:I^{S3}::I:J$$



S2 stands for 'similarity of the second kind' and S3 – 'similarity of the third kind'. Further, Bohm considers the difference in the successive similarities (S1, S2 and S3) as a second degree of difference, from which a second degree of similarity in these differences is developed: S1:S2::S2:S3, translated in music terms as, duration: pitch:: pitch: dynamic. This is the beginning of a hierarchy of similarities and differences, which could be followed up to higher or order and complexify, in theory, endlessly.

Thus introduced the notion of 'order', Bohm continues with discussing 'measure' in the sense of 'limit' or 'boundary' as a function of order (Ibid.: 149). 'Measure' outlines the edges of forms and things, and thus defines them for what they are. Water, for example, runs limited between 0 and 100 degrees Celsius: more than a 100 and less than 0 degrees it changes state and becomes something else. In music too, measure-as-limit is fundamental: not only in the easy sense of musical flow division (as in bars) but as a central spatiotemporal organizing principle (as discussed on pp. 48-49). The simple sequential suborder of ABCD above reaches its limit at the beginning of E: at that point something different begin to happen – what, it depends on the aesthetic idea of the composer or the music-maker. People and

music alike inevitably bump against the invisible walls of their measures and limitations. When not determined by artistic considerations, the range of duration, pitch, dynamics, tempo, and texture is limited by our, human beings', perception boundaries. For example, our hearing range is spread between 20 Hz and 20 kHz; our ability to discriminate between fast sounds in close succession begins when the sounds follow one another not faster than 40-50 milliseconds apart (or 1500 BPM);[32] as for loudness, we can hear between 0 and 140 decibels (leaf falling is evaluated as 10 dB while monthly siren from close by is at 140): there are some individual variances, but the scientific agreement is that the daily exposure to anything beyond 80 decibels requires hearing protection.[33] Exceeding these boundaries not only could damage our hearing – it renders music mute, non-intelligible, or simply unmusical. Excess negates music.

Back to Bohm's discussion of organizing principles: to ratio and measure, he adds structure, from Latin *struere*, "to build, to grow, to evolve" (Ibid.: 151). With this basic arrangement, ratio – measure - structure, we scaffold and arrange a variety of sequential orders to create the compositions, forms, and systems at the heart of the Explicate Order. With regards to music, we could abstract that the sequential order outlaid above is, naturally, based on counting units, i.e. A, B, C, whatever the unit's value may be. 'Counting in order to occupy' is one of the definitions for Deleuze and Guattari's striated spacetime, which, I proposed earlier, we occupy through our sense perception. Curiously, sense perception is a main defining feature Bohm assigns to the Explicate Order:

> (E)xplicate order arises primarily as a certain aspect of sense perception and of experience with the content of such sense perception. It may be added that, in physics, Explicate Order generally reveals itself in the sensibly observable results of functioning of an instrument (Ibid.: 200).

Similarly, we may say that the Explicate Order reveals itself in the detectable sonic yield of musical instruments, voice included, without which there will be no music. Perception, materiality, performance of music, therefore, belong to the Explicate Order.

If the striated spacetime is explicitly ordered, then we can perhaps find analogies between the Implicate Order and the smooth spacetime, which I tagged with the labels 'occupying

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[32] This phenomenon is known as the Precedence effect, or Haas effect, first described by Wallach et al. in 1949.

[33] As per UK legislation, https://www.legislation.gov.uk/uksi/2005/1643/regulation/4/made

without counting', 'continuous development' (process), 'conceptual'. Also, 'out of our control'.

Bohm proposes the Implicate Order as a function of agreement between the two major theories of 20th century. With relativity theory Einstein bifurcates from the old way of seeing the world as made by 'atomic building blocks' that are independently interacting without affecting each other; he introduces the idea of the pliability of spacetime, his field equations show that the very fabric of reality can curve, bend, warp. Quantum mechanics goes further still in departing with the classical Newtonian view, maintaining that: i) process is fundamental and indivisible as one whole, each process is a whole; ii) depending on the context, entities show different properties, i.e. the wave/particle duality; iii) non-locality is the notion explaining the immediate connection of distant entities, such as electrons, which initially combine to form a molecule and then separate.

> So, approaching the question in different ways, relativity and quantum theory agree, in that they both imply the need to look on the world as an undivided whole, in which all parts of the universe, including the observer and his instruments, merge and unite in one totality (Ibid.:13).

The name Bohm offers for this new form of insight[34] is Undivided Wholeness in Flowing Movement. The flow here is fundamental. Things and objects, parts of the old fragmentary view of reality, are formed by and dissolved in this flow, they regarded as approximations of an underlying process. "Not only is everything changing, but all is flux. (…) *what is* is the process of becoming itself, while all objects, events, entities, conditions, structures, etc., are forms that can be abstracted from this process" (Ibid.: 61). As building blocks of the process, then, Bohm proposes 'moments'.

> [A moment] cannot be precisely related to measurements of space and time, but rather covers a somewhat vaguely defined region which is extended in space and has duration in time (Ibid.: 263).

As each moment – whether it is a moment of consciousness (~seconds) or moment of history (~centuries) – is not entirely localizable, events are allowed to overlap, and are being

[34] "The word 'theory' derives from the Greek 'theoria', which has the same root as 'theatre', in a word meaning 'to view' or 'to make a spectacle'. Thus, it might be said that a theory is primarily a form of insight, i.e. a way of looking at the world, and not a form of knowledge of how the world is" (Bohm 2002: 4).

connected, enfolded, in an over-all Order appropriate to a universe of unbroken wholeness (Ibid.: xviii). This is the Enfolded or Implicate Order. In this deeper level of reality space and time are not determining factors, but abstracted derivatives; each moment is enfolded (i.e. folded inwards) in the total structure and contains it within. The example Bohm gives for this "everything is enfolded into everything" is the hologram.[35]

All these concepts coalesce in the holomovement. The ultimate becoming, the process of enfolding and unfolding of everything – from observable reality to deep levels of unknowable reality – the holomovement is "the fundamental ground of all matter" (Bohm and Peat 1987: 180). Bohm conceives of it as is an unbroken undivided totality, where its forms merge and are inseparable; it is the interplay between the Implicate and Explicate Order.

> Our basic proposal was then that *what is* is the holomovement, and that everything is to be explained in terms of forms derived from this holomovement. Though the full set of laws governing its totality is unknown (and, indeed, probably unknowable) nevertheless these laws are assumed to be such that from them may be abstracted relatively autonomous or independent subtotalities of movement (e.g., fields, particles, etc.) having a certain recurrence and stability of their basic patterns of order and measure (Bohm 2002: 226).

This chapter was charged with multiple tasks: to sketch the vistas to be explored, to outline the problems to be tackled, to establish the method, to select the tools. It began with defining the 'hard problems' of consciousness and music, by examining resemblances in the fields of consciousness studies and musicology. Establishing that both consciousness and music are grounded in matter (no matter – never mind; no sound – no music), and in pursue of common ground, the inquiry continued on the territory of physics, as the field of study concerned with matter, the external stimuli, reality. Demonstrating that the problems of 20th century physics resonate with the greatest issues musicologists and philosophers of consciousness tackle, the attention was zoomed in on a concept of the Implicate Order, a notion at the core of my thesis. If indeed everything hangs upon the meaning of the verb to

[35] "The hologram makes a photographic record of the interference pattern of light waves that have come off an object. The key new feature of this record is that each part contains information about the whole object. That is to say, the form and structure of the entire object may be said to be enfolded within each region of the photographic record. When one shines light on any region, this form and structure are then unfolded to give a recognizable image of the whole object once again" (Ibid., 224).

be and the adverb like, as Jankélévitch argues, then the Implicate Order is the leverage that enables and propels the ontological leap from the analogy 'music as consciousness' to the homology 'music is consciousness', which is the thesis I propose and articulate in this dissertation. In the unity of the Implicate and the Explicate Order, the holomovement, many of the previously discussed dichotomies converge:

- The two physical modes of reality: one, based on Newtonian physics, is characterized by the 'objective' tangibility of falling apples, sticks and stones in terms of which we perceive, participate and communicate with the world; the other, based on quantum physics, outlines a more holistic, processual, nonlocal big picture view of a hyperconnected universe and our role in it;
- Relatedly, the two philosophical planes of reality, the actual and the virtual, as proposed by Deleuze: the striated plane of organization, of hierarchy and structure, measures and numbers, and the smooth plane of consistency, brimming with intensities, encounters and haecceities, where all distinctions are cancelled and which is immanent only to itself.
- The two grasps on consciousness: one, as awareness derived from sense perceptions, as our subjective mind, as introspection and self-reflection, the other – as the fundamental fabric of all that is, as the potent no-thing-ness from which all forms and matter spring forth;
- The two phases of music: one, in which one needs to count in order to occupy, musical reality one plays, performs, learns and practices; the other, which one occupies without counting, is the musical reality one creates, experiences, derives meaning from.

Another concern of this first chapter was the problem of interpretation – how and should we at all 'interpret' mathematics-based intuitions, how and should we talk about meaning in music. By deriving meaning of dry data and mathematical findings in the field of physics, the concept of the Implicate Order contributes not only to this field or to the ideational pool of philosophical thinking, but to the process of thinking itself. Interpretation, as literary polymath George Steiner used to say, is understanding in action (Steiner 1991: 8). It emphasizes the importance of interpretation, by demonstrating that even in its most fantastic insights it is a tool not only for analyzing and communicating reality, but also for creating reality and for integrating meaning – both in physics and in music. Taking this point further still, the English psychotherapist and writer Adam Phillips suggests that

interpretation alone is but a starting point, a base line of a much more relevant and rewarding process – that of over-interpretation:

> You can only understand anything that matters – dreams, neurotic symptoms, literature – by overinterpreting it; by seeing it from different aspects as the product of multiple impulses. Over-interpretation here means not settling for one interpretation, however apparently compelling it is… The [authoritative] interpretation might be the violent attempt to presume to set a limit where no limit can be set (Philips 2015).

I agree with Phillips: settling on one interpretation-understanding means cutting off all other possible interpretations-understandings. We cannot afford that. But we must start from somewhere. In the next chapter I explore the idea of music as Implicate Order. Upon the proper defense of this proposition depends the success of my claim that music – literally, in the very material sense of the verb – is consciousness.

I INTERLUDE

The Medium is the Message

My house has always been a residence of a revered soloist, the piano: no other instrument has ever acquired its solid status of a family member. Until the day my nine-year-old daughter announced, “I want to play the oboe.” As the previous year she had cried her way out of playing any musical instrument, e-v-e-r, I got quite excited and unconditionally embraced this statement of interest. Said and done, the faster – the better.

Although I am, of course, familiar with the live oboe sound, now, when its boastfully stabs and pierces the ether in my living room, I am struck by its novelty: the oboe conjures up the physical presence of some-thing feeling easy and cozy in my personal space. The feeling is strange and somewhat primordial, for this unfamiliar presence, this otherness, is visceral to the extent of me not feeling comfortable eating with the oboe voice behind my back. When I take the black wooden stick and attempt to produce a sound my astonishment grows – the effort is taxing, and the expression reminds me of a spinster who has given up on ever being heard by others and has, thus, adopted a yelling, shrill tone. The oboe aims at out-loud-ing everybody. Its sound producing mechanics require an engaged diaphragm and a strong, almost violent blow of air squeezed through the tightly pressed lips into the fantastically narrow opening of the reed. It takes our delicate, familiar and superficial breath and commands it into a confident, imposing and mighty flow with an agenda.

What a fundamentally different relationship with music that must be, I ponder; different, from the one acquired through the piano, that is.

Instinctively, I begin comparing the piano I’ve grown up with the newly met, the oboe. The piano is horizontal where the oboe is vertical. The piano has relatively constant geographical coordinates, while the oboe is a nomad. Piano’s vast range grants it an immense expressive potential with practically countless combinations of sounds, exceeding by far these of any language (88 keys vs. 26 letters of the English, for example); the oboe distills the available reality down to (less than) three octaves. The piano is big enough to resemble another quasi-human being, while the oboe could be regarded as a body extension. The piano is a conglomerate of materials, mechanisms and codes, there are 57 individual parts behind the action for just one key, but this intricate mechanics is all hidden behind and beyond the pale

ivory, mimicking humans' endoskeleton. The skeleton of the oboe is on the outside, like an insect or a superhero. And a skeleton it is indeed, for the heart of the oboe beats in the hollow insight, the bore, where the breath organizes air into a flow, livening the wood, supplying it with a character. Yes, the oboe breathes, and in this sense, it is more alive than the piano. There is a requirement for a physical distance between the pianist and the instrument, the piano's voice is actualized through hands and fingers, which are already semi-autonomous extensions of the pianist's body. The oboe uses fingers too, but in order to produce a sound it plugs right into the headquarters: the specific embouchure the oboe relies on, employs humans' most informed and intimate space, the mouth, thus temporarily the oboe becomes a body organ. Lastly, when I want to get close to the piano, I lean forward so my heart almost touches the keyboard; the oboe is closest to the brain.

Later. The piano I imagine as a friendly landscape, a mindspace one travels to, overcoming physical distance – I 'go to' the piano to find peace or to reconnect with myself, to distract myself, to rest, to crystalize my mood, even to define it. The richness of its expressive potential containing both the singular and the multiple affords the piano capacities for philosophizing, rhizomizing, schizophrenizing, hysterizing; it makes the piano feel like the company of another mercurial human being with a distinctive voice and a distinctive smell. The piano has the sex appeal of an Other.

The oboe, however, I 'take'. It is very much about my body to which it is an extension, an extra limb: I am the oboe. Its sound is a me-song with a humble beginning, which grows, refines and ennobles itself along with my skill. The basic me-song conveys lowbrow particulars about chest cavity and lung capacity, of limbic rhythms, mating routines, phallic totems, and carnal bacchanalia. The sophisticated me-song, however, is of a heavenly origin – epicene and equanimous yet sensual and seductive, it is Orpheus, the singer-king.

King or a snake charmer, oboe's message is always lucid: "This is who I am and what I do, I am here to manifest myself."

Playing the oboe is not an easy walk, a friendly chat or lazy strumming; it doesn't ramble, it doesn't browse. It takes all the concentration and courage one has to make a sound, to sustain a phrase, to say one's line. The oboe is about self-transcendence into a world of spells, of talking trees, of ritualistic gesture; it is about the personal statement, mission and drive. The oboe is political where the piano is psychological. The oboe is an archetypal hero – basic, condensed dweller of *illo tempore*; the piano is a modern citizen. The oboe stands for the change the individual can and does bring in the world, while the piano is about a shared

reality, about learning through encounters and interactions with others. The oboe is the 'I' – the tip of the subjective self-consciousness; the piano is the 'me' – the vast and unfathomable unconscious that defines, informs and constrains the 'I'. The oboe sings its heart out, while the piano presents a great intellectual conundrum: fantastic is the technical challenge, gigantic – the amount of complex information needing organization and integration. The possibilities of the piano make it a rhizome. The oboe selects a few of these possibilities, materials and desires, and in-forms them in an elongated shape, becoming a tree.

It is sobering to realize that our precious opinions are often not only culturally, but also historically and geographically biased: appreciating the oboe from the standpoint of 1) THE PIANO, 2) EUROPE, 3) TODAY, is one thing, and quite another, it would seem, is to perceive it from the perspective of the LYRE in ANCIENT GREECE. Eric Csapo, a professor of Classics at the University of Sidney, describes the disrruption and resistance the pipes' were met with during the so called New Music revolution from 5 century BC in Greece; 'pipe' or *aulos* is the ancient relative of the oboe, a double reed wind instrument with many local variations. The situation Csapo describes marks the ascending status and importance of the pipes coincident with the parallel rise of theater performance; this period is also characterised by the professionalizing of musical performance and the invention of the virtuoso superstar musician. The general public, including its most sophisticated and learned members (e.g. Plato and Aristotle, quotted in the text), meets the pipes with cries "insurrection" and "buggery" (Csapo 2012: 65) – the perceived contrast with the traditional lyre everyone has been accustomed with, is that great.

Csapo elaborates on five distinctive features of the pipe that have become points of outrage. Firstly, the obvious fact that it engages the mouth thus stopping the breath. This is the most brutal point of contention for it is interpreted as obstructing one's right to free speech: Aristotle comments on the pipes as "orgiastic" and "hindering the use of one's *logos*" – i.e. hindering one's speech and reason (Ibid.: 77). Also, the pipe disfigure the face by blowing up the cheeks and puckering the lips so one's face become bloated like *gorgoneion* (Ibid.); the symmetry and composure of the body, too, is affected. In short, the pipes 'spoile' the body – a calamity akin to committing a sin, a transgrassion against the soul, for "'soul' for the real Hellen was in the last analysis the form of his body," another connoisseur of Ancient Greece, philosopher of history Oswald Spengler remarks (in Paglia 1990: 109). Secondly, the pipes have greater versatility than the lyres, which usually played with seven open strings – the

pipes could play many more notes, with greater volume and tone color; they were known to be the most mimetic of instruments, able to play all sounds and voices, with great flexibility and expression. Related, is the third feature, pipe's volubility. Unlike the precisely tuned strings with always reliable and measurable tone, the pipes produce tone greately dependent for its pitch, color, volume and general character on the psycho-physiological condition of the performer, on the quality of the reed, and on the nature of the performance venue – many complain that the pipe tone is indistinct, unstable, gliding, giving the impression of a "constant and confused flux of sound" (Ibid.: 79). A forth distinctive feature is pipes' ability as double-reed intruments to produce two tones at the same time, or diphony. And lastly, their ability to play continuously and uninterupptedly – to sustain a single tone or to move between tones with no pause through circular breathing techniques (Ibid.: 18). These new musical capacities of the pipe affect and influence the theatrical drama, which it was meant to accompany. Sound continuously gains more and more priority over words. The traditional unison between sound and sense (music and logic) steps down to a more dynamic, versatile, dialectic dialogue-duet communication deemed extravagant and disturbing. In addition, a new chromatic system of tuning was developed in fifth century, which only adds to the perception of the pipes as unintelligeable, sensuous, seductive, volatile, aimless, soft, loose and . . . "womanish" (Ibid.: 91-94): indeed, the lyre was deemed as and understood in terms of 'male' and the pipes as 'female'.

What a telling clash between my perception and relation to the oboe and that of the old Greeks! Where my consciousness perceives it as male, limited, precise, and direct, the Greek community from 5th century BC interprets it as female, versatile, unprecise, and gliding. We both see it as Other: whether I call it archetypal' and they specify 'barbarian,' we agree on 'orgiastic' and 'Dyonisian' – and for different reasons. Whether our predispositions and opinions are rooted in our experiences, and whether our experiences are already encultured and contextual is not the question of interest here. It does seem reasonably accurate to suggest that all we can form as a perception or an observation is a sofisticated download from a somewhat digested and somewhat personalized but largely unconscious pool of data available to us. But true as this may be, the other way around appears equally, if not more, relevant: that our rational, transcendent Apolonian constructs and opinions are much simpler, much more base and instinctual than we suppose, rooted in primitive survival habit-thoughts ranging from 'mistrust of the new' and 'different is stupid' to morphology-based assumptions and judgements.

What good it is, indeed, to revisit Plato, when an oboe could just as well give you a glimpse of another world?[36]

Experiencing sound through a new instrument ripples my established view on music in general by pointing out that this view is heavily informed by my playing the piano, so what I come to think about music is not about music itself but is about music from the vantage point of playing the piano, it is piano's thoughts and understanding, awareness, feeling, smell and shape, or consciousness, integrated through piano's qualia. As each and every sentient being experiences reality through its singular genetic and epigenetic referential frame, so do we access and experience music through its numerous sound mediums. How straightforward and clear is in this context Marshal McLuhan's succinct formulation, the medium is the message!

> For the 'message' of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs (McLuhan 1964).

The meaning of a thing is conducted through or manifested in the form and the specific material nature of its medium. Bohm saturates and further sharpens this point: A change in meaning is a change in being (Bohm 1986). Then, each musical medium, like the piano, the oboe, the violin, is thinkable in terms of being, in terms of different musical species – music enters the instrument and, governed by its morphogenetic field,[37] it emerges as different beings and different meanings in the different musical works. How crude and plain is our carbon-based physical reality compared to the complex multidimensional organization of music! If a man takes his dog friend to a walk and play in the park on a sunny day, all they are going to be is a man and a dog having good time together under the sun. If they are deep into their play, they may be considered what Deleuze and Guattari call an *assemblage* – a dynamic, emergent arrangement defined by relations of exteriority. However tuned-in into each other man and dog are, they are still 'man' and 'dog' and never a 'mandog', or a 'dogman'. But what an oboe and piano produce when they play together is of a different

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[36] A paraphrase of philosopher Emil Cioran's original quote: "À quoi bon fréquenter Platon, quand un saxophone peut aussi bien nous faire entrevoir un autre monde?" (*Syllogismes de l'Amertume* 1952).

[37] A concept in developmental biology from the beginning of 20th century. Morphogenetic field is the field of information which reacts to various biochemical signals to guide the development of a cell into an organ. These fields are specialized, they constrain the outcome to a particular form, e.g. a cell in a limb morphogenetic field becomes a limb. Morphogenetic fields are considered a link between genes and evolution (Gilbert et al. 1996). Rupert Sheldrake explores and further develops the concept in *The Presence of The Past* 1995.

nature: they melt into each other, they complement and make up for each other's limitations, they in-fuse the resulted arrangement with their individual meanings to create a whole new integral being that is more complex than any of them taken separately – they create the totality[38] of a provisional new species.

Or to take the orchestra. If I squint, I can see it as a template for interspecies organization, a theater of genera and species, a showcase of a social system, like a city, a neighborhood, a family. A habitat of order, measure and meaning, an orchestra is a meticulously conceived and scrupulously managed model of deliberate communication, cultural coherence and psychological integrity, where each individual and group voice matter, where all can act, play and connect simultaneously and non-locally, providing service not to their own individual cause but to the cause of the whole. Imagine an analogous to the orchestra situation in the mammalian realm, with baboons and gorillas, foxes and wolfs, cows, humans, lions and zebras, kangaroos, rabbits and gazelles – can we conceive of even one possible outcome past the wreaking havoc unleashed in the first two minutes? Perhaps if we spread the animals far enough? Put them behind bars?? Even if we restrict our thinking to Homo sapiens and gather 100 specimens, they may and probably will find a way to cooperate, under the guidance of a conductor-figure, but not by speaking and acting all at the same time, by merging and producing new species, as the instruments in the orchestra do. The organization of humans is not an original organization and we should not attribute it to an intrinsic human law and order: rather, it is a copy of a physical, three-dimensional, Newtonian kind of organization. In Newtonian nature's explicate ways, objects rarely flow and merge with one another – generically they stand apart and communicate signals from within the membranes of their echo chambers. This Newtonian communication and the relationship between different species is rarely a rapport between equals, as it is rooted in ingrained hierarchies of dominance and subordination. The organization of musical instruments, species, beings and meanings also begins in a hierarchical structure as variously subordinated parts of a whole, but, enfolding and unfolding through various dimensions of complexity these parts co-emerge as a shared beauty, flowing through and interacting with its multiple selves. Led by considerations of unity, this organization transcends the natural template and emerges as a uniquely musical order. Is this order of a more evolved kind than human order is? Is not music, thus considered, more of a super- rather than a sub- set of humans?

[38] Manuel DeLanda elaborates on the distinction between assemblages and totalities in the first chapter of his book from 2006 *A New Philosophy of Society: Assemblage Theory and Social Complexity*.

It is and it is not, for we human beings create music in our own image. Bipedal creatures, inhabiting a world of opposites. In it, the left hand of the pianist composes a different dimension of the musical idea than his right one, the right bow hand of the violinist shapes and forms the expression inherent in the left hand's content; the left hand of the conductor sculpts and alivens the spatial images while the right one counts time. The melody is on top of harmony as the head is on top of the body. Closer to our sight, our hands are more developed and dexterous than our feet, hence we intrust them to 'make' music. Yes, music we create in our own image. But that is not to say that the music we make and hear is what music is. And even though inevitably conceived as an auto/portreit (for can it be otherwise?), musical organisation is so alien. What it would have been like if we had three hands, fourteen fingers, two mouths and three lungs – what music would we have created? What questions about music would we have devised?

CHAPTER 2

Music as Implicate Order

> The phenomenon of music is given to us with the sole purpose of establishing an order in things, including, and particularly, the co-ordination between *man* [sic] and *time*.
>
> (Igor Stravinsky 1998).

What is the relationship between music and reality? Reality as it might be 'in itself' and as it appears to us via our consciousness? What are the concepts that not only address this question, but also inform it, clearing paths for further exploration? These were some of the questions and concerns of Chapter 1, which ended with the promotion of the Implicate Order as a potent point of departure. The Implicate and the Explicate Orders are concepts of David Bohm's, created in response to physicist's belief that the implications and interpretations of quantum mechanics discoveries – like the idea of reality as undivided and unbroken wholeness – have relevance and application both with-in and with-out academia and the laboratory. To make the mathematical thought available to larger public, and to exemplify the 'quantum' nature of the Implicate Order, convincing metaphors are needed. The following three are Bohm's major ones: i) consciousness, as our most immediate experience of the Implicate Order; ii) the hologram, as an analogy and a showcase of the Order demonstrating part-as-a-whole relationship and also the idea that everything is enfolded into everything; iii) music, through which we can actively perceive this Order. Therefore, the idea of the Implicate Order involves in itself all three actors in my questions – music, reality, and consciousness. A logical next step is to outline a model that demonstrates how and where music fits into the grand scheme of things, i.e. Implicate Order – Explicate Order – holomovement.

As it was shown in the previous chapter, music provides a clear example of the sequentiality at the basis of the Explicate Order. The exploration of musical ratios and measures, and also of the manner and the extent these relate to phenomena in the natural and celestial worlds, has been a point of fascination for scholars and mathematicians from Pythagoras to

Keppler.[39] Indeed, the musical soundscope[40] is populated by measures (tones, intervals, tetrachords, scales), structures (motifs, phrases, chords, modes, scales, forms), hierarchies (harmony, homophony, monophony, heterophony, polyphony, tonal tensions), systems (tonal, atonal, polytonal), and generally, elements[41] (beats, tones, topics, themes, motifs, phrases etc.). Beyond the scaffolds of the Explicate Order of spatially conceived and temporally actualized sound-elements, there whooshes and whirrs the smooth regime of flows, of tendencies and impulses engaged in compressing and stretching, bending and twisting, enfolding sonic possibilities. This is the process-reality of the Implicate Order, where building blocks are not things or elements, but moments (as explained in the previous chapter). Inferring from Bohm's description of how things get abstracted out of moments, we can extrapolate the following musical protocol: depending on and responding to the attentions, intentions and actions of the musicking agent, these pre-compositional moments of sonic virtualities are unfolded out of their implicate process (of continuous deterritorialization) and blown into existence through a medium (an instrument or a body), to emerge as musical forms.[42] While the intention, the movement, the medium, the musicker, the sound, the musical form and the listener are enfolded – connected and related – as capacities in the Implicate Order, they actualize in the Explicate Order as musical forms with spatial and temporal limits and limitations, with material, historical, geographical, cultural, and symbolic significations, in other words – as audiences and artists, as instruments and venues, shaping and fleshing the abstracted Musical assemblage, delivering its content and expression. The Operator is the holomovement, which contains both the virtual and the actual, and which also does the conversion from virtuality to actuality.

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[39] Where Pythagoras preferred mathematics and Kepler – geometry, they both endorse the rational and relational aspects of music manifested in the concept of Musica Universalis a.k.a. 'music of the spheres', which regards the proportions in the movement of the celestial bodies as music – the idea, thought to have originated in Pythagoras, is elaborated by Kepler in his book from 1619 *Harmonices Mundi* (see Bruhn 2005).

[40] I use the term 'soundscope' to denote the domain of sound – the breath, the range, the extend, the limits, the potential, in short - the territory of sound. I prefer soundscope instead of soundscape to avoid the scenic connotations of the latter. "Sound is not what we hear, it is what we hear *in*" – Tim Ingold *Against Soundscape* 2007.

[41] Bohm contrasts the Moments of the Implicate Order to the Things of the explicate; as a 'thing' has a physical concreteness about it, here I use the more abstract term 'element' as more appropriate for describing music, which even in its most drastic aspects is still an abstract phenomenon.

[42] The way of unfoldment of these moments from the vast range of potentiality in the Implicate Order is determined by "many factors" – "the way we think is one of these factors" (Bohm 2004: 76).

But if this dance of enfolding and unfolding, abstracting and manifesting, applies to everything, as Bohm suggests, where and what is the worth and the exceptional contribution of music but as mere illustration material? What are the features and aspects of music that make it an Implicate Order and involve it with consciousness? These queries direct us beyond the explicate 'Newtonian music' of elements and properties, measures and structures, and invite a deep listen into the (pre)musical dimension, where moments and movements flow before and after the brief coagulation of the musical event – into the dimension of the musical Implicate Order.

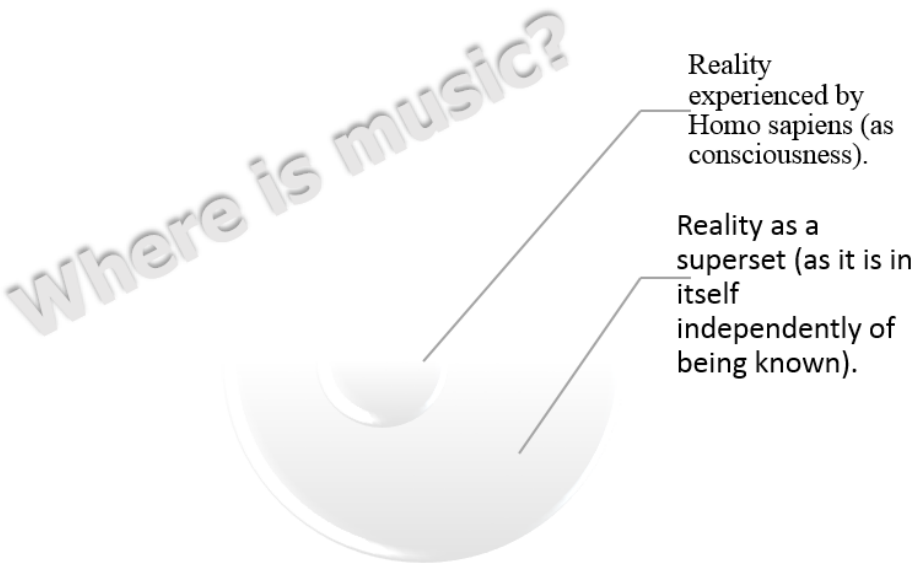

Figure 2// Larger and individually experienced reality. Where is music?

Moments as Musical transformations

> In listening to music [...] *one is actively perceiving an Implicate Order*. Evidently this order is *active* in the sense that it continually flows into emotional, physical, and other responses, that are inseparable from the transformations out of which it is essentially constituted (Bohm 2002: 253, emphasis in original).

This statement constitutes a pinnacle in Bohm's musical discussion. Among all examples of the Implicate Order of reality music is his first choice and a high-fidelity showcase. As the quote above is important for my discussion on music, I am now going to unpack, analyze, contextualize, and then synthesize anew its meaning.

The context in which this statement appears is related to the idea of the Implicate Order as a flow, in which moments – as hazily defined areas extended in space and with duration in time – are enfolded in the total structure, which they (each one of them) always already

contain within. To recall, in this Order, space and time are not determinate coordinates but rather abstracted derivatives. It is along these lines that Bohm likens listening to music to perceiving the Implicate Order, as in the statement above; this implies certain interesting correlations:

i) The Moments of the Implicate Order correspond to particular events in music, which we shall name Musical transformations;
ii) Musical space and time are abstracted derivatives with an alternative, non-determinate and non-explicate, so to speak, reality;
iii) Music and consciousness (as 'active perception') are enfolded in the Implicate Order as a single integral process, the process of the holomovement.

The idea that the Implicate Order is made by enfolded moments, and that each moment – being of the Implicate Order – enfolds the whole within, calls for a corresponding capacity of music, enabling it to describe itself in terms of itself, an aptitude to generating differentiation and dialectics out of its own uniformity and 'material'. This, in fact, is what Allan Keiler, a professor Emeritus of Music at Brandeis University, frames as the metalinguistic properties of music (Keiler 1981): the way music describes itself, as conventions, inner relations, structures and hierarchies by musical means, as music about music. It is important to underline the specifics of musical metalanguage. As Princeton professor Scott Burnham, Keiler's PhD student at Brandeis, elucidates,

> In verbal metalanguage, descriptive prose is distanced from the thing described. In musical metalanguage, a prototype such as the 2-3 [suspension] is not only a general descriptive model, it functions itself as an exemplification of the class. The thing doing the describing is also the thing described. As such, this 'abstract' prototype is at the same time palpable and concrete. Our recourse to such a palpable prototype facilitates the type of thinking that we have characterized as invoking the 'music itself'. It encourages the notion that music is about itself (Burnham 1997: 325).

The metalinguistic musical properties operate on a reality grid with temporal and spatial axes. To consider a temporal musical transformation of metalinguistic nature, we can observe the kinetic interplay juxtaposing rhythmical sound arrangements against a uniform metrical pattern. The 'kinetic interplay' is discussed in philosopher and music aesthetician Philip Alperson's article "Music as an art of time and Musical time" (1980). There, following Victor Zuckerkandl, the author describes how, in listening, we come to anticipate and rely on the 'metrical wave' which consists of accented recurring groups of (usually) 2,3 or 4 beats

that can be felt throughout all the ordeals and changes in the musical canvas as regular tidal symmetrical tension. This wave gives birth, support and context to irregular variegated combinations of long and short tones, which are articulated and performed always in relation to the underlying wave. As a result,

> the tones fall upon the wave that they themselves have generated; the wave imparts motion to the tones (Zuckerkandl 1956, in Alperson 1980: 410).

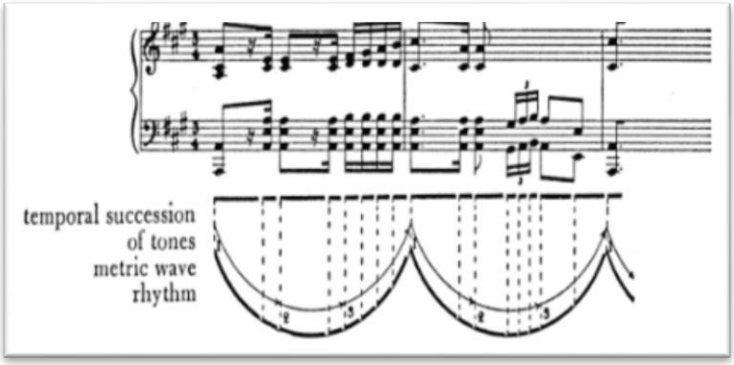

Figure 3// Metrical wave analysis of Chopin, Polonaise in A major, from Zuckerkandl, *Sound and Symbol*, p. 171

In other words, the rhythmical transformations enfold endless possibilities for arrangement and rearrangement in a musical universe ridden by exciting topological becomings, but these possibilities are far from being random: they implicate an underlying order, perspiring in the flowing 'metrical wave'. In this sense, could we not indeed contemplate each rhythmical transformation as a moment that enfolds the total structure?

Underlying Structures: Space, Time, Spacetime

Further, the metalinguistic ability of music extends beyond conspicuously temporal phenomena like rhythm and meter to spatial musical elements, like harmony and fundamental bass, as featured in Rameau's *corps sonore*,[43] and melodic linear motions, the basis of Schenkerian analysis (explanation follows). The idea of musical space is engrained in the very way we talk about and think of music. Notable example is the differentiation of musical pitch as 'high' and 'low'. These musical metaphors likely originate in our biology and design, e.g. in the position of the larynx and its movement up and down depending on the pitch of the sound, or in the vibrations produced in the body by high and low tones: whether

[43] The referenced theory of Rameau's in the context of Keiler's musical metalinguistics is concisely presented by David Cohen in Clark and Rehding's volume *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century* (2006), pp. 68-92 esp. 70-71.

we sing or listen, low notes are usually felt in the chest while high – in the head (Géza Révész 1954: 69). A different spatial musical continuum is employed by the Amazonian tribe Kamayurá, made famous among musicologists by the Brazilian music archeologist Rafael José de Menezes-Bastos and his research on Kamayurá phono-auditory system, rooted in hearing rather than in seeing: the tribe's culture differentiates between 'big' and 'small' tones, referring to the size of the sound source.

On a different level, musical space is associated with the abstract structure built by the interdependent and interconnected voices of the musical text(ure). In his article "Musical Time/Musical Space" (1980) Robert P. Morgan, Emeritus Professor of Music in Yale University, defines musical space as "the framework within which, and through which, the actual sequence of musical events is shaped," underlining the interdependence of musical time and musical space. The latter, he adds, is the space of relationships, or "pre-compositional," "allowable," possible musical relationships that define a "system of structural conventions, not unlike those of (…) grammar" (Morgan 1980: 529). Tonality is one such musical space, proposes Morgan. In a meaningful parallel with Bohm's notion of an implicate, underlying holistic Order,[44] Morgan comments on music theorist Heinrich Schenker's idea of musical ornamentation, as "the expansion of a stable structural core (…) through various kinds of elaborations," the following:

> The [Schenkerian] concept of ornamentation, encompassing the assumption of a more changeable and varied musical surface that can be peeled away to reveal a stable background, is fundamentally "spatial" in orientation and accounts for an important way in which music produces a spatial impression: *in the moment of experiencing the elusive, constantly evolving transformations of the note-by-note succession of a composition, the listener instinctively or otherwise perceives its relationship to a more fundamental and "orderly" basis* (Morgan 1980: 533 emphasis mine).

Morgan's premise in this paragraph is to define and qualify a musical 'spatial impression'. However, an impression that is dependent on, and definable in terms of time, e.g. an impression that relies on the experienced "transformations of note-by-note succession of a composition" is not entirely spatial, for space could not be 'transformed' or have a 'succession' without time. A small proviso that the transformations in question are of a

[44] Notably, both *The Implicate Order* and "Musical Time/Musical Space" appeared in 1980.

spatio-temporal nature should remedy the issue enough so we can focus on the essential meaning of Morgan's: his comments on notions like 'background' and 'order'.

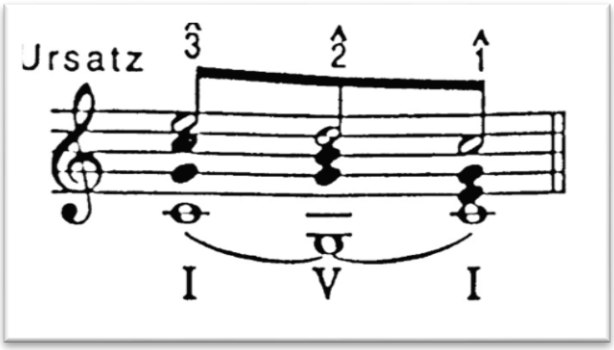

Figure 4// The Ursatz in Schenkerian analysis is the distilled, basic model that spans the whole of the musical piece. All that 'happens' in the piece is but an elaboration, ornamentation, variation of the Ursatz.

The idea of a musical background in the context of Schenkerian analysis has a very concrete meaning – the background, or the Ursatz (fig. 4) as Schenker calls the smallest, most basic unit of linear unfolding, is "a brief and primarily abstract pattern containing only the simplest and most direct motion through the tonal space defined by the tonic triad" (Ibid.:531). Schenkerian analysis consists of peeling layer after layer of musical ornamental tissue (as harmonic, melodic, tonal, rhythmical hierarchies and relationships) in order to reach the core – the simple but dense Ursatz with its creative immanent potential. If one can feel the implicate presence of the background in each musical transformation a composition undergoes as a stable fundamental underlying order, it is because each moment-as-musical-transformation is in a sense (made) *of* the Ursatz and has its content synthesized by latter's basic ingredients. To the tonal system and its musical forms, the Ursatz is what the ancient Morganucodon is to modern Sapiens. Like an Ursatz, Morgie – the first mammal – represents a topological map bursting of potential and possibilities, which each mammalian species is but an articulation of. Deep down in our bones, under layers upon layers of flesh and time, lurks the lowly, opportunistic and robust rat: invisible, but always present – like the Ursatz beneath the melodic flourishes of Chopin's Waltz.

The similarities between the concept of the Ursatz and the Implicate Order are evident: Bohm's description of latter's moments corresponds to the notion of Musical transformations on the face of the musical background. The idea of musical background containing and enfolding virtually all possible musical transformations becomes particularly lucid in another example of Morgan's. Tonality is just one type of musical space, as the 'space' of pre-compositional relationships' conventions, existing "*in abstracto*, in a synchronic, always present configuration" (Ibid.: 530). Another such 'space' is Arnold Schoenberg's response to the shift away from tonality began at the turn of the century – the twelve-tone system (fig.5). The twelve-tone row or series "represents a fixed, *atemporal*

background from which the specific events of the composition – in Schoenberg's terms, the 'musical ideas' – acquire their structural validity and justification. The series, then, is not unlike an Ursatz," concludes Morgan (Ibid.: 535 emphasis mine):

> he calls, significantly, "the two-or-more dimensional space in which musical ideas are presented," a space that "demands an absolute and unitary perception." Moreover, this space is unmistakably "simultaneous" in character: "All that happens at any point of this musical space has more than a local effect. It functions In his first article on the new system,[45] Schoenberg introduces it in reference to what not only in its own plane, but also in all other directions and planes, and is not without influence even at remote points." (Morgan 1980: 536).

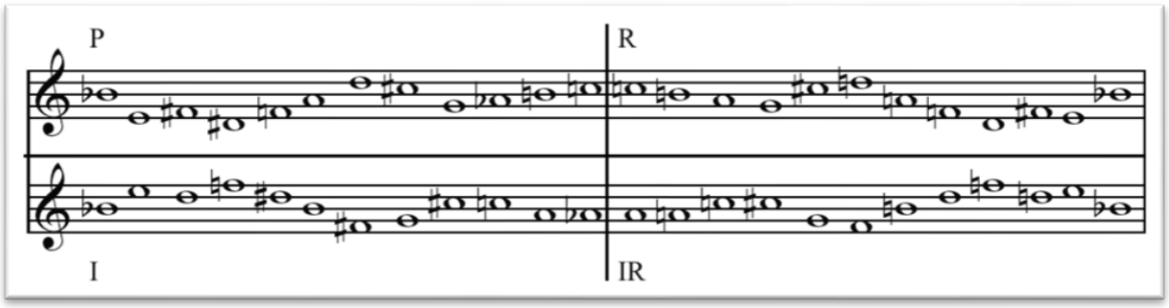

Figure 5// Schoenberg's Variation for orchestra op.31 tone row series – all 12 notes of the chromatic scale are treated equally, none is repeated within the row. The row is a subject of four transformations: Prime (the original denoted P), Retrograde (R), Invert.

While Schoenberg presents this musical space as "two-or-more dimensional," it seems it is not exactly or not only 'space' as in a Cartesian coordinate system, but also 'space' as in 'place,' 'world', 'realm' or 'reality,' although tags like "unitary perception," "simultaneous," and especially "nonlocality" reveal yet another meaning of 'space,' kindred to the star-concept of post-relativity physics, the quantum *field*. As in the Schoenbergian musical space, in the quantum field all is interconnected, simultaneous and nonlocal, space and time and interlaced and relational. Bohm gives this space/field yet another name, order, to emphasize its logical, causal aspect. Indeed, the thought of Schoenberg quoted above, seems incredibly modern and attuned to the leading scientific ideas of his époque.[46]

[45] Arnold Schoenberg, "Composition with Twelve Tones" (1941) in *Style and Idea* (1950).

[46] It only seems natural that Schoenberg and Einstein, whose paths crossed at least twice – in Berlin and later, the USA – should have shared ideas and even consulted with one another, both being the kind of revolutionary prophets in their fields. Indeed, the composer reached out to the physicist on three separate occasions, evident in their preserved correspondence (on the pressing then topic of

Morgan insists that the 'musical space' defined by Schoenberg is "atemporal," and here again I am to express some reservations for the simple reason that space is of no use for us, musically or practically, if we don't conceptualize it within the context of its temporal aliveness and potential for transformation. In the musical order, described by Schoenberg as the birthplace of 'musical ideas' (or musical events, or musical transformations, or moments), space and time are indeed interlaced, enfolded; they are also implicit. Space and time birth forth and actualize the 'musical ideas' only when they are abstracted explicitly in the acts of music-making. This implicit state of space and time demands, Schoenberg proclaims, a unitary perception. An example of the latter is the idea of the unity of the melodic and harmonic dimensions, seen by the composer as equivalent in any given musical figure, reminds us the Schoenbergian scholar John Covach:

> Since melodies unfold as series of individual tones in time, and chords happen as combination of musical tones in space, viewing these as musical elements requires a unitary perception – a unitary perception of time and space (Covach 2007: 2).

While it is true that the problem of musical space and time is complex, it is important to remember that while in the Implicate Order these phenomena may or may not have a separate existence (or existence at all for that matter[47]), in the Explicate Order we inhabit, we should indeed contemplate them in a unitary spirit. And when we separate these dimensions to consider them each on their own – which is often tempting and at times useful – we should appropriately remember that for a hundred years already the universe speaks to us not through the Cartesian grid but through the more upgraded Minkowski space or

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Zionism), and the two luminaries even met each other (Tonietti 1997), but it seems a real meeting of minds did not occur: Einstein was simply not interested in Schoenberg's music, which he apparently found unappealing, and the idea of the twelve-tone-system and philosophy of realms existing outside space and time, simply "crazy" (Ibid., 13). One is left to wonder what it would have been if Schoenberg's ideas did meet an open-minded quantum mechanics' conceptualist: composer's vision on music commingling with the quantum world of nonlocality, process and the unitary character of event, measurement and observer could have resulted in unpredictable but surely exciting ideas.

[47] Einstein did indeed maintain that "the distinction between past, present and future is a stubbornly persistent illusion" (Hawking 2009 back cover). Bohm admitted that we know very little about the nature of time (dialogs with Renée Weber https://ontoscopy.net/extras/bohm-a-change-of-meaning-is-a-change-of-being). Recently, Robert Lanza's biocentric perspective openly questions the reality of time, interpreting the latter as a perceptual sense: https://www.psychologytoday.com/us/blog/biocentrism/201202/does-time-really-exist .

spacetime continuum.[48] So, as a rule of thumb I propose to i) Always take time with a grain of space, and ii) Indulge in space-floating only when ready to time-flow.

Now that we have established such a sensible rule, let us immediately taste its usefulness by violating it, to considering the phenomenon of 'musical time'. A reasonable working attitude would be to clarify that by addressing 'musical space' I understand the interrelational, textural aspect of music, and by 'musical time' I mean the musical spacetime continuum in its more animated, motive mode of being.

Musical time?

> In listening to music [...] *one is actively perceiving an Implicate Order*. Evidently this order is *active* in the sense that it continually flows into emotional, physical, and other responses, that are inseparable from the transformations out of which it is essentially constituted (Bohm 2002: 253, emphasis in original).

Chapter 2 began by outlying three 'technical' implications the quote above holds. Two of them I already addressed and discussed. Analogies were established between Bohm's Implicate Order and music: firstly, as correspondence of moments to what I called Musical transformations – i) moments are (made) of the Implicate Order as Musical transformations are (made) of music, and ii) each moment enfolds and refers to the totality of the Order as each musical transformation enfolds and refers to the entirety of the musical background, – and secondly, through the unmanifest, unitary nature of space and time in both music and the Implicate Order. Now I explore how music, consciousness and the Implicate Order might be involved into the flow of the holomovement. As Bohm associates the Implicate Order with a continual flow into responses of different nature, I approach the investigation of this process through the musical idea of flow, the notion of 'musical time'.

That music has a relationship with time is seldom questioned. To begin slow and careful, we can contemplate, as French philosopher Michel Serres does, that "whether music follows or produces time is uncertain,"

[48] With his special relativity theory from 1905, Albert Einstein proposed that space and time and interconnected in *c*, the speed of light; three years later, in 1908, Einstein's teacher Hermann Minkowski introduced a geometrical interpretation of relativity theory, the four-dimensional spacetime continuum now known as Minkowski space, which greatly assisted Einstein's general theory of relativity from 1915.

> But whichever it is, without music, would we live, would we know, would we count the duration that music seems to follow as a shadow, the duration, which seems to follow music as a charm? Music, this timeless black box, is duration's birthplace (in Detry 2012, translation from French mine).[49]

Many, as we shall see, agree on this point – that there is a deep connection between music and our perception of duration, or time flow; others don't. The controversy of this topic is showcased in Philip Alperson's article cited earlier, "'Musical time' and 'Music as an Art of Time'" (1980): where Alperson wholeheartedly embraces the latter, he is conspicuously ill-disposed regarding the former. Whether musical time really exists or not, its concept and supporting arguments are important factors in the discussion Bohm proposes and should be examined with care. The basic premise of the construct 'musical time' is that there is a kind of time, distinct from other kinds of time, which is at work when we listen to music. To present his argument, Alperson quotes from a large body of scholarly research on the topic, including Hegel and Bergson, Zuckerkandl and Langer – authors with significant contributions on the subject of music and time. The aspects of 'musical time' I consider below are as follow: i) music creates virtual time, ii) through its manipulation of time, music suspends our identity, and iii) the composer creates a semblance emergent from the material world but distinct from it – it is only in this last sense that Alperson considers 'musical time' a valuable and viable construct.

In essence, the idea of the 'semblance,' to which I return later in this chapter, is but a supporting argument of Susanne Langer's (*Feelings and Music* 1953). The philosopher propounds the concept of virtual time as a third, radically different kind from the subjective and the clock-time.[50] The subjective, or psychological time is our individual sense of passage of life, filled with and made by 'tensions,' she explains: physical, emotional, psychological tensions, which give time quality, rather than form. The clock-time is more precise, reliable, and measurable, hence more practical time; it is an abstraction from the subjective time, an

---

[49] The original reads: Je ne sais si la Musique suit ou produit le temps… quoiqu'il en soit, sans Musique, vivrions-nous, connaîtrions-nous, compterions-nous la durée qu'elle semble suivre comme son ombre, qui semble la suivre comme un charme ? Musique boîte noire intemporelle, source d'où naît la durée.

[50] Clock-time vs. subjective or psychological time is just one dichotomy in the dialectics of time, one that directly follows the argument Einstein makes, that there are only two kinds of time, physical and psychological, and that the latter is the unreliable kind. However, there are other angles on time difference. The philosopher Henri Bergson, for example, famously presents the idea of the Absolute, 'master' time vs. human time (*Time and Free Will* 1889). Philip Tagg distinguishes between linear (clock-time) vs. cyclical vs. 'present' time ("Understanding Musical Time Sense" 1997).

imaginary line tailored for convenience as a "one-dimensional infinite succession of homogenous moments" (Langer, in Alperson 1980: 412). In contrast, the musical time is not abstract but perceptual since we hear it, maintains Langer; it is a multidimensional time with form, organization, volume and distinguishable parts. This time is qualitatively different than the other kinds of time:

> All music creates an order of virtual time, in which its sonorous forms move in relation to each other… For nothing else exists there…. Music makes time audible, and its form and continuity sensible (Langer, in Alperson 1980: 411).

Furthering this insight, I propose that the musical time encompasses the other two, the clock- and the subjective time. It could be argued that the musical beat – the 'metric wave' – as an "infinite succession of homogenous moments," gives shape to the indeterminacy of fleeting time moments by producing determinateness and a continuously recurrent pattern, serving as 'physical time', and the rhythm emerging out of this uniformity sculpts a complex, subjective soundscope. Langer's idea of virtual time Alperson links to a slightly older text on music and time, English essayist Basil de Sélincourt's work *Music and Duration* from 1920, where the ultimate musical-temporal question is posed explicitly: What are the relations in music between length and meaning, duration and effect? The answer is derived through de Sélincourt's early intuitions of a practicing musician. According to those, the time of music is an ideal time, superior to both subjective and clock-time: it is not only that music "suspends the ordinary time" and "offers itself as an ideal substitute and equivalent" (Sélincourt, in Alperson 1980: 411): in its process, music suspends out very identities.

> Music demands the absorption of the whole of our time-consciousness; *our own continuity must be lost in that of the sound we listen*. The conception is difficult because of its inclusiveness. Our very life is measured by rhythm: by our breathing, by our heartbeats. These are all irrelevant, their meaning is in abeyance so long as time is music… [music] reduce[s] the passage of time to its irrelevance (Ibid. emphasis mine).

In other words, in suspending the ordinary time, in suspending our own continuity and our very identity, music offers itself as an "ideal substitute and equivalent." Or as Julian Jaynes notes 50 years after de Sélincourt, in listening we become the other and simultaneously let the other become part of us (1990:97). It follows, then, that when the Other – the one who does the 'talking' – is music, in listening to it we become it, as simultaneously music becomes us. The immanent organization integral to music, its rhythms and patterns resonate with our

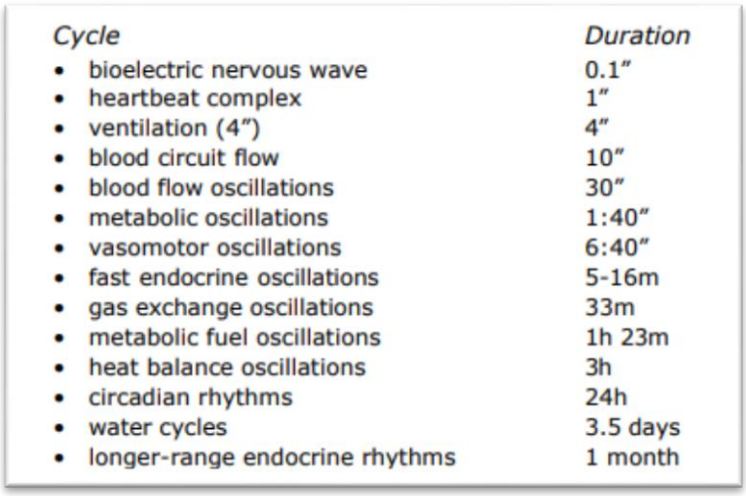
own immanent organization, our own rhythms and patterns; the musical movement entrains us, enfolding our self into itself. There, in the vacillations of a poem without words, we listen to the space between the sounds, engrossed in "that which cannot be said and on which it is impossible to remain silent."[51] In other words, in listening to music we appear to be intently focusing on the sequential ordering of modulated sounds and silences, rhythms, patterns, scales, points and lines, verticals and horizontals, for "music is an art of pure sonic design" (Kivy 1991). But 'appear' here is merely a key to unlock the background: for it is not the structure as such we are attending to, but rather the unified whole it refers to – that, which require a unitary perception.

Schoenberg regards this whole as a pre-compositional space, as a system of all possible structural musical conventions, e.g. tonality or the twelve-tone system; Schenker thinks about it in terms of the relationship Ursatz – ornamentation. While both accounts elaborate on the peculiar organizational nature of the musical context, G.W. F. Hegel probes into its meaning:

> The beat of music has a magical power… This recurrence of equal time intervals does not belong objectively to the notes and their duration. To the note as such and to time, to be divided and repeated in this regular way is a matter of indifference. The beat therefore appears as something purely created by the subject (composer), so that now in listening we acquire the immediate certainty of having, in this regularization of time, something purely subjective, and indeed the base of the pure self-identity, which the subject inherently possesses as his self-identity and unity and their recurrence in all the difference and most-varied many-sidedness of experience. Therefore, the beat resounds in the depths of our soul and takes hold of us in the virtue of this inner subjectivity at first abstractly self-identical. From this point of view, it is not the spiritual content, not the concrete soul of feeling which speaks to us in the musical notes; neither it is the note as note that moves us in our inmost being; on the contrary, it is this *abstract unity, introduced into time by the subject, which echoes the like unity of the subject* (Hegel 1998: 249 emphasis mine).

[51] "Ce qu'on ne peut dire et ce qu'on ne peut taire, la musique l'exprime." Attr. Victor Hugo

It could, then, be said that the *subject*, whom Hegel calls Composer and we could more generally address as Musicker,[52] starts off with customizing a portion of the so-called pre-compositional space. By setting the initial coordinates and conditions, e.g. 'musical time', 'musical space', musical pre-compositional structures or 'background', the Musicker slowly and meticulously ornaments a particular musical whole that represents the larger whole from which it has emerged as an "abstract unity:" unity that "echoes the like unity of the subject."



Cycle	*Duration*
• bioelectric nervous wave	0.1″
• heartbeat complex	1″
• ventilation (4″)	4″
• blood circuit flow	10″
• blood flow oscillations	30″
• metabolic oscillations	1:40″
• vasomotor oscillations	6:40″
• fast endocrine oscillations	5-16m
• gas exchange oscillations	33m
• metabolic fuel oscillations	1h 23m
• heat balance oscillations	3h
• circadian rhythms	24h
• water cycles	3.5 days
• longer-range endocrine rhythms	1 month

Figure 6// List of natural rhythms affecting human behavior. 'm' = minutes, 'h' = hours. 'Ventilation' is one complete cycle of breathing in and out. (adapted from Michael Young 1988, in Tagg 1997:5).

At this point we have two wholes, two unities, two selves – the musical one and the musicker's. Where de Sélincourt reads into the association between these unities the typical power dynamics of a dominance-submission relationship ("our own continuity must be lost in that of the sound we listen"), and Hegel interprets it in dialectical terms, as a like, interactive two-some ("the abstract unity… echoes the like unity of the subject"), philosopher Peter Sloterdijk proposes 'immersion with sound,' in the act of which emerges a state not unlike transcendence. In his essay "Where Are We When We Listen to Music?" (1993), Sloterdijk elaborates on the difference between the faculties of seeing and hearing, on the perceived 'distance' ingrained in the former contrasted by the perceived 'depth' of the latter. 'Seeing' implies distinction between the object and the subject, a distinction characterized by non-involvement and by external relationships; listening, as a mode "of being within sound" and "floating in the auditory space," is a self-immersive act, a "suspension of distance" which

[52] Musicking is a term proposed by Christopher Small in his eponymous book from 1989, as any activity related to or involving musical performance. Musicker is the entity who musicks.

borders dissolution (Sloterdijk 1993). There is something timeless in this "floating in the auditory space," it is as if in the very act of being within sound we step out of time to suspend distance, i.e. any partial, singular, distinct experience, and also to suspend our sense of self.

A direct correlation emerging from this reasoning is that our sense of self is in some way bound to our sense of time. This, indeed, is what Robert Lanza, an acclaimed stem-cell researcher and author of *Biocentrism: How Life and Consciousness are the Keys to Understanding of the Universe* (2009), underlines: time and space are forms of "animal intuition," "modes of understanding," "part of the mental software that molds sensations into objects" … in short, from a biocentric point of view, "time is the inner process that animates consciousness and experience"[53] (Lanza 2012).

With this in mind, let us retrace the following course.

> Langer sets a trajectory of musical thinking with the proposition of 'musical time' as a virtual alternative of the physical/psychological time.
>
> > Sélincourt proposes that in dwelling in this musical time we lose our personal continuity.
> >
> > > Hegel sees in the beat introduced into time by the composer the foundation for the emergence of the subjective musical Other,
> > >
> > > > Sloterdijk submits the idea of the floating auditory space the Self immerses into being-within-sound:

[53] This view on time has an illustrious line of predecessors, as Lanza himself admits, "Biocentrism argues that the primacy of consciousness features in the work of René Descartes, Immanuel Kant, Gottfried Leibniz, George Berkeley, Arthur Schopenhauer, and Henri Bergson. He sees this as supporting the central claim that what we call space and time are forms of animal sense perception, rather than external physical objects" (http://www.robertlanzabiocentrism.com/biocentrism-wikipedia/).

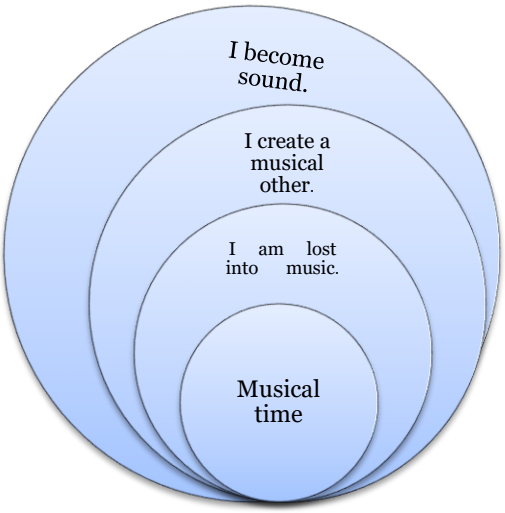


Figure 7// Three forms of being with sound.

Indeed, where I AM, when I listen to music? What do I do, when I listen to music? Do I lose myself into music? Do I receive and interact with the created 'musical Self'? Or do I become sound?

The order of attention.

Not precisely the spatial where, but the essentially ontological what is the question that interests Bohm: What do we do, when we listen to music? He addresses the issue vicariously, through enquiring into the order of the movement of attention. We infer that the movement of attention must have an order fitting with the order of the observed object, for otherwise we will not be able to grasp the object in question even when it stays before our very eyes:

> If we try to listen to a symphony while our attention is directed mainly to a sequential time order as indicated by a clock, we will fail to listen to the subtle orders that constitute the essential meaning of the music (Bohm 2002: 49).

Here, Bohm refers to what Langer calls 'virtual,' and de Sélincourt 'ideal,' time – the time order, that is intrinsic to music and distinct from the sequential clock-time or the psychological time. This musical time order operates on inclusiveness and integrality premises, creating and maintaining a whole out of plurality of discrete, disparate elements, that are not given all at once, but follow each other in temporal sequence. Apropos the nature of this musical time, philosopher Joan Stambaugh, the renowned English translator of Heidegger's *Being and Time* (1927), proposes something that sounds almost strange:

> The moment of musical time is not present, it is at best present*ing*, creating the temporal tension of what has come before and what is to come, the tension of the whole in the moment. Thus, the essential characteristic of musical time is not a vague

> kind of flowing at all. It is a tension peculiar to music itself (Joan Stambaugh, "Music as a Temporal Form" [1964] in Alperson 1980: 416).

The idea that the moment of musical time is "not present" as the hardly significant station of NOW in the clock-time train travelling PAST-FUTURE, but is instead an active agent of creation, sounds like an insight borrowed from the quantum realm of the Implicate Order. Even more particular about the character of the musical time is the description of Henri Bergson, the French philosopher and a Nobel prize winner, who debated with Einstein on the subject of time in 1921: a historical debate that traced a demarcation line between humanities and science epistemologies, and one that cost Einstein the Nobel Prize for his theory of relativity.[54] In his *Time and Free Will* (1889), Bergson proposes the idea that there is a human, living time, distinct from the scientific time, which he calls duration:

> Pure duration is the form which the succession of our conscious states assumes when our ego lets itself live, when it refrains from separating its present state from its former states. For this purpose it need not be entirely absorbed in the passing sensation or idea; for then, on the contrary, it would no longer endure. Nor need it forget its former states: it is enough that, in recalling these states, it does not set them alongside its actual state as one point alongside another, but *forms both the past and present states into an organic whole*, as happens when we recall the notes of a tune, melting, so to speak, into one another. Might it not be said that, even if these notes succeed one another, yet we perceive them in one another, and that their totality may be compared to a living being whose parts, although distinct, permeate one another just because they are so closely connected? The proof is that, if we interrupt the rhythm by dwelling longer than is right on one note of the tune, it is not its exaggerated length, as length, which will warn us of our mistake, but the qualitative change thereby caused in the whole of the musical phrase (Bergson 2001: 100).

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54 According to Jimena Canales, author of *The Physicist and the Philosopher: Einstein, Bergson, and the Debate That Changed Our Understanding of Time* (2016), it was the Chairman of the Nobel Comity for Physics himself, who explained Comity's decision to award Einstein for his discovery of the law of the photoelectric effect instead of relativity, this: "It will be no secret that the famous philosopher Bergson in Paris has challenged this theory." For a quick reference see here: http://nautil.us/issue/35/boundaries/this-philosopher-helped-ensure-there-was-no-nobel-for-relativity

Bergson's contribution on the matter of music, time and the construction of the self powerfully resonates with Bohm's ideas.[55] In the quoted paragraph, Bergson explains the concept of duration through what Bohm later names 'the order of movement of attention:' it is a depiction of the reality of our conscious state as an awareness simultaneously holding what happened before together with what happens now, without necessarily focusing on neither. In describing this model Bergson reaches out to musical analogy, comparing the musical whole in its totality (e.g. a melody) to a living being, echoing Schoenberg's idea of the unitary perception of music and Hegel's observation of the correspondence between the abstract unity of the musical whole and like unity of the subject.

For his purposes, Bohm describes the tension of the whole in the moment, i.e. the order of attention or the state of our conscious self, using, like Bergson, a musical analogy:

> At a given moment a certain note is being played but a number of the previous notes are still 'reverberating' in consciousness. Close attention will show that it is the simultaneous presence and activity of all these reverberations that is responsible for the direct and immediately felt sense of movement, flow and continuity.[56] To hear a set of notes so far apart in time that there is no such reverberation will destroy altogether the sense of a whole unbroken, living movement that gives meaning and force to what is heard.
>
> (…) One does not experience the actuality of this whole movement by 'holding on' to the past, with the aid of a memory of the sequence of notes, and comparing this past with the present. Rather, as one can discover by further attention, the 'reverberations' that make such an experience possible are not memories but are rather *active transformations* of what came earlier, in which are to be found not only a generally diffused sense of the original sounds, (…) but also various emotional responses, bodily sensations, incipient muscular movements, and the evocation of a wide range

[55] Although Bohm echoes a number of ideas and concepts of Bergson, it is highly unlikely that he was familiar with Bergson's philosophy. The latter's work has gradually and steadily sunk in obscurity after his death in 1941, obscurity reaching its peak in Bohm's late years. Given that Bohm customarily gives credit to preceding him philosophers, like Whitehead, Leibnitz etc., it does not make sense that he would borrow from Bergson with no credit.

[56] The phenomenon observed by Bohm is not dissimilar to the discussion offered by David Huron in *Sweet Anticipation* (2006) – where Bohm focuses on the nature of movement, Huron elucidates the nature of emotion arousal, both sharing a similar psychological mechanism. Huron's ITPRA theory of expectation (a flowing chain of imagination-, tension-, prediction-, reaction-, and appraisal response) could be considered as a psychological-emotional Implicate Order at work when we listen to music.

> of yet further meanings, often of great subtlety. One can thus obtain a direct sense of how a sequence of notes is enfolding into many levels of consciousness, and of how at any given moment, the transformations flowing out of many such enfolded notes inter-penetrate and intermingle to give rise to an immediate and primary feeling of movement. (Bohm 2002: 252-3, emphasis in original).

Here, Bohm uses music's key characteristics to illuminate subtle aspects of consciousness' mechanics. In his view, the perception of movement in music is – like the succession of our conscious states – an event not simply bridging the before and after, not even presenting and creating them as Joan Stambaugh proposes or forming past and present into an organic whole as per Bergson's model, but enfolding and actively transforming the past. The wording is important – 'enfolding' is a dynamic, holistic, topological, active term that stresses the continual process and the unified character of the described phenomena. The perception of movement in music exemplifies how consciousness works: the faculties of attention, awareness, thinking, emotional response, and understanding, are operating not on the basis of a recall of the past as static memories, Bohm submits, but by active transformations of the previously heard (felt, smelled, seen) moments, of "what came earlier." This moment in the movement contains the previous and the next one in itself; the presence (re)creates the past and prepares the future; one holds all – like a hologram, like an Ursatz. Michael Young, a sociologist time-investigator and author of the original *Metronomic Society: Natural Rhythms and Human Timetables* (1988), comments on "the stretched simultaneity of the present [that] makes possible the sense of movement" (in Tagg 1997: 6). This 'simultaneity' is indeed what Bohm denotes, when he analyzes the capacity of the musical moment to enfold both past and future. The attentive listening consists of numerous simultaneous processes of enfoldment and unfoldment, in which what happens at any given moment is an integral part of the whole, where 'the whole' stands for a musical phrase, a movement, a piece, a period, a genre. . . but also for the accompanying psychical, emotional and physical responses of the listener. These simultaneously processing ensembles or suborders of sonic, emotional, mental, muscular, temporal or conceptual nature intermingle and interpenetrate in their enfoldment in various degrees, to produce a change in the arrangement or structure of the entire set, maintaining a certain totality of order.

Thus, through an investigation of the intricacies of musical (space)time we have arrived at what I defined at the beginning of this chapter as the 'third implication' – the idea that music and consciousness are enfolded in the Implicate Order as a single integral process, the

holomovement. Now we shall consider the practical dimension of this implication in musical performance.

Musical assemblage

"In listening to music, one is actively perceiving an Implicate Order" (Bohm 2002: 253). In Bohm's universe music exemplifies how attention *performs* and binds together the faculties of consciousness in the present moment while simultaneously maintaining 'reverberations' of past ones within an unbroken flow. In terms of Implicate Order, the significance of music is primarily in the "whole unbroken, living movement." Music emerges as a functioning model not only of the Implicate/Explicate Orders but also of consciousness mechanics and – through the commented above stretched simultaneity of the musical moment – music demonstrates, in some way, the holomovement. Bohm conceives of the holomovement as an Operator: it contains both the virtual implicate and the actual Implicate Orders, and also does the conversion from virtuality to actuality in a state of unending flux. The holomovement is "life-implicit" and it includes in its totality the principle of life: "it is the ground both of 'life explicit' and of 'inanimate matter', and this ground is what is primary, self-existent and universal" (Bohm 2002: 247).

Music, consciousness, Implicate Order. At this point I have established that these ontological entities in the larger Bohmian universe are connected. We can picture them as special cases – different scales – of the holomovement. As articulations of a universal template. As ornamentations on the surface of an Ursatz. As reality frames on a flat plane of immanence.

We can also think of music, consciousness, and the Implicate Order as fractals, using the definition of Benoit Mandelbrot, the mathematician who coined the term in 1975: a fractal is a shape made of parts similar to the whole in some way (in Feder, 1988: 11). As complex patterns with disparate resolutions, but fundamentally similar across their different scales and beyond their local rule sets, music, consciousness and the Implicate Order – each on its own – offer us a peek into the deep nature of reality. The unique situation of music among the others in the set transpires out of its betweenness: music crosses over between implicate and explicate in a most tangible, visceral manner. Including and transcending its sensual sonic dimension, music manifests the holomovement, involving all levels of our being, enfolding our consciousness, demanding our attention to its process. Such thinking about music, as a holonomic Operator inseparable from the virtual and actual realities it inhabits and the environments it creates, invites a corresponding (re)thinking of the musical work. Enters the Musical assemblage.

Assemblage is a framework proposed by Deleuze and Guattari in their volume *A Thousand Plateaus*, often conceptualized as the dynamic state of a whole vs. its static version as a territory. The Assemblage partakes in the rich Deleuzian ontology, plugged right into concepts like the Body without organs[57] and the becoming. In philosophy Deleuze arrives at his concepts and ideas walking on the edge of the known reality, much like Bohm does, in physics. There is a number of similarities between Bohm's and Deleuze's views on and approach to the universe – they both treat it as "unfolding origami," to use the expression of Timothy S. Murphy from his essay "Quantum Ontology: A Virtual Mechanics of Becoming" (Murphy 1998: 221), where he compares the ontologies of Bohm and Deleuze and likens them to a universe, which is always enfolding in itself, a creative shapeshifter rejoicing at becoming.[58]

The assemblage is a compound whole, a symbiotic emergent entity, whose parts are characterized by relation of exteriority. Each and any of the elements of the assemblage could be plugged in and out of the whole, tending its individual existence. An assemblage could be comprised of human and non-human agents, of material and non-material becomings, of physical and psychological processes, of discursive and non-discursive elements, or actual and virtual phenomena. The result is an emergent becoming, created by the constituent parts, assembled around an image of thought. As a character in the theater of Deleuzian concepts, the assemblage is a multicultural, mercurial, acting and affecting entity, whose main features are the connectivity of its contents, its collective expression, and its plasticity suspended between the desire to territorialize and the impulses to deterritorialization.

A definition such as this is quite suitable for a complex entity suspended in time and space like the musical work, one which feels equally comfortable in both the virtual and the actual, one made of multiple 'parts'. Some of the large building blocks that constitute the assemblage of the musical work are the composer, the trace (score), the instrument(s), the

[57] I explore the Body without organs in the last interlude of my dissertation, the InterZone.

[58] It is somewhat of a poetic coincidence that the major books of these thinkers, Bohm's *Implicate Order* and Deleuze and Guattari's *A Thousand Plateaus*, are published in the same year, 1980, yet, apparently unaware of one other. Of course, in these works the topics in focus are approached through different angles and have different genealogies. This difference is reflected in the choice of vocabulary: the *Implicate* and the *Explicate Orders* are present in *A Thousand Plateaus* as, respectively, the virtual and the actual; the holomovement corresponds to the continuous variation or the becoming.

physical environment, the performer(s), the listener(s), and possibly a host other components, all enfolded in the following possible scenario:

- The **composer's** imagination enfolds, as in tunes in, into the Implicate Order to receive a 'message' and to in-form it through the medium of sound, to abstract a musical idea, whose perceived meaning she deciphers and simultaneously encodes in the musical work;
- The **musical work** is life-implicit, virtual entity; once conceived in our three-dimensional world it returns to the virtual archive in the Implicate Order declaring it its domicile, and stamps the musical score as a local address for correspondence;
- The musical work/idea as a whole is implicitly enfolded as information, attributes and potentials into the **musical score**, provided there is one (if not, there still is a musical trace that bears the meaning);
- The **performer** visits the score, taps into the musical work through it, absorbs its perceived meaning, selects a number of capacities to actualize, and in the process 'pollinates' the work with her own experience. During the **performance** the musical work unfolds and becomes alive or life-explicit (to various degrees depending on performer's own skills, insight, personality, and quality of consciousness).
- What the **listener** receives is a hologram of the now somewhat diffused, distorted, divergent, dynamicized 'original image' of the musical work as translated by the composer. For the listener, the moment of unfoldment of the work in performance – as a time event – is inevitably accompanied by a host of **sensory data** (e.g. smells, tastes, visuals, spatiality), and also by a number of impressions and possible associations she makes (e.g. performer's personality, performer's musical persona, reviews read of the work, stories about the composer, memories of when the work was first heard, melodic connections, rhythmic representations, etc.).

This material of sensory, associative and imaginary nature fuses with the now opaque hologram, to result in a single unanalyzable whole in the mind of the listener. An assemblage has emerged, comprised of human and non-human agents, of material and non-material becomings, of discursive and non-discursive elements, or actual and virtual, of real (acoustic and biological) processes and "purely intentional formations."[59] Each one of the components

[59] The Polish esthetician and philosopher Roman Ingarden famously defined the musical work as a purely intentional object with its "source of being in the creative acts of the composer and its ontic foundation in the score" (in Thomasson 2017).

has an existence of its own, but they have come together for a unique singular ensemble in spacetime, to collectively express an idea. A musical work has been manifested. I return to the concept of the assemblage in Chapter 4.

Such nonlinear and pluralistic thinking, however sensible and logical, is just one way to go about and to frame the ontological idiosyncrasy of the musical work. A sense for the radical potential of this model emerges from the ideational pool generated by the artistic research of experimental performer, composer and philosopher Paulo de Assis and his team in Orpheus Institute in Ghent, Belgium. In *Logic of Experimentation* (2018), Assis proposes a thorough rethinking of the concept of the music work based on the idea of the assemblage. His motivation is as a reaction to the so called 'strong concept' of the musical work dubbed 'the classical paradigm' by philosopher David Davies (2011 chapter 2) and supported by Lidia Goehr in various writings (e.g. 1989, 1992). The classical paradigm, Davies submits, is a model for thinking about the performing arts, according to which the artworks have multiple instances.[60] In this sense, the performance is of something (the musical work), and the performers exercise their power of interpretation in order to generate an instance of the musical work (Davies 2018: pp. 45-64). Thus, the musical work has a very stable Platonic core, affording multiple interpretations in performance. However, according to Goehr, the 'musical work' is a historical entity invented by Romantic aesthetic around the 1800s,[61] which heroicizes the Creator/composer as the Great Man, proclaims music as the ultimate art and the 'musical work' – as a true Word from its gospel. "Such a way of thinking result in our alienating music from its various socio-cultural contexts," warns Goehr and asks: "apart from the fact that most of the world's music is not originally packaged in this way, do we not risk losing something significant when we so interpret it?" (Goehr 1989: 59).

Paulo de Assis responds to the 'strong' concept of the musical work with problematization of the ~~work~~. Indeed, the classical Work with its pentavalent bond (composer – idea – Work – performer – listener) is problematized and challenged by the ~~Work~~ as its opposition/negation. Assis rejects the notion of stability and approaches works as 'metastable constructions', indeed as assemblages constituted by ~~work's~~ background, sketches, drafts, editions through time, performing styles, listening expectations, criticality

[60] In *Art and its Objects* (1980) philosopher Richard Wollheim describes a model of the so-called 'type-token' relationship for performance works of multiple instances: in this model the 'musical work' would be the type and each performance – a different token of this type.

[61] See E.T.A. Hoffmann's "Beethoven's Instrumental Music" from his novel *Kreisleriana* (1813), translated by Arthur Ware Lock (1917, pp. 123-133).

(Assis 2018). Reading closely Deleuze and Guattari, and particularly the chapter from *A Thousand Plateaus* "Geology of morals," Assis proposes that the musical assemblage consists of four material layers, as follows:

1. Substrata, incorporating theories, treatise, instruments, iconography etc.: every-thing existing before the composer that has played some role in the emergence of the work.
2. Parastrata, containing everything that composer has produced in coming to his first formulation of the work: sketches, drafts, first editions, own writings etc.
3. Epistrata, comprised of others' response to the new work – period and modern editions, books about the work, critics etc.
4. Metastrata, enfolding the amalgamation and sublimation of all these objects and materials, from which artists do artistic realizations.

In this way the Work-assemblage is not a Euclidean object anymore with perfectly identifiable on a 3-D space coordinates. The ~~Work,~~ in the spirit of a Riemannian manifold[62] of many dimensions, is a multiplicity in which the attention is placed not on the extensive, but on the intensive properties and the interest is engaged by the energetic potential for future realizations. The Great Composer is replaced by the Operator, who merges the traditional roles of composer, performer and scholar. The Musical-work-as-an-Assemblage takes the musician out of music to enable the adoption of other, 'forein' perspectives and approaches, so when she returns to music, her performance reterritorializes the musical ~~work~~ in a profoundly novel way, as an Assemblage.

Paulo de Assis' work opens up new avenues of exploration not only for artistic research as such, but for performance in general. Assis' metastable constructions operate on the fold between the actual and the virtual, comprised of live and recorded music, text, images, videos, dance. Those present to the performance are neither listeners, nor viewers. They experience the enfolding image of thought implicated in the musical work, heavily hyperlinked by numerous connections, hints, associations, transformations; they are also, literally, creating it. The whole that has been collectively experienced, created and acted out is a moment of an Implicate Order. The Musical assemblage practice is a prime example of

[62] Bernhard Riemann (1826-1866) is one of the leading mathematicians of 19th century. His idea of multidimensional space, known as Riemannian space or manifold (also 'hyperspace'), propped and enabled the theory of general relativity. Deleuze, arriving to Riemann via Henri Bergson, is inspired by mathematician's ideas and applies them in his conception of the virtual.

the aberrant nuptial[63] between music, consciousness, matter, the Implicate Order, and the holomovement that is the Musical work – and 'the listener' could now legitimately witness, feel, taste, smell, comprehend and participate in its becoming.

Becoming vs. Becoming

However inspiring the idea of the musical work as musical assemblage is, such kind of artistic practice still operates on the fringes of the mainstream go-to-a-concert musical experience – the familiar interface between the musical and the physical, as far as live experience goes, is largely mediated through (some kind of) space where we go to listen/watch/experience a kind of musical whole. In the heart of this multilayered and multifarious yet opaque musical whole, which we visit – or which visits us? – when we play or listen to music, whiffles something ambiguous, sensual and subtle, something musical and subjective. It is easy and somewhat straightforward to call it 'sonic' or 'belonging to sound,' but best not be too hasty with definitions. As the anthropologist Tim Ingold marks, "Sound is not what we hear any more than light is what we see":

> (Sound) is neither mental nor material, but a phenomenon of *experience* – that is, of our immersion in, and commingling with, the world in which we find ourselves (…) (Sound) is not the object but the medium of our perception. It is what we hear *in* (Ingold 2007: 10-13).

Dwelling in and 'phenomenalized' by its medium, the musical whole, to give it a name, is the "illusion begotten by sound," as per the oft-quoted expression of philosopher Susanne Langer (Langer 1953: 107). The elements of this illusion are not tones, rhythms, dynamics or durations, Langer maintains, but "something virtual, created only for perception. Eduard Hanslick denoted them rightly: *'tönend* bewegten *Formen*' – 'sounding forms in motion'" (Ibid.). These moving sounding forms are the elements of the illusion, or the semblance created by the composer: "something that exists only for perception, abstracted from the physical and causal order" (Ibid.).

Here is music's circular articulation:

[63] *Aberrant Nuptuals: Deleuze and Artistic Research* is the name of the 2020 volume edited by Paulo de Assis and Paolo Giudici. The name refers to Deleuze and his concept of becoming: "Becomings are not phenomena of imitation or assimilation, but of a double capture, of non-parallel evolution, of nuptials between two reigns. Nuptials are always against nature. Nuptials are the opposite of a couple. There are no longer binary machines" (Deleuze & Parnet 2007: 2).

A. From the Implicate Order of music, characterized by a pre-compositional virtual musical structure of relationships exemplified by the Ursatz that enfolds all future musical transformations and variety, where time and space are to be perceived as unity, and where past, present and future are enfolded in the simultaneity of the stretched present*ing* moment,

a¹ A musical assemblage is abstracted or explicated through the medium of sound, an assemblage as a heterogeneous entity comprised of material and expressive elements characterized by relations of exteriority, a musical entity that is extended in space and actualized in time.

A. At the very moment and by the very act of its explication or actualization, this musical assemblage evokes a semblance, a non-physical illusion "abstracted by the physical and causal order;" upon its last reverberations the semblance returns to the Implicate Order.

Figure 8// Variations on the musical holomovement as a flow between A-a1-A: Implicate Order -> explicate Musical assemblage -> musical semblance -> Implicate Order.

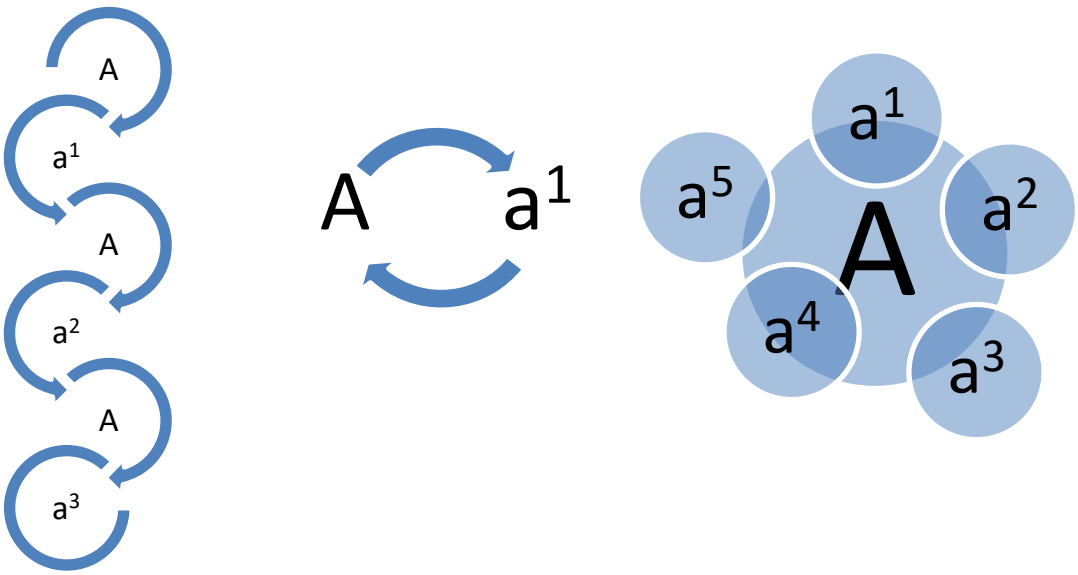


Figure 8 visualizes the relationship between the Order of music and the Musical assemblage/semblance in three distinct models: through the flow of the holomovement a musical abstraction is unfolded from the Implicate Order into the Explicate Order, to immediately enfold back into the virtuality and potentiality of the Implicate Order – and all

this enfoldment and unfoldment is contained in and enacted through a single (holo)movement.

Although created by the Operator/ performer/ musicker, the musical semblance is distinct from him or her – in a sense, the musicker is music's Other, the one music presents itself before. The nature of their relational process and its power dynamics is not unambiguous, for who is who is at times difficult to establish – the Creator and the Creation are enfolded into each other. One way of thinking beholds the association between musicker and music as a power asymmetric assimilatory relationship (de Sélincourt's "our own continuity must be lost in that of the sound we listen"); another reasoning employs the classical self/Other dialectics (Hegel's "the abstract unity echoes the like unity of the subject"); a third scenario contemplates that the two parties merge into each other and through each other, to create an ethos of transcendence (Sloterdijk's 'immersion with sound'). Assimilation, dialectics, immersion – what is the most faithful construction of the relation? And is this an 'either/or' or 'both/and' kind of question?

Cultural musicologist Birgit Abels provides a possible answer in proposing the Sloterdijk-inspired metaphor of music as a sonic mirror:[64]

> Music occupies a space where our ideas about culture, society, place, history, and life meet. It's a space where we think about who we are and who we would like to be, and in this ephemeral sound, we spontaneously find ideas about ourselves reflected at a given moment. Music is a sonic 'mirror space' whose reflection we can look at and within which we can move at the same time. This is why I believe it is fundamentally important that we try to understand the many meanings of music, because they tell us things about who we are that we might not know otherwise. As we sense, and make sense of, music, it can help us make sense of ourselves (Abels 2016).

Apart from the emphasis on 'space,' I find that the mirror metaphor powerfully resonates and merges the two possible musicker-music relations. Looking at the mirror, one sees it as Other, as a thing on its own right – the unity of the Self looking at the mirror echoes a like abstract (musical) unity of the mirror. There is a dialectical peek-a-boo, an entanglement between the two semblances. At the same time, one looks into the mirror and by seeing one's reflection one's own continuity is 'lost' – I am engulfed by the virtual reflection, I sink into it, I become my reflection, I become music – at the moment it is the only reality I know as

[64] The metaphor of the sonic mirror is extended and critically discussed in Chapter 3.

myself. 'Reflection,' however, does not account for the capacity of music to generate difference, for the interval music creates where the musicker is able to extend, augment, amplify, transcend its subject ('real') and its reflection ('imaginary') boundaries, by becoming-unimaginable. Thus, we must tweak the opaque reflecting surface of Abels' sonic mirror and liquify it to Haraway and Barrad's diffracted model.

Diffraction is a physical phenomenon produced when waves travelling through space meet an obstacle, or when these waves themselves overlap. Both feminist scholar Donna Haraway and new materialist philosopher Karen Barad comment on and recommends the notion of diffraction as a "useful counterpoint to reflection: (…) whereas reflection is about mirroring and sameness, diffraction is marked by patterns of difference" (Barad 2007: 29). The critical practice of reflexivity, as an autonomous self-referential self-positioning, as a way of engagement and knowledge production, is challenged by Haraway. In reflexivity, as in reflection she sees only a displacement of the "self elsewhere, setting up the worries for copy and original and the search for the authentic and really real" (Haraway 1997: 16), where "diffraction is an optical metaphor for the effort to make a difference in the world" (Ibid.).

Diffraction, then, is the effect of the difference produced when the waves of the musicker overlap with the waves of the musical transformations – in music's diffracted mirror I don't 'see' myself as myself, but as what I want to be, I never thought I could be, I did not know I am, as I can never be. . .. The capacity of the musical Implicate Order to create difference out of uniformity manifested as beat and rhythm, harmony and melody, the capacity for unitary perception of space and time, for creating alternative modes of musical space and time, for endless ornamentations on the face of the Ursatz, creates a complex diffracted wave pattern. This pattern interferes with my wave pattern to produce a yet further diffracted order that perturbs my consciousness and opens a door of perception.

Past that door in the musical experience, one finds oneself beyond sound and movement, beyond subjective experience, even beyond space and time ("for nothing else exists there"). The Buddhist meditation master Chögyam Trungpa talks about the 'fourth moment' – the moment that is beyond the other three, past, future, and present. Sometimes it is referred to as 'nowness,' he says, other times as the much larger version of the third moment, the present. It is a state of non-ego, a very real experience in which nothing can be misunderstood (Rinpoche 1974). Art, according to Rinpoche, has the purpose to show our non-existence in the world. In an article titled "Musical qualia, Context, Time and Emotion" (2004) Rinpoche's meditation disciple, computer science professor Joseph Goguen proposes

that close attention to music and to how we hear it, could give rise to an experience of the fourth moment,

> [A]n experience of time suspended, of not past, present, or future, but a limitless space of great equanimity that unifies and transcends all three, and in which both self and world disappear (Goguen 2000).

Goguen names this space "the abode of the sacred" and ends there. Admittedly, it is a strong ending of his article, as 'sacred' delineates our limits beyond which lays the unknown, and as such it is in itself an end-statement. But if 'sacred' is understood as a 'non-ego' or self-less connection to and union with a higher, Other order that operates in an unfamiliar mode, with different protocol, that has different content and expression, and where time flows in Other way, then we could use it as a transition and translation to what physicist Thomas Campbell names a Nonphysical Matter Reality within the Absolute Unbounded Manifold.

This reality is explored in the next chapter.

Finally, again: Where we are when we listen to music? In the 'fourth moment,' in the 'nowness,' in the 'non-ego' territory of 'non-existence'? Whatever the name is, it is there, in that spacetime interval, where music, consciousness and the Implicate Order superimpose.

The Implicate Order is the common ground of both matter (inanimate and living objects) and consciousness; it is its enfolded structure, both of information and of matter (e.g., in the brain and nervous system), that which primarily 'enters' consciousness. The enfolded structure of the Implicate Order is the cradle of the musical beginning, too: in the virtual plenum of the musical, vibration and movement come to play live sonic architecture games with intensities, pressures, and consistencies, experimenting with selected populations. From the milieu of this ongoing play, a specific assemblage is abstracted and awaken in our consciousness, to produce the musical experience. As far as Bohm is concerned, music is one of the clearest avenues available to humans to consciously grasp and feel the all-enfolding nature of the Implicate Order. Furthermore, with its incarnation of the "whole unbroken, living movement," music appears to be an epitome of what is, the holomovement. Holomovement is the topological current which "enters information and matter in consciousness," gets digested and is consequently regurgitated as stories, music, art,

machines. In this respect, we understand the holomovement as a synonym of life force/ life power/ life drive, or simply, life.[65]

I conclude this Bohm-inspired chapter with the proposition that within Bohm's framework music could be thought of as a relatively autonomous sub-totality, one of many abstracted from the holomovement. Other examples of sub-totalities Bohm gives are the Universe, life, and the non-animate matter. Each one of these sub-totalities operates under certain conditions and limitations defined only in a corresponding total situation. Bohm outlines three key features of a sub-totality. It needs:

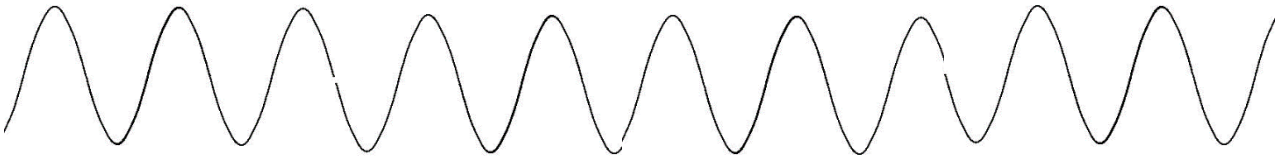
1 A set of Implicate Orders.

2 A special distinguished case of the above set, which constitutes an Explicate Order of manifestation.

3 A general relationship (or law) expressing a force of necessity which binds together a certain set of the elements of the Implicate Order in such a way that they contribute to a common explicate end.

I shall revisit the idea of music as a sub-totality in Chapter 3, in reference to the newly introduced reality frame I dub Musika. How a sub-totality is possibly abstracted from the holomovement and what is the role of the sentient element in the Order of music are among the major themes of the next chapter.

[65] Cp. Bergson's Élan vital, Jing's Unus Mundus, Schopenhauer's Will to life.



II INTERMISSION

The Form of Practice

To speak of music-making, music-incepting, music material, music definitions, musical work and musical meaning without addressing the formation of the being who conceptualizes and probes the bodies of the symbol systems it explicates, is to miss the point. As far as we are concerned, the state of affairs is tightly constrained: no human being – no music. Therefore, before spending a considerable effort on conceiving of how the human being produces, interacts with or relates to music as one becoming to an Other, we should contemplate how music and being come together through self-formation, self-extension, self-enhancement, self-overcoming. For between the drastic and gnostic music, between the implicate and the explicate, there is the becoming of practice.

> I propose reformulating the discipline of art history as a history of artistic or virtuoso asceticism. Just as the history of science usually presumes that the scientists who do their disciplines already exist, the history of art has assumed since time immemorial that artists are the natural protagonists of the business that produces works of art, and that these players have always existed as well. What would happen if we rotated the conceptual stage ninety degrees in both cases? What if we observe artists in their efforts to become artists in the first place? We could then see every phenomenon on this field more or less from a side view and, alongside the familiar history of art as a history of completed works, we could obtain a history of the training that made it possible to do art and the asceticism that shaped artists (Peter Sloterdijk, 2012: 9).

In the spirit of Sloterdijk's 'side view' rotation, I ask: what does the musicker, *a.k.a.* the music artist, do? What is her practice?[66]

[66] Upon a quick search of the term 'practice' the Google search engine feeds back the following meanings:

Practice makes perfect

> Practice is the act of rehearsing a behavior over and over, or engaging in an activity again and again, for the purpose of improving or mastering it, as in the phrase "practice makes perfect."[67]

Practice is incredibly boring and relentlessly greedy. A well-documented UK study from 1996, titled "The role of practice in the development of performing young musicians," established this simple truth: "Formal, effortful practice is a principal determinant of musical achievement" (Sloboda et al. 1996). The second simple truth substantiated by the study is that practice is not inherently enjoyable: "Even the most able individuals find it hard to motivate themselves to rigorous practice (…) the role of the parents is absolutely crucial in this respect" (Ibid.). In short, practice is the *via dolorosa* to achievement. "Do me, do me again:" an endless cycle of reiterations and protocols, of diligently arranged sets of consistent exercises, of simple actions with no requirement for inspiration or creativity, but with a twinkling promise for a – maybe – conceivable singular 'achievement'. . .. And then, when the "parental pressure is gone, people fall in deep depressions, because they feel maybe they misunderstood or … (they feel) empty."[68] If all of this is true – if practice is not inherently enjoyable, if the parental role is absolutely crucial, and if without it people get lost and depressed – one cannot help wondering, how is it that adults keep practicing, why they do it, how is practice sustainable? Could it be that, in spite of common sense, pedantic, onerous, and tedious practice is in itself, apart from its goal, valuable, worthy, rewarding?

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1 the actual application or use of an idea, belief, or method, as opposed to theories relating to it.

- the carrying out or exercise of a profession, especially that of a doctor or lawyer.
- [count noun] the business or premises of a doctor or lawyer.

2 the customary, habitual, or expected procedure or way of doing of something.

- an established method of legal procedure.

3 repeated exercise in or performance of an activity or skill so as to acquire or maintain proficiency in it.

- [count noun] a period of time spent practicing an activity or skill.

It is the last third meaning of practice that I reflect upon in this chapter, and more specifically: practice as opposite and complementary of theory.

[67] Practice (learning method). In Wikipedia. Accessed December 9th, 2017. https://en.wikipedia.org/wiki/Practice_(learning_method)

[68] The pianist Caroline Oltmanns in "Living the classical life" episode 42, published on February 23, 2017 (~ 16.15 minutes) https://www.livingtheclassicallife.com/42-caroline-oltmanns

In his *Metaphysics* (4th century BC) Aristotle proposes that in order to know some-thing for what it is, one needs to answer said thing's four why-s: its matter-, form-, agent- and purpose- explanations or causes, taken as a whole: *causa materialis*, *causa formalis, causa efficient* and the end-cause of existence and purpose, *causa finalis*. I use Aristotle's reasoning as an endoscope – as a tool to perceive and amplify different aspects of the dense, smooth and insidiously entraining thing-process that practice is. To spearhead this investigation, I select the proverbial wisdom of the phrase 'Practice makes perfect'. A hardline of most any pedagogical repertory, the understanding that practice is the way leading to perfection points at the sour fact that the object of desire is achievable through hard and steady work. This idea brings comfort to many, especially to those with just a little talent and modest circumstances: "Never mind the talent" it sermons, "even in its utmost it is still just a one (1); what matters are the subsequent zeros (000^n)." In other words, the diligent work results in an incremental increase in expertise and, ultimately, it pays off – or so the saying goes.

The proverb's symbolic ethos is captured in the conditional dictum of the so-called American dream: "The sky is the limit: There is nothing you can't do or be, if you are willing to work your hardest." This optimistic view, at its more sinister undertones, reveals a parasitic message: Hardworking Joe's consistent labor doesn't really guarantee him success and just rewards, but it does deliver a bigger revenue for Joe's employer than Sloppy Jim's work. Does hard work always pay off and, respectively, does practice? How many of the committed young musicians perennially nurtured with the one-and-zeros metaphor do achieve their 'perfect'? To those who don't, 'practice' in 'practice makes perfect' is an incitement and an opportunity, a carrot-and-stick exploitative management strategy.

Rotated 180 degrees, the popular phrase excites another remarkable prospect: There exists a 'perfect,' and it is THE GOAL one aspires to. The longing for greener pastures, for an escape from the constrained human condition, the possibility of attaining heaven and eternal bliss are all key themes in different religions. Salvation is attainable, these religions assert, through free will, restraining practices and personal effort, e.g. following the divine precepts, atonement, ascetism. However, achieving a 'perfect' in reality is but a fleeting objectified moment in time, a hormonal rush experienced by a giddy ego. It is the seconds-lasting ecstatic culmination of a 5-minute circus act before the explosion of deafening "BRAVO!": a pinnacle is achieved after years of training, and it has already passed in time. Is this moment a *finale*? Interpreted from the perspective of the 'perfect,' 'practice' is means and promise, a politico-ideological strategy.

Whether read forward or backwards, the 'practice' and the 'perfect' in the popular phrase both operate as possibilities and opportunities, as positivistic promises for attaining im/possible virtual goals – self-improvement, success, a dream. These goals are the limits within which practice operates as a linear, incremental, and one-directional process-in-progress. Applying Aristotle's formula to this basic case is straightforward:

> ***Causa finalis*** is the 'perfect' – fake or real – towards which practice is directed. For the practicing pianist, the 'perfect' ranges from managing a performance with no 'mistakes' to winning a competition or to waking the musical ineffable resting in the score. The 'perfect' could also be embodied as a concert, a record, reputation, recognition, as an invitation to play with a big orchestra, a fortune – all smaller and higher peaks that are outside of the quotidian chores of practice.

To achieve the perfect, practice will endure, change or adjust its *causa formalis*.

> ***Causa formalis*** – the assortment of particular exercises for pianistic dexterity and tonal coherence that are performed daily in various orders for a certain period of time. Scales and arpeggios, thirds and sixths, articulation and pedal work – all for the sake of achieving unhumanly elegant musical enunciation and making it all seem possible, effortless, easy.

Practice employs its *causa formalis* to refine and obey its material.

> ***Causa materialis*** is, to follow up with a musical example, the piano as an instrument and its mechanics, affordances, belongings and accessories, e.g. sheet music, time measuring devices (clocks and metronomes), specialty equipment (chair, cushions, pencils). As 'material' we should also consider the materiality of sound. The pianist, too, is a material cause, as her whole body – skin, hands and fingers, breath and heartbeat, musculoskeletal, cardiovascular, nervous, endocrine system – not only participates in the process, but must be disciplined by it. In practice, all these systems are to be coordinated, tuned into the piano's affordances and music's requirements (Fig.9).

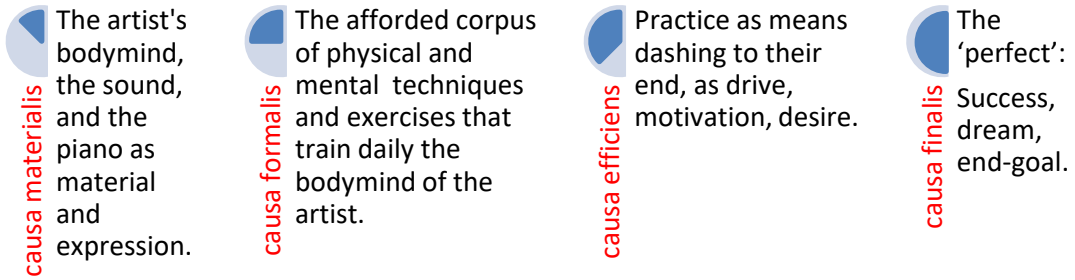


Figure 9// Aristotle's four causes describing the object of 'practice', spread I.

This explanation is both straightforward and inconsistent. It defines *causa finalis* from the point of view of the pianist's mind, while placing the pianist's body as *causa materialis*. This treatment of the pianist is further complicated by the odd importance placed on the content of practice, on its substance as multiple consecutive zeros, while leaving murky the identity of the One, *causa efficiens*. It is as if practice itself has agency in pursuing its 'perfect,' without much concern for the practicing person commodified as material. In this sense, practice itself is an actor consisting of propelling forces, like motivation, desire, drive. But then, if practice itself is an actor, what would its perfect be? Would there be any perfect as an end-goal at all? And what happens after the 'ever after:' why the pianist as practice's *machina*, once reached and wallowed in the 'perfect' keeps showing up punctually on daily rendezvous with practice? What does practice want of her? This is an important question worth repeating: what does practice want from its practitioner? I return to it later in the chapter.

The trouble with the 'perfects' mentioned above is that they all are penultimate: they do not satisfy the purpose, or let say, the mission of practice, only outline its circumference. The essential and the most personal character of practice lies within, where creative material aspects emerge in the context of its repetitive, mundane, uninspired nature; where a vertical is conceived amidst and performed by a horizontal; where quality grows out of quantity, a difference – out of repetition. What is this middle ground of practice, simultaneously fecund, robust and supple, that readily lends itself to different interpretations and managements, while at the same time endures, resists and defies daily the fuliginous shadows of boredom, resentment and monotony? What is practice's ultimate *causa finalis*?

The first intuitive four-causal spread appears to raise more questions than the answers it provides. Let us start again.

Causa finalis

In his book *You Must Change Your Life* (2014) the philosopher Peter Sloterdijk explores the significance of practice, under the headings of anthropotechnics and through the cobwebs of practice-concealing phenomena, like 'spirituality,' 'morality,' 'ascetism,' 'superstition,'

'religion'. The title is borrowed from the final half-line of Rilke's sonnet *The Archaic Torso of Apollo* (1908), inspired by the uncanny power of art to arrest the mundane, to penetrate the veneer, and to reawake the awareness of the power and beauty we know within.

We could not know his huge and noble head
With eyes grown apple-ripe. Yet even so,
His torso glows with a candelabrum's glow
Wherein his gaze, though only faintly fed,
Is held and gleams. Or else that bulging breast
Could never blind you, nor a smile run there
In the tender twist of the loins to that center where
The spring of procreation hangs at rest.
Or else this stone would squat, disfigured, small,
Truncated under the shoulders' lucid fall.
Nor would it shimmer like a wild beast's hide--
Break forth at every point in star-sharp strife.
For there is no place here, on any side,
That does not see you. You must change your life.[69]

The stunning ending is not a detached religious commandment, Rilke's interpreters insist; rather, "it is an individual commandment of one's own life, a potential that has not yet been realized that we suddenly recognize in fulfilled moments of our lives."[70] This recognition of raw potential along with the ensuing active self re/formation are underpinning Sloterdijk's understanding of practice. For him, practice is the uncredited bridge between nature and culture (2014:11), between the survival scream for a physical shelter and the existential cry for a symbolic one. Beyond the dichotomy of *Homo faber* and *Homo ludens*, there is *Homo immunologicus* – the last neologism coined by the philosopher, is a local agent of immune systems explained as the "embodied expectations of injury and the corresponding programs of protection and repair" (Ibid.: 8). As a response to biological evolution mechanisms' transposition into the social and psychological realm, the human sphere develops three immune systems, Sloterdijk maintains: the biological, the mental or socio-cultural, and the symbolic or psycho-immunological system of practices,

[69] Translation from German, William Ruleman.

[70] Ulrich Karthaus: *The power of light*. In: Marcel Reich-Ranicki (ed.): *1000 German poems and their interpretations*. From Arno Holz to Rainer Maria Rilke. Insel-Verlag, Frankfurt am Main / Leipzig 1994, p. 282.

> (o)n which humans have always relied to cope (…) with their vulnerability through fate, including mortality, in the form of imaginary anticipations and mental armor (Sloterdijk 2014: 9).

In Sloterdijk's, practice emerges as the immunological toolkit that soultinkers man ready to conquer life – or to simply bear it. *Homo immunologicus* is impelled by his own intimate evolutionary workings to employ

> a variety of methods of mental and physical practicing, by which (he) attempts to optimize (his) cosmic and immunological status in the face of vague risks of living and acute certainties of death (Ibid.: 10).

In these terms, practice is something inborn, an instinctual mode of man's existence through which the clumsy *Homo sapiens* produces and in-forms the human being. Practice is the existential struggle of the animal aware of itself and its difference to create a "symbolic framework," in Sloterdijk's words (2014: 10); it is one's struggle with life and oneself in concern for one's form.

The problem of form vs. substance is fundamental in both physics and philosophy, as David Bohm reminds us:

> The effect of the quantum field depends on the form and not on the intensity. Radio wave and receiver – it all depends on the form of the radio wave, not on its intensity, the energy contains in the receiver. In-form [means] to put form in. The wave function which operates through form is closer to mind and life; the basic quality of the mind is that it responds to form and not to substance (Bohm 1989).

The essential character of the form is also commented on by one of Sloterdijk's favorite *Homos immunologicus*, the philosopher Ludwig Wittgenstein, who in *Culture and Value* from 1937 writes: "The fact that life is problematic shows that the shape of your life does not fit into life's mold. So you must change your life and, once your life does fit into the mold, what is problematic will disappear" (in Sloterdijk 2014: 139). This idea is the leitmotif of Sloterdijk's book, as it is to be expected from the title: practice is the instinctual mode of engaging with the world in the pursue of the ideal form of life and being that provides for not

simply smooth and not even bearable, but at times the one possible[71] existence. Man produces man, he proposes, not through (hard) work or through work on oneself (on the way to salvation), neither through communication and interaction, but through forms of exercise. The man-in-training, to whom Sloterdijk refers to as, depending on the context, *Homo repetitivus* or *Homo artista*, is put together through daily appointments with practice, the latter defined as

> (A)ny operation that provides or improves the actor's qualification for the next performance of the same operation, whether it is declared practice or not (Ibid.: 4).

These perspectives on practice require a second rendition of Aristotle's four-causal spread. In Sloterdijk's, 'practice makes perfect' would be interpreted as shown in figure 10.

Figure 10// Aristotle's four causes II.

Causa efficiens of practice, as the agent bringing all other causes together, is the practitioner, *Homo repetitivus*, *Homo artista*: the shoemaker, the yogi, the composer. ***Causa finalis*** or the 'perfect' as the object, concern, and the goal of practice, is the right form of life. ***Causa materialis*** depends on practice's medium, whether it is leather for the shoemaker, one's body for the yogi, or the instrument for the musician.

What about *causa formalis*? How to go about the form of practice? Given that practice is a process in time rather than an object in space, its formal cause could be conceptualized and inferred by its material – the most conspicuous of all causes. If, treating practice as generic process, we are able to extract a generic *causa finalis* (the right form of life) and generic *causa efficiens* (*Homo immunologicus*), we could assume that practices must be similar enough to extract a generic *causa formalis*. Making clay pots or singing, jogging, meditating or fasting are practices using different mediums-as-materials but with the same generic

[71] There are several references in the book to suicidal characters who, through realization and awareness of the self-making potential of certain practices have never committed a 'final' suicide, e.g. Michel Foucault, Emil Cioran.

causa materialis providing the substance for training and self-formation; functioning on different mediums, these practices effectuate the same process. What process is this?

To better understand the formal cause, we shall zoom into the question of the medium: Is the medium-as-material anything other than a pliable tool?

Causa materialis. Causa formalis

"It's not easy to see things in the middle, rather than looking down on them from left to right or right to left: try it, you'll see that everything changes", advises Deleuze (2013: 24). If we put an ear to the throbbing middle of practice, we could sense a subtle presence. It is a ghostly hum emerging from practice's repetitive nature, which awakens something Languid and lullabies something Watchful. Practicing a challenging passage on the conglomerate of materials that is the piano for example – 200, 300 times a day, in rhythmic or melodic patterns, in temporal variants, backwards, with 'right' and 'wrong' fingering, with alternative touché – keeps one's mind attentive, aware and present, but one's I-ness slowly retires, anaesthetized: there is nothing to be 'I' about, exercising on an Other body. What comes instead is beyond I-ness, beyond the conventions of musical grammar, beyond the message of the medium, in short, beyond the subtle bionic composite made of pianist's, music's and piano's bodies. The presence emerging from this three-bodied composite is imbibed by a range of intensities, like speeds, consistencies, vibrations, dynamics, pressures, it is embodied in lines and curves, in jumps and smoothnesses. A body without organs (the three-bodied composite) weds organs without a body (the intensities), giving birth to a *quasi*-novel awareness: the medium, the sound, bespeaks for itself, and together with practitioner's bodymind, the musical work, and the materiality of the piano they form the flowing assemblage of, what Deleuze might name, becoming-intensity.

Such becoming is not exclusively incited by playing a musical instrument. In the second hour of consistent swimming, for instance, one begins to marvel at the otherworldly haecceity of becoming-water first-hand. Marvel, had one had her self-aware mind, that is. As it is, one just is eerie water. The true content of water, as the medium of one's practice, is not revealed by its material essence alone, H_2O, but rather by the intensive capacities revealed in water's dance with the swimmer – its weight, viscosity, dynamism, pressure, temperature, color, taste, and sound.

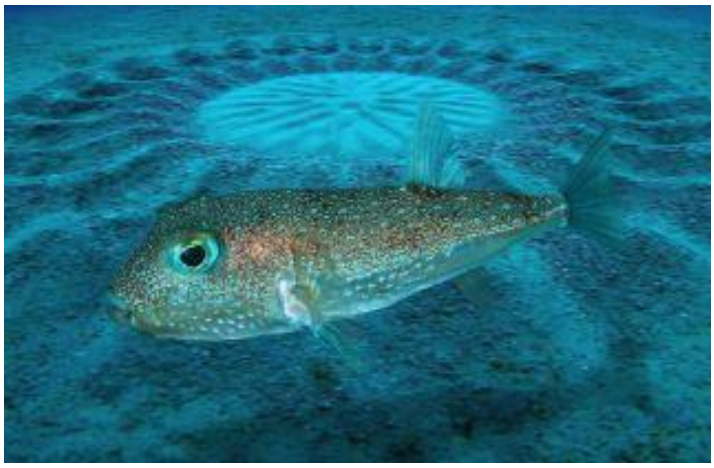


Figure 11// Species of male Pufferfish creates impressive sand wheels 20 times its size, to attract females.

Blending in-to a medium in such a manner, one encounters said medium's inner life. Paradoxically, the secret of such an encounter is readily available only to a visitor: an agent from a different medium who temporarily inhabits water. As it has been noted before, to the fish totally immersed in it, water is mostly invisible. The extent of water's existence is constrained by fish's limited interactions with the water, through which the former senses variations in latter's properties. Not water's most basic for us quality, its wetness, and certainly not water's transformative powers. Without contrast and perturbance, water is but an invisible background. To encounter its own medium, a fish would need to engage in a steady practice that would allow it to relax its I-fishiness and blend with water. The temporary becoming-water would expand both the ontological and epistemological knowledge of the fish and would instill a novel awareness of what-is-it-like-to-be-a-fish. But which fish in her right mind would ever attempt such a silly thing, becoming-water?

Instead, the fish engages in a host of imaginative and unimaginable becoming-other, as transformative practices motivated by evolutionary pressures. As camouflaging strategies, for example, the Cuttlefish practices becoming-imperceptible and the Frogfish learns to becoming-coral;[72] as mating routines the Puffer fish masters its becoming-artist (fig.11) and

[72] The Cuttlefish is famous for its camouflaging abilities that allow it to hunt, hide and communicate. It does that by extracting a statistical approximation of its environment and then matching it, thanks to the millions of specialized skin cells called *chromatophores*, which its big brain contracts and expands according to the needs of the moment. The tropical Frogfish, a type of Anglerfish, dwells in coral reefs and, although has no scales, it has mastered the art of camouflaging as coral, thanks to its textured body.

the male Seahorse spells the unimaginable becoming-mother[73] . . .. Thus, by becoming-other, the fish vicariously explores its medium while endures, propagates, survives, mutates, adapts, transmogrifies.

Whatever the practice is, it inevitably entails a study of the medium and an elaboration of techniques that enable a particular becoming(-Other). The role of the medium can hardly be overstated:

i) It is through a medium that a becoming would take place at all, as this becoming is both ineffable and intangible, dynamic and discursive phenomenon of time conceptualized in space – like sound, or color is; the medium is the opaque dimension of practice, the substantial aspect of the becoming;
ii) The medium not only enables the becoming, it colors it with its properties and idiosyncrasies – becoming-water is different than becoming-music in that where the former has water-like quality the latter moves and shifts musically….

Medium and becoming here are like two sides of a coin: the difference between them is that between material and form, or representation and presence (see below) – where the former is the engineer of practice, the latter is its architect, where the former is syntactic, the latter is semantic. In his book *On the Nature of Consciousness* (1995) psychology professor Harry Hunt, following philosopher Susanne Langer, distinguishes between two forms of symbolic cognition that gives rise to conscious awareness, representational and presentational symbolism. Within the former kind he lists language and mathematics, while music belongs to the presentational symbolism. Within it,

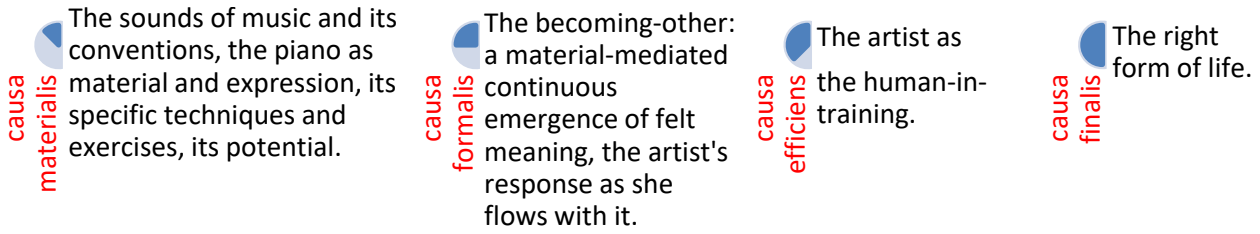
> [M]eaning emerges as a result of experiential immersion in the expressive pattern of the symbolic medium. It appears as spontaneous, peremptory imagery and is fully developed in the expressive media of the arts. Here, felt meaning emerges from the medium in the form of potential semblances that are "sensed," polysemic and open-ended, and so unpredictable and novel (1995: 42).

These forms of meaning, emerging from medium's substance and expression, are the molecules of becoming. To return to the question of the four causes, I propose that the

[73] The Seahorse male is known for his unique ability to carry the fertilized eggs in his pouch for the two weeks of Seahorse pregnancy, and subsequently to give birth to his offspring before repeating the cycle again and again for the duration of the breeding season.

formal cause of practice is the ensembled, emerging, polysemic becoming of the agent merging with medium's material in the pursuit of the 'right form:'

Figure 12// Aristotle's four causes III.



In this sense, practice is a self-investigative process, negotiating between the drastic and the gnostic, in which we explicitly use the medium-as-material, in order to establish the means of our implicit, personal becoming: diving into a medium-conditioned becoming-intensity to surface with an improved self-understanding. Practice is the continuous art of vicarious self-delineation, of both self-deterritorialization and self-reterritorialization, of shaping difference through becoming-repetition. In fact, all becoming-x, where 'x' stands for 'Other,' however wildly diverse, have a common denominator. It is the drive at the core of the continuous self-probing and self-decentering, performed in order to better form oneself. One undergoes a series of transformations in one's life represented by the sine wave alternating inevitable collapses into the abyss or chaos and subsequent resurrections, Jungian psychologist and professor at Toronto University Jordan Peterson asserts: "The self is the thing that manages the various transformations in life, the thing that moves across the transformations."[74] By persevering in our practice of choice, we begin identifying with it, and in becoming the practicing man, we continuously discover – through our medium – the world and ourselves. Walking Zarathustra's rope of practice, *Homo repetitivus* becomes *Homo artista*. Putting practice to an end equates putting an end to practitioner's life, for his becoming traces his *causa finalis*.

What does practice want?

The connotation of self-making and practice I propose here rings with some hollow tones and deeper implications that must be addressed. Who is this Self we are investigating and creating in practice, and what is the equation between the lullabied Watchful and the awaken Languid?

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74 Russell Brand & Jordan Peterson - Kindness VS Power. Podcast *Under the Skin*, February 15th, 2018. https://www.youtube.com/watch?v=kL61yQgdWeM

For a start, the idea of Self-making evokes the premise of the Self-perception theory developed by psychologist Daryl Bem in the 1970s: We are what we do. Strangers to ourselves, we discover who we are by the choices we make, by observing our behavior: having no privileged access to ourselves, we derive our identity not from somewhere within, but by examining our own deeds (Bem 1972). *Im Anfang war die Tat*.[75] This somewhat counterintuitive idea is in fact backed up by scientific evidence. Through the 1960s and the 1970s neurophysiologist Benjamin Libet performed series of important experiments on human brain, consciousness and free will. Analysis of the obtained data pointed at the following propositions:

i) Our brain consciously registers a stimulus only if the latter last 0.5 a second or longer: shorter stimuli are simply not experienced;
ii) Conscious experience is always tardy: brain activity that 'promotes' an action is observable approximately 300 milliseconds before the action occur, while the individual is aware of the choice to perform and act 100 milliseconds prior to it. The actual choice to perform the action, then, occurs unconsciously 200 milliseconds before we are aware of it.[76] The 'gap' our conscious mind handles by editing the story – filling in blind spots, discarding enormous amount of details, focusing on what's relevant.

Libet's findings inform us that an action precedes our conscious awareness of that action. To paraphrase Daryl Bem, we are, after we do. The traditional assumption that it is the 'I' of our subjective mind that wills, initiates and makes decisions creating reality is, then, mistaken, and is so on par with the traditional understanding of the Vedantic concept of the world as an illusion, which must be mistaken, too. It is not that the external world is *Maya* and consciousness is the solely existent: as per Libet, it is the opposite – the external world may be real, but consciousness is an illusion, points out the artificial intelligence creator Richard S. Wallace (2008: 205). The 'I' is a great storyteller, but there is someone else behind, someone in possession of all the versions of all the stories, a keeper of the raw reality data as it is before the editing. This, Danish science author Tor Nørretranders proposes, is the 'Me' – the unconscious but incomprehensibly well informed and aware of the big picture competent

[75] "At the beginning was the deed" – Faust I, Goethe.

[76] The experiments of Libet and their conclusions are continuously and rigorously debated in scientific, psychological and philosophical communities. Online could be found copious amounts of articles. For a succinct summary of the experiments and their implications see Libet's "The Timing of Mental Events: Libet's Experimental Findings and Their Implications" (2002).

agent responsible for our driving a car, riding a bicycle, playing the piano, fluent speech or reading. Unsurprisingly, then, appears the ostensibly scandalous assertion Nørretranders makes in his book *The User Illusion*: consciousness is a fraud.

> It is not a person's conscious *I* that really initiates an action. But it is quite clearly the person himself. There is a difference between the *I* and the person as a whole … But the *I* does not want to accept this. The thinking, conscious *I* insists on being the true player, the active operator, the one in charge. But it cannot be. Not if we take Libet's findings seriously (Nørretranders 1999: 257).

If this reasoning is true, and there is some compelling evidence that it is, then what we call consciousness is but the tip of the iceberg that spells out for us – literally, in linguistic terms – all that (it has decided) we need to know. The hypothesis is strikingly compatible with the views of Julian Jaynes, with whom my book began. Prior to present day brain-mind design, the theory goes, people were not 'conscious' in terms of introspection, they were 'bicameral,' i.e. the two brain hemispheres were not integrated as they are today. The bicameral mind was a subject to auditory hallucinations produced in the right hemisphere, interpreted by the left one as voices of the gods who advised or admonished based on the needs of the moment, and who always appeared as a counsel in a crisis situation demanding a novel action. As such, those voices were not only duly obeyed, they were existentially important, needed and relied upon. Defining 'consciousness' specifically as the subjective introspective mind, as the analog 'I' starring in the blockbuster movie running in my head, Jaynes sports the theory that, thus defined, (self-) consciousness is a very recent phenomenon evolved as an adaptation driven and endorsed by language.[77] The pressures for such an adaptation are generously explored by Jaynes through supporting archeological evidence and early writings. The possible evolutionary advantages of such an adaptation are discussed by Nicholas Humphrey in his book *Soul Dust* (2012). A neuropsychologist known for his work on consciousness, Humphrey observes that our survival chances are enhanced by our wanting to be alive, by figuring out our purpose, by our rejoicing in being in the world. This, Humphrey argues, is the gift of self-consciousness: the emergence of the ego, or of the stratified 'I' as I have put it, makes one keenly aware of the preciousness of life, and also of its precariousness. It instills the desire to live and to do so in a good world, it motivates and

[77] Jaynes proposes that the self-consciousness emerged in the last 3000 years. In his bestseller *Self Comes to Mind* (2010) the neuroscientist and author Antonio Damasio supports this idea and goes even further (or closer) when he claims that even 4th century BCE Plato and Aristotle were not conscious the way we are today. Another notable endorsee of Jaynes' hypothesis is philosopher Daniel Dennett.

intensifies the exploratory and creative impulses (see Humphrey's discussion 2012: 120-124).[78]

This hiatus into the guises of the conscious mind, *a.k.a.* 'self' or 'I', has a lot to do with practice – I would even argue that these complex matters could be studied through the latter. There is something ambiguous in the seemingly unassuming nature of practice that works both on conscious and unconscious level. On the one hand, practice involves meticulous, deliberate calibrating of each finger in order to unravel a phrase as desired; there is concentration, judgment, volition, decision-making – all conscious faculties harnessed into building muscle memory and perfecting the information exchange on the interface between the machine and the man. The maker of this conscious calibrating is, naturally, the 'I' of the artist. Its purpose? Strikingly, the goal of 'I''s painstaking practice would appear to be to achieve a reliable flow of a competent unconsciousness able to cultivates the machinic mindset of the performance. During the performance the 'I' is no more – the best an 'I' could do is to keep its wits silently in the background and to give the reins to the 'Me' that has been trained to know what to do, tapping in all durable habits and know-hows accumulated during practice. The 'I' still may have a say, i.e. watching over phrasing, making subtle tempo choices and tuning in on selected key moments, but even those minor responsibilities are kept down to a minimum – it all should have been decided upon long ago. And then, there are pieces and passages running with such a fast pace that the pianist has literally no way of being truly conscious – as per Libet's, any stimulus shorter than half a second goes unregistered by the mind.

Therefore, one must rely on the unconscious 'Me'. At the moment of performance, when fingers rush through the black and white keys abstracting phrases, voices, and movements, where my 'I' is? 'I' am not really conscious of that. 'I' am not even sure what my 'I-s' (pun intended) see at the moment of the performance: in fact, to this day I don't have a good mental picture of what my piano playing hands look like, even though I know I look at them when I play. Looking does not guarantee seeing. It could be that the old question of where, what or who 'I' am when I perform music is not the right question to ask. Opera prima Joyce

[78] Although Humphrey does not mention Jaynes theory explicitly, his important article "Cave Art, Autism and the Evolution of the Human Mind" – offering a discussion on the striking similarities based in style and technique (and possibly in worldview) between 3-4 year old autistic child Nadia and the prehistoric cave paintings – endorses the gist of Jaynes' theory, supports some timelines proposed by Jaynes and makes a case for language not being necessary for creative or conscious experiences. In fact, it seems language acts as suppressant of spontaneous unrestrained creativity. See Humphrey 1999.

di Donato talks about the moment of exuberance: "The technical, boring, pedantic work [of practice] must be done in order to be set up for success – to be free of it for the moment of exuberance, of 'I want to share this with you!'"[79] But is it the 'I' that is doing the sharing, basking in exuberance? It seems to me, it is the unconscious 'Me' – cradled, groomed and trained in practice – that finally has its moment: the 'Me', trying to share its 'tacit knowledge'. The concept, introduced in 1958 by Michael Polanyi, is a crystallization of the idea that we can know more than we can tell (Polanyi 1966). Tacit is precisely the kind of knowledge that practice accumulates, digests, and secretes – the deeply seated know-how that is personally contextual and often incoherent, with the help of which one navigates the musical flow and makes choices and decisions that are not necessarily easy to articulate and to even justify, but that nevertheless feel right, for they are rooted in physical experience. A product of practice's metabolism, tacit knowledge is the muscle built up in discipline of rigorous training. And although tacit, this knowledge is the tangible and reliable aspect of the unconscious 'Me', which informs the explicate performance.

Not only do the vast steppes of the unconscious power the tacit engines of practice: they may be music's homeland. As per Jaynes' theory, "the invention of music may have been as a neural excitant to the hallucinations of gods for decision-making in the absence of consciousness (…) The use of the lyre among early poets was to spread excitation to the divine speech area, the posterior part of the right temporal lobe, from immediately adjacent areas" (Jaynes :369). The right hemisphere is the hemisphere of, both, the voices of the gods and of music. Through the process of practice, the conscious 'I' of the left hemisphere wilfully undermines itself, plugging into the larger reality of the unconscious 'Me' of the right hemisphere. The reason for this movement lays in the nature of performance itself, as an experience that needs to be shared through a moment of exuberance. The evolutionary adaptation of the 'I' has strained too much – it has endowed us with an imagination but has strained our capacity to experience. Hence, the artist – the shamanic figure, the transfixed rhapsode, the hallucinating prophet – has evolved ways to tamper self-consciousness and even to muffle it at will, in order to let the moment of exuberance happen. It is in that moment when, sometimes, we could again hear the beautiful voices of the gods.

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[79] Opera singer Joyce di Donato in "Living the classical life" episode 55, published on March 15, 2018 https://www.livingtheclassicallife.com/55-joyce-didonato/2018/3/15/episode-55-joyce-didonato

Causa efficiens

> I would love to be on a vacation for a year! I tried it for two weeks, I was so bored! I needed to get back, to this thing (*points at the piano*). It is what makes me feel my life has a meaning, I am not just idly… People say you must enjoy life. OK, but life, music, what I do – it has to be intermixed . . . otherwise I am feeling like I am not alive, like, I am wasting my time.[80]

Yuja Wang, a Chinese pianist virtuoso based in New York, is not alone here. An existential dependency on the practice of choice permeates the success of most any devoted practitioner. The need to practice functions as a survival instinct ensuring connection to a source of wholeness, an instinct relating *Homo artista* to a background against, along or amidst which the becoming flows and forms. A connection to a larger source is mandatory for all things explicate, for in order to explicate something – anything – one needs to reach into the implicate: in Bohm's words, individuality is only possible if it unfolds from wholeness (in Weber 1986: 30). In this sense, the becoming, as *causa formalis*, is engineered by default to regularly enfold into and draw from the fluid source of *causa materialis*. To the 'I' of the practitioner this may feel like a dissolution into the 'nonconscious' 'Me,' or like a thawing into an alternate state of consciousness. Returning to Sloterdijk's idea of practice as a psycho-immunological system, we may entertain the possibility that achieving this alternative state of wholeness might be the obscure everyday object of practice's desire. Becoming-machine? Becoming-un-conscious? Could it be that, in addition to the becoming-artist mode with its shamanic duties to share the moment of exuberance, there is something yet deeper that drives us to practice, to keep on practicing?

Physician and writer Dr. Andrew Weil proposes an interesting conjecture. The desire to alter consciousness periodically, he suggests in *The Natural Mind*, is a basic appetite, an "innate, normal drive analogous to hunger or the sexual drive … the sex drive is a special case of [the drive to alter consciousness]" (Weil 1972: 32). Weil insists that the phenomenon is not socially or culturally conditioned but is ingrained as a biological characteristic of our species. He gives examples with three- and four-year-olds of different cultures and background who spontaneously begin experimenting with alternative states, e.g. whirling themselves into vertiginous stupor, hyperventilating or chocking to produce temporary loss of consciousness

[80] Pianist Yuja Wang - Living the Classical Life: Episode 14 from February 2nd, 2015. https://www.livingtheclassicallife.com/14-yuja-wang/2015/2/2/episode-14-yuja-wang

(Ibid.: 33). Other examples include the discovery of the transition zone between wakefulness and sleep which offers the possibility for out of body experiences or "the inhalation of the fumes of volatile solvents in household products" (Ibid.). Nicholas Humphrey vicariously supports Weil's idea when, in *Soul Dust*, he coins the phrase "the biological advantage of being awestruck" (Humphrey 2012: 120) and proposes that our ability to enthrall our consciousness has evolved as a biological adaptation. Alison Gopnik, the famed researcher of babies and young children mindspace, joins in when she discusses recent research on psychedelics substances (Carhart-Harris et al. 2016, Griffiths et al. 2016, Olson et al. 2018), demonstrating that the brain on LSD, psilocybin or DMT resembles the state of infant's brain: it overcomes the compartmentalization of the independent networks, e.g. of vision, movement and hearing, and functions as a unified system. Under the influence of these substances we form a good idea of what kind of brain soup our infants and young children swim in, what kind of landscape they are tripping in (see Gopnik 2016, 2018). If altering consicousness is an evolved biological drive, if our life as humans begins in a mode of consciousness that is more expansive and wholistic compared to the grownup's one, then there is no wonder we constantly invent ways to alter and tweak consciousness – it feels good, it feels like childhood. Travel, meditation, caffeine, nicotine and psychedelycs are some of the avenues suggested by Gopnik we use to expand our consciousness, or rather to switch it onto a higher mode of functioning and to experience babies' mind. Additionally, I propose that practice, and artististic practice in particular, works toward that goal, too, satisfying our drive to altering consciousness, to encountering awe, to life and living. The biologically conditioned drive to altering consciousness might be the reason why the drenched in psychedelic exuberance moment of performance is not a *finale*, why practice endures as a continuous variation. We always come back to it, even after the most perfect *finale*: to the fine art of self-delineation, of both self-deterritorialization and self-reterritorialization, of becoming-more-conscious through becoming-machine, of routine transcendence through becoming-repetition. After the ecstasy of the 'perfect' moment, the double articulation of Homo Artista and the Human Being goes on.

This need and dependency on practice may seem like enslavement at first. In fact, it is a liberation, openness, acceptance. In practice, motivated by my search for material and immaterial gains and existential purposes, I, *causa efficiens*, encounter Chopin's Nocturne and Rilke's poem and I use them as materials for my becoming. But there are so many times when a musical piece, a book or a verse has found me, suddenly, without being called for. "Lots of things can be shared: a bed, a piece of bread, convictions, a mistress, but not a poem by Reiner Maria Rilke," remarks Joseph Brodsky (1987), pondering on the privateness of the

human condition and of one's relationship with art. If anything, practice teaches that beyond the explicated forms or reality and beyond the wordlessness of that which cannot be shared – like Rilke's poem or Chopin's Nocturne – there is a mindspace, where all our privacy, our humanness and abstractions come undone. There, they are like a sea foam riding on Bohm's Pilot wave that covers the entire Universe, within which the meaning of Rilke's cannot be mistaken or misunderstood.

For there is no place here, on any side, that does not see you.

Practice is the portal through which we flow there, in this virtual, nonphysical reality, to create, integrate, and share meaning. The most striking characteristic of this portal is this: it opens on both ends, and on the other end there is an Other, one who flows and discloses towards you simultaneously and reciprocally with your own flow and disclosure. A suspect of all artistic practices, this ghostwriter comes to claim copyrights over the most evident of practice's four causes, *causa efficiens*, revealing its double nature. It can be articulated as follows:

Behind the tamed passages of thirds and sixths, arpeggios and scales, melodies, melismata, and modulations, practice opens up a space of receptive, soft awareness (of experiential immersion) where rest and rise powerful musical wholes that rejoice at being, be-coming and coming-to-be, like agents do. We could call them individuated units of musical consciousness, musical entities, musical beings, or potential musical "semblances that are 'sensed,' polysemic and open-ended, unpredictable and novel" (Hunt 1995: 42). By bringing them to life, *Homo artista* is shaped and colored by their *joie de vivre*, and it is also true that their becoming is colored and shaped by their medium's qualities and properties and by artist's consciousness. We know that the artist is one-part musical (i.e. 'of music'), and we know that these musical wholes are one-part human. We suspect they, too, are fated to unfolding their own becomings by practicing and exploring their medium. Every time Rilke's poem is shared – heard and hearkened – it in-forms its becoming-meaning and unfolds its *causa finalis*.

With this, Aristotle's causal set is reconfigured once again, to where *causa efficiens* is shared between the artist and the musical whole/semblance.

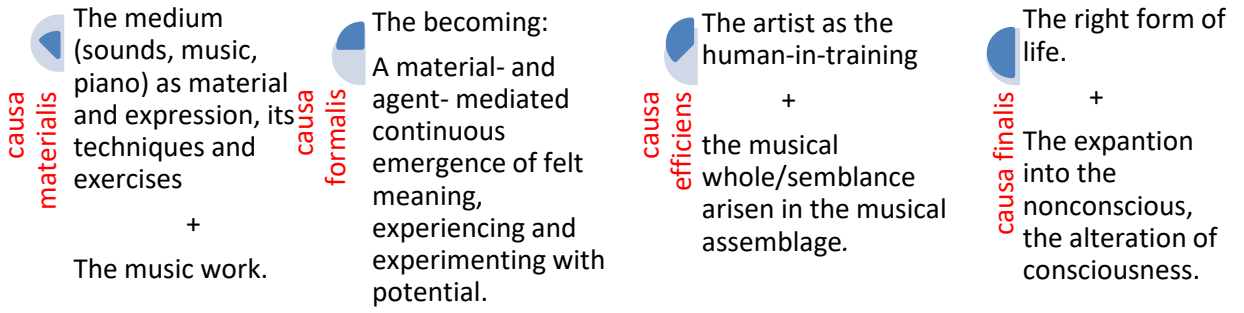

Figure 13// Aristotle's four causes IV.

Practice is a double-natured phenomenon. On the one hand, we have the implicate whole from where practice is abstracted, manifested, and directed towards its 'perfect,' as a visible, explicate process. Playing an instrument as career-making or for developing a well-rounded personality, running for health, bird watching to distress in nature – the narrative text of practice is its *raison d'être* as an objective method that yields concrete measurable results. Simultaneously, while working towards the goal, practice enthralls the practitioner to immerse into the reality of the medium, beguiles her on a journey into Other realities, modes of becoming, and frames of mind, revealing its hidden function as a bridge to the implicate wholeness, whose potential fuels all becomings and holds all comings and goings. However valid the explicate narrative and its manifested outcomes, practice induces an equally valid sub-narrative as an implicate change in our usual state of consciousness, by crack-opening a door of perception to where the runner's rush affords a superhuman aliveness and awareness, the bird watching – a nonhuman intelligence and awareness, the piano playing – other-than-human tuning and awareness. Naturally, we understand best the explicate side of practice – the 'to do' lists, the regimens, the results. The other, the implicate non-, exo-, super- or meta-human reality is a mystery that has a lot to tell, that we must explore and understand.

In regard to the artist, practice is an Implicate Order from where the event of the 'perfect' (performance) is explicated: it is a process that contains, constructs, recombines, and digests the explicate whole in a holographic, nonlinear and nonlocal way. For example, the work on refining and smoothing a single ***p*** passage (*p* as in '*piano*,' from Italian 'quiet') is not merely local and passage-specific: the focus of practice is not only on quiet playing, it extends to articulation (i.e. *legato*, *staccato* etc.), to tone volume and color, to breathing and inflection, to fingers' dexterity, tempo, pedaling, and more. The full range of pianist's technical concerns is being rehearsed in just one phrase, in one moment. Properly attended, the

rehearsed phrase informs and enfolds the whole of the performance – like a moment of the Implicate Order does. The holomovement unfolds the performance out of the practice, it lets it shine and measure up against the notion of the 'perfect,' and after its collapse, it enfolds it in practice again.

Does practice make perfect?

In the end, the obscure meaning of this invocation seems to be grounded right in the middle. Between the manipulative promise and exploitative premise of 'practice' and the iffy prospect and fleeing rewards of the 'perfect,' a third possibility resides in the middle: 'making' acts as an attractor to both implicate 'practice' and explicate 'perfect,' as a creator and sole available reality – as a holomovement. Without the self-referential, immersive, exploratory, and character-laden impulses at the basis of 'making', 'practice' would be but a mundane, repetitive, and punitive activity. Without the self-forming mechanisms, tinkering tools and embodied techniques of making's workshop, 'perfect' would always remain, melancholically, at the horizon. Neither a promise for success nor a possibility for salvation, practice is the laboratory of potential-smiting and life-creating.

You must change your life.

CHAPTER 3

Musika, Musical Symbiont, Musinculus

> I confess that I am no longer thinking in musical terms (…) even though I believe with all my heart that Music remains for all time the finest means of expression we have. It's just that I find the actual pieces (…) so totally poverty-stricken, manifesting an inability to see beyond the work-table. They smell of the lamp, not of the sun. And then, overshadowing everything, there's the desire to amaze one's colleagues with arresting harmonies, quite unnecessary for the most part. (…) There's no need either for music to make people *think!* … It would be enough if music could make people *listen*, despite themselves and despite their petty mundane troubles, and never mind if they're incapable of expressing anything resembling an opinion. It would be enough if they could no longer recognize their own grey, dull faces, if they felt that for a moment they had been dreaming of an imaginary country, that's to say, one that can't be found on the map.
>
> Claude Debussy 1901

The idea of this project that has evolved to become my PhD dissertation acquired a sense of urgency in late 2013, when I became acquainted with Thomas Campbell's model of reality, the inspiration for this chapter. In it, I recognized a plausible explanation for the perceived resemblance between what is going on in my mind as a subjective experience and what I feel streaming from a piece of music, its subjective experience, an explanation for the abstruse likeness between music and self, the musical and the human experience of reality. While at first it seemed that my dissertation's thesis integrating music, consciousness, and reality, is too broad and fuzzy, through writing it soon became evident that what I try to tackle is in fact one single question, but its articulation has selected a *mise en abyme* form with nesting dolls effect – music is wrapped in consciousness is wrapped in reality. Or, music is wrapped in reality is wrapped in consciousness. Or perhaps, consciousness is wrapped in reality is wrapped in music?

From the previous chapters it has hopefully become clear that there are three hard questions my thesis is attempting to fit together – the hard question of physics, "What is reality?", the hard question of consciousness, "How the subjective experience arises from matter?", and the hard question of musicology, "How musical meaning as significance arises from sounds

organized in space and time?". What this chapter offers is a hypothetical construct: drawing on theories and models in physics, it submits a view on the musical as fractal, integral to reality. Here, I present my hypothesis on how music and consciousness are connected.

The reality beyond reality

In the subchapter "Physics of reality" of Chapter 1, I outline some of the new problems our understanding of reality encounters through the field of physics in the first half of the previous century, i.e. the relativity theory, the duality paradox, the quantum theory, the quantum entanglement. There, I also introduce a couple of prominent responses to these problems, namely, the Copenhagen interpretation and the Pilot wave (hidden variable) theory. To put Campbell's theory in its proper context, I shall now briefly review a few major spurts in modern physics.

Space can curve, and time is relative: Einstein blasted open the 20th century with the unsettling proposal that space and time are not independent realities with a reliable independent existence but are instead features of a unified field. Nothing exists outside of it – spacetime, physical objects and matter in general, along with reality as a whole are all parts of the same substance, submits Einstein in the 1920s: "Physical objects are not in space but these objects are spatially extended. In this way the concept of 'empty space' loses its meaning" (Einstein 2014). Understanding of time, also, endures a profound evolution, which could be summed up as follows: while reality appears to be continuous, "the distinction between past, present and future is just a stubbornly persistent illusion" (Einstein, in Hawking 2009). The sense of deeper reality operating beyond the observable one finds a wide resonance in public domains and demands a revision, if not reinvention, of modern narratives. This proves to be problematic. Since quantum mechanics is institutionalized as a paradigm that presents a new view of reality in 1920s, scientists debate on how and even whether to interpret its findings (e.g. the Copenhagen interpretation). The double-slit experiment and the quantum entanglement of particles are two particular areas of heated discussions. What does this mean and what can we say about it? Is consciousness (the subjective view of the observer) an actor in constructing or creating reality? What is consciousness, in terms of energy, mass, information? Interpretations differ. In theoretical physics the divide passes between those accepting consciousness as an operator of reality (Capra 1975, Wigner 1985, Bohm 1986) and those who don't (Heisenberg 1958, Peres 1993). Another line of division is between physicists who believe there is no 'objective reality' (Bohr, Heisenberg), and those who refute such a counterintuitive idea (Einstein). The hot point of

contention is on whether reality, as objects, events and processes, has an independent objective existence or whether it is a construction, a creation of 'observer's' or 'measurer's' or 'interpreter's' observation.

In Bohm's interpretation the answer is, "both-and." The ground of all life and matter is the *holomovement*, Bohm proposes: an undivided wholeness in a universal flux. There are two conceivable structures that define the holomovement, the Implicate and the Explicate Order. Where the Explicate Order organizes the causal material world of subjects and objects as we perceive it, the idea of the Enfolded or Implicate Order requires convincing metaphors. Bohm proposes three. The first one is the hologram, which showcases the idea that *what is* from our perspective, here and now, is not here, and is not now: it is a hologram, a nonlocal 'projection', every piece of which contains the whole image . Another powerful metaphor for the Implicate Order Bohm discusses is music; a third – consciousness. The notion of consciousness constantly emerges and persistently searches its proper place among scientific ideas and theories all throughout the past century. From the position of a misfit on the table of theoretical physics, throughout the century consciousness acquires the right of a full chair (see *Timeline* below, fig. 14). In Bohm's model, "Consciousness is much more of the Implicate Order than is matter . . . Yet at a deeper level [matter and consciousness] are actually inseparable and interwoven, just as in the computer game the player and the screen are united by participation" (Bohm 1987, in Riggio 2007: 66). The spirit of this statement of Bohm's is at the basis of Thomas Campbell's view of reality.

Born in 1944, Campbell is a nuclear physicist belonging to the vein in science that is interested in problem-solving approaches outside the Copenhagen interpretation, whose ultimate motto is felt by many to be, "Shut up and calculate" (misattributed to Richard Feinman). In 2003 Campbell publishes his trilogy, *My Big TOE*, where TOE stands for Theory of Everything. The book presents Campbell's model of existence and reality. In its capacity to articulate and systematize complex data and ideas, Campbell's *TOE* has provided guidance and has inspired the conception of my musical ontology. Campbell's merit is not in 'discovering' or in 'proving' but rather in organizing, connecting, illuminating. Campbell's hypothesis is, in fact, not particularly novel, in the sense that it is based on hypotheses and research proposed and conducted previously, by others. Campbell's thought emerges from within the field of digital physics, to present a version of the Simulation hypothesis, but more generally, it offers an interpretation of an almost century-long research, debate, and discussion in the domains of theoretical physics, especially regarding questions of

consciousness. As we shall see in the next subchapter, Campbell takes a clear stance on these questions.

Figure 14// In My Big TOE Thomas Campbell develops a model of reality based on a few fundamental propositions regarding the nature of consciousness, information and reality. These ideas have been accumulating and propagating throughout the past century: from intuitions dwelling in the realm of possibilities, they have become necessary considerations and a feature of ongoing discourse in theoretical physics. Below is a timeline showcasing the emergence of these ideas.

1905 Albert Einstein: $E = mc^2$. The equation suggests that energy is converted matter.

1930 Eugene Wigner: "It follows that the quantum description of objects is influenced by ` impressions entering my consciousness" (Wigner 2014: 173).

1931 Max Plank: "I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness" (Planck 1931).

1931 Erwin Schrodinger: "Although I think that life may be the result of an accident, I do not think that of consciousness. Consciousness cannot be accounted for in physical terms. For consciousness is absolutely fundamental. It cannot be accounted for in terms of anything else" (Schrodinger 1931).

1935 Pascual Jordan: "Observations not only disturb what has to be measured, they produce it" (In Bell 2004).

1944 Erwin Schrodinger: "What we call thought (1) is itself an orderly thing, and (2) can only be applied to material, i.e. to perceptions or experiences, which have a certain degree of orderliness" (Schrodinger 1992: 9).

1948 Claude Shannon: With his paper *A Mathematical Theory of Communication* Shannon becomes the founder of information theory. The concept of information entropy is introduced as the amount of uncertainty in the outcome of random process (Shanon 1971).

1969 Kanrad Zuse: The universe is a digital computer (in *Calculating Space* 1969, originally in German *Rechnender Raum* 1967).

1985 Freeman Dyson: "Mind, as manifested by the capacity to make choices, is to some extent inherent in every electron" (Dyson 2004).

1985: Eugene Wigner: "The content of consciousness is the ultimate universal reality" (Wigner 1995).

1986 David Bohm: "Deep down the consciousness of mankind is one. This is a virtual certainty because even in the vacuum matter is one" (in Riggio 2007: 66)

1989 John A. Wheeler: "Quantum physics requires a new view of reality; All things physical

are information-theoretic at origin, and this is participatory universe" (Wheeler 1989).

1990 **John A. Wheeler**: "Information is fundamental to the physics of the universe. According to this 'it from bit' doctrine, all things physical are information-theoretic in origin" (Wheeler 1990).

1990 **Edward Fredkin**: "Digital Mechanics is a model of physics that assume space-time is an unusual kind of Cellular Automata" (Fredkin 1990).

1992 **Edward Fredkin**: "The world of our normal experience is a virtual reality generated by a great computer as a cellular automaton" (Fredkin 1992).

2003 **Nick Bostrom**: "Are we living in a simulation?" (Bostrom 2003).

2007 **Seth Lloyd**: In his book *Programming the Universe* Lloyd proposes that the universe is a giant quantum computer (Lloyd 2007).

2017 **Neil deGrasse Tyson**: "I find it increasingly difficult to argue against the possibility that we are living in a simulation" (Tyson 2017).

Below are Campbell's major claims put in context.

- "Everything is virtual." The idea that reality is a digital information system and that we are living in a digital simulation has slowly become its own brand of physics: 'digital physics'. The term was first proposed by Konrad Zuse, the designer of the first programmable, fully automated digital computer: in his book *Calculating Space* (1969) he proposes the idea that the universe as a digital computer. J.A. Wheeler, Edward Fredkin, Seth Lloyd are some of the notable contributors in this field. Fredkin, an early pioneer in the field of digital physics (*aka* digital philosophy), unequivocally declares that in order to make sense and to agree with quantum discoveries, the nature of reality must be digital; at the basis of this digital reality seats the Ultimate Computer that computes our physical existence through information processing. The location this Ultimate Computer resides, Fredkin designates as 'Other' (Fredkin 2003).
- "We are living in a simulation." Nick Bostrom proposed the Simulation hypothesis in 2003.
- "Consciousness is the fundamental substance." Many physicists support a version of this idea. Among those are Max Planck, David Bohm, J. A. Wheeler, and Freeman Dyson. In *What is life?* from 1944, Erwin Schrodinger writes about the unitary fundamental character of consciousness. The Nobel Prize winner Eugene Wigner deduces as early as the 1930s that the quantum description of objects is influenced by

impressions entering consciousness (Wigner 2014: 173); proposing the idea of consciousness as the basis of our understanding of reality for decades, he reconfirms in the 1990s that the content of consciousness is the "ultimate universal reality" (Wigner 1995). From a different perspective, that of quantum gravity, Sir Roger Penrose and Stuart Hameroff propose their theory of the mind, the Orchestrated objective reduction (2014), submitting that consciousness plays an intrinsic role in the universe.

- "The content of consciousness is information." Claude Shannon is considered the founder of information theory, with his book from 1948 *A Mathematical Theory of Communication*. Throughout the following decades and especially in the 1980s, it becomes exceedingly clear that information is deeply woven into the fabric of reality. Information and consciousness interface in Edward Fredkin's essay, "On the Soul" (1982). John Wheeler – the visionary physicist who coined the terms 'black hole' and 'wormhole' – points, "All things physical are information-theoretic at origin, and this is participatory universe" (Wheeler 1989). In neurobiology, Bernard Baars proposes a cognitive theory of consciousness (1988), in which consciousness is the act of broadcasting information around the brain from a memory bank. In neuroscience, Giulio Tononi develops the Integrated information theory (2004), rooted in Shannon's information theory, according to which consciousness is a fundamental, intrinsic property of any system, which could be measured as the physically integrated information.
- "There is a fundamental process that explores everything and that allows what works to propagate" leads directly to the theory of evolution by Darwin.
- "Matter is converted energy" is an interpretation of Einstein's $E=mc^2$.

These are the major tenets on which Campbell bases his theory. As evident, they are well debated and discussed propositions. Where Campbell original contribution lays, is at interpreting and integrating these tenets in a possible scientifically informed scenario. While Deleuze and Guattari rhizomatize and deterritorialize the ideational repertory, while Bohm metaphorizes his Hidden variable interpretation in abstract concepts, Campbell absorbs philosophical concepts and scientific findings to metabolize them into a dramatic ontological model, based in science. Thoughts, started with Bohm and Deleuze and Guattari, find in Campbell a possible territory on which they can dialog, assess, measure up, categorize and reorganize – and perhaps create a new idea.

As a science-based investigation of the boundaries of reality, the author claims that he has made "every effort to approach his explorations without bias or preconceived notions. There is no belief system, dogma, creed, or unusual assumptions at the root of My Big TOE:"

> By demanding high quality repeatable, empirical, evidential data to separate what's real (exists independently and externally) from what's imaginary or illusory, Campbell has scientifically derived this general model of reality (Campbell 2014[81]).

The purpose of these statements is understandable, one could never be too careful when proposing a TOE.[82] The issue mainstream scientists take with TOEs that explore the "boundaries of reality" is precisely their 'scientificity': the philosophy of mechanistic materialism dominating reductionist science is that the truth about reality is to be reached through an objective investigation of matter and its processes, with measurable, repeatable results. But then, 20th-century's empirical evidence suggests that not only do we "produce our reality," as Bohr' associate Pascual Jordan observes (in Bell 2004: 142), but it has become increasingly difficult for quantum mechanics to answer the question of "what, if anything, objective reality is," argues theoretical physicist Nikolic (2006:43). Historically, the mind/matter split originating the belief that nature and matter are inert and mute, arise as a reaction against the superstitious animism the Medieval mind was possessed by. Descartes' ideas were revolutionary at the time because he was reacting against a simplistic, uncritical and uninformed view of reality. Today the dynamics are reversed – the approach to the physical realm as self-evident, mechanistic, mute, and objectively existing 'stuff' becomes an indication for a narrowmindedness, for a simplistic and outdated view of reality – as research emerging from cosmology and theoretical physics, quantum mechanics and consciousness studies, demonstrates. The challenge before us today is, some believe, not the question of consciousness; the hard question has rather become, what is matter? Given that consciousness is perhaps the only undisputable fact of our reality we can be certain of, and that all our information about the physical world we derive through a mental process resulting in data interpreted by our consciousness, this reversal of attention is rather on point. Philosopher Gelen Strawton, for example, is one cautioning against the "Very Large Mistake" – the assumption that we know enough about the physical world to weed out the possibility that consciousness is physical (Strawton 2016).

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[81] https://www.my-big-toe.com/about/

[82] The lack of peer reviews of Campbell's *TOE* is unfortunate: this is partly a result of author's publishing choice and his desire for the book to reach a larger audience.

Then, there is the problem of methodology: how is one to study a subjective experience phenomenon scientifically, given that 'scientific' presupposes 'objective'? Campbell's answer is rather straightforward: consciousness is subjective, therefore it needs to be studied subjectively, by using the scientific method (observation, documentation, repeatability, predictability). Campbell's research claims that meditation is a reliable technique, which provides the means to studying alternative states, the subjective and objective mind. Numerous studies in recent decades have confirmed the benefits of meditation, establishing that to the regular practitioner meditation brings positive changes in both mind and body, e.g. emotional stability, psychological balance, change in brain structures and more (Crescentini et al. 2017, Gotink et al. 2015, Goyal et al. 2014). Campbell, however, uses meditation as an medium, as a mode of transportation to out of body experiences, as they are known since the pioneer of alternative states consciousness research Robert Monroe coined the term in the early 1970s. To achieve success, e.g. "high quality repeatable, empirical, evidential data to separate what's real (…) from what's imaginary or illusory" takes consistent, unyielding practice. "The fact is that progress in meditation, like progress in playing musical instrument, usually accrues slowly and only becomes dramatic after significant time and effort has been invested" (Campbell 2007: 179). Thus conceived, meditation research is in line with artistic practice, where one must journey out of the confinement of self-consciousness to encounter and decode the message of the medium, meeting it halfway. The reward is discovering that you are an integral part of a larger reality.

Content and Process in Thomas Campbell's Big TOE

The last sentence contains one of *My Big TOE*'s fundamental precepts, that the reality we experience is a virtual simulation of a more fundamental reality. Originates in the mystical and weaves throughout the philosophical, to surface in the scientific plane, this idea constitutes one of the most ancient and fundamental metaphysical insights. From ancient Hindu and Taoist literature[83] through Cartesian dualism, Kantian *Ding an sich* and Schopenhauer's world as representation, to present day mathematical interpretations (Fredkin, Bostrom, deGrasse, Susskind), the idea of an underlying reality is continually employed by human imagination to explain human condition. Today, this idea is a staple hypothesis in branches of theoretical physics, like digital physics. Campbell himself makes a distinction between the latter's premise and his 'simulation theory', explained as follows:

[83] E.g. the Vedic notion of Maya (i.e. the world is an appearance) and the works of the Taoist poet Chuang Chou (*The Butterfly and the Dream*) from 3d century BC.

> Wheeler[84] advocated that "Quantum Physics requires a new view of reality" integrating physics with digital (quanta) information. Two such views emerge from the presupposition that reality could be computed. The first one (…) *proposes that the universe is the computer*. The second one, which includes the simulation theory (…), suggests that the observable reality is entirely virtual and the system performing the simulation (the computer) is distinct from its simulation (the universe) (Campbell et al. 2017: 70 emphasis mine).

What follows is an attempt to concisely present Campbell's theory of everything (TOE) in its more important points.

Figure 15// Campbell's precept on reality, information and experience.

Consciousness, Campbell proposes, is the ultimate nature or reality, its 'building blocks'. On a most fundamental level, consciousness' content is information, information is bits, and bits are binary.[85] Therefore, the larger consciousness system that encompasses all existence, is a digital information system.

[84] John A. Wheeler (1911-2008) is one of the eminent 20th century physicists, advocating the idea of the informational nature of reality, as in 'It from Bit'.

[85] Campbell's views on the binary basis of reality adjust according to scale, he maintains that from human perspective our reality cannot easily be reduced to 1s and 0s, but from a 'big picture'

"There is no objective reality, objectivity is understood as the commonality of the viewpoint" is one of Campbell's precepts on information (Fig.14). This extreme subjectivity, however, is communication-dependent, Campbell's philosophy stresses the importance of engagement with the world: 'Other' provides opportunity for the improvement of the quality of your consciousness by accurately reflecting the truth of you:

> Consciousness is fundamentally individual and personal … Our objective experience of other consciousness is the result of an interaction of our personal consciousness (…) with another, which suggests to us new configurations, interactions and possibilities for **our** being. We project our awareness of consciousness into "other", define the nature of "other" in terms of ourselves, and thus see only a reflection of ourselves in the mirror of interaction with "other" (Campbell 2007: 170, emphasis in original).

According to the theory, the ultimate purpose of existence is to grow and improve the quality of our consciousness by reducing entropy, the evolutionary motivator of consciousness. Campbell defines entropy as a measure of disorder. More entropy means more disorder and less energy that is available to do work: "Improving the quality of your consciousness, evolving your being, and decreasing the entropy of your consciousness are all essentially synonymous and equivalent" (Ibid.: 157, 197). The entropy definition of theoretical physicist Leonard Susskind, on the other hand, probes into different dimension of the term: Susskind sees entropy as the hidden information (Susskind 2011). Therefore, the aspiration of a conscious being, entity or a system, is to organize hidden information into coherent messages or bodies of content so that the available reality is digestible, suitable for integration. It is no wonder that Campbell lists among the highest entropy states fear, but also belief and ignorance – to belief blindly is to accept high entropy (loads of hidden information) as a fundamental precept. Conversely, unconditional love and open-minded skepticism are the markers of a low entropy state.

My Big TOE is based on two assumptions: 1) The process of evolution is fundamental; as a fractal process, it applies to all levels of development, and 2) The primordial consciousness is a fundamental source of structurable energy (Campbell 2007: 182). All ideas in *My Big TOE* are conclusions derived from these two assumptions. Let us now see how these two interact.

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perspective this is indeed the case. See 'Tom C"s answer to a forum thread here https://www.my-big-toe.com/forums/viewtopic.php?t=2780

The process of evolution is fundamental to all conscious entities and systems, to all levels. It is a fractal process, which works through weeding out stale possibilities, exploring all available states and allowing whatever works to progress forward:

> The Fundamental Process works basically the same way with all kinds of entities: physical, nonphysical, human, insects, bacteria, molecules, rivers, mountains, rocks, Forganizations, nations, consciousness, automobiles or computers. The differences in the evolutionary pattern in animals, organizations, consciousness and technology are not due to differences in the evolutionary process, but rather to the variety of entities and to the variety of environments and constraints that define the criteria for their profitability (Ibid.: 199).

Here, Campbell echoes the renown evolutionary biologist Stephen Jay Gould who sees evolution's drive not toward 'progress' or 'complexification' but toward 'diversification' (Gould 1996). The process of evolution as a method of becoming – not becoming-better but be-coming – is Campbell's one 'law of nature' that stirs the wheel of existence. The content of existence is defined by Campbell's special 'free miracle'[86] – the author assumes that there is an apparently infinite, absolute, all-pervasive oneness, the basis of existence, beyond space and time: "It is simultaneously everything (in potential) and nothing (no differentiations, no boundaries)" (Ibid.: 188). From our limited three-dimensional perspective this oneness must appear mystical, he explains, since we are not equipped with the ability to grasp it. In order to grow, this Absolute Unbounded Oneness (from here on AUO) needs the Fundamental Process (of evolution).

By default, the AUO is not intelligent or self-aware. Campbell refers to it as an "immense unstructured but structurable form of digital potential energy" (2007:190). He considers AUO an entity:

> An entity is a well-defined, self-contained (bounded) interactive system. It can be an atom, molecule, rock, technology, computer, worm, monkey, human, organization, city, nation, planet, or an aware individual nonphysical consciousness. The interactions of an entity with its internal and external environments is constrained by what those environments will support, encourage, or discourage. Thus, constrains (…) are the source of evolutionary pressure (Ibid.:191).

[86] "As Terence McKenna observed, "Modern science is based on the principle: 'Give us one free miracle and we'll explain the rest.' The one free miracle is the appearance of all the mass and energy in the universe and all the laws that govern it in a single instant from nothing"." (Sheldrake 2009: xiii).

I return to this definition of 'entity' later when I discuss the musical work. As entities evolve by responding to pressures from their external (survival and propagation in a biological system) and internal (mutation in a biological system) environments, Campbell assumes that AUO begins to organize its potential by responding to internal environmental pressures, interacting with itself. Thus, AUO's evolution begins.

Campbell makes an important distinction between consciousness and awareness, he compares them to love and care for others – the former just is, while the latter differs in degrees. As a system of consciousness hosting only dim awareness, AUO cannot hold a single thought initially. It begins to evolve by creating a duality within itself, this vs. that, much in the way life in the primordial ocean on Earth is thought to have begun – through random combination of bits the system 'discovers' a disturbance within its uniformity. This single localized modification/disturbance is all that is needed to derive "ourselves, our physics, and the rest of our reality" (Ibid. 205). Campbell calls it a reality cell (Ibid.: 218). Once the first reality cell is formed and the idea of difference – hatched, AUO begins to exponentially grow local disturbances. Thus, the capacity for forming patterns and groups of patterns of patterns, and the potential for exploration and complexity increase significantly. The awareness of AUO - too. Having provided itself with raw operational material, the next step on AUO's evolutionary path is to find ways of organizing this material so that the cells can interact, be arranged and rearranged, stored, retrieved, used and share information. This higher organization naturally leads to memory and pattern processing, to development of consciousness. In the scenario enters the Big Computer (homage to Fredkin's Ultimate Computer?).

Campbell describes the Big Computer as AUO's own form of mathematics – the system has evolved to develop a section of itself dedicated to storing (memory) and processing information, to rules and operations; its function is to increase the organization and decrease the entropy of AUO. In order to exploit the potential inherent in this increased order and organization, AUO 'invents' time. Time is a technology that enables consciousness to organize its content more effectively, states Campbell, it separates the 'before' from the 'after' state. "Change creates the notion of time" (Ibid.: 239). With time, which allows for ordered events and sequence to carry and propagate content, the possibilities of AUO for complexification and growth are staggering: time acts as a catalyst, "dramatically enhancing AUO's ability to self-organize, thus speeding up the interaction between the Fundamental Process and consciousness" (Ibid.: 240).

Thus upgraded, AUO is enabled to further diversify and produce various self-organizing and locally contained sections of itself, termed NPMR – Nonphysical Matter Reality, connected through a communication network managed by The Big Computer. It is at this point that AUO transitions into a more efficient powerhouse of a consciousness system-entity Campbell names AUM, the Absolute Unbounded Manifold. AUM[87] is much more organized and efficient than AUO, with greater capacity to lower entropy. To bolster further still its process of growth, AUM sponsors the creation of various PMR systems, the acronym standing for Physical Matter Reality. Our system is one of these PMRs. Both NPMR and PMR are virtual realities, their major difference is on the levels of constraints – PMR has more rules and is more lawful, which renders its scope and sequence more conducive to learning. Campbell describes our particular PMR as a kindergarten nursery of budding IUOCs, Individuated Units of Consciousness.

The IUOC resides in the larger consciousness system as our digital mind. Depending on whether it serves as an agent in AUM, in NPMR or PMR, this IUOC switches gears and interprets its present virtual reality according to its own protocols and rule sets (the experience in our PMR is more limited). The IUOC is the more general term, it is our digital consciousness containing the accumulated individual knowledge that learns through its 'incarnations' in different reality frames. Each 'incarnation' is a FWAU, Free Will Awareness Unit – the experiencer, the avatar. (Right now, my FWAU is wondering whether this exposé has not passed beyond reader's acronym tolerance limits.) Once I seize to be, here in this PMR, I join my larger identity, my IUOC, to examine and evaluate my experiences and choices in this 'incarnation', to outline strategies for future learning and VR experiences that will best aid my growing, reduce my entropy and through it – the entropy of AUM.

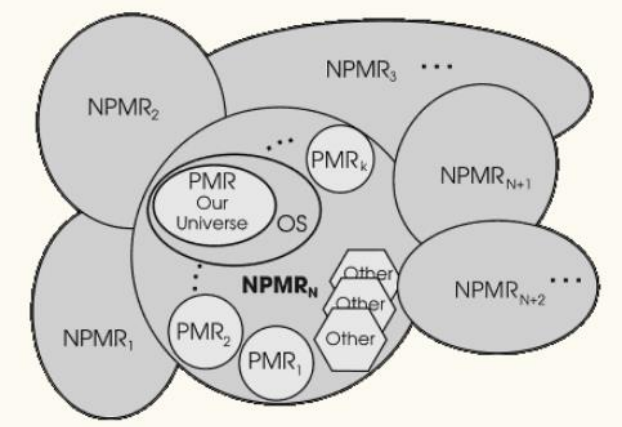

Figure 16// Different reality systems in AUM.

As evident from the image above our PMR is just one of many physical matter reality frames, where sentient entities (FWAUs) exist and interact according to their own rule sets. Each reality frame represents a kind of experimental protocol. Our is one of the more lawful

[87] It is not an incident that AUM (or OM) sounds like the initial sound in Hinduism.

experiments: on a scale 1 to 10 Campbell assigns our PMR 8 on a number of rules and how constrain it is by these rules. The rules are needed for otherwise ordered learning is very difficult.

Naturally, one has many diverse curiosities and queries upon contemplation of *My Big TOE*. The relevant question here is, what such a carefully thought out big picture theory that claims to have an answer to everything, can tell us about music? How embracing this theory changes our understanding of music?

MUSIKA's inception

In Campbell's hypothesis of everything featuring entities, dimensions, systems, codes and processes represented by an ample number of acronyms, music is mentioned but a few times, as a passing reference to meditation and an example of what could be achieved through a committed practice. What follows, then, is a hypothesis built upon another hypothesis. Campbell repeatedly demands disbelief, skepticism, and an open mind. He argues that practice results in experience that renders any belief moot, replacing it with knowledge. Although I am a committed and disciplined meditator, I admit that I have not had many out-of-body experiences: with this disclaimer I declare that my proposition here is based on intuitions, understandings, and insights I have had of music and through music, during my musical practice. My 'knowing' of Campbell big TOE's validity is musically derived, and so I expect my 'burden of proof' would appeal most to practicing and performing artists.

In my master thesis "Possibilian Theory of Music: a Rhizomatic Approach to Music as Consciousness" (2014) I have already proposed that music could be interpreted within the context of Campbell's big TOE. My basic assumption there is quoted below at some lengths, as it is the springboard for my proposition in this PhD thesis.

> (*Musika*) exists as a reality frame, a dimension set in motion as one of the experiments of the Larger Consciousness System. It has its own experimental protocol and its own rules and constrains. Perhaps *Musika*'s constraint level is much lower than that of our physical matter reality. *Musika* (…) evolves through tuning into sentient beings' processors (brains) and gaining experience through their application of its input through music – the window to *Musika*.

> Therefore, by this definition *Musika* is a broader term. We could regard it as a soundscape, an individuated conscious incorporeal entity dwelling in a state of probability. It is binary by nature: sound/silence = on/off. From probability distribution *Musika becomes* through a medium – a human, a non-human animal of other sentient entity with ability to organize and express itself through sound (…). The mediator provides embodiment. Through this symbiosis *Musika* goes forward by the process of mixing, combining, rearranging possibilities (its bits), constantly creating new forms of expressions and growing toward ever more organized states, thus lowering its *entropy* (…). Its manifestations (like performance, mantra, surah, concert, ritual etc. for the human, echolocation for the humpback whale, mate attraction for the house wren etc.) are designed according to the auditory system of the medium, its biology and culture, for each sentient is 'imprisoned' in its *umwelt*. According to this broader understanding of music, it is evolving along, but not limited to, us humans.

Back in 2014 I made a differentiation Musika-music-musical assemblage, not too different from the iconographic triad proposed by Hans Belting as image-medium-body (discussed below); although inspired by Campbell's theory, my master thesis was most concerned with justifying this differentiation. Back then, I regarded Musika as a Nonphysical Matter Reality sonic entity that tunes in physical matter reality sentients' consciousness to surface embodied as music/al assemblage. Meanwhile, looking deeper into how the musical triad fits into *My Big TOE*, I have realized that the idea of Musika has a potential to evolve and a desire to articulate itself. I shall begin my discussion by zooming in a couple of 'mutations' of the original idea as stated. The first one concerns Musika's content, the second, its ontological status.

Originally, I have proposed that Musika is an entity, for Musika does indeed correspond to Campbell's definition of entity as a "well-defined and self-contained, interactive system" (full definition above). This proposition is consistent with Bohm's ontology, in accord with which I define music as a sub-totality (in Chapter 2). Musika as a NPMR can indeed be regarded as an independent sub-totality (after Bohm) abstracted from AUM, with its own set of Implicate Orders and with a special case of Explicate Order, music (elaboration follows). Just as our PMR is a localized, self-contained reality frame so is Musika as a NPMR frame, a probabilistic soundscape, home of all things sonic. But devil is in the details. Campbell regards space as a technology, an extension of time, which is applied to our, among others, PMR as the third dimension: in the NPMR space does not exist, stresses Campbell

repeatedly. This point seriously hinders the above-described status of Musika as a nonphysical reality frame/entity: as stated in the previous chapter, sounds can only exist within the context of physical space – no space – no sound, let alone music. David Worrall, an experimental composer and a sound artist, distills the matter of sound and space relationship down to a mere preposition, as follows:

> Sound is not an abstract ideal projected into 3-space. The space is *in* the sound. The sound is *of* the space. It is a space of sound, but there is no sound *in* space (Worrall 1998: 97).

Hence, it would seem that in an NPMR existing with-out space, we can have no sounds. Therefore, Musika cannot exist as a nonphysical domain of all things sonic, for sound is physical.

This logical solution requires an adjustment or modification of my original idea. If Musika is to be grasped in other-than-sound terms, the important question becomes: is Musika sound, and if so, to what extend? In his book from 2005, *Image, Medium, Body*, Hans Belting defines medium as the agent through which the images are transmitted, and body is either the performing or the perceiving body on which images depend, no less than on their respective media (Belting 2005: 302). Images, although happening or taking place through mediums and bodies, are of different nature. It follows that the image of a sculpture is not in its stone, the image of a painting is not in its pigments. There is a clear-cut distinction between material as solid, enduring, and sharable media with their tendency to regress into high entropy, and that which streams and gleams through them and which finds and addresses you personally. In this sense Musika as an image or a generator of images in iconographic sense, or Musika as concept, is no more a bunch of sounds than thought – the virtual, intangible jewel in the crown of consciousness – a bunch of electrochemical neural reactions. Therefore, we need not get dispirited by the fact that sounds, as space embodying phenomena, cannot exist in a NPMR, for there are at least two solutions of the problem: firstly, there may be other reality frames that have space as fundamental construct and Musika may be one of them, and secondly, there might be ways to conceptualize Musika independently of its sonic capacity.

This state of affairs leaves us with two models for the ontological status of Musika, local and nonlocal, which both have their strengths and weaknesses, their appeals. The local version of Musika prompts a vision of a reality frame, perhaps not quite like our own PMR, but certainly with some physical characteristics, that contains, forms, and evolves sound forms of

consciousness in a symbiotic fashion. It is this version I am going to explore in the remaining of Chapter 3.

A local model of Musika

Mirror is a remarkably popular and effective metaphor, showcasing a variety of claims for music's subjective and objective powers of representation. Above all those glitters music aficionado's favorite "Music is a mirror to the soul." But there are also Karl Marx' music is the mirror of reality; Nietzsche's music as a Dionysian mirror of the world (2000: 39); Roger Elbourne sees music as a mirror of society (1976), Robert Greenberg, mirror of history (2016), Jacque Attali – a play of mirrors (1985: 5), Birgit Abels – a sonic mirror space (2014), and even yours truly joined the chorus with the diffracted mirror metaphor inspired by Haraway/Barad (in the previous chapter). Obviously, mirror is a good fit to conceptualizing music for it captures some of its physical-yet-ineffable, revealing-yet-ghostly, here-and-there demeanor. However, music-as-mirror metaphor suffers at least two serious deficits – one, it is an inconsolably visual one, and two, it places the emphasis on the 'I' who looks in the mirror, using the latter as a tool (for beautification, verification, enhancement, learning, etc.). This self-positioning presupposes that we know all about music and therefore find it quite useful as tool to inquiring into and analyzing the human being and its societies and conventions – which we admittedly don't know all about. From this, a paradoxical conclusion logically follows – the mirror metaphor implies that music is, somehow, mute. Because certainly, in the relationship with music it is us who are calling the shots. Right?

Here I propose to reverse the table and seriously exercise the possibility that it might be otherwise. Like Michael Pollan, scientific journalist and professor at Berkeley, who asked himself one May day while planting potatoes in his garden – what if it is not us who manipulate, clone, select and propagate plants to get from them what we want, but the opposite – the apple indulges our taste for sweetness, the tulip seduces us with its beauty, the marijuana tempts us into intoxication – to get what they want? Adopting the eye of the Other, Pollan retells the story of our relationship with plants and reintroduces them as agents with sophistication, intelligence, memory and desire.

> We don't have a very good vocabulary talking about how other species act on us, about their agency… [Our] grammar makes this relationship perfectly clear: *I choose the plants, I pull the weeds, I harvest the crops*. We divide the world into subjects and objects and (…) in nature generally, we humans are the subjects" (*The Botany of Desire* 2002: xiv).

But this is just a limitation of our language, he continues: “What if that grammar is all wrong, a self-serving conceit?” (Ibid.).

In the same vein of anthropo-de-centric reasoning, we may ask: what if it is not us, but music who looks intently in its mirrors searching for a feedback, for definition and meaning? Campbell’s big TOE offers an interesting set of plots and settings to explore this idea.

To begin, let us recall that our PMR (physical matter reality) is just one uniquely constrained space-time application, existing in a space-time part of AUM (absolute unbounded oneness). According to Campbell, there are other spacetime regions of AUM corresponding to other PMRs (Campbell 2007: 269). The physicist compares these specialized subsets of AUM to what different systems of thoughts, or books, are to us – experiments in consciousness evolution, unique and different from one another. Each independent virtual reality frame (also defined as ‘dimension’) begins to evolve its own uniquely profitable configurations as its possibilities are explored. It is reasonable to assume that these experiments are not entirely random, but follow a method – perhaps exploring different elements, or themes, or material, or content. It is possible that one of these reality frames is customized for sonic evolution, as compared to our PMR concerned with propagating carbon-based life-forms. I name it Musika. Musika, like Universe, has a spacetime rule-set, but its level of constraints is perhaps lower than it is in our PMR. Remember, Campbell determines latter’s constraint level as 8 on a scale 1 to 10, suggesting thinking of rule-sets as “data filters that define (…) energetic interaction with the data. You may have read privileges only, or be allowed to read, write, and modify” (Ibid.: 476). Musika, I propose, works with lower constraint level, with fewer and less rigid ‘laws of nature’. This means that its reality frame fosters a ‘decision space’ significantly less prescriptive and micromanaged by its ‘laws’ than ours; it also means that Musika by default has a higher entropy. In such a reality a lot more is vague and conjectural and a lot more is possible. Less rules also mean more variety – the continua of unbelievably beautiful and unfathomably horrid, of heavenly and hellish are stretched well beyond our capacity to perceive and evaluate. As a fractal of the Absolute Unbounded Manifold, Musika begins evolving by exploring all possibilities, by creating difference within its primordial hum uniformity of destratified sonic potential brimming with entropy. Once the first disturbance within this uniformity is ‘discovered’, a sonic reality cell is formed; as soon as it figures out how to change states, e.g. ‘before’ from ‘after,’ the process of sonic diversification begins. Based on the history of the biological cell and the differentiation of digestive-, motor-, sensor-, control- etc. sections of the early multicellular organisms, we might speculate that clusters of sonic reality cells liaise with one another in a series of

specialization experiments, shaping Musika's systems, i.e. of pitch, pulse, timbre. Given enough time, these specialized aspects of Musika begin connecting and communicating with each other in a coordinated activity that can propagate and regulate content and patterns of content, and that modulates expression, like the ideas of tempo, rhythm, texture, and dynamics. "Signals and messages can be passed from cell to cell as fast as one cell can change state in response to an 'adjacent' cell changing state" (Campbell 2007: 240). Is not this, in fact, what tonality does?

(Apropos tonality as a system of organization, it is worth opening a caveat to briefly discuss the work of Princeton's composer and music theorist Dmitri Tymoczko, namely, *The Geometry of Music* (2010). In this book Tymoczko argues for the inevitability of tonality:

> Tonality is not one among an infinitude of habitable planets, all easily accessible by short rocket flight; instead, it is much closer to being the *only* habitable planet that we have discovered so far (Tymoczko 2011: 393, emphasis in original).

The author justifies this claim by exploring the tonal music – in the broadest sense of the word – from the beginning of Western polyphony to modern days pop-, rock- and jazz genres. Tymoczko argues that there are five common features represented all across styles and musical époques that make up the sense of tonality: conjunct melodic motion, acoustic consonance, harmonic consistency, limited macroharmony and centricity – these are interlaced, interconnected and interrelated in multiple ways. As the title shows, Tymoczko approaches music as a geometric puzzle, whose solution is often based on non-Euclidian geometry – it treats chords as points in higher dimensional spaces, "a good deal more interesting than the plain-vanilla space of ordinary Euclidean experience" (Ibid.: 65), e.g. twists, mirrors, and Mobius strips. In short, in proposing a unifying mathematical framework for music, Tymoczko offers a view on music theory based on (mathematical) principles rather than on a group of intrinsic, self-organizing dos and don'ts. In my reading of Tymoczko, these principles of tonality are not unlike the Laws of nature of physics that classify our planet as a Goldilocks type (not too far or too close to the Sun, with the right speed of spin, with just the right tilt etc.) – indeed, in the sense the author concludes that "the development of Western counterpoint is something of an amazing accident" (Ibid.: 64), tonality also is a Goldilocks type phenomenon. The reason Western music's tonal sonorities are foreordained or optimal is twofold:

> Considered as individual sonic objects they are acoustically consonant and hence sound pleasing in their own right; but since they divide the pitch-class circle nearly

> evenly, they can also be connected to their transposition by effective voice leading. Any composer who cares about harmonic consistency would therefore have reason to choose these chords, even if he or she did not care a whit for acoustic consonance" (Ibid.).

This situation Tymoczko summarizes in his suitcase parable, in which at the beginning of time God asked people to choose the best chords for their music – whether the request came from the 'cerebral' type demanding nearly even chords efficient for voice leading and harmonic consistency or from the 'hedonists' whose concern was the ear pleasing consonant, God invariably handed a suitcase containing "the perfect fifth, the major triad, and dominant seventh chord" (Ibid.)[88]. . . .

Naturally, Tymoczko's modal is based on the conditions and specifics of our PMR. Whether or not tonality is the God-chosen system in Musika reality frame too, is not a concern at present. I adduce this hypothesis on music's geometric consistency grounded in tonal systems to demonstrate that tonality itself could and is used as the musical equivalent of primordial soup's organizational principle. Where Tymoczko gives preference to a musical becoming based on mathematical logic rather than on the idea of self-organization and natural emergence (are these excluding of one another?), I treat the matter more economically, proposing that the organizational principles of music are not music-specific or derived from other, superior principles, e.g. mathematical, but are the basic organizational principles of the Fundamental process, a.k.a. evolution. Major among those is the principle of diversification – try everything and see what works. As per mathematics, My Big TOE submits that it also has evolved from the Absolute Unbounded Manifold and the Big computer, like everything else.)

Each theory begins with some assumptions. Whether Musika eventually evolves 'life forms' of consciousness – not unlike our Universe evolves to compose (galaxies, suns, planets, natural laws, and) life on Earth in all its diverse expressions – is presently a matter of *bona fides* guessing. However, I strive to apply logic to this guessing. If, on a fundamental level, all that is, is an organized digital informational content of Absolute Unbounded Manifold's (AUM) substance (consciousness), the existence of sonic entities seems at least as plausible as the existence of thought-entities, or for that matter, the existence of carbon-based entities. The complexity of the life form and the quality of its consciousness result from said life

[88] Although Tymoczko does not explicitly discuss other than 'Western' art music, his references suggest that his basic model might be inclusive of other systems of organizations, like rāga or maqam.

form's evolutionary process, as functions of its learning through interactions with its internal and external environments. For Campbell himself,

> [I]n AUM's world of digital consciousness, energy thoughts (discreet packets of organized content) are real things – the only real things – and AUM can birth (think up or organize) as many as it wants to. Think of a thought within AUM as a reusable object, a chunk of fixed or variable content with certain attributes, characteristics and abilities that can be stored, transmitted or used as an operator (Campbell 2007: 297).

Driven by the process of evolution, the potential in Musika's sonic soup of uniform hum evolves to a more organized, functional, ruly and perhaps more aware entity. This upgraded version of Musika begins seeking opportunities for further, faster, better growth, for reducing its entropy. For that, it needs experiences with clear feedback mechanisms that enable, facilitate, and accelerate learning. Experience requires interaction. Conceptualizing the possible interaction between sonic entities in Musika reality frame (from here on, MRF) is beyond the scope of this thesis. My hypothesis is that, as the rules in MRF are more liberal and with a low constraint level, the outcome/feedback of interactions must be quite fuzzy and a subject of interpretation. This may be one, if not the main, reason for sonic entities of MRF reaching out to hosts from other reality frames. It is possible that, similarly to the conditions in NPMR, Musika reality frame does not offer the optimal environment and rule-set for the evolution of individual consciousness quality (see Ibid.: 561); there too, like in NPMR's mind-space, learning may be difficult due to weak interactions and personal anarchy resulting from the lack of clear rules, low definition of responsibility and accountability, cause and effect, feedback of intent (Ibid.: 563). PMR, on the other hand, as a "kindergarten for young, low quality consciousness" (Ibid.: 366), affords excellent conditions for growth by providing simpler, more regulated and constrained environment. This is how 'we' enter the narrative.

Following this train of thought, I propose that music, in the sense we commonly understand it, is a result of a symbiotic rapport between the denizens of MRF and the sentients of PMR:

MRF + PMR => music[89]

[89] I thank Kitty Zijlmans for this equation.

Mutualist symbiont?

The link made in the previous subchapter between 'music' and 'symbiosis' already resonates with rich bioevolutionary harmonics. Unsurprisingly, I don't appear to be the first person to whom this thought has occurred, as we shall now see.

Music is made of people, declares the evolutionary neurobiologist Mark Changizi in his book *Harnessed: How Language and Music Mimicked Nature* (2011). There, Changizi develops his idea of emergent music evolution, which evolved from sound patterns mimicking and evoking people's movement. Distance, directedness, speed and gait/behavior are four important information markers of auditory software we and our predecessors in the jungle need in order to know other moving bodies' positions. Coordinating these markers allows us to make informed decisions about the nature, size and the intentions of other moving bodies, which makes all the difference between surviving or not. Is it a coincidence, Changizi wonders, that these crucial for survival auditory cues correspond to music fundamental structures – loudness, pitch, tempo, and rhythm? His answer is negative. Our auditory system evolved to associate and interpret – really, to understand – movements in nature. Music as evolutionary process has harnessed this understanding of people movement and has thus become particularly good at refining its inherent emotional content – it is from the character and dynamics innate to movement that music receives its emotional power.

> Language and music are evolved, organism-like artifacts that are symbiotic with… human apes. And like any symbiont, these artifact symbionts have evolved to possess shapes that fit the partner biology – our brains (Changizi 2011: 202).
>
> While it is not easy for us to see the human ingredients in the modulations of pitch, intensity, tempo and rhythm that make music, perhaps it is obvious to our auditory homunculus (Changizi 2009).

'Auditory homunculus' is a helpful metaphor. We can almost hear how this automaton picks up the nature and movement cues in-built in music below the threshold of our alert self-consciousness. It proceeds to distill the dynamic e-motion out of the structural motion-content. Literally made of processed people movement data, music emerges as a "cultural-artifact symbiont (…) coevolving with us" (Ibid.), mimicking nature.

The idea of symbiosis between unlikely parties has made some history in recent decades. Michael Pollan proposed in *The Botany of Desire* (2002) that plants and humans evolve

together in a kind of cross-species relationship of relatedness. He is one of the faces of the 'plant consciousness movement'. "It's the quantity, not the quality of intelligence that sets us apart. We exist on a continuum with the acacia, the radish, and the bacterium" (Stefano Mancuso, in Pollan 2013). And the insect, and the marine creature, we may add, as the recent tendency of probing into non-human species 'consciousness' does indeed include bees ("It still feels like something, to be a bee," Barron and Clein 2016), fishes ("A fish has a biography, not just a biology," Balcombe 2016), and trees ("Trees are social beings" Wohlleben 2016). We need not be too surprised by these suggestions and their implications. If paleo-biologists are to be taken at their word, consciousness-as-awareness may be as old as 3 billion years – the time when the last universal common ancestor or LUCA was filling the primordial ocean. The first single mega-organism, from whom diverged the three domains of life, i.e. bacteria, archaea and eucaryotes, existed, or shall we say, lived, between 2 and 4 billion years ago until 0.9 billion years ago when the first multicellular life appeared (scientist speculate that the decisive event of the split might have been the appearance of oxygen in the atmosphere).[90]

Of course, discussing (degrees of) consciousness in non-human species does not necessarily correlate to discussing music as a form of consciousness and a potential symbiont: biological organisms, such as fish, insects, plants, or cells are organic beings who, however different, are by orders of magnitude closer to humans' phenotypic makeup than constructs like music or language, stories or concepts. And it almost comes as a surprise to this line of thinking, to recognize the fractal nature of polyphonic voices attempting to embody the ineffable life of these cultural-artifact 'inventions' in actual terms. Carl Jung, for example, deliberating on the autonomy of ideas, concludes that it is not people who have the ideas, but the ideas who have people (The Red Book 2009: 248-250). In a similar vein, in his lecture "Language" (1950), Martin Heidegger again and again comes to the ritornello *Sprache spricht*: it is not man who speaks language, he insists, language (the speech) speaks man.[91]

Language speaks man? Language, an abstract phenomenon, routinely classified under the heading of 'expression' (Ibid.), speaks man – a physical, actual flesh and blood organism? Reflecting on the nature of concepts, Deleuze assembles a model that closes the gap between abstract and physical, actual and virtual, or shall we say, implicate and explicate as Deleuze

[90] More about LUCA: https://www.newscientist.com/article/mg21228404-300-life-began-with-a-planetary-mega-organism/ and https://astrobiology.nasa.gov/news/looking-for-luca-the-last-universal-common-ancestor/

[91] In his Amsterdam speech from 2010, the literary an cultural critic and scholar George Steiner talks about music being *Mysterium Tremendum* and, echoing Heidegger, says "Music plays us, we are played by it" https://www.youtube.com/watch?v=oKh7edvRvFQ

here almost verbatim describes Bohm's notion of the Implicate Order discussed in the first couple of chapters of this work. Defining 'concept' as a system of singularities appropriated from a universal thought flow, Deleuze asks us to imagine this flow as the "interior monologue of everyone who thinks," and then continues,

> One can also conceive of a continuous acoustic flow (…) that traverses the world and that even encompasses silence. A musician is someone who appropriates something from this flow: notes? Aggregates of notes? No? What will we call the new sound from a musician? You sense then that it is not simply a question of the system of notes. It's the same thing for a philosopher, it is simply a question of creating concepts rather than sounds.
>
> (…)
>
> In some ways, I tell myself that concepts are such living things, that they really are things with four paws, that move, really. It's like a color, like a sound. Concepts really are so living that they are not unrelated to something that would, however, appear the furthest from the concept, notably the scream.
> In some ways, the philosopher is not someone who sings, but someone who screams. (On Leibniz 1986).

Here, Deleuze makes two important points. Firstly, phenomena, like concepts or ideas, and the flow are evolving in feedforward cycles, as the ideas are first appropriated from the universal flow of "everyone who thinks" and then in turn, being phenomena of thought themselves, the ideas inoculate the flow, contributing to the universal pool of knowledge. This model concurs with both Bohm's organization of Implicate/Explicate Orders, and Campbell's fractal evolution virtual reality framework. Secondly, Deleuze fuzzes out the sharp contrast we customarily make between 'virtual' and 'actual' by emphasizing the tangible, visceral, real quality of concepts that scream man; like ideas, concepts have man and, like language, they speak man and, like sounds, concepts are created ('organized,' according to Campbell; 'abstracted,' according to Bohm) by the philosopher from this great flow (the holomovement?) that traverses the world. Zooming in closer still, Deleuze – the poet of the nonhuman – specifies that concepts are furry animations like animals, living things like sound.

But if philosophers tell us that ideas, concepts, and even language are living things and supersets of man, then we are confronted by the question of what constitutes a real living

thing? Viewed from a certain perspective, the line differentiating between 'living' and 'nonliving' is quite blurry. A compelling case on the matter presents the art historian Wilhelm Worringer: in his influential dissertation *Abstraction and Empathy* (1908) he discusses the affinity and the relationship between organic and inorganic forms from the perspective of art. On the one pole of the argument stands the realistic art with its natural curves and rational-sensual content, with its symmetries; on the other, the abstract art that emulates inorganic, geometric-crystalline forms. Through the representational approach we empathize with the manifested organic life by projecting our physical selves to the universe, and vice versa. However much we rejoice the organic world and our body in it, we simultaneously dread it for it constantly zooms in on the fly in the pudding: everything organic dies. The abstract art – and by extension, thought – "emanates from the deepest roots of [our] somato-psychic constitution" (Worringer 1908: 35), from our "spiritual attitude toward the cosmos" (ibid: 15, 34): the abstract curbs our greatest existential fear and responds to our yearning of the "static, inexorable, eternal" (Dittrich 2011: 246) by enabling us to revert to the most primitive line and form that precede all differentiations of the organic. Worringer rightfully notes that the tension between 'abstraction' and 'empathy' thus defined, resides in the problem of death: the urge to abstraction, as the root and content of artistic volition, develops out of a need to "create resting points, opportunities for repos, necessities in the contemplation of which the spirit exhausted by the caprice of perception could halt awhile" (Ibid.: 34-35). Worringer makes the proposition that the abstract, as an attempt to connect with what is unknown, is closer to the 'absolute' that is the source of all reality and life, than the organic or empathetic is. This view regards the organic and the nonorganic as tendencies of organization serving different goals. Philosopher Deleuze borrows Worringer's term 'inorganic' and develops further latter's ideas, crediting Worringer as the person to see the fundamental importance of the abstract line, "seeing it as the very beginning of art or the first expression of artistic will" (Deleuze and Guattari 2013: 577). As philosopher of the virtual and poet of the inorganic (metal, stone), Deleuze goes even further, when stating that not only the artistic will, but all living experience is but an abstract enterprise, "I don't live representation in my heart, I live a temporal line which is completely abstract. What is more abstract than a rhythm?" (Deleuze lecture 1978).

Through lenses such as these, which do not limit what is 'life' and 'real' to what is 'organic' or 'actual,' but which frame 'life' as something from which the organic unfolds, it becomes not only possible, but necessary to consider entities such as ideas, languages, concepts or music as living things – they all stem from the great flow, from the holomovement, from the

absolute, just like 'we' do. Writer Neil Gaiman takes a less abstract and more metabolic approach in considering the question of what constitutes a living thing – to arrive to similar conclusion. Using the Oxford dictionary's definition of life that includes "the capacity for growth, reproduction, functional activity and continual change preceding death," Gaiman reverses the usual arrangement of cause and effect, and reasons the following:

> You can just view people as this peculiar byproduct that stories use to breed. Really, it's the stories that are the life-form — they are older than us, they are smarter than us, they keep going. But they need human beings to reproduce, much as we need food… we need things to keep ourselves alive. Maybe stories really are like viruses… Functionally, they are symbiotic — they give and take back. The reason why story is so important to us is because it's actually this thing that we have been using since the dawn of humanity to become more than just one person. Stories are ways that we communicate important things, but … stories maybe really *are* genuinely symbiotic organisms that we live with, that allow human beings to advance (Gaiman 2015).[92]

In framing stories as viruses, Gaiman likely refers to Richard Dawkins' theory on memes as the epigenetic units of imitation, the viruses of the mind (1976). As life forms, viruses can be parasitic or symbiotic (Roossinck 2011). The trouble with Dawkins' view is that the memes as life forms are parasitic in their intent and multiplication process. Since we are interested in examples of a symbiotic relationship between stories – or music – and hosts, we need another theory.

This would be the theory proposed by George Van Driem on language as a symbiotic mutualist organism (2001)[93].

The chicken or the egg: Language and Music

At present, George Van Driem's anthropocentric theory on language as mutualist symbiont comes closest in spirit to offering a way to approach music as mutualist symbiont. Although language and music are different phenomena, as it is suggested below, they are close enough to be suspected of a similar *modus operandum*. As Van Driem's thinking is important to the development of my model, we shall briefly examine its main tenets. As far as it stems from a

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[92] Neil Gaiman, "How Stories Last" 2016, http://longnow.org/seminars/02015/jun/09/how-stories-last/

[93] Van Driem hypothesis is influenced and inspired by his professor's, Frederik Kortlandt, seminal paper on language from 1983, "A Parasitological View of Non-Constructible Sets."

sprawling debate on 'who's first, music or language?" the respective sides of the debate will also be outlined.

The hypothesis of the Leiden school of language as organism, known as symbiosism, has a long pedigree that includes luminaries as writer Victor Hugo and his idea of the word as a 'living thing,' the Darwinian linguist Gottlob Krause and his vision of a future 'etymological biology,'[94] certainly Richard Dawkins and his theory on memes as viruses of the mind, and, importantly, Van Driem's teacher's, Frederik Kortland, and his theories on language as a parasitic organism and a non-constructible set[95] (for a brief historical overview of *symbiosism* see Van Driem 2007: 7-10). The gist of Van Driem's contribution to the language-as-organism theory is as follows:

> The language organism is a mutualist symbiont living in a mutually beneficial relationship with its hominid host. Humans propagate language, whilst language furnishes the conceptual universe that informs and shapes the thinking of the hominid host (from Van Driem's page on semioticon.com[96]).

The forms of language are vehicles for the reproduction of meaningful elements in the hominid brain, Van Driem proposes, contending that meaning is the basis of language. As entities, meanings self-replicate from brain to brain. These entities are called memes, defined in the Leiden theory of language evolution (2005) as replicating units of meaning as opposed to replicating units of cultural information through imitation, as the term is initially coined by Dawkins in 1976 (Dawkins' 'meme'[97] is dubbed 'mime' by the Leiden theory of language). For Van Driem, meme is a "neuroanatomical unit corresponding to a sign in the Saussurean sense, i.e. the neuronal correlate of a meaning along with the neuronal

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[94] "To me, every word is a speaking creature, telling me its history once I have come to know it. I foresee a time coming in which one would speak of an etymological biology" (Krause 1895, in Lupke and Storch 2013: 337).

[95] On constructible and non-constructible sets see the lecture of Alain Badiou available on youtube as "Seminaire d'Alain Badiou 15 Fevrier 2016," and translated in English here: https://fragilekeys.com/2017/04/23/ethics-of-the-idea/

[96] https://semioticon.com/pool/george-van-driem/

[97] Interestingly, the meaning of 'meme' as formulated by Dawkins and as elaborated by the field of memetics, has undergone an evolution itself: it has become viral, taking over the Internet, social media, and the minds of the adolescents, where it has quickly mutated into meaning something very specific, namely, a short-living joke that gives laughter and joy to viewers – as anyone who has a kid or a teen can confirm (https://www.urbandictionary.com/define.php?term=Memes).

representations of its associated phonological form or grammatical manifestation" (Driem 2004).

Meaning, in the Leiden's sense of 'meme,' is grammatical or lexical, i.e. meaning in the dictionary sense of the word, as signification. The meaning as significance is formed by clusters of memes that form ideas. Ideas may be malevolent, agree Van Driem and Kortland, and it is here, too, where they bifurcate – Kortland propones the parasitic, and Van Driem – the mutualist interpretation of the theory. Language is a mutualist and impervious to the host, argues Van Driem, where its constellations of meanings might be wholesome, indifferent or debilitating to the same host, mostly depending on their mode of transmission – vertical, and largely benevolent, or horizontal, and largely malevolent (Ibid.: 12-14).

Analogously, one could argue, there is a similar power distribution in music – sounds are music's building blocks, each bestowed with a specific meaning-as-signification, as far as sounds – like words – are signs in Saussurean sense. When several tones liaise in their various ways of forming relationships of horizontal and vertical structures resulting in a motive, (a series of) chords processions, a phrase etc., an idea may be formed by the host (the musicker), idea that corresponds to meaning-as-significance. However, in the sense of Leiden school, music is not a language. Van Driem describes it as either "paralinguistic" or "post-linguistic" phenomena, emerging at the Upper Paleolithic horizon – time when language acquired a level of sophistication that neurologically prepared human brain for the emergence of arts and religions. There is an important caveat Van Driem makes in defining music. Noting *en passant* that Rousseau was wrong in assuming language emerged from music, Van Driem goes on asserting, "As opposed to the 'music' of other species, music in man is a para-linguistic mimetic phenomenon, which arose in the neurological environment of linguistically mediated thought" (Van Driem 2001:57). In other words, Van Driem considers musical forms mimetic and not memetic phenomena, the great difference between these forms being i) the "fecundity and fidelity of transmission," working in favor of the latter, and, ii) by the fact that memes travel in clusters – the nebulae, meaning as significance arises from. Upon accepting the 'mimetic' as its label, music automatically dispossesses itself from any claims on meaning as significance it may have. Finally, Van Driem does not consider the music of other species the same 'kind' as the music of man.

The theory of Van Driem is really appealing in making case for language as a mutualistic virus, that is, as a living organism. It would have been really convenient and not incredibly difficult, following the language template, to make a similar argument for music. Alas, Van

Driem's theory does not leave room for such ideas, as music here is conditioned by language. Indeed, language and music do have a history. For long, perhaps not without reason, they have been researched separately. Obviously, here Van Driem sides with one of the two classical 'origin' hypotheses that regard the two phenomena as essentially different, namely, the language-first hypothesis. Up until recently this approach was supported by neuroscience on the basis of brain lateralization in processing music and language – speech was thought to be localized in the left and music – in the right hemisphere (e.g. Bever and Chiarello 1974). Conversely, there also is the (more popular) music-first hypothesis, proposing music as a sort of a proto-language of expression and emotion, from which only later 'language' and 'music' furcated (Rousseau). Within cognitive musicology there is a further division – the 'adaptationists' who maintain that music played a key role in human's survival (Huron 2001), and 'non-adaptationists' regarding music as a cultural construct with social functions (Patel 2010[98]) – a dichotomy that is in essence just another octave of the old nature/nurture opposition. Interestingly, recent research suggests that as far as the brain is concerned, music and speech might be closer relatives than previously thought – in an article titled "The Relationship between Music and Language" the University of Zurich's Lutz Jäncke compiles relevant scientific data, discussing the interconnectedness of speech and music structures. Special consideration receive the possible impact of (the) music(al) on auditory training (Gordon et al. 2011), on phonetic perception (Ott et al. 2011), and on syntactic and semantic processing (Hoch et al. 2011 in Jäncke 2012). These studies suggest that music is more deeply implicated in language production than previously thought; a robust study from 2018 even asserts that piano training improves sound processing and general language development more than reading does (Y Nan 2018).[99]

Cognitive scientists' research on the narrowing gap between music and language develops alongside humanities-based interdisciplinary projects, which, too, have approached the

[98] For a summary of the problems of music and evolution scientists wrestle with see Patel 2010 pp. 367-401.

[99] It is worth mentioning here, if only in passing, the relevant work of literature professor and psychiatrist Iain McGilchrist on the divided brain, *The Master and His Emissary* from 2009. The author makes a compelling case for music being older the language: he compares the dynamics between music and language to those observed between the right and left hemisphere – where the former is older, exploratory, holistic, more informed, aware and reliable, the latter is like a "high functioning bureaucrat" (McGilchrist 2018), interested in stability, code, things, parts, directions, references, actions. The potential, the vast array of possibilities of the right hemisphere/music, the left/language constrains and constrains, and constrains, until it brings all possibilities down to an actuality.

music-and-language, and particularly the origin-of-music, problems in a more holistic spirit. The buzz word in the new, post either/or era, is pluralism, requiring contributions from an array of disciplines in the scientific investigation of music, a pluralism that will "construct integrated models, which take into account the dynamic interaction between different aspects of music" (Currie and Killin 2016). An example of pluralistic approach is presented in *A Million Years of Music* (2015) of music historian Gary Tomlinson, where the author converges accumulated knowledge from the fields of "archaeology, paleoanthropology, and human evolutionary studies on one hand and music cognition and music psychology on the other. (Other fields also have much to contribute: ethology and primatology, linguistics, semiotics, and more.)" (Tomlinson 2015: preface). The resulting major insight of such a large scope interdisciplinary work is the proposal that music and language coevolve in a biocultural coevolution.

"Language and music did not develop," writes Tomlinson,

> Instead they fell out, as belated emergencies, from patterns of sociality and communication, neither musical nor linguistic that can be traced to periods long before Homo sapiens existed (Tomlinson 2015, preface).

"Half a million years ago there was not language nor musicking" (Ibid.: 127), assures us the author. The prehistorical means of communication, imaginatively dubbed by Steven Brown 'musilanguage' (Brown 2000), Tomlinson carefully names protodiscourse – a maneuver designed to avoid any music-first biases. The protodiscourse entrains hominins, non-human species and other organisms and their environments in dynamic, intersubjective feedback and feedforward cycles of mutual inoculation. The musical and linguistic behaviors evolved together, integrating and mediating into their ecologies physical gesture and vocal utterances; they developed together with humans' cognition, but also with their environments and technologies forming a dynamic system, always increasing in complexity and combinatorial potential.

Hierarchies

To summarize Tomlinson's hypothesis on the biocultural coevolution of language and music: both phenomena emerged within and later differentiated from the hyperlinked polysensory protodiscourse, like trees from a rhizome. If, then, this protodiscourse is neither language nor music based, what would be at its core, the glue that holds it together, the kernel of music and language?

Gary Tomlinson suggests, hierarchies. Without the cognitive capacity for hierarchization in place, none of the complex social systems and structures could have existed, claims the author (2015: 18). The hierarchy-laden premise of music and language is the foundation of the protodiscourse out of which human cognition has emerged. And perhaps not only human cognition. After all, dominance hierarchies are more than 300 million years old, older than trees, conjectures University of Toronto's psychologist Jordan Peterson – it is perhaps the deepest universal principle of organization known to us. A yet deeper principle, I should add, is the binary base of reality – to be vs. not to be. Dominance hierarchies or the principle of unequal distribution (known as the Pareto distribution principle) applies not only to people's or even living beings' social systems, but also to galaxies, to the population of cities or the frequencies of words in a language (Peterson 2018: 9). Peterson considers dominance hierarchies "an essentially permanent feature of the environment to which all complex life has adapted" (ibid: 11).[100]

If this organizing principle is thus deeply seated and if it applies to such diverse array of structures and phenomena, language and music included, we could reasonably deduce that it is, 1) universal, and 2) fractal. Another way to conceptualize this universal fractal hierarchical principle is offered by ethnobotanist and philosopher Terence McKenna: recognizing the invisible architecture 'behind' reality, he names it syntactical organization ("The Valley of Novelty" lectures 1998). Expanded from its conventional meaning of rules governing the grammar of a spoken language, McKenna's 'syntax' and 'syntactical intent' are defined as the rules that govern behavior of any complex system, rules woven in the epigenetic transfer of information. For him, spoken language might be indeed 40 000 years old, as linguists tell us, but it is unthinkable to imagine that our predecessors who discovered fire half a million years ago did not have a language. Although McKenna specifies (aligning with Tomlinson) that the hominin protodiscourse was gesture-based, he insists to calling it a language speculating that the early hominins had perhaps a gestural vocabulary as complex as standard English, millions of years in formation (Ibid.).

In so many words, the idea of dominance hierarchy or a syntax underlining reality both agree with Campbell's proposition of a rule set governing our PMR. Each single phenomenon in our phenomenal reality – language, music, you et al. – is a product of a double articulation: on the one hand we have the rule set of constraints and possibilities as a diagram of

[100] It is important that hierarchy is not equated with power or even with economic status. For the crucial distinction between these terms and also on the nature of hierarchy as opposed to equality see Louis Dumont *Homo Hierarchicus* 1966.

suggestions for becoming, and on the other – the relentless process of evolution exploring everything that could be and promoting anything that works. In this model, a protodiscourse emerges, one made of gestural, vocal, or more generally cultural units of epigenetic syntactical transmission; it works for millennia satisfying the communication, entertainment, cooperation and survival needs of the ancestral community. This discourse between our ancestors and their *Umwelt* acquires a previously unachieved level of sophistication around 60 - 40 000 years ago, at the height of the Upper Paleolithic horizon, when a memetic revolution occurs, "whereby new types of memes arose in the form of words to denote non-physical entities which exist primarily in the human imagination" (Van Driem 2001: 110). Language, at that time, has achieved a degree of development and refinement, which makes it the perfect "vector for the epidemic spread of religious and artistic thought," hypothesizes Van Driem (Ibid.).

Has music evolved riding on the language vector? Many claim the opposite is true. If we regard them side by side, we may conjecture that in their evolutionary process, music and language act as closely related species. If language is conceptualized as a mutualistic symbiont, what can we make of music, if it, too,

- has evolved together with human beings, their technologies and their memetic revolutions;
- has enriched and expanded the conceptual, emotional and cognitive universe of the hosts, while the hosts have propagated music elevating it from a pass-time activity to a universal behavior across the entire species;
- is a non-constructible set,
- has spearheaded the "epidemic spread of religious and artistic thought,"
- has hierarchical and syntactical basis,
- could be representational[101] (i.e. of movement patterns or nature sounds),

… and it is at least as much as language, if not more, made of meaning, although it tends to be rather private about its precise contents. Indeed, it seems that language and music are not so much different, as they have different goals, reflected in the "hierarchical structures of action planning:"

> [T]he hierarchical structures of music arise to achieve goals with a strong relation to the affective-gestural system encoding tension-relaxation patterns as well as socio-

[101] On the point of musical representation a discussion follows towards the end of this chapter.

> intentional system, whereas hierarchical structures in language are embedded in a conceptual system that gives rise to compositional meaning (Asano & Boeckx 2015).

Different goals imply different desires and, hence, different modes of becoming. From the same ingredients – air-mediated vibrations – speech and music create different dimensions. As a collective, polyvocal assemblage invested in exploring and proliferating, music performs the nonconscious and renders it perceivable, the nonsonorous forces music makes audible (Deleuze and Guattari 2013: 111). Music creates affect, it hints and suggests, it modulates engagement. Language, in contrast, is a production-oriented, high-functioning, code-writing and code-abiding workaholic. From the murmur of music language draws to shape and craft things, to make the world of things visible to our self-consciousness. "From the murmur I take my proper name" (Ibid.: 98). Language gives proper names to phenomena for our convenience, but the latter comes at a price: as Deleuze and Guattari put it, language is made of order-words: it transmits them to compel obedience (Ibid.: 88-89). Further, where language is sense-driven, music is sensibility and sensuality-ridden; where language must be learned, music asks to be let in; where language creates new knowledge and concepts in order to expand our, shackled to it, consciousness, in music we must forget all we know and all we are, in order to hear. . .. These different desires and different becomings of music and language are reflected in their respective distribution and propagation – where writing was invented circa 4000 BC and since only grows stronger, notation appears 2000 years later, but achieves a working level of sophistication only less than a 1000 years ago.[102] Even today, reading music is an exotic hobby and writing music remains a high-brow activity, while only 17 % of world population remains linguistically illiterate (Roser 2018). Language is the vector of Sapiens's expansion, ascent and subjugation of cousins – closely related or more distant ones. Music, in contrast to the people-biased language, is fair and inclusive of all that has a place on the continuum of life. And that is pretty much every-body. As plant neurologist Stefano Mancuso asserts, "We exist on a continuum with the acacia, the radish, and the bacterium" (in Pollan 2013). In terms of music, we could say that we musick in a continuum with the five thousand species of songbirds, the cricket, the whale, and the silvery gibbon – we develop the same diagram, each according to her unique becoming and within her unique constraints, i.e. with the specific amount of information filtered through the species' data set.

[102] As Van der Meer has pointed out (to me, in personal communication, April 2020), in the middle of the 7th century, Saint Isidore of Seville wrote a twenty-book encyclopedia, in the respective chapter of which is stated that melodies could not be written down – hence the lack of musical notation in this important opus. . ..

Either way, 'music' is the same music in humans and non-humans – a sound factory for integrating paralinguistic meaning. And we have only scratched the surface of its potential. Elaborating on the specifics of the Hindustani rāga, his major object of research, the Dutch musicologist Wim van der Meer asserts that "even the total set of formulae in a rāga would not comprise the total body of the rāga" (2008: 29). As language is not simply comprised by words and grammar, but of all possibilities of thought and expression within it, so in rāga "Any way in which formulae are combined, recombined, modified, adapted, extended and transformed is part of the body of the rāga" (Ibid.), continues Van der Meer and concludes that rāga is a non-constructible set, "a seemingly infinite and indefinable collection within which musicians make selections and choices, in which the artist traces his own path and pursues his own goals (Ibid. 29). On the basis of the fractal principle inlaid in the evolution of anything-becoming, we could extend Van der Meer's elaborations on the rāga and apply them to music in general. All specific articulations, organizations and iterations of the diagram in all known formulae and vectors of becoming do not exhaust the potential inherent in the idea of music manifesting aspects of itself through different hosts.

Could we regard music as mutualist symbiont? My answer is yes. In fact, Van der Meer has already proposed so himself, when, referring to Van Driem, he states:

> I suggest that evidence is becoming increasingly stronger that music can be considered as an organism that lives in symbiosis with its human host, in a similar way as language does (Meer 2008: 32).

Even if the notion of the organism might not quite suit the idea of Musika, the big idea of Van der Meer is congruent with the propositions made here. It is even tenable to ascertain that, unlike language, musical forms are rarely malevolent, or at least less so on a mass scale.

While we shall return to the topics of language and music (and rāga), now we move attention toward the question of the strategies music employs as symbiont, in order to seduce its hosts.

Musinkulus: how to make a virtual person

Both music and language, as sound organizing phenomena, begin their becomings in Musika. Naturally, in the reality frame of sound evolution, Musika reality frame (MRF), not everything is music or language. 'Music,' in fact, comprises a miniscule part of Musika's evolving creaturedom. In MRF there are intensities with heterogeneous potentials, homogenized to an extent only by the nature of their medium, sound (as distinct from the

media of thought or biological tissue, for example). In Musika's chaosmos, to borrow from Joyce, all there is, is what Deleuze and Guattari might name ecstasies, as in "Chaos is not without its own directional components, which are its ecstasies" (ATP: 364). With time and interaction, these sonic ecstasies may be thought to develop a personality signature, what we may apprise as a character of sound: whispers, whooshes, whirrs, whines, wizzes, whistles, whimpers, noises, screeches, squeaks, screams, sobs, sighs, songs, speeches, cries, quacks, meows, barks, tweets, moans, groans, grunts, growls, giggles, laughter etc. etc., representing a tiny portion of all potential types of MRF. The ecstasies, vibrating with their sonic signatures, are interacting and intermingling in milieus and environments, combining and arranging themselves against other in variety of forms, organizing content and developing Musika's potential. This structural side of the project develops amidst dynamic tensions represented by organizing propensities, such as intonation, prosody, dynamics, alliteration, rhymes, inflections, modulation, accentuation, pronunciations, harmonies, imitations, amplitudes. . ..

This 'country of music' is not without a resemblance to Physical Reality Frame (PMR). For one, sound, as a medium of the Absolute unbounded manifold's consciousness energy, itself needs a medium – we know that at least in our PMR sound becomes through gas, liquid, and solid, and that it has working relationships with vacuum and plasma; furthermore, different solids convey a striking variety of sounds. We also know that sound is responsive to temperature, pressure, even salinity – different conditions and different environment not only affect but determine the quality of the sound. To be logically consistent, then, we may surmise that in Musika's realm the sound itself enjoys a much wider working range than it has in PMR – it is known that humans hearing ranges between 20 Hz and 20 kHz, a range quite wide compared to the chicken's (approximately 125 Hz to 2 kHz), for example, but perhaps a tiny fraction of what beings that are built of 'sound molecules' can perceive. We can, therefore, conjecture with some confidence that Musika's scape includes regions of vastly different topographic quality, providing a variety of fertile ecologies for sonic evolution. Each different environment encourages development of certain characteristics and discourages others – thus we can talk of sonic kinds, types, or why not species.

Being not of physical nature the way sentient beings of Physical Reality Frame are, the sonic entities enjoy freedoms and capacities nonexistent here, as Musika Reality Frame likely is, one should think, quite different than what we can envision. But perhaps not that different – let us recall that the Absolute unbounded manifold is guided by a fractal evolutionary process based on repetitive patterns: "Consciousness does not evolve in a thousand different

independent ways; it evolves in the same way in a thousand different forms at various levels of interdependence" (Campbell 2007: 450). It is logical, then, to assume that there might indeed be resemblances between the organization of sentient creatures and that of Musika, enough so that the latter would be interested to expand into and accelerate its evolution through a symbiotic project tailored to fit PMR sentients' various levels of consciousness.

These are resemblances of design: a musical entity and a sentient entity have a lot in common. The single sound sustained out of the chaosmic vibratory dance of sonic ecstasies is like the single living cell. The repetition of the sound is like a cell division. The variation of the sound – sound ■ followed by sound ▄ – corresponds to the differentiation of organ systems. And when sounds vibrate and resonate simultaneously, they form a complex ensemble akin to a living body. Further, the organization of the music flow in phrases emerges out of PMR-specific constraints that have to do with vertebrates' respiratory system, with breathing; the homogenous pulsation at the basis of music mimics our heartbeat, representing what it is like to be (biologically) alive. . .. Many have written on the somatic blueprints of musical gestures (Levi-Strauss' *Mythologiques* 1964, Blacking's *How Musical is Man?* 1974, Barthes *The Responsibility of Forms* 1985, Changizi *Harnessed* 2011). Indeed, the perceived correspondences between musical and physical movement stem from their common ancestor, rhythm. In an article from 1993, Richard Middleton resuscitates the work of the Hungarian musicologist János Maróthy, to convincingly outline the fundamental role of rhythm as the marrow of both musical and physical structures: " [of] phraseology; chord and textural change; patterns of accent and intensity, of vocal 'breathing,' of vibrato and sustain; not to mention the micro-rhythms responsible for the inner life of sounds themselves, and the quasi-'spatial' rhythms organizing the hierarchies of relative pitch strength and tonal tension, both on melodic contour and harmonic sequences:"

> Maróthy has eloquently described the permeation of the whole spectrum of musical parameters (...) by rhythmic principles. The physical spectrum of periodicity zones (lungs – heart – feet – fingers – speech organs – vocal chords – ear drum – ultra-sound perception – electro-chemical neural circuits – eye [light waves]) is mapped ... by the musical spectrum covered by the frequency zones of rhythm ... and pitch, which together cover the distance from pulsations occupying several seconds each up to a frequency of approximately 20 000 pulsations per second. This gives a theoretical basis of the idea that 'gesture' occupies a spectrum with relationships to obvious corporeal movement at one end and neural pulsations at the other. Not only the beat and meter, then, but also the micro-physics of intonation, sound-articulation

> and timbral adjustment: both are parts of the *rhythmic ensemble* (Middleton 1993: 179, emphasis mine).

If rhythm is understood as the "repetition of any element whereby heterogeneity can be made coherent" (Maróthy, in Middleton 1993: 178), then we can appreciate rhythm as the very glue of meaning-making, and also of shared meaning, as far as coherence (from Latin *co-haerere* – to stick together) denotes "systematic or logical connection or consistency, integration" (*Merriam-Webster collegiate dictionary*), and also "the quality of forming unified whole" (*Oxford dictionary of English*). In this respect, rhythm is Bohm's "tacit ground" that holds society together and from where thought emerges – he uses the word 'coherence' to describe the desired binding effect of the shared meaning society is based on (Bohm 1996). It is obvious that music is made of rhythm and pattern, but so is the human being: "To be a human being is to participate in a certain pattern of being, that is acted out socially, individually, but is also part of your structure, even of your perceptual structure as a living organism of your particular type," proposes Jordan Peterson, recalling Jung and his concept of the archetype (Peterson 2017 II, at 1:17:16).

Out of rhythm and pattern, the tacit ground of creation and meaning-making – and we can argue, of protodiscourses and of hierarchies as well – the human being is made. Beside the 'auditory homunculus' (Changizi 2008) as 'someone' who automatically translates our auditory input in terms that make sense to our million-year-old survival and adaptation instincts, we also have a visual homunculus, and also an emotional, and a cognitive one. In a way, we are made of innumerable, different parts that must come together to create a resonance between themselves and with the outside world, a rhythmic ensemble integrated and coherent, like a song. Thus, is our personality created. Remarkably, to cite again Peterson, "It is not obvious that your personality is insight you. Is your child more a part of you than your arm? A person is made out of sub-components none of which you can see when you look at a person, all the complicated machinery inside you that makes you who you are… Outside of that, you are nested in all sorts of complex systems, family, society, state, ecosystem… [To] make a distinction between yourself and the systems that you are embedded into is very difficult" (Peterson 2017 I at 26:10).

The complex way we are assembled together by integrated systems of homunculi in a un/perceivable whole is the way we make music. Humans are genetically and epigenetically conditioned to receive and produce sound as part of their biophysical makeup – although it took hundreds of millennia to figure out how to produce color, the spastic early hominins

have always known their bodies make a variety of sounds. Simple bipedal creatures whose survival depends on a timely hearing of that which is hiding from sight, people pour in sound-making the abstracted knowledge they acquire from their observations – of people and animal movement, of wind and trees. From the vast and vastly nonconscious collection of rhythmical ensemble's extensions, like heartbeat, walk, run, affective and kinetic physical gesture – perhaps even qualia inasmuch as the micro-physics of corporeality and perception is rhythm-derived – we select a bunch and transpose these onto sound as material, to create a Musinculus. A multidimensional creature, the Musinculus – which we call music – closely resembles the malleable human being but is even more flexible than her: dimensions could be added or taken without any apparent danger of destroying Musinculus' body. Different elements, like fairy godmothers, gift the creature their spatiotemporal superpowers:

Melody gives it length,
Harmony gives it mass,
Dynamic is its depth, and
Texture – its volume,
Tempo determines its gait,
Size (length of the piece) – its alleged place in a social hierarchy?
Modes determine its character and behavior,
Major and minor supply it with attributes corresponding to human genders,
Instruments filter and amplify the sound vibration through different applications – like speciation or race? . . .

. . . We know no limits in refining and texturizing the Musinculus. No wonder it has gotten under our skin to claim a 'real' relationship. That which began as a casual and fun affair - poking the musinculus like a rough voodoo doll while banging, beating, hammering on the drum away from the human body, all too soon progressed into embracing and stroking it via the application of strings, breathing together and holding it through the wind instruments and it was inevitable that humans and Musinculus will eventually become one – the voice, human's being and feeling, she wholeheartedly shares with this other creature. It is no surprise that the Musinculus slowly takes on a life of its own. To us, its creators, it is unbelievably mysterious and unsettling why and how the creature affects us so. The Musinculus too, seems to like humans, for it continues to hang out and to evolve with them. Caught in a symbiotic becoming, these two life forms begin a process of mutual inoculation, imbibing and experimenting, where humans encourage music to becoming-physical and even to becoming-man while do their utmost to proliferate and propagate it, and music teases always novel modes of musical beings and becomings out of humans while it contributes to the expansion of their capacities, abilities and sensitivities.

In short, people love to play with music. And music reciprocates.

III INTERVAL

Strange

But there is strangeness to people's relationship with music.

I mean, music is not a real entity, right? Yet, on a mass scale we act as if it is. We build opulent places of music worship with an utmost attention to the idiosyncrasies of music's medium, sound – concert halls, opera houses, discotheques, clubs. And we go to these music venues 1) to meet music and its shamans, and 2) to maybe see our friends, while the order perhaps should be reversed were we more loyal to our conspecifics – in which case we would have built halls for friendship worship with maybe music in the background. But we know: friends are expendable variable, music is for life.

It is also strange to consider the lengths we go in our commitment to music. To become a musician, for example, one sacrifices play, pleasure, parentage. To hearken a song, to sing in a choir, to go to a concert, to play in an orchestra, to write a book on music – though of different order and scale, these all are sincere offerings to music, offerings of humans' most precious commodities – time and energy.

Furthermore, we are eager to personally try any adapt to any-thinkable-thing that might please music and that might tease another color out of it: devising ever-new instruments, for example, or inventing technologies that create musical industries and provide people's life with sustenance and meaning. Or, modifying our voice – the human voice was not necessarily meant to sing opera, to yodel, to experiment with registers and diapason defying the 'laws of nature,' like the Tuvan singing does, to sounding out together with the sounding out of another person (how playful! how weird!), or even through another person's mouth cavity like the Innuit's throat singing. Yes, Spinoza, we really don't know what a body is capable of! And even these bold experimentations fall under the rubric 'Miscellaneous' when compared with the abhorrent transgression to our biological foundations, which sacrifices family and progeny in the name of music – for how otherwise to describe and fathom the phenomenon called *castrati*?

Such dedication could only sprout out of the feelings of ease and affection, of the relief obtained from the complete lack of boundaries, I would dare say, from the culture of

unconditional trust that characterizes people's affair with music. Which cannot be stated with the same certainty regarding Sapiens' liaisons with other species or even with each other. For example, although humans have selectively bred animals for thousands of years, it is only 45 years ago, in 1973, that they were able to crack the DNA code and to begin modifying the genes of plants, animals and microorganisms, and it is only two decades ago, in 1996, since the first creature, Dolly the sheep, was successfully cloned. Genetic modification and cloning are still very sensitive topics of large-scale public debates, and subjects of difficult reasoning and ethical upset. In contrast, with regards to music we set no limits to our imagination and agency, and experiment lustily, ethics-free, with its space-and-time, pitches and harmonics, rhythms and meters, genres and styles, systems of organization and sound-producing technologies – we mix and remix, arrange, re-arrange, disarrange and counter-arrange, dabble and tinker with musical materials and expressions to our heart's delight. And we always have. Scrupulous and squeamish when it comes to experimenting on animals, even for the sake of science's quest for 'bettering the human condition,' we have no laws or even principles forbidding unnatural, abominable and appalling musical practices, i.e. the elevator music, karaoke or the 'cancerous meme music,' of appearing, persisting, and polluting the auditory space. Perhaps only the fear of exposing to ridicule our bad taste could reduce or limit our musical trespasses.

But not our enjoyments of them, for we find even dubious matter like cloning exciting and fascinating when music is involved (apart from music industry's iron grip on copy rights). A music work like Chopin's Nocturne in D flat major op.27 no.2, for example, persists in becoming in rooms, halls and studios long after its creator's demise; moreover, we sometimes spend hours listening to and comparing dozens of performances of the work by different pianists of different ages, hoping to find something, the one rendition that rings true to our vision of the work, the one that holds its password. Do not performances of the same music work correspond to people's different ages? Like the human face and body, so different in its 1920s, 1950s or 1980s, we could feel mature or restless, poetic or exuberant Nocturne in Arthur Rubinstein, Rado Lupu, Brigitte Engerer or Eric Lu's interpretations. Well, it is to be noted that gender and age are human, not music constraints: a music piece's *becoming* is nonlinear, trying different age-like and gender-like guises, different temperaments, moods and ideologies. Cloning music is not only guilt-free, it is an all-engulfing, enlightening, informing, and fun experience that is anticipated with curiosity and received with amazement and joy.

Joy, unless it is the music of other people – then it is hell.[103] We carefully select our music according to our needs, moods and culture. Dr. Music is our go-to practitioner in rain and shine. But then, of course, there is the other kinds of music, which we have not chosen and therefore consider intruding, aggressive, hostile, BAD. Vulgar, stupid, unworthy, irritating, awful, unbearable – other people's music should be forbidden, today! "Isn't music also disorder, disturbance, destructuring of an overly constructed and polite (polished) world?" asks Michel Serres. Yes, it is. On the one hand music sooths, inspires, and motivates the conscious while organizing the unconscious, fragmentary content of our mind. But on the other – it destratifies and unsettles stagnated structures, stirs quiet waters, blurs the contours of the world that appears the best of all possible worlds, ever so dainty and polished. A smooth operator, music accomplishes a balancing act of a tuner between self and world.

"All arts constantly aspire to the condition of music," famously noted Walter Pater. And not only arts, one should think. The integration of form and content so effortlessly showcased by music is the grand project of the human being too: how to achieve an agreement and integrate the given (what is received by birth as genetic predispositions and also the specific circumstances of your lot, like birth place, parents, country, status) with the right form of life (all *moments* of your becoming, actions you take and choices you make in the pursue of meaning and a worthy life in conjunction with world's patterns)? How to bring all levels of reality so that they are in harmonious relationship with one another, in a perfect alignment – this is the fundamental lesson a symphony teaches us, declares Jordan Peterson who defines music as a 'model for proper being'. And the question of the musical being is ontological, too. With the same breath of ours that is imbibed with existential angst, fear of death and doubt of our im/material nature, we vaunt and praise the immortality of a music piece. Aware that in music the rhythm and pattern of information survive their medium of transmission and traverse spacetime in a continuous variation, we struggle to see the deep, universal, fractal nature of this principle. It is this pattern that celebrates life taking lessons by death. While we understand and tacitly accept the spiritual nature of music, we deny it to our kind.

Indeed, compared to our Musinculus and to our relationship with it, we sentients appear to be not abstract enough.

[103] "Hell Is Other People's Music" is an essay by Momus (2006).

CHAPTER 4

The Musical and Its Entities

Music-like, people-unlike

The term Musinculus introduced in the previous chapter is, obviously, analogous to the term homunculus: as the musinculus refers to the music-like quality of music, the homunculus denotes the human-like qualities of man. Just like the fact that I appear human – through my human-like features, my particular matter organization, form and shape, the external and internal characteristics of being human – does not begin to cover my humanity, the fact that music appears as organized sound and has characteristics we are used to recognize as 'music' does not really reveal what is the essentially musical in music. As my humanity is not necessarily contained within my body, the musicality of music is not necessarily in its sonic corpora and assemblages, so to speak. The Musical with its specific forms and facets is the focus of this chapter.

The perceived analogy between music works and persons is not an original insight. It emerges from a diverse contingent of musicking voices trying to make sense of that, which acts on the other side of the 'inter' of our inter-actions with music. What or who is the player opposite us? For one, it could be the composer who creates the work to express her thoughts and innermost dreams, emotions, desires: the so-called 'Great man'. A problematic idea. As psychologist Anthony Storr reminds us, while some aspects of composer's personality inevitably manifest in her music, "the object of listening is to get to know the music, not to get to know the composer" (1993: 121). Another strategy for finding that something in music that interacts with us, is to look for it in the communicative act. Musicologist Richard Taruskin is one of the outspoken proponents of the hypothesis that the agent of musical meaning is the audience. Naturally, this stance, too, has its pitfalls, like the sparsity of historical sources or the lack of a robust methodology. Consider the point made by Carl Dahlhaus, one of the major figures in 20th century musicology:

> Insisting that music ultimately resides in the 'communicative process' and not in the 'dead letter' will carry little or no weight when confronted with the disappointing discovery that the stereotyped evidence which historians of reception are forced to

> resort to from want of documents can hardly vie with the subtleties attainable by structural analysis of music (1967, transl. 1983: 39).

This somewhat annoying, seemingly logistical problem of the locus of meaning and, relatedly, of the nature of the musical agent who produces it while interacting with us, becomes even more subtle when psychologized. Musicologist Pieter van der Toorn, in defense of the construct 'music itself' widely criticized by Richard Taruskin in particular and more generally, by the proponents of the anti-formalist and postmodern turn in musicology, admits that his instinct is "to trust music first and foremost," and not its socio-political interpretations.

> I suspect that for many listeners an individual work and their experience of that work can indeed be individual, something for which there is no substitute and which is beyond their capacity to comprehend fully. In this respect, of course, musical works are not unlike individual human personalities, while the difficulties encountered in the study of music and its single instances are not unlike those encountered in the study of psychology and its single manifestations (Toorn 1995: 3, emphasis mine).

Are these musical personalities naïve make-believe 'characters' the unprofessional listener invents to compensate her lack of a formal instrumental and theoretical training? In his essay "Theorists and 'The Music Itself'" (1996) Scott Burnham argues that, in fact, it is the very training that encourages musicians to treat music as "something like a language with its own claims: an 'as if' notion of autonomy is an indispensable corollary to the act of learning to use this language." Language, we know, evolves consciousness. The specific consciousness constructed by musical language is endowed with the power of transformation. András Schiff, one of the masters of piano language, elaborates on the conditions that convert the decorative into the existential, the rather machinic row of trills in Beethoven op. 111 into a transcendental revelation, a "miserable piano" into the "voice of the human spirit" (in Morris 2019). Music language's agency at times even surpasses the strictly musical realm and venture into the physical to meddle with our perceptions: pianist Caroline Oltmanns, for example, shares that she sees other pianists not as gendered creatures but as "pianistic entities" – "They weren't so much men, they were pianists; the gender issue was in the background" (Oltmanns 2017). As Deleuze and Guattari stress, being a man *or* a woman no longer exists in music (2013: 354). And where the flesh and blood of physical reality become musical, the musical itself acquires some features we are used to associate with 'real' people. In pianist Yuja Wang's words, "There are pieces I want to know, but it's like [with] people:

once you know them (you) like that, maybe not. Maybe not friends. And there are pieces you don't know, and it's mysterious. The more you know, the more you want to know. And you want others to know; you want to share" (Wang 2015).

Pianistic entities vs people-like music. Although the becoming-music of people and the becoming-human of music seemingly move from the opposite ends on a continuum, they do crossover, meeting in an abstruse likeness. This was the conclusion of the now famous study psychologists Watt and Ash conveyed in 1998, when they tried to determine the character of the meaning allegedly emerging from a piece of music. Particularly, they were interested in discovering the level of agreement among the population (180 people) in differentiating traits of music based on gender (male/female), age (old/young), and emotion (sad/happy). The experiment resulted in a hypothesis, best known for its catchy phrase, "Music creates a virtual person" (Watt and Ash 1998: 18). Watt and Ash concluded that "there is some direct relation between the reaction to music and the reaction to a person. The action of music is to mimic a person:"

> Our hypothesis is that music has disclosure meaning. The person doing the disclosure, however, need not be physically present, nor even identified or identifiable. In this sense that person is virtual (Ibid.: emphasis mine).

Disclosure meaning, in contrast to attention- and knowledge meaning, is defined as "the domain (…) restricted to aspects of a person, or the relation between people that are of significance in determining the nature of the relationship. (…) Meaning lies not so much in the meaning of words, but rather in the social circumstance of their utterance and the manner of their delivery" (Ibid.: 7). According to the research, music is perceived as if it were a person making a disclosure. That is, a person with attributes, like male/female or old/young. However, the process of associating musical traits with personal features is not straightforward. When most people in the study, for example, describe particular feature of music as femaleness, that does not mean that music communicates femaleness, but rather that what music communicates could be better described as female than male. This is an important distinction, for, as Watt and Ash stress, "whatever has been received (from music) may not be expressible in language at all" (Ibid.: 16).

Watt and Ash's virtual person opens our thinking about music(al meaning) up to new possibilities. Quite literally, it proposes that through or perhaps in the work of music, a virtual person – other than the composer or the performer – is making a personal disclosure to the listener. The possible mechanisms and the cognitive background behind the hows and

whys of the phenomenon I already outlined as an argument presented in Mark Changizi's *Harnessed* (2011) in the previous Chapter 3. Music mimics natural movement, Changizi states. The natural movement of pumas, monkeys and snakes, winds, birds and waters, we may ask? Yes, that, but mostly of people, music is made of people (Ibid.). As creatures caught in a human frame of reference, we instinctually discern the intelligence and sophistication we feel in music as human traits. And indeed, there are people-like characteristics of music. Not only in terms of 'personality' but also of action, perception, even morality. But the unproblematic relatedness of a music work to people's *Umwelt* is undermined by the very phrase, people-like: there is something in music that is people-like, and it is that same thing that is people-unlike. I feel it is precisely that which fascinates and creates most trouble: what is the interval between the people-like and the people-unlike, what is the musical in music?

Composer Igor Stravinsky was emphatic on the point that music does not and cannot express anything like feeling, attitude, mood or representation of nature.[104] All allusions to a connection between human's *Umwelt* and music are merely an illusion:

> *Expression* has never been an inherent property of music (…) It is simply an additional attribute which, by tacit and inveterate agreement, we have lent it, thrust upon it, as a label, a convention – in short, an aspect which, unconsciously or by force of habit, we have come to confuse with its essential being (Stravinsky 1998: 53, emphasis his).

Thirty years after this declaration (in his *Autobiography* from 1936), Stravinsky still stands strong behind his word: "There is no correlations between composer's feelings and his notations," he stresses; "music is supra-real and super-personal. Music expresses itself" (1962, in Stravinsky 1981: 101). And elsewhere yet, Stravinsky informs that his music is best

104 Here Stravinsky echoes the well-established in musical aesthetics view earlier proposed by Eduard Hanslick in *On the Musically Beautiful* in 1854: it asserts that any alleged meaning in music is solely in terms of its materials: the form, melody, harmony, polyphony etc. However, in his musical criticism Hanslick happened to spill well beyond the rigid lines drown by himself in the sand, remarking on features of music like "floral fragrances," "strong ethical character," "manly and noble seriousness," etc. See more in Robert W. Hall 1967.

Van der Meer points out that the aversion to a liaison like music and emotion might be due to the fear of emotion in 19th century: "For Hanslick to think that something as lofty as music could have anything to do with something as base as emotion was ghastly" (personal communication 2019). Stravinsky too, seems vehement not to let music be handled and assaulted by human emotions, rather he suggests that music itself has its own rules of expression.

understood by children and animals (1961, in *Observer*), referring to the deliberate lack of surface emotion and *poesie*, of people-like quality in his music. Commenting on the reception of Stravinsky's melodrama *Persephone* (1934), Tamara Levitz notes, "By not expressing emotions or content, this music allows the things themselves to speak 'the real,' or 'just as it is' which Jankélévitch (…) later analyzed (…) as intuition, pure perception" (2012: 612).

At the same time period when Stravinsky coins the strange term 'music itself,' but with a different language and from a different vantage point, composer Benjamin Britten – Stravinsky's nemesis in some regard – also meditates on what if anything music expresses and how it does so. He defines it as something emerging from the scientific side of music,[105] but which transcends it: it cannot be analyzed because "is not in it, but of it:"

> "It is the quality which cannot be acquired simply by the exercise of a technique or a system: it is something to do with personality, with gift, with spirit. I quite simply call it – magic. Indeed, this magic can be said to consist of just the music which is not in the score" (Aspen award speech 1964, in Britten 2015: 12).

A spirit-personality free of the material side? Here, Britten evokes the sensual, often carnal individualistic spirit of music itself, of that which moves music in the face of the unquestionable fact that its tones actually don't move:[106] the musical spirit that emerges out of the physical substrate and sound articulation, and that transcends it.

> Let's imagine that spirit is a pattern of being. Patterns can be transmitted across multiple substrates. Vinyl, air, vibrations in your ear – it's all translation of what you might describe as a spirit. It is that pattern that's independent of its material substrate (Peterson, 2017 III).

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[105] "The scientific side of music" is Britten's own expression.

[106] "Actually, they stand still! In the Marseillaise, for example, we hear the first tone E--it does not move; then comes A, another static tone; this one is repeated; then comes B; and soon. No tone, as long as it sounds, moves from its place. What has happened to the motion? . . . Motion is the process that conveys the thing from here to there, in a continuous and never suspended traversal of the interval. If it stops anywhere, the motion is instantly abolished. But in a melody we have nothing but this, nothing but stops, a stringing together of static tones, and, between tone and tone, no connection, no transition, no filling up of intervals, nothing. It is the exact opposite of motion." (Zuckerkandl, *The Paradox of Tonal Motion* 1969: 83).

The pattern of being Jordan Peterson defines above, is what we could frame as the consciousness of music. Consider the following correlation: is not what self-consciousness is to man similar to what the musical is to music?

$$\frac{(\boldsymbol{self})\boldsymbol{consciousness}}{\boldsymbol{man}} \approx \frac{\boldsymbol{musical}(\boldsymbol{ity})}{\boldsymbol{music}}$$

This consciousness of music, the musical, is most people-unlike. Although it emerges from the people-like, "scientific side of music," from scores and instruments, venues and bodies, from music semiology and gesture – from everything that we as humans can put a finger on and identify, of the music-like in music we, admittedly, don't know very much. And sometimes it feels like we don't want to know. To paraphrase religious studies professor Jeffrey Kripal, "It is as if we can study everything about religion, except what makes it fiercely religious" (2014: xiv) – in music(ology) too, the attention to the fiercely musical in music becomes dangerously démodé as more and more efforts are poured into researching the cognitive effects of music, the context, music's role of a social power dynamics litmus, its 'communicative process' and acceptance history, its materiality and 'carnality' as well as those of its instruments and bodies, its sounds . . . and ultimately – our ideas' utter relativity.

Of course, there have been attempts to pinpoint the ineffable in music. Musicologist Eric Clarke, for example, discusses many important questions regarding the way we hear music in *Ways of Listening* (2005: 89), among which is this: "Who or what is moving, with what style of movement, to what purpose (if any) and in what virtual space?" In an essay cleverly titled "Something in the Way She Moves" (2003), Johnson and Larson, too, tackle the issue with what is it, which moves in music. Both Clarke's and Johnson & Larson's conclusions leave matters undetermined, or in the elegant wording of Alan Moore, "admit ambiguity over 'what' is moving in music" (2012: 247). Where Clarke appreciates movement as a "straightforwardly perceptual phenomenon" dynamically arising from the engagement of the listener with the musical material and its environment, he deems it neither real not metaphorical, but fictional – in the same way that the scene portrayed in a picture may be fictional (Clarke 2005: 89). In a similar vein, Johnson & Larson propose that the sense of movement arises from the listener in her dual role – as an observer of the happening in music and as an active participant. They admit, though, that our way to conceptualize musical movement grows on the shoulders of our metaphorical reserve, and stress on the following:

> Music is meaningful in specific ways that some language cannot be, but it shares in the general embodiment of meaning that *underlies* all forms of symbolic expression, including gesture, body language, ritual, spoken words, visual communication, and so on (Johnson and Larson 2003: 19, emphasis mine).

The idea of meaning underlying all forms of symbolic expression is important for it traces the distinction between the people-like, as all articulations and manifestations of meaning, e.g. in language, and the unnamed virtual potential of the people-unlike that hums in the beyond-human realm, e.g. the musical, which emerges from the meaning interwoven into the fabric of reality. The French philosopher Michel Serres has made several important contributions on this topic. In his book from 2011 *Musique*, he notes that language, "the sound of societies," is so strong in meanings that it prevents people of hearing the sounds of the world and of the living. "The meaning [as signification] hides what precedes it (…) This is why language will never understand Music" (2011:18). In an earlier opus, *The Five Senses* from 1985, Serres defines the phenomenon of music as that, "which comes from all the Muses" as the condition for existence of all the arts. Opening a crack between Music-as-condition and music-as-art, he writes:"Elle-même retombe dans les notes, le calcul plat, sans elle-même" (in Goehr 2017: 145) or "She herself[107] relapses into notes, a flat calculation, without herself." In Serres then, like in Britten, the musical in music is beyond the notes and composer's 'calculations' – it is that, which gives identity to poetry, architecture, dance: the same spirit, the same pattern becoming through different mediums. The musical, thus understood, is not only something particular belonging to Musika, the country of music, but also to consciousness coming into forms through each and every and all media. It is in the sound of the world and the sound of the living before it is confined and disciplined by language. Curiously, the English translation of Serre's phrase offers a further insight on its meaning, for it is not literal but hermeneutical translation. It reads, "Eloquence deprived of rhythm and the modulations of singing evocation collapses into gibberish and boredom" (Ibid.). Tuning into that eloquence that is not at all people-like, that is above articulations of bodies, arts, language, notes, rhythm, scores, calculations and social symbolization, but that compels them to movement, is where we hear the musical. For the inexperienced it may indeed sound like gibberish and boredom, but for those who work with it, it is an incantation. Thus, in the words commonly attributed to Nietzsche, Those who were seen dancing were thought to be insane by those who could not hear the music.

[107] In French "Music" is feminine, "la musique."

The art of music we make in our own image: it is the Musinculus, a sonic animated organization with emergent properties. But that which releases meaning into the world through sound comes from the sonic realm of consciousness which I name Musica1, in the guise of a virtual person with whom we share the tacit, implicit and immune to misunderstandings disclosure meaning – an overtone of the rich and sonorous meaning of reality.

A model for proper being

The last paragraph is hardly striking when consider the fact that for Campbell, and for other proponents of the so-called Simulation theory, the virtual is the fundamental nature of reality: a virtual information content expressed in digital data sets, subsets, super- and hyper- sets. In the next subchapter I return to Campbell's big TOE to consider, based on TOE's framework, the question of musical entities as 'virtual persons'. In the following pages, I turn up the volume on the nature of the virtual person with its peculiarities, charms and controversies. One way to approach this 'person' is through our old friend, the "cursed question of musical meaning;" another one is through the music work.

Michel Serres', Benjamin Britten's, and Igor Stravinsky's definition of the Musical discussed above widely differ in pathos and ethos; yet, upon close listening they resonate. What does it mean that music expresses itself (Stravinsky)? What does it mean that the magic of music is not in the score (Britten)? What, finally, does it mean that music is beyond rhythms and notes (Serres)? The perceived gap between the two realities of the music project, i.e. the music and the musical, is palpable, they are juxtaposed like matter and spirit. If Music is that which does the talking, the Musical is that which all talking is about, the agent who exerts power over us through its medium: the scientifically refined, people-like avatar-musinculus. This tension and distinction between two musical entities is problematic, it performs a sensual dissonance that somehow has to be solved with sense. It not only admits the existence of something else, something beyond the actual, physical, material, instrumental and scientific realms, but it claims that this other ineffable side is what is the most important in music.

Different thinkers use different approaches to solve the dissonance, to bridge the gap. Michel Serres, we shall recall, regards the musical in music – that "which comes from all the Muses" – as the condition for existence of all the arts; he deems the moving spirit of the arts Musical. This introduces a serious asymmetry in the power relations between the music and the Musical in favor of the latter. Philosopher Lydia Goehr takes a stand on the opposite end of

the argument. In her text "Art constantly aspires to the condition of music" (2017), she dissects the eponymous construct of Walter Patter's ("All arts constantly aspire to the condition of music"), contending that instead of taking this statement as a confirmation of music's special status among the arts (e.g. as Herder and Schopenhauer propagated), we should pay more attention to the context of Patter's phrase, which opposes the condition of music to the art of music. The condition of music – the perfect unity of form and content – is the music that comes from all the muses, in fact, it is their mother, Mousikē. Music-as-art, on the other hand (or the scientific side of music, as Britten put it), is a subject to this condition, like all the other arts – deconstructs Goehr. Differentiating between music as condition (that which comes from all he muses) and music as one of the arts, she 'solves' the problem of music's 'magic' (which Britten opposes to music's 'scientificity') treating it as a little more than a misunderstanding over something poetic but nonexistent. Similarly, Daniel Dennett 'solves' the problem of qualia and hence the 'hard problem of consciousness' by announcing the notion of qualia incoherent and consequently denying the existence of qualia phenomenon altogether (Dennett 1992). Music is good enough as an art, Goehr concludes, we don't need to mystify it and burden it with fairy tales, magic and outworldly aura.

'There is nothing special about music' has been Goehr's ritornello for years, the philosopher has made many efforts to dismantling the mystic of music. The gist of her stance is this: the problem of meaning in music, especially in Absolute music,[108] is imposed and artificially construed: had we not deliberately taken the meaning out of music on the first place (by divorcing it from its lyrics and from dramatic action and context), we would not have had such trouble finding it (Goehr 2015). Here again, I am reminded of Jeffrey Kripal's remark, that we study everything about religion except for what makes it fiercely religious:

> And then we are told that there is nothing essentially or truly religious about religion, which of course is true if we have just erased all of the weird stuff with our methods and philosophical assumptions. If we have taken everything off the table that can challenge our own reigning materialisms, relativisms and constructivisms, then everything will look like more evidence for materialism, relativism and constructivism (Kripal 2014: xiv).

[108] The idea of Absolute music was developed around the end of 18th century by German Romantic poets and writers – it is the 'pure' music, unpolluted by a title or a program, unblemished by crude representations. The symphony, the instrumental concerto or the string quartet are among the best carriers of Absolute music.

Is not this state-of-affair in religious studies commensurate with certain angles in musical scholarship? Goehr's assumption is that there is no meaning in music outside of the meaning supplemented by lyrics, texts, dramatic action or suggestive dance – in short that all musical meaning is contextually contingent. Indeed, this stance supplements much of contemporary postmodern aesthetics whose credo is summed up in the phrase, "Music, like God, is as good as we are" (Currie 2009) – a catchy distillation of the conviction that any meaning we find in music is meaning we put in there. A plausible hypothesis, indeed. I offer another view on the two-partied problem of music posed so far as art/condition, scientific/magic, musinculus/music or music/musical. It passes through the idea of the music work.

As evident in Chapter 1, the field of music ontology has its issues. What kind of thing is the music work? How can we fathom and define some-thing in which content and form are so perfectly integrated that they merit the term condition, as in Patter's phrase? With regards to the problem of content and form, the condition of painting, for example, is comparable to the condition of a lenticular postcard in which one can either see the smiley girl or the winking one, never both. Thus, in painting one can examine either the image or the picture, the representation or the canvas and the paint strokes, never both simultaneously (Belting 2005: 304-305). In music, by contrast, content and form are creating each other in a metalinguistic paradimensional manner (discussed in Chapter 2) and one is left to wonder which is first, or as Humpty Dumpty insightfully put it, which is to be the master.[109] Iain McGilchrist comments on Patter's mysterious phrase in relation to his own research of the Master (the right hemisphere) and his Emissary (the left one).

> [Music's] indivisible nature, the necessity to experience the whole at any one time, though it is never enfolding in time, a thing that is ever changing, never static or fixed, constantly evolving, with the subtle pulse of a living thing (…) the fact that its communication is by its nature implicit, profoundly emotive, working through our embodied nature – everything about music makes it the 'language' of the right hemisphere. If it is true, as Walter Pater famously said (…) that all art aspires to the condition of music, all art aspires to reside in the world that is delivered to us by the right hemisphere (McGilchrist 2009: 73).

[109] "When I use a word,' Humpty Dumpty said, in rather a scornful tone, 'it means just what I choose it to mean — neither more nor less.' 'The question is,' said Alice, 'whether you can make words mean so many different things.' 'The question is,' said Humpty Dumpty, 'which is to be master — that's all" (in Driem 2007).

As an Implicate Order, music integrates its dualities into its 'indivisible nature,' smithing and smoothing its binarisms into a fluent 'condition'. By our left-brain conscious Self, this mysterious (right-brain) unity of being in music is usually approached as a puzzle to be solved, analyzed, deconstructed, dissected. Patter and McGilchrist suggest another possible attitude towards the problem – not as something to understand, but as an example one aspires to. "We don't understand the world very well," notes the Jordan Peterson, we "don't understand how the world would be mastered if it was mastered completely" (Peterson 2017 III). Similarly, he continues, we don't know what kind of being it would be, him or her, who can bring themselves completely into alignment, who can become perfectly integrated (Ibid.). Significantly, Peterson's closest intimation as to what this might look like is the music work (in the referenced interview he gives the example of the symphony), which he defines as a "model for proper being," understood as "placing of all levels of reality in a harmonious relationship with one another – meaning emerges out of that naturally" (Peterson 2018 at 10:33).

This 'model for proper being' is the potential, steeping in scores and performances – anywhere and anytime the problem of form and content is attended to musically. Upon the proper articulation of this model hangs the whole project of music. A successful articulation is a doorway to those musical experiences that become our life events: they become part of who we are by showing us who and how we could be, are not, or should not be. These experiences are palpable not only because they are embodied as sensations in our bodies: they are felt by the function of [audience + performers] as a physical articulation of something – spirit? image? story? event? dream? happening? memory? action? – profuse with meaning. This meaning is paralinguistic, it is deeper than language: it emerges from underneath it, from beyond the 'scientific,' beyond the perceptual data as the first surface layer of reality – we know that this is so because despite the commonality of such musical experiences it is very difficult to embed them in words, to grasp them in coherent thoughts.

Difficult, but not impossible. A taste for what that is like, for example, we find in the forty seconds long silence after the last tone of Mozart's *Requiem*, at the last performance of Claudio Abbado in Lucerne in 2012, a few months before Maestro's death (Abbado 2012)[110]. The last sound of *quia pius es* has gone, the *Requiem* has concluded, the concert ends. But something is to stay well after the last sounds.

[110]"Claudio Abbado, moved after Mozart Requiem in Lucerne – 40 seconds silence." MediciTV 2012 https://www.youtube.com/watch?v=WLP6kqcmPRI

> Suddenly everything is one, for a moment everything stands still. The music itself, the communication process, the way the audience breathes with music – all that comes together. There is a moment when that really happens and it fills the whole hall. It's not just a void or a vacuum. It's a genuine culmination in which everyone there has a part in. It's like a different dimension, a heightened sense of time. Then you can let go, you don't have to try and extend it artificially from the rostrum. Something happens that all of us are involved in for a few moments. It's a very special moment. The end of a piece of music is frequently fading, dying away. The total effect of all the sound that has been in the hall for hours, it ebbs away… and you can feel it, it's real. You don't have to ask what it is, it's just there. (long pause) I don't know what that is. (Bruno Ganz in *Claudio Abbado: Hearing the Silence* 2003 at 31:32)

Whatever 'that' is, to doubt its realness is akin to doubt one's own I-ness – despite the strong evidence that I am an assemblage of various parts, habits, and intensities, and despite the philosophical and biological arguments that favor a process of a continuous *becoming* as opposed to the existence of a stable identity of self, there is a felt integrity and coherence to my being, an I-ness to my consciousness that I cannot sincerely deny without compromising my sanity. Similarly, the musical phenomenon referred to by Bruno Ganz, is felt as something rather than another or many-things, something that is, however ineffable, real. The French philosopher Julien Benda captures this condition in his observation that music gives us the idea of "immaterial existence" presenting "the condition of being a being without being an object" (in Chou 1998: 310). One could even argue that the less objectual something is perceived as, the more real it is: as Worringer viewed it, the way out (of the carnal, material, human, and mortal) is through the pure line; the path to the absolute, which is the source of all reality and life, wonders through the lands of the abstract.

At times this immaterial abstract being that emerges in the musical experience is so visceral, that it requires special metaphors to address its breathing presence. The Chinese composer Chou Wen-Chung, while commenting on the discrepancy between the scientific and the magical, the art and the condition in music, finds chemical imagery for discriminating nuances in our vis-à-vis with the abstract:

> As the material evaporates – that is to say, as the auditory sensation fades away in the listener's ear – a crystallization of perception emerges: a transitory condensation of a transitory experience. Therefore, in discussing the catalyst [the technique], the

> material that is immaterial [e.g. the sound palette], it will serve us well not to lose sight of the immaterial that is material, the condensation itself (Ibid.: 309-310).

This palpable experiential condensation as the material ineffability of music, as the Musical in music, I recognize as a particular articulation of consciousness. As a model for proper being, this conscious musical articulation merits the term Musical entity.

Musical entities

"An entity is a well-defined, self-contained (bounded) interactive system. It can be an atom, molecule, rock, technology, computer, worm, monkey, human, organization, city, nation, planet, or an aware individual nonphysical consciousness" (Campbell 2007: 191). According to this definition of Campbell's, the work of music does indeed meet the requirements to be considered an entity. Here, it is useful to recall Campbell's organization of Nonphysical/Physical Matter Reality (NPMR/PMR) and especially the relationship between the Individuated Unit of Consciousness (IUOC) and the Free Will Awareness Unit (FWAU). The former was described as our digital mind, and the latter – as one of its manifestations. The FWAU is the sentient 'I' who is typing the words and who is limited by the constrains in this PMR. The IUOC I am an incarnation of, is the mother (or the father?) of all past and future FWAUs, a nonphysical aware consciousness entity. Despite the differences in rank, scale and ability, and despite the fact that one appears to be physical, both entities are virtual, organized consciousness content – a content (IUOC) that has chosen to manifest in PMR in my particular form (FWAU).[111]

The musical entity whose presence Claudio Abbado is experiencing (Abbado 2012) is, I propose, an Individuated Unit Of Consciousness that, propped by the culture of the musical assemblage of the performance, has manifested through its Free Will Awareness Unit. At this point we shouldn't hesitate to call it such, for the entity does foster a free, however limited, will. In the digital reality we occupy its basic decision space would be, to appear or not to appear. Indeed, to be or not to be. Imagine a situation, in which we are an audience to a performance where all that is manifested is performer's good will and efforts – sounds upon sounds and so many notes stomping on the canvas of auditory space failing to result in coherence, with nothing happening, with no awareness arising to be. Who is to receive the blame, in this case – the performer and her shortage of summoning power, or the musical

[111] The power dynamics between IUOF and FWAU is in a way comparable to the relation between the 'I' and the 'Me' discussed in the Interlude "On Practice."

entity's bad moods that evening? Of course, it is all too easy to blame it on the musician, for we have heard this music work in other performances where we did experience the magic – if one is able to kiss the beauty awake from her sleep once, shouldn't anyone, always? Indeed, nowadays we expect a sublime experience from our performers by default. Yet it does so happen that we listen to an impeccable pianist, with an excellent technique and developed consciousness, and yet she leaves us … as we are. In such rare cases, mightn't we consider the possibility that the music work's Free Will Awareness Unit has enacted its free will of choice to half- or partly be that evening, or even not to-be, and it has, therefore, called it a day?[112]

But 'musical entity' is neither unproblematic nor univocal term. Although I generally use it in its meaning of a complex musical being-in-becoming one can get obsessed with or even possessed by, it may also mean an independent musical idea, e.g. melody, ornament, waltz, symphony. According to ethnomusicologist Bruno Nettl (*Thought on Improvisation* 1974) each culture has its own notion and definition of that which constitutes a musical entity. Below I regard some of these notions.

Tone

Let us assume that in Musika reality frame there are nebulae of organized, or organized to some degree, content. To the extent this content can be conceptualized as tone, we can already talk about a well-defined, bounded, and indeed interactive musical entity (as per Campbell's definition, see above). The idea of the tone as an entity could be traced back to Confucian times: the text *Yueh Chi* (*circa* 500 BC) describes music as an instrument for inducing order and as a tool for the inward transformation of the person, for her internal harmonious alignment (Taylor & Choi 2005: 734). The composer Chou Wen-Chung suggests that in *Yueh Chi* musical tones are considered musical entities and quotes the following passage: "One must investigate sound to know tones, investigate tones to know music … without the knowledge of sound… one cannot speak of music" (in Chou 1970). "It is therefore believed," continues Chou, "that single tones, rendered meaningful by their acoustic attributes, are musical entities by themselves as well as musical events within the context of the composition" (Ibid.). In this discrete approach even the slightest deviation from the single tone, which might be deemed 'ornamental,' is not to be understood as an

[112] The dynamic interaction and causal relationship between the performer/performance and the manifestation of the musical entity might be an unusual line of reasoning for those raised in the conceptual tradition of European music. There are other traditions, like the Indian culture of *rāga* – that offer a wider, more nuanced and open-minded space for musical discussion. We shall come to it briefly.

embellishment but is itself considered and treated as an independent idea. Additionally, the deviation might affect and modify the relationships of the tone contextually, and thus meaningfully change the global design.

Rāga

This view of Chinese philosophy, which sees tones as musical entities and celebrates the unique micro-dimension of the tone deviation within its tonal ecology, is reified, amplified and refined in the aesthetics of the Indian rāga. It teaches that any musical entity, like the tone, is to be understood in the global context of the rāga. It is the complex subliminal play of its 'parts' that, in a sense, make rāga such an intricate idea, at once "singular, multiple, essential and collective" (Meer 2008: 28). *Śrutis*, for example, are defined by Van der Meer as "the minute difference in intonation" (1980: 10); in his book *Hindustani Music in the 20th Century* (1980), Van der Meer explains that they are to be understood as a "tonal [re-]configuration rather than a deviation from a pre-defined pitch ratio" (Ibid.). In this sense the microtonal *śrutis* are dynamic force and full-blooded agents as they, together with the melodic contour and the scale, contribute to the "totality of rāga's sound" (Ibid. 11). On the other hand, even mere ornamentations like the *gamakas* – slides, waves, oscillations, repetitions etc. – are used not only to connect the different pitches, but to animate the 'space' between the tones, to place them, so to speak into a context. *Gamakas* are not assigned arbitrarily, but according to the character of the rāga – they perform their role of 'connectors' or 'blood suppliers' through subtle inflections in pitch, timbre and loudness. *Gamakas* and *śrutis* are only two of the many entities that partake in the creation of the atmosphere of the rāga.[113] Conceived in this manner, rāga becomes a super-entity made up of multiple, relatively autonomous musical entities. Like the machina of the human body made of multiple, heterogeneous, relatively autonomous evolving homunculi? A dangerous thought. The idea somewhat resonates with Daniel Dennett and Susan Blackmore's memetic (machinic) substitution of the notion of a unitary conscious self:

> [The selfplex is] the most insidious and pervasive memeplex of all (…) The selfplex permeates all our experience and all our thinking so that we are unable to see it clearly for what it is – a bunch of memes (Blackmore 2000: 231).

[113] The (fundamental musical) "atmosphere of the rāga" is an expression of Van der Meer (1980: 3).

In this way, conceptually, we can relate the idea of rāga to the idea of self-consciousness.[114]

"Technically, rāga is a musical entity in which the intonation of notes, as well as their relative duration and order, are defined," writes Van der Meer (1980: 3). But this is only a technical aspect; in addition, rāga has an ideational one, an abstract image, "on which one can concentrate and from which inspiration can be derived" (Ibid.). When the technical and ideational aspects are aligned in performance, the measurable, 'scientific' foundation of the rāga is subsumed in the 'magic' presence through which the entity manifests itself.

"These rāgas live and breathe in a way, they have characters and moods that are meant to be evoked by playing" explains sitar player Anoushka Shankar, admitting that it is difficult to put in words all that rāga is (2013). Indeed, there are many attempts to frame the term as idea, concept or mood. Elaborating on the problem of rāga, namely, what is rāga, Van der Meer proposes that one way to understand it is to liken it to a biological species,

> in which every performance is comparable to an individual creature and every formula to a constituent part, a cell or an organ. The rāga rules that we know are nothing but a description of the outer appearance, similar to the description of plants in a flora. The 'DNA structure' of a rāga is something else altogether. What comes closest to defining this 'DNA structure' is the view commonly held by many musicians in India that a rāga is a coherent musical entity, a supernatural power, a deity that one can meditate upon or surrender to (Meer 2008: 29).

Bruno Nettl, too, comments on the paraphysical reality of the rāga. The performer of the *a priori* improvisational rāga (or the Iranian *dastgah* or the Arabic *maqam*), "is giving a rendition of something that already exists, be it a song or a theoretical musical entity. And its basic 'table of contents' is set," remarks Nettl (1974: 8). If we adopt his observations for our purposes, it appears plausible to suggest that each version of rāga Yaman is a Free Will Awareness Unit that varies in grade, scale, and quality, but the rāga itself is an Individuated Unit of Consciousness – a music entity that may or may not emerge in performance.

> We often speak about the face of a rāga. We know and recognize faces immediately (in the Bergsonian sense), not by analyzing the shapes, colors, etc. of the face. When I

[114] "I think tones, tonemes, scales, modes, ornaments are memes, whereas rāgas and [musical] works are memeplexes. I also think entities are memeplexes, whereas tones etc. are subliminal entities or particles…" (Wim van der Meer, personal communication).

> see someone I know, I will say: "Hi Mira." I do not have a list of determinations. That's how rāga works also… if we know it (Van der Meer, personal correspondence 2018).

Does not this act of 'recognition' apply to composed music works and even, in many cases, to compositional music worlds as well? We recognize Chopin, Shostakovich, Wagner – if we know them.

Now that we have considered a few of the phenomena we can regard as musical entities and have agreed that the scope is vast – from the subtle minute explorations of the Tone within its environments, hesitations and becomings to the idea of a unitary musical selfplex of an entity. Next, we shall inquire how and why these entities, as Individuated Units of Consciousness, emerge from Musika to invest in a becoming in Physical Matter Reality.

Musikling. Becoming-music

In Musika tones, tonemes, intervals and chords, organized in rhythm and pattern ensembles, form musical gestures. These are in a way compatible with Campbell's Thoughts, defined as "chunk(s) of fixed or variable content with certain attributes, characteristics and abilities that can be stored, transmitted or used as an operator" (Campbell 2007: 297). The more wide-spread or repetition-prone these musical gesture-thoughts are, the more opaque they become, i.e. from something like a pattern through habit they become something almost like an object.[115] One example of such a robust musical gesture-thought or meme is the interval minor third – the sol-mi chant is fundamental in children's developmental musical psychology, on it are based unidentifiable number of children's songs and lullabies. We could think of these musical 'objects' as packets of meaning with bounded extent, which is not unlike a body (Campbell makes this argument for the existence of thoughts in Nonphysical Matter Reality, see p. 332). These 'bodies' are interacting with other musical 'bodies' and thus they complexify and evolve to where eventually they may be considered an Individuated Unit of Consciousness – a Being in Musika reality frame. Or perhaps not 'being' but something more like an individuated multiplicity or what Deleuze describes as haecceity – "a mode of individuation very different from that of a person, subject, thing, or substance:"

[115] In *The Presence of the Past* (1995) Rupert Sheldrake proposes that things become what they are through habits, while collective memory influences their behavior and form through a morphic resonance. Campbell discusses a similar mechanism on page 474.

> A season, a winter, a summer, an hour, a date have a perfect individuality lacking nothing, even though this individuality is different from that of a thing or a subject. They are haecceities in the sense that they consist entirely of relations of movement and rest between molecules or particles, capacities to affect and be affected (Deleuze and Guattari 2013: 304).

The musical haecceities as organization of consciousness in Musika Reality Frame are different from us as organization of consciousness, or rather, from the way language has taught us to think of ourselves. We feel the likeness between our two species but are fascinated by the difference. Even when dealing with musical pieces in Physical Reality Frame, we are often perplexed and sometimes frustrated by their slippery nature, by their qualities we simply have no language to express or concepts to fathom coherently. "If you honestly ask yourself what the music piece you play is about," musicologist James Currie writes, "you get an almost orgiastic mental response:"

> (A) lewdly fecund flowering of completely contradictory narratives; magnificently profligate palettes of emotional colors; gestural imaginings dancing with religious epiphanies; jokes in the midst of tragedies, tears dripping down into wide-mouthed smiles (Currie 2010).

Indeed. The music pieces that we cannot pin down even here, in our lawful reality frame, are likely much vaguer in Musika. For convenience and consistency's sake, let us call these multiplicities/haecceities/objects/bodies/entities/beings dwelling in Musika Reality Frame (MRF), Musiklings. Each one of these Musiklings have particular characteristics and flair, they crystalize consciousness information energy in a particular sound body of meaning. The 'denser' the energy or the potential of the Musikling, the greater chance it has to be picked up by a sentient being in Physical Reality Frame (PMR) or other reality frames that work with sound as medium. Campbell describes this state as follows:

> More nonphysical "m" requires, or stores, more nonphysical "E" (as in $E = mc^2$) and requires more Force (focused mental energy with intent) to modify its present state relative to its extant dimensional container (as in $F = ma$) (p. 474).

The F in the second equation (Newton's Second Law) in our case would be the mental energy of the composer. He dives in the Implicate Order, 'tunes in' Musika's bandwidth, and with the force of her intent – or through the Order of movement of attention of Bohm's I discuss in Chapter 1 – is able to modify the inertia or the persistence of a particular potential/energy

in MRF by abstracting, filtering and constraining the latter to the rule set of our dimension. Because in our PMR the 'dimensional container' is spacetime, the informational profile of the Musikling must be filtered – in a sense destroyed – and re-assembled, embodied by particles and waves and calculated as a function of time. The Musikling is reconfigured as a Musinculus with the potential to advance in hierarchy as a Music work and – maybe – to connect and convene with his Individuated Unit of Consciousness (IUOF) through the Musical assemblage of performance. Eventually, the Musinculus, in all its Physical reality evolutions, (hopefully) assists the Musikling in MRF by (hopefully) reducing its entropy and improving the quality of its consciousness. This feedback is the actual goal of the strange intradimensional transformation. The goal is the same for the carbon-based units of consciousness, us humans. Every new experience of my Free Will Awareness Unit – being a mother, or cooking my first Christmas dinner, or writing this book, or communing with Sibelius' *Valse Triste* – has augmented my local and by extension enriched my core consciousness, the IUOC.

(Is the targeted but not necessarily always achieved reduction of entropy worth all the turmoil and suffering one experiences in Physical reality frame? Likely yes, why otherwise we would have chosen to do this? Nobody said learning is easy. Ultimately, we shall wait and see.)

Is the necessary transformation – destruction/ reorganization – of the Musikling conceptualized in MRF's Metaphysics as death? Possibly so. In such a filtered transformation, the modification of the original and its harsh constraining and coding are inevitable compromises both parties need to live with. For the musical IUOC, this is a chance to accumulate experience as a bounded and much more functional, left-brain oriented Free Will Awareness Unit whose learning contributes to reducing IUOC's – and by extend Musika's – entropy.

In other words, the great task before the musical Free Will Awareness Unit is to experience the process of *Being* – the condition the musical entity is wrestling with here, on Earth. As humans suffer under the weight of the human condition, the musical beings must endure the 'musical condition' – as difficult, uncertain, complex, and fleeting, as the human one is.

Special role in these becomings have the Composer and the Performer. For the Composer, the process of filtering and ineffable translation from MRF to PRF could be life-defining, haunting, and addictive, but also laborious and frustrating, marked by bouts of elation

followed by disheartened low states. But at least, once it is done, it's mostly done. The Performer's drama is similarly intense, often amplified. Let us begin with the Composer.

Composer: medium, translator, improviser

> [The composer is] not so much conscious of his ideas as possessed by them. Very often he is unaware of his exact processes of thought till he is through with them. Extremely often the completed work is incomprehensible to him immediately after it is finished (Roger Sessions 2016: 26).

This disclosure belongs to the composer Roger Sessions. In his essay "The Composer and his Message" from 1939 he shares his conviction that music penetrates beyond the conscious specificity of the emotion, to go yet deeper within to the level of some vague and ambiguous gestures, "to the energies that animate our psychic life, and out of these creates a pattern which has an existence, laws and human significance on their own" (Ibid.:19). This animation, Sessions speculates, energizes the emotions and makes them vital to us – which is the essence of musical expressivity.

Igor Stravinsky, to recall, believed that music expresses nothing but itself; typically, he describes the position of the artist as one of a "pig snouting truffles." He was of the conviction that the "composer writes notes" while "music expresses itself," and was disgusted by the crude idea that music may elucidate his innermost feelings. Indeed, the idea of music being a tool for self-expression, or expression of composer's personality or emotions, is not what makes music interesting, believes philosopher Karl Popper, who finds expressivist theories particularly 'empty;' In his *Intellectual Autobiography* he writes: "For everything that a man or an animal can do is (…) an expression of an internal state, of emotions, and of personality. (…) This is not a characteristic of art" (Popper 1982: 62). This understanding of the composer as an intuitive, instinctual 'medium' of music's is, in fact, a plausible description of the artistic situation in terms of the aforementioned 'intradimensional translation'. Popper continues,

> (T)he really interesting function of the composer's emotions is not that they are to be expressed, but that they may be used to test the success or the fittingness or the impact of the work: the composer may use himself as a kind of test body, and he may modify and rewrite his composition (…) when he is dissatisfied by his own reaction to it; or he may even discard it altogether (Popper 1982: 67 emphasis mine).

Drawing a line between Composer and Work as between two entities, Popper suggests that the main aim of the true artist is the perfection of his work: attempts at being original, novel, different, or expressive of own emotions are not only empty, but they interfere with the integrity of the work:

> In a great work of art the artist does not try to impose his little personal ambitions on the work but uses them to serve his work. In this way he may grow, as a person, through interaction with what he does. By a kind of feedback he may gain in craftsmanship and other powers that make an artist (Popper 1982: 52).

The feedback mechanism is, therefore, not only physical, going from composer's own to work's reality, but is also metaphysical, running in the opposite direction – from the work to its 'creator'. Naturally, the question is, how the composer can receive any instructions for personal growth from the work that he himself creates according to his own wishes? "I write only what the music wanted to say," shares Leo Ornstein, one of the longest-living composers (died at the age of 107): "Every composer is a medium of something that he doesn't really know (...) Some make more modifications than others" (Ornstein 1984: 130-131) . . ..

But 'being a medium' does not mean that the music the composer 'hears in his head' and 'pours down on paper' is complete and perfect, and the process – effortless. This myth, however seductive, does not stand up to scrutiny and remains just that, a myth. Chopin, for example, was a "pig snouting truffles," too, like Stravinsky; like Bach, he, too, was thought to be "taking musical dictation from the Lord" (Marschall 2011), but here the rather inert metaphor of Musical God's amanuensis is enriched and extended by a strong creative self-awareness. As early as 20-years-old Chopin has already discovered the delightful and dangerous escapist potential of art, when in a true Byronian spirit he declares, "I shall create a world for myself" (letter to Elsner from December 14th, 1831 in Tad Szulc 1999: 62). A personal world of music, that is. And here we could raise the stakes with the following idea: in his explorations in Musika reality frame Chopin has discovered not simply a few dozens of IUOCs ready to becoming-music, but a whole race of them. Throughout his oeuvre the composer articulates and experiments with organizing the suggestive 'content' of these Musiklings, their relationships and ecologies, and this is what we hear when we listen to Chopin: a world designed by him but inspired by and built with Musika's bricks, in accordance with Musika's modes, climates and geographies. The Chopin style. The brand *CHOPIN*.

In her *Autobiography* from 1854, George Sand remembers the compositional process in Chopin as "spontaneous," and the creation coming to him "suddenly, complete, sublime, or it sang in his head during a walk, and he would hasten to hear it again by, tossing it off on his instrument." We've heard the same story in relation to other Great Composers. The subsequent description, however, reveals rather curious aspects of the relationship between the composer and his creation:

> But then would begin the most heartbreaking labor I have ever witnessed. It was a series of efforts, indecision, and impatience to recapture certain details of the theme he had heard: what had come to him all of a piece [as a right hemisphere action], he now over-analyzed in his desire to write it down [left hemisphere's narrowing the potential to an actuality], and his regret at not finding it again "neat," as he said, would throw him into a kind of despair. He would shut himself up in his room for days at a time, weeping, pacing, breaking his pens, repeating and changing a single measure a hundred times, writing it and effacing it with equal frequency, and beginning again the next day with a meticulous and desperate perseverance. He would spend six weeks on one page, only to end up writing it just as he had traced it in his first outpouring. (Sand 1991: 1109, insertions mine).

Does this memoir account for the difficulties of embodying a musical potential from Musika reality frame into our 3D spacetime physical reality? The composer, as a translator, can capture only so much of the musicality he is channeling. Through his own, he in-forms the Musical in a body, which in the best-case scenario – from the Individuated Unit Of Consciousness' perspective – would be cartoonish, and in the opposite case – ill suited, or simply wrong. Thus, Chopin's anxiety. And thus, a possible explanation of why some scores, however 'normal' and even 'perfect' from PMR point of view, contain impossible, unsatisfactory or unconvincing solutions (see Chopin's discussion in the next chapter). Can't we apply here Glen Gould's logic when, pestered by the apologists of the 'correct' line in performance (notably the historically informed performance police), he dared asking, "What if the composer, as historian, is faulty?" (Gould 1999). Can't we ask in turn, "What if the composer, as translator, is faulty?"

In addition to medium or translator, it is also appropriate to think of the composer as improviser who "performs a version of something [that already exists], not improvising upon

something," as ethnomusicologist Bruno Nettl stipulates[116] (1974: 8). For a long time, improvisation has been treated as composition's Other (Cook 2004). In his text "Thoughts on Improvisation" Nettl offers an alternative to the classic and particularly problematic in musicology juxtaposition composition-improvisation – instead of opposing them as two hierarchically related processes,[117] Nettl proposes to see them as parts of the same idea. Different cultures draw different lines between composition and improvisation that might appear at different ends on a continuum, he observes (Ibid.: 7). Even within the European art music, Nettl distinguishes between 'slow' and 'fast' compositions, giving as examples the pensive and difficult creative process of Beethoven's vs. the ease and fluid lightness characterizing much of Schubert's oeuvre (Nettl 1974: 11). The fluid idea of a continuum vs. hierarchy as organizing principle, perhaps unsurprisingly, finds an avid support among jazz researchers. For example, Florida Atlantic University's professors Gould and Keaten maintain that "jazz and classical performers alike interpret their pieces and improvise, doing so;" they argue, echoing Nettl, that "jazz and classical performances differ more in degree than in kind" (2000: 143). Furthermore, the insistence on rigid demarcation lines between composition and improvisation, has transitioned from a theoretical stance to a "dangerous, insensitive, reactionary idea:" it betrays an ideological agenda and/or "unintended racialism" (Cook 2004: 10), or at the very least, an "insufficiently critical awareness of the differences between theory and practice" (Ibid.: 24), musicologist Nicholas Cook argues. Nowadays, it is perfectly plausible to ascertain that a string quartet or a symphony is interpreted in preparation and improvised in performance entity. The composer is an improvisor just like the performer, but out of different need, through different means, and to different effect. In a sense, the musical project as a whole is hangs on our species flexibility, our ability to adapt and improvise. To paraphrase the popular saying, it is improvisations, all the way down.[118]

In summation, here is the gist of composer's task. Through intent/attention, practice, and chance, she tunes in to the Implicate Order of the Musikling and filters a selection of its information down to a subset, according to composer's intuition and understanding (conditioned by pre-compositional virtual musical structure of relationships exemplified by the Ursatz, see Chapter 2), ability, and the available material reserve. The composer walks

[116] Or, in the words of Charlie Mingus: "You can't improvise on nothin', man… you gotta improvise on somethin'" (Kernfeld 1995: 11).

[117] I.e. the hierarchical organization of the composition vs. the heterarchical organization of the improvisation (Cook 2004: 19).

[118] Originally, "It's turtles, all the way down." A version of the anecdote is recounted by Steven Hawking at the opening of *Brief History of Time* (1988).

the edge between the yin and the yang, the receptive and the procreative modes of conduct. On one hand, she is an improviser who selects elements from the substrata: tones, intervals, chords, motifs, parts of melodies, rhythmic codes and riffs, harmonic language, instruments etc. – anything that is already articulated, that she has heard before, has borrowed from others, has invented previously, etc., and organizes them in a 'new' work. But this does not make the composer a clever engineer of memes, an intelligent designer as Daniel Dennett will have us know (Dennett 2017). For, on the other hand, she combines and transforms all bits and patterns – stretches them, pinches them, pulls, compresses, multiplies, teases and tickles them backwards and upside-down – and then mobilizes the content of her personal and private musical archive with the possibilities of the topological Ursatz in order to come as closely as possible to an approximation of what she has 'perceived' with her consciousness – the spirit, the 'message' of the Musikling.

The Score

The composer creates the score. The score is at the base of the art music tradition (and of the tradition of musicology as discipline, too, argues Cook [2004]), it is habitually taken as the one element in the musical assemblage that is solid and tangible. And yet, it too is a matter of diverse interpretations. Is the score a static ocularcentric object (Cook 2004) that patiently waits for a performer to open, read, understand and unleash all the secrets that are composed, inlaid, encoded into it? If that was so, then why we would ever go, each subsequent time, to hear once again a well-known piece – everyone would have played the same, the way it is in the score! Glenn Gould, suspicious of the competence of the composer as historian, treated scores rather slovenly at times: not like a template to be filled with the right colors, but rather like a Biblical allegory with great hidden potential to be excavated through interpretation, like a book waiting to be written.[119] An opposite approach is that of Nelson Goodman, a philosopher and music aestheticist, who made a case for music as a *notational system* and argued that the identity of the music work is to be found precisely in the score, as the sole concrete reference available of the music work: "Where the works are transitory, as in singing or reciting, or require many persons for their production… a notation may be devised in order to transcend the limitations of time and the individual" (Goodman 1976: 121). In this way, Goodman identifies the music (work) with the score. For another music thinker, the philosopher Kendall Walton, the music work is reduced to hierarchically organized sound patterns and the instrumentation prescribed, "*minus*

[119] Jeremy Denk in "Bach's Music – Bach Then and Right Now" (2012) defines the score as "at once a book and a book waiting to be written."

whatever advice for good performance it contains" (2015: 234) – a significant subtraction. Walton considers scores as patterns that layout the rules for correct performance, the instruction concerning interpretation are 'ornamentation' on the face of the stable core template that is the score.

. . . I see the score as the interface between the composer and the performer. The score as interface is, indeed, the body of the music work. In it, the composer has specified genetic information and has engineered the DNA of the work, while the performer as an epigenetic agent decides which genes to be switched on or off and therefore which characteristics the work will demonstrate and embody. The performance plays the role of the environment – the third powerful factor of the evolution/becoming of the complex compound entity that is the music work – no environment, no life.

In other words, where the Composer is the architect, the Performer is the interior designer; where the former is the prophet of Musika, the latter is its priest. The Composer prescribes the sound palette, the form, function, materials, rhythmic relationships and relational patterns – everything that can be specified in concrete notational symbols and that provides the foundations, the outlook and the basic ethos of a possible house. These instructions are necessarily detailed in the score. In order for this house to become a home, however, a new agent is needed, the Performer, who is to deconstruct and reconstruct the score-house, to inspirit and design it as a unique abode with spaces for rest and rumble, with singular carpeting and lighting solutions . . ..

As life is impossible without its double, so this deconstructing and decoding (and consecutive reconstructing and recoding) of the score is very much like a second death for the musical entity. First it dies in order to crossover from MRF to PRF, and the result of the spacetime reconstruction is reflected in the score – in Composer's Own image. Then, the Performer as a Hero proceeds to taking apart and dismembering the score in order to assemble and resurrect a real living entity, to bring it to consciousness again – in Performer's own image.

In this way, the performer is the secondary creator of the music entity.

Performer: zealot, oracle, exegetist

But let us go behind this last statement.

So far, I have proposed that the composer connects through intent (after Campbell) or through the Order of attention (after Bohm) to the Implicate Order of a musical IUOC, a

Musikling, whose perceived meaning as organized Musika content she captures and codes into sounds and symbols, into the Score.[120] A score of any kind is a general diagram with basic instructions of what patterns of sounds are to be produced so the Musinculus be informed and, ideally, how to per-form the Musinculus so the particular IUOC to be emulated. These instructions are to be further deconstructed, filtered and then translated – improvised! – through the bodymind of the Performer. This feat requires a lot of skill, talent, attention, devotion, and is predestined to failure. The Performer, in a sense, is someone who just got to be comfortable with failing. For recreating what Composer has put in the score is not unlike attempting to recreate an old recipe written with obsolete units of measurements and with some ingredients that need substitution and others missing, with a method that calls for a meticulous manual labor made redundant today by technologies like mixers, blenders and freezers, and that calls for unreasonably particular purpose-made vessels – no matter how hard one tries, the 'original' taste simply cannot be recreated.[121]

. . . Before the Performer (interpreter/improviser) stands an almost unsurmountable and nothing short of heroic task – to connect the dots mapped in the score, to open an unknown abyss, to imagine a strange monster, to bring it to life, to stand up straight before it, to endure its breath, and then, barely comprehending its utter alterity, to publicly make love with it with such conviction, so the vibration pierces through dimensional walls and calls the IUOC. As love is like death, the reward for lovemaking with a dragon must be the same as the one for dragonslaying: when the Hero slays the Dragon he receives Dragon's power.

In their devotion to the Score, Performers come in all shape and color; the range is wide – from Zealots through Oracles to Exegetical Commentators. The first group treats the Score as a Gospel. Sviatoslav Richter, for example, insists that

> The interpreter is really an executant, carrying out the composer's intentions to the letter. He doesn't add anything that isn't already in the work. (...) He shouldn't dominate the music, but should dissolve into it (...) from the beginning I was always certain that, for each work, it was in this way, and no other, that it had to be played. Why? It's very simple: because I looked closely at the score. That's all that's required to reflect what it contains (Monsaingeon 2002:153).

[120] A scaled-down version of this process is performed by the Ethnomusicologist who codes live traditional music, to be perceived by a foreign temperament and unsophisticated ear, onto the staffs of Western notation system.

[121] In a similar vein, Michael Pollan makes an excellent case for bread (2014), https://www.youtube.com/watch?v=Ide8N14CevI

Pianist András Schiff, too, seems to share this view: apropos the big leap the left hand is supposed to take at the beginning of Beethoven's Hammerklavier Sonata op.109, he comments, "Well, yes, it's really dangerous at that speed, but that's how it's supposed to be. You know, I would rather cut my hand off than divide that leap between the two hands, the way some pianists do" (Hewett 2008). On the other end of the continuum are artists like Glenn Gould or Ivo Pogorelich, for whom the Score is more like a hieroglyph to be interpreted, a vehicle of ideas, a subject of exegesis. A third kind of psychology is demonstrated by those I named 'Oracles'. By this term I mean to stress the mediumistic nature of the performer artist, discussed previously; it is exemplified in the statement of Japanese composer Kawabata Makoto, who says:

> Music, for me, is neither something I create, nor a form of self-expression. All kinds of sounds exist everywhere around us, and my performances solely consist of picking up these sounds, like a radio-tuner, and playing them so that people can hear them. However, maybe because my reception is somewhat off, I am unable to perfectly reproduce these sounds. That is why I spend my days rehearsing (Makoto 2000).

Ultimately, the debate pro or con interpretation seems to be missing the point, given that interpretation lays deeply in our deals with reality – our very *Umwelt* is an interpretation. Here I side with literary critic and polymath George Steiner, who writes that the performer "invests his whole being in the process of interpretation. His readings, his enactments of chosen meanings and values (…) are commitment at risk, a response which is, at the root sense, responsible" (1991: 8). As a musical entity, the Performer is the priest of Musika, engaged daily in an unimaginable set of bizarre rituals that help maintaining the connection to the other side, feeding the conviction that she can do it again, nourishing the courage to actually do it. Can she do it, again? The great performers are neither ordinary people, nor their lives are ordinary lives, for they are wrestling with some most unordinary matters.[122] Glamorous surfaces, unimaginable chasms. To take Sviatoslav Richter, again. For a few years in his later life, he was suffering from a disconnect between the hemispheres, revealed into a separation of right- and left-hand music's hearing; this resulted in playing in two different keys. For a career performer, this must have been devastating. The pianist also suffered from frequent obsessions, once fell victim of a melody he could not trace down that drove him "nearly mad," other time he became possessed by an aggressive chord based on a diminished

[122] "You cannot play this volcanic repertoire and live like a petit bourgeois. We don't belong with nappies in our hand. We do what we have to do. Anything else is a lie" exclaims one of the characters in Conrad Williams' *The Concert Pianist* from 2006, p. 220.

seventh that followed him everywhere and would not resolve. On a more manic note, Richter is famous for his lobster episode – in 1974, when suffering from a deep depression, he started carrying a pink plastic lobster everywhere and most notably, on stage, and fell in despair if the lobster was not there for his performance. These and other anecdotes are recalled by Errol Morris in an uncommonly perceptive article in *New York Times* from 2019, titled "The Pianist and The Lobster." Morris dives into the depths of Performer's psyche to surface with more than a few insights. "Being able to do something means thinking, believing that you are able to do it. It's not enough to have the skill to play the piano. Something *more* is needed" (Morris 2019). This chilling proposition is followed, somewhat unsurprisingly, by the question, "What if every performer needs a lobster?"

What a good question this is, I thought when I read it. As a performer, I know too well the sickly misery of stage fever. Once, I must have been 13 or 14 years old, I was waiting for my turn to play a piano piece in the theater hall of my hometown; I do not remember the occasion, but it was a mixed concert with a number of performers and artists participating. Backstage, I was quietly steeping in dread, as usual. Then, shortly before my turn was up, for the first and the last time in my life, I was able to spellbind myself, to come up with a personal something that performed a magic trick on me. It was like I was graced by the presence of a Thought-being. Its power was such that the disgusting anxiety in my stomach was suppressed and almost dissipated, and I was able to do the deed in a bizarre, supernatural calm. Ever since I have been trying to recreate the spell, to no avail. Either I do not remember the thought precisely, or I put the words incorrectly, or I do that part well but something else, something of demonic nature, is missing. It happened like this: Vacantly scanning the rows of people sitting in the hall through a small gap between the curtains, I was trying to convince myself that all those people did not care about me, personally, and about my playing, they just came for a concert. "Just if I am able to play it now, any which way, all this will be over" … but of course I knew too well that everyone was here, secretly, for me and they will count every tone and gasp at every mistake, and it is all life or death, a triumph or defamation. Then, a Thought came: "Nothing now depends on you" or "Now, it is not up to you anymore." Whatever the thought was, it allowed me to relax and isolate the 'myself' who was wriggling in agony from the 'I' of my 'performing bodymind' who has practiced this piece for months (It was *Love Dream* by Liszt). I 'just played' the piece, as if dreaming, and then went home . . ..

The something, the 'more than this,' the ineffable, the demonic – that which has nothing to do with notes and keys or muscles or practice – is it really the 'I' the one who is in charge on

stage? If this was the case, wouldn't we always be able to recreate our greatest successes, or at least best stage dispositions, to just go out there and play what we have practiced, without the torment?[123] Put in perspective, Richter could be considered even lucky that he has been able to formalize the something as a pink plastic lobster. Certainly, he is not alone. Before performance, pianist Jeremy Denk tries to eat spaghetti and meatballs and gets upset if he cannot find them; he always travels with a special coffee equipment and everyday drinks the equivalent of 50 coffee beans – the amount Beethoven is said to have crunched everyday (Morris 2019). And, yes, Denk has a little demon doll, which he brings to recording and editing sessions, "to just somehow make it easier" (Ibid.). Pianist Gregory Sokolov is said to be taking apart each piano before concert and to be taking notes about its mechanics (Church 2008). In order to get on stage, Vladimir Sofronitsky, another genius pianist of the recent past, had to imagine that he is under twelve layers of armor (Itin 2019). Glenn Gould was soaking his hands and wrists up to the elbows in nearly boiling water (Clarkson 2010). Arthur Rubinstein was (said to) not being able to perform if his wife was in the audience (Ibid.) . . .. Pianist Zsolt Bognar sums it well: "For me, (stage) can be (a place of) joy, but it is often arrived at through a very convoluted process of suffering" (Itin 2019).

The becoming of each and every entity is composed and conditioned by uncertainties and conjectures. Along the joys, elations and opportunities, there are disadvantages, lack and pain – for the Musical and the Physical alike. When giving voice to the Music work, the musical entity we call 'Performer' suspends her identity and lends the work her self-conscious 'I'. Thus, the Music work is performed, literally, by and from a deeper source of consciousness.

Musical assemblage

Finally, we arrive at one of the most important concepts, central for understanding Musical entities in general and more specifically, the Music work:[124] the Musical assemblage. It is the

[123] The conscious vs. the nonconscious, the 'I' vs. the 'Me" – I discuss the dynamics in the Intermission *On Practice*.

[124] Here in most cases in this thesis I use the term 'music work' in a more general sense, as a metastable meme with some endurance, and not necessarily in the specific sense of Lydia Goehr's, for example, as the conceived and perceived as autonomous, imperishable musical masterpiece a.k.a. 'work-concept' – notion, which according to Goehr acquired momentum at the turn of 19th century, notably in Germany, and whose rise and rein throughout and beyond the era of the Romanticism is

cradle, the territory, the medium of the Music work. Nicholas Cook defines the music work as a bundle or collocation of "attributes that may be variously selected, combined, and incorporated within any given actualization of the music's meaning" (2007: 232). And also, as "unstable aggregates of potential signification" (Ibid.). Researcher, composer and performer Paolo de Assis defines the music work as a metastable construction. In the music ontology I develop, the Music work is a nonlinear, nonlocal, compound, heterogeneous entity that could be regarded both as an entity, e.g. the Free Will Awareness Unit that emerges in performance, and as a Musical assemblage that is the performance itself. As we already looked into some of the major musical entities, let us now briefly consider the Musical assemblage.

The Musical assemblage is a kind of musical entity itself and, simultaneously, the modus operandi, the procedure, the technology, or even the method through which a musical entity becomes – the epitome of the so-called 'musical condition'. The Musical assemblage, after Deleuze, is a dynamic come-together of human and non-human becomings, of material and non-material components, of discursive and non-discursive elements, or *concreta* and *abstracta*. The Musical assemblage functions as an organizer of a virtual musical consciousness potential, achieved through arrangement and amalgamation of various sentient consciousness (material- and immaterial-) becomings. It rises through the collaborative experiences and practices of the following components:

physicality of the perceived sounds,

Composer's legacy (where such is available),

Performer's consciousness,

Trace (scores and score-like texts, like the 12-bar blues chord progression, for example),

'Listener(s)' (where there is a distinction between performer and listener),

material reserve (instruments, the acoustics of the auditory space, technological means etc.),

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accompanied by other similarly dubious constructs, e.g. "the Great man," the "absolute music." See more in *The Imaginary Museum of Musical Works* (Oxford 1992).

> immaterial reserve (sketches, drafts, editions through time, performing styles, listening expectations, criticality),
>
> and various extra-musical expressions and non-musical considerations (the dress of the performer, her age, the aesthetics of the space, e.g. geometry and design of the stage, the quantity and quality of the audience, i.e. the number of listeners, their level of participation, attention, listening culture as attitude/appreciation etc., how un/usual is the venue for the style/genre of the piece, in what historical moment the performance takes place, the level of exposure of the audience to the piece performed etc.).

All these components of the assemblage coalesce in the action of the Performance. One of the most important capacities of the musical assemblage in action is that it sounds out what the score does not account for – "the normally silent back channels of social interaction" (Cook 2004) – which it transforms into something directly perceivable. It is through the 'back channels' that the disclosure meaning of Watt and Ash's 'virtual person' runs. As Nicholas Cook writes,[125]:

> [t]he 'story-line' corresponds to the repertory item being performed, while the act of performance corresponds to the back channels, generating meanings that run in parallel with, contextualize, modify, qualify, or perhaps contradict those inherent in or associated with the composition (Cook 2004).

When all of the elements of the assemblage harmonize, when the becomings of all the components align in the spacetime of the performance, the result of their alignment is a crystallization – "a transitory condensation of transitory experience" (Chou 1998: 309-310). But the result, although aimed at, is not a given, there are stages, scope and sequence, what-ifs and a bit of demonology. Let us see.

The Performance as a physical actualization of the Music work is the first articulation of the musical assemblage. During its course a second, more refined, more subtle articulation of the assemblage may or may not emerge – one that is local and happens only here and now. Its event depends on the quality of tuning and alignment between the plane of the audience, itself an assemblage of collective consciousness, and the plane of the musical assemblage

[125] The 'back channels' vs. 'the main line' or 'story line' tracks are the two attentional tracks social psychologist Ervin Goffmann discusses in his 'face-to-face social interaction model, which Matthew Battlefield applies to jazz and Nicholas Cook, in turn, to performance.

described above. On this second, contingent articulation of the assemblage depends whether the entity of the Musical Individuated Unit of Consciousness manifests or not.

The Performance has three scenarios (or shall we say, three evolutions):

Scenario I (default): The two planes – performance and audience – come close together; they touch politely and lightly engage in a small talk. For a variety of reasons, the sounding Music work remains at a Musinculus level. Result: the right notes at the right time, familiar tune, appropriate culminations, satisfied anticipations, pleasantness, enculturation, applause, bow, flowers, ice cream, home, TV, bed.

Scenario II (experience): The two planes are overimposing, somewhat, and comingling, somewhat. The components of the Music work interact with the audience's awareness, attention and intent through an Implicate Order, and as a result a musical Free Will Awareness Unit (FWAU) is co-created, imagined, encountered. The FWAU is as particular and unique as each Performance and Audience is, yet the perceived difference between different FWAUs is more a matter of nuance (or quantity) than quality. Beethoven's 5th is here, it is being played at this very moment, it is being listened at this very moment, it has willed itself into the Hall, imposing itself upon you. The becoming of the musical Free Will Awareness Unit is loud and clear, as anyone can hear. Result: thoughts, memories, ideas, plans and wonder, wine and tapas, deep talks, "I can change all this!", home, another day.

Scenario III (borderline): The two planes – the Performance assemblage and the Audience assemblage – merge. Their respective elements are precariously and finely tuned and can now harmonize with the elements of the other assemblage in the shared spacetime. One collective consciousness merges with another, enfolded into an Implicate Order. A second articulation of the musical assemblage is taking place, during which the Free Unit of Consciousness is embodied, made palpable, visceral, in a way – visible. The speeds and affects of the Musical assemblage align with the speeds and affects of the people in the Hall. The Musical's intensities are met and matched by the Physical's intensities. There might be other, necessary for the effect, variables, too. Deleuze reminds us that in demonology the diabolical act is conditioned and dependent on the importance of "rain, hail, wind, pestilential air, on air polluted by noxious particles" (Deleuze and Guattari 2013: 304) – which collectively secure favorable conditions for the cursed act. Perhaps there is some demonology at work in this ultimate Musical assemblage scenario, too. However it is, it all happens on the interface between the first and the second articulation of the assemblage – when all conditions and factors, objects, rituals and agents necessarily involved in the event

merge with a unified, pliable, mesmerized audience in the right spacetime moment. At that rare moment of cosmic constellation something special occurs. A Musical being is present. Technical and ideational aspects align. The entity of the *rāga* is manifested – you can see her movements in your mind's eye. The merge spells the difference between a 'good,' 'fine!' and 'cathartic' musical experience.

(It is important to open a caveat here and underline an often-downplayed aspect of the musical performance – that for hundreds of millennia of human (pre)history it was simultaneously the call, the reason and the motivation for communities' assemblies. The ultimate social activity and the prime means for social cohesion, music was the essential way of binding people and helping them share their humanity. Then, we all were (more or less) equal, active musickers with no perceived hierarchization and demarcation between composer, performer and audience. Today, psychologist Oliver Sacks reminds us, this primal role of music is mostly lost. Today we have to go to church, concert or a music festival to reexperience "the collective excitement and bonding of music:"

> In such a situation music is a communal experience, and there seems to be [...] an actual binding or "marriage" of nervous systems, a "neurogamy"[126] (to use a word the early mesmerists favored). The binding is accomplished by rhythm ... [which] turns listeners into participants, makes listening active and motoric and synchronizes brains and minds (and, since emotion is always intertwined with music, the "hearts") of all who participate (Sacks 2007: 244-245).

Should we fancy to investigate the usage of the suggestive term neurogamy – here referred to as binding of nervous systems – we will quickly trace it to elaborations as "glimpse into [soul's] secret workshop," and even as "a spiritual reproduction through spiritual mating" (Bell 2005: 180). Is not this that happens in the performance of music when the musical Free will awareness unit graces – or not – the musickers with its presence? The attention and the intentions of all present musickers bind – or tune in – or align to where, as Peterson says, all levels of reality are placed in a harmonious relationship with the logic of the sounds already incepted as musical cathedral. The resulting plentitude of patterns is staggering, and even though their explicit 'meaning' cannot be easily abstracted, it cannot be denied either.)

[126] On neurogamy or the fundamental 19th century idea of animal magnetism see Matthew Bell's *The German Tradition of Psychology in Literature and Thought, 1700 – 1840* (2005), pp. 167-208.

In such rare and extraordinary moment of relentless beauty you could feel awe, you could be overwhelmed by emotions, you could be transported somewhere, floating in a moment of transcendence. *Lux aeterna, Domine, quia pius es*,[127] invokes Claudio Abbado's *Requiem* at the end of conductor's last performance (Abbado 2012). But the entity that has been evoked and manifested may not necessarily be godly and not even goodly. Amidst your unforgettable, cathartic musical transfixion you could also experience guilt, shame, lust, confusion, and heartache; you may feel like the *homo reus*[128] from Lacrimosa who has risen from the dead to be judged by the entity – God or demon. Music has power, and power has no morality. The flammable unpredictability of its communion with our consciousness is what makes music so exciting.

Because this third evolution of the Musical assemblage is most interesting to me, I explore it in some detail in the last block of text of this book, called InterZone. There, I recognize it a as the Body without Organs.

The Body without Organs is as close as we will ever get to an Individuated Unit of Musical Consciousness.

127 The end of the Requiem, (Eternal light, God) because Thou are merciful.

128 The guilty man.

IV INTERSECTION

The Musikon

The Musikling, the Musical Free Will Awareness Unit, the Musinculus, the Individuated unit of consciousness, the Music work. . .. Truthfully, the amount of neologisms and concepts introduced is ample and colorful, but is it justified? Do we need all these music creatures and why? At this point these would be some fair questions. Here is my answer. I invite you to conceptualize with me the musical entity as a Pokémon-like phenomenon. Pokémon is a Japanese media franchise started in 1996 as a video game and proliferated into card games, manga series, anime- and live action film series, books, to become the highest-grossing media franchise of all times. It fosters a hyperlinked, rich, interactive, involved mythology whose main characters are these magical creatures, called Pokémons. The word stands for "Pocket Monster." There are a few aspects of the Pokémon that are of interest here. One of them is the fact that the Pokémons are in a tight interdependent relationship with humans, called Pokémon Trainers – the latter needs to catch a wild Pokémon and train it for a combat with others. The idea is not particularly politically correct,[129] but is weirdly reminiscent of the way we still treat music and music works: on the one side of the portal roam these magical creatures, these strange monsters, and on the other – we humans. Our relationship? We humans made them, we humans own them, we humans train them. "Gotta Catch 'Em All![130]"

The more interesting aspect of the Pokémon, however, is that the creature is able to undergo metamorphosis and to transform into a similar but stronger species of Pokémon: the process, called 'evolution,' occurs spontaneously under differing circumstances. Some species of Pokémon may undergo a maximum of two evolutionary transformations, while others only one, and yet others may not evolve at all. It is only the Pokémon called Eevie that has achieved eight evolutions. Similarly, the Musical entity as a complex polysemic virtual phenomenon, or a cluster of related phenomena, manifests different characteristics at different circumstances, or upon different considerations, to different effect. The dimension the music entities inhabit is a hyperlinked, rich, interactive, involved dimension, like

[129] The franchise has drawn a lot of controversy and criticism, receiving a plethora of blames, from gambling, occultism, anti-Semitism, and violence promotion to animal cruelty. The list is not exhaustive.

[130] The English slogan for the franchise.

Pokémon universe. Some of the numerous species and evolutions of musical entities I have already named. Those, in no particular order, are Musical assemblage, Musical Free Will Awareness Unit, Musical Individuated Unit of Consciousness, Musinculus, the Music work, Musikling, the Composer, the Performer, Musika, Rāga, Tone. Depending on the occasion, I use different term, referring to the different qualities and attributes or functions of the phenomenon. When, for example, I want to underline its aliveness I may use the term 'Musical Entity;' when I want to stress its mechanical, physical, contrived and art-ificial aspect – 'Musinculus;' 'Musikling' signifies the status of an agent inhabiting particular ecology, a reality frame like 'Musika;' the 'Music work' brings forth the solid core that endures through all the transformations – the initial diagram, the blueprint. . . and so on. In order to highlight the common point, the likeness, the similarity between all these musical creatures, in order to consolidate them and to points at their common denominator, hereby I introduce one more neologism, the last one – the Musikon. The Musikon is a general ontological category, an umbrella term denoting the connections and relations between musical entities, on the one hand, and the singularity and fine distinctions between these entities – on the other.

CHAPTER 5

Musical vs. Physical: Music that Cannot be Played

"*Run, run, run, as fast as you can, you can't catch me . . ..*"

In Chapters 3 and 4 I presented a theoretical model of music by differentiating and defining (some of) its ontological entities and modes of existence. Among those are music's larger reality frame (MRF or Musika Reality Frame), its physical medium of becoming (sound), its virtual forms of existence in MRF (Musikling), its mutualistic strategy for attaining higher forms of organization and therefore consciousness (e.g. through symbiotic action with entities in our Physical Reality Frame), the musical mode/organization shaped by the *Umwelt* of the PMR musicking entity (Musinculus), the emergence of a compound heterogeneous collective entity, the vehicle for the becoming of the Musical (Musical assemblage), music's embodiment in text and symbol (the Music score), its enduring, nonlocal and nonlinear form (the Music work), its quality of being (the Musical), the musical Individuated unit of consciousness and its Free will awareness unit, and finally, I introduced a general ontological category signifying Musical entities (Musikon). Clearly, this list is not exhaustive, and it is not meant to be as there is myriad considerations of music's evolutionary, material, organizational, existential, modal, affective nature to be addressed and inquired into – beyond the scope of this dissertation. In the present chapter I focus on a few particular ways in which the Musical, as opposed to the Physical, manifests, i.e. makes itself known, through certain problems in interpretation and performance I have encountered in my practice.

These problems emerge and find definition from the following irksome proposition: There are pieces of music that cannot be played. Well, they can, and they are played all the time by all kinds of people of all kinds of excellent ability – the right fingers on the right keys with the right touch at the right time – but in the end, no single performance seems to be able to fully render the idea coded in the score in the way the score itself seems to be suggesting or calling for. The recognition of the aforementioned incongruence has dawned on me often enough to become suspicious and to begin wondering whether this is generally the case with all music, or whether it is a peculiarity, a sort of a glitch short-circuited in particular pieces. Recently, an assumption has begun taking shape, as to why this perceived discrepancy

between ‘what should’ and ‘what is’ might be. Before attending to it, I shall outline a few ideas I have come across along the way.

All case studies are based on examples from the so-called ‘classical’ repertory, for two reasons. First off, the music from the common practice period is the music I grew up with as conscious being, and as such it is, a musical mother tongue to me. It is reasonable, when trying to grasp and convey complex ideas, to approach those from the most familiar point of access – for me this happened to be the ‘classical’ music. Secondly, as I characterize aspects of music as ‘conscious,’ it is natural and convenient to relate to these as one conscious entity to another, as ‘man to man’. I believe that ‘classical’ music has come as close to becoming-man as music has ever been (this proposition I discuss toward the end of the chapter).

With that said, nothing could be further from the truth as the inference that my approach and the ideas I propose apply only or mostly to a specific kind of music.

The privacy clause

> Classical music developed with a single aim: to be listened to[131] (…) rather than heard as part of some other activity, usually a social or religious ritual. (…) [T]his sort of listening involves both focused attention and active involvement. Its attention is a form of attending; it is not just a hearing but a hearkening. To practice it is to presuppose that listening is a discrete form of activity, of interest in itself

[131] In the Indian classical tradition the ‘purpose’ of classical music is to connect with, to please, and to glorify the Gods, hence the saying, S/he is singing for God. This attitude is exemplified in the popular tale about the visit of emperor Akbar and his court musician Tansen to the legendary musician and mystic Swami Haridas, Tansen’s teacher. The story goes like this: [Emperor] Akbar one day expressed a desire to meet Tansen's guru and hear him sing. Tansen said to Akbar: "My guru, Swami Haridas, will not come to your court. He is not employed by you like I am. He lives in a hut in the jungle. He sings only when he feels like; so no one can command him to sing." "If he will not come, we will go to meet him" said Akbar.

When Akbar and Tansen reached Swami Haridas's home, they found him sitting outside, silent, with his musical instruments beside him. Tansen requested Akbar to wait while he himself started singing. After a while, he deliberately made a mistake, at which Swami Haridas said benignly, "Don't sing like this, Tansen." Then Swami Haridas began to sing, casting a magic spell all around. Akbar was in a trance, transported to a state of spiritual bliss, broken only by the cessation of the melody. The emperor left for his palace but the song haunted him throughout the journey.

Akbar asked Tansen: "Why don't you sing as well as Haridas does?" Tansen folded his hands and said, "Your Lordship! Between Guru Haridas and me there is a vast difference. I sing for my king while he sings for the Lord of the universe. He is a musician of a much higher court." On hearing this profound truth, Akbar fell silent.

> independent of what is heard. Listening so conceived is capable of sustaining personal, social, and spiritual values (…). Such listening quickly develops the ambition to get beyond the quicksilver transitory character of hearing in the moment. It seeks to embody itself in forms that can endure and so become the "classics" upon which a culture of heightened listening depends (Kramer 2009: 18).

Listeners[132] and performers alike, we all listen to music, in order to hear it. But where for the listener the activity of listening alone is at the basis of her relationship with music, for the performer it is just one avenue. The difference in performer's and listener's rapport with music is of definition and scale, of degrees of relatedness, of layers of knowing: where the former conceives and creates, the latter receives a product already incepted, weighted and packaged, which she then in turn perceives, unpacks and interprets. Understanding or knowing music via listening alone is a bit like driving a car without knowledge of its mechanics (which is perfectly possible and, incidentally, the way I do it). Or, like getting acquainted with a great work of literature through its film adaptation (e.g. meeting Anna Karenina via Keira Knightley) – you will get it, but it will be someone else's truncated (limited, ideologized or simply appalling) idea of the work. Unless you listen a lot to many – to all – available recordings of the piece and create an assemblage of their 'best' parts, you cannot begin to form an understanding of 'what the piece really is (about)'. Thus, while I agree and appreciate the astuteness of Lawrence Kramer's proposition on listening classical music as a discreet form of activity, it seems to me that no matter how much one listens and hearkens, there is a level of analysis – the anatomical, deep tissue, chemical level – that the listener does not, some may argue that she does not need to, attend.

Ironically, what seems to be 'lacking' for the listener is counterbalanced by what appears 'excessive' for the performer: where the former may not get enough, the latter gets more than she needs of 'what the piece really is (about)'. During routines, like breaking phrases down in parts, comparing the latter, repeating passages multiple times, finding tonal or rhythmic patterns and tensions, inverting, permuting, and perturbing the musical material in all diverse ways musical practice has imagined, the performer encounters music work's implicit privacy clause. "Run, run, run as fast as you can; you can smell me, you can see me, but you

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[132] As Van der Meer has pointed out (to me in personal communication), while the *composer*, the *performer*, the *improviser* or the *interpreter* are all people we could meet and touch, the *listener* does not exist but as a monolith construct, an abstraction. The listener exists only as an 'implied listening subject' (Currie 2012: 78). With this in mind, I continue to recklessly use the term as an amalgamation, as an imaginary fictitious entity in which all collective experiences of the *audience* (another construct) are sublimated.

can't catch me. . .."[133] The conscientious and deliberate practice inevitably results in an accrued intimate 'knowing' of the piece, down to its pretend-plays and secrets. Secrets, because the performer simply cannot share them with the audience: the details are lost in the rich sonic drama of the performance.

Thus, the performer is faced with a problem: she simply cannot share all she knows is the deeper truth of the piece. That, which could be shared, she needs to prioritize, put in the right perspective, hierarchize, so the piece makes sense as a whole. In the following examples I examine and tune up this proposition, and then I discuss possible approaches.

Shadows

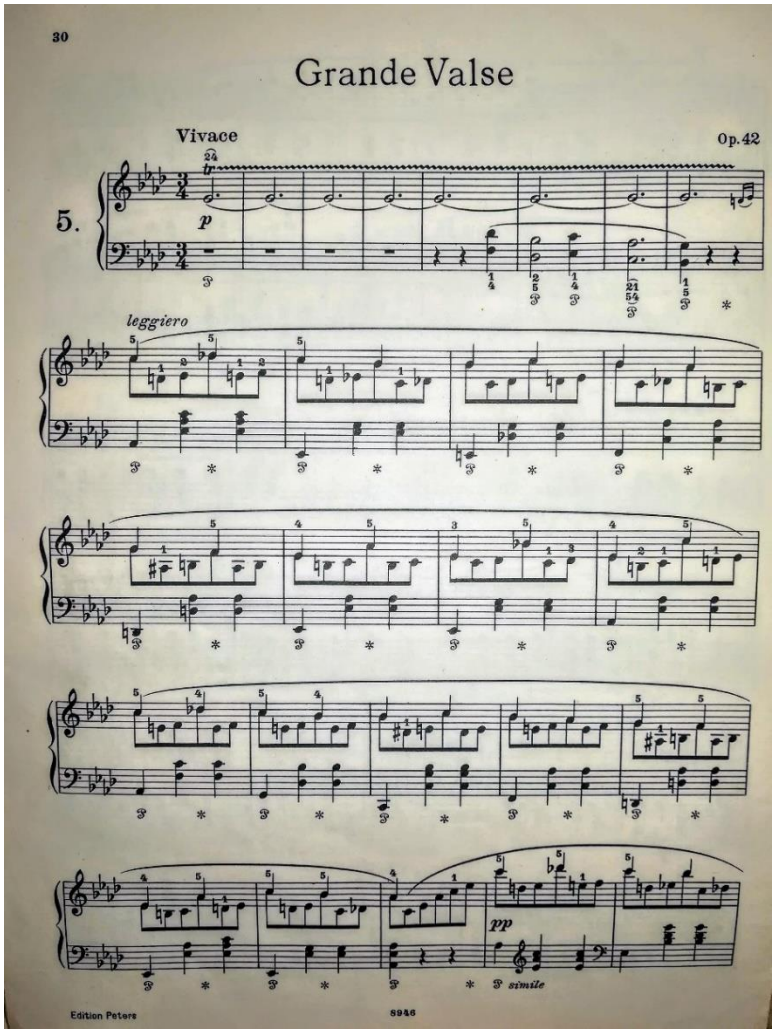

Figure 17// The opening of Chopin's Grand *Valse* in A flat major.

The Grande *Valse* in A flat major, the so called 2/4 Waltz, Chopin wrote in 1840. It begins with a long trill – a joyful and suspenseful anticipation of something wonderful. That the event is joyful, we infer from the sixths that join the trill – in major key, they ring like bells announcing the birth of a long-awaited child. Let us imagine that this child is the melody – unfolding throughout the first page of the score, it is our first encounter with the *Valse*, the embodiment of our first impressions. As such, it contains and constitutes the most important markers, the coded 'aboutness' of the *Valse* as a music entity: its face, its demeanor and inner disposition, the hidden tremblings of its soul, if we may. Played by

[133] A variation on the original "Run, run as fast as you can!/ You can't catch me. I'm the Gingerbread Man!" – the famous line is from 1875th story *The Gingerbread Man*.

itself, the statement made by the two 8-bar phrases reveals, say, a lyrical, feminine, rather melancholic (or bored?), perhaps curious and yearning, yet aware of its place in the world, personality (the rotation-based 'sighing' descent at the beginning, the repetitive pattern, the three consecutive upward thrusts from the E flat, the quick departure from the tonic, the all too easy slip into the parallel minor, the inevitable rooting back in A flat major).

The melody alone is simple and schematic, a bit like a template or an archetype – what does it mean? Could the ethos of its conventions be really engendered as a melancholic antsy female or does it stand for something entirely different? How can we judge? To begin answering, one needs to, first of all, reconcile with the idea that music can 'refer' to something this concrete, e.g. the way language does. Yes, it can, as the piano Teacher would confirm. Scott Burnham argues that our very training as musicians "encourages us to treat music as something like a language with its own claims" and that a notion of music's autonomy is an indispensable corollary to the act of learning this language (Burnham 1997: 318). Don't we always imagine something when we play music, whether it is this concrete or less so? Most all children's music has evocative titles – *The Sick Doll*, *The Wild Horseman*, *The Snow is Dancing*. The basic music conventions imprinted as formulas or associations on child's imagination do not just magically transform into a mature understanding of abstract patterns – tones, motifs, phrases, themes, circle of fifths, tonal hierarchies and tensions – nor do they conveniently rest within the confines of childhood. They grow with the child, to become more refined and singular, to be combined with other patterns into complex clusters of meaning. In other words, they do evolve into a kind of language. I would even argue that it is something immanent to this language that makes music so irresistible, so intimate and indispensable – we are on the cusp of understanding it, as in a dream, yet it most always alludes our naming impulses. But liaising patterns in music with emotional or physical dispositions is an intrinsic part of music teaching method: it helps fermenting the rows of notes into music, it helps internalizing the abstract musical patterns and render them 'meaningful'. We do this, as teachers, because we want the child to hear the music talk, to associate the sound patterns with real-life images, events and phenomena; more so, we need her to. For what is music, if not taken personally, if stripped from its real-life significance and relevance?

The language of music, as a communication practice made of patterns, is indeed very much like the real-life world, if we imagine the latter as an "infinite hierarchical landscape of patterns" (Peterson 2006); it is also like the hierarchical landscape of our conscious mind (Ibid.). In order to understand the meaning of these patterns, we must relax and perhaps

tweak our conception of what does it mean to understand something. “What do you see when you don’t know what do you see? On what reality level the words/patterns translate into meaning?” asks Jordan Peterson in his talk “Music and the Patterns of Mind and World” from 2006, and goes on suggesting that reality is in the interaction between the patterns of the world and the patterns of our mind. This proposition is supported by quantum mechanics interpretations, and especially through the implications of the so-called Observer effect – the theory that a (state of) phenomenon changes upon observation. Or, to take the retina – it picks up patterns from the world around and translates them into neural impulses; these, in turn, are processed by the neural system and other parts of the brain that cooperate to produce a representation of the initial image in the brain. But neither the retina, nor the ‘I’ sees the ‘real’ image as it ‘objectively’ exists in the world: we ignore almost everything that arrives at our brain, and ‘see’ (an interpreted version of) only that, what is deemed relevant (Ibid.: YC Leong et al. 2019). From this, we can extrapolate that musical meaning is in the interaction between 1) the patterns of music filtered through and delivered by the patterns of the world, and 2) their ‘interpretation’ by the patterns of our mind. So the problem with our melody is not whether it is, indeed, feminine, masculine, in-between or both: more importantly, it is something to begin with, something we need to hearken and ‘understand’ in the ways we ‘understand’ stranger’s energy and May morning’s haecceity; the notion of gender here is at its most conjectural. We need to ‘understand’ what the melody is, in order to know how we ought to position ourselves and to relate to it appropriately and adequately. The ‘ought’ we derive from the ‘is’. As performers, we carry the responsibility to help the realization of the melody by focusing on its intention, by bringing out its inner truth.

To judge what *Valse*’s melody ‘means’ or ‘is’ about, a context is needed. We add a bass. This maneuver allows us to situate the melody in space, to assign it a territory with possibilities and to draw some constraints. The [melody + bass] contour to the music entity is like an astrological horoscope, a diagram with potential, favorable occasions, opportunities and suggestions for being. The big question is, what sort of being the *Valse* is, and what kind of actions this being is interested taking. The addition of the 3/4 waltzing chords to the base help clarify a lot – it fills in data about Melody’s social environment: the playground where it gets to grow. It is the simple, predictable, entraining and naïve environment where many spend their lives: in the reassuring familiarity of their native cultural frame, in the friendly neighborhood of their tribe.

The bass and the accompaniment, played by the left hand, should have enriched the melody, dressing it, packing it, filling it up with sonorities of support. But, somehow, this enrichment

only makes it more burlesque, less genuine. There is a perceived clash between the lyrical high ground and the jovial middle: the latter, it seems, strives to capture and assimilate the former in its webs of well-meaning. This, thankfully, is not the obvious choice of our Melody, as we are to learn shortly: it is charged with a double complication clause that needs attention and on which resolution depends Melody's destiny.

The first part of the challenge introduces a murmuring, motoric 'filling' in the right hand, which plays role of an additional accompaniment, forcing the melody to be sung by right hand's weakest fingers (4^{th} and 5^{th}) and thus braking its smooth line – at this point the melody walks in 6/8 step. This is a pivotal moment. Our Melody is not a clean slate anymore, it has acquired a baggage: a subconscious, dynamic, persistent under-thought, a second nature that aspires to be integrated in melody's personality. The Shadow. Carl Jung defines the shadow as "that hidden, repressed, for the most part inferior and guilt-laden personality whose ultimate ramifications reach back into the realm of our animal ancestors and so comprise the whole historical aspect of the unconscious" (Jung 1963, Glossary). We take the shadow as a metaphor of unconscious forces which, however restrained and bridled, work on subliminal level, affecting the Conscious/Melody and its choices. Indeed, the murmuring voice is nagging from 'underneath' Melody, tracking its every move, as a persistent yet undifferentiated wannabe-melody. It changes its *modus operandum* only in Melody's times of doubt, when the latter more seriously considers an escape from tonic, its native culture, to the dominant – its higher, intense mode of being (see bars 9-12 of the melody). Is this escape a direction Shadow desires, or is it something Shadow is desperate to avoid? Solving this ambivalence amounts to integrating – i.e. solving the problem of – Shadow. Consider what would Melody's life have been without its complicating murmuring – entirely *comme il faut*: a good citizen of an avuncular Hobbiton. Where in life this *status quo* is a not just acceptable, but often advisable, in piano literature such simplicity is attractive mainly to beginners. The Shadow presents Melody with a challenge and forces it to work, fight, and define itself, to become a Hero who smiths his 'right form of life' (see the interlude On Practice).

And as if dealing with an unnerving Shadow is not enough of a challenge for Melody, there is an added timing conflict between the 3/4 moving left hand accompaniment and the 2/4 singing of the melody. The discrepancy showcases the loneliness of Melody who – in a jolliest waltzing environment – is doomed, however lovely – to be the ugly duckling. Or better said, who, in the town of senior citizens' tricycles finds itself with a two-wheeler. The 2/4 : 3/4 compatibility is a ratio problem each pianist needs to solve – should she decide to emphasize the melody with its 2/4 swing, the whole dramatic 'tortured-individual-against-society' plot

will be underplayed, if not lost. In the opposite case, the pianist risks facing ridicule as it is unacceptable for an accompaniment to be overshadowing the melody – the pun is intended for in such a case the melody itself would appear to be the Shadow of its Accompaniment. . .. The interpretation of the first eight-bar enunciation is crucial for it sets the tone of the whole. The introduced conflicts in the vertical – 1) 2/4 versus 3/4, and 2) melody vs. wannabe-melody – are transposed onto the horizontal through the successive contrasting episodes of the *Valse*. For example, the immediately following one I name 'Dance of Shadow:' it is a refrain that appears nine times, connecting all different sections of the piece; like Shadow, its Dance shows even stronger pull towards the dominant Es major; like Shadow, its Dance is assembled by infantile, obsessive, repetitive flying arpeggios that lead nowhere and say nothing, but weave tighter and tighter web around the melodic idea.

What is the right way to solve the problem of a shadow-challenged individual vs. its culture? What is the right form of life? How to integrate the different levels of reality? These are questions we abstract from the patterns of the *Valse*. Their answers, too, come in a hierarchy of patterns that interfere with the patterns of our mind to result in abstracted meaning. This meaning is contingent: as in a kaleidoscope, the musical patterns have innumerable ways to abstract and hierarchize meaning – each performance is a small rotation of the instrument, effectuating a unique 'answer'. Not surprisingly, the answer most pianists opt for is over-pronouncing the melody, which leaves the rich contextual landscape in a mushy, soupy, undeferential state, especially with the generous aid of the right pedal. Another pitfall many plunge into, is picking too fast a *tempo*.[134] Here again, we have a chance to make an analogy between Physical and the Musical being. As in life many individuals foster an existence focused on the most fascinating object there is, themselves, so in music we often over-pronounce the melody; as some people live their life so hurriedly that it passes in a blur (a fact they might realize in the last bar), so in music we might nervously pick too fast of a *tempo* and then just carry on following the inertia, trying to catch up; as there are those who indiscriminately 'take it all' as it comes – as bits and pieces, never truly understood and properly integrated, so in music one could go through a piece like the *Valse* by simply stringing its different episodes loosely without losing sleep over stuff like integrity or meaning.

[134] In my edition, *Peters*, the instruction is *Vivace* and the opening part is specified as *lively* – something is lively when it is alive and breathing, with all inherent complexity of the state. In the first editions of Breitkopf und Härtel, from 1840, however, the direction is simply *leggiero* https://imslp.org/wiki/Waltz_in_A-flat_major,_Op.42_(Chopin,_Fr%C3%A9d%C3%A9ric) .

It is fascinating to listen – to hearken! – the kinds of answers some of the great pianists have to offer to the problem of the *Valse*. Arthur Rubinstein[135] – famed as the best Chopin interpreter of his time – plays this *Valse* with a big picture in mind, unifying its contrasting parts, with an elegant flow and elfin grace, with most beautiful phrasing. There is no perceived tension or conflict – the *Valse* is played in *the right form of…* a waltz – a decorative piece of upscale entertainment. Leonard Pennario[136] picks a fast *tempo*; his brilliance reminds me of the words Schumann allegedly said when he heard the waltz: "It must never be danced—unless, at least, it were to be danced by a countess." Eric Lu's interpretation[137] is sentimental, smooth and simple – a Romantic waltz with pretty tunes. Krystian Zimerman[138] does not get fooled by the *vivace* and approaches the whole in calmer, exegetic spirit, treating the *Valse* not as a ballroom gig showcasing skills and brilliance, but rather as a story, or as a character study – one episode flows into another and they are all meaningfully connected, each one with a unique contribution to the whole. Evgeni Bozhanov[139] offers a more quirky read: his use of right pedal is frugal, which contributes to the clarity of the bass/accompaniment of the left hand, brought out with a ferocious crispiness. Through an accentuation of weak beats at times, attention is drawn to the formative background of the melody. There is a dialectic tension in the construction of the whole, where different parts are not only contrasted but also hierarchized through corresponding means, like tempo, *rubato* and agogic, pedal etc. The obvious result is, more perceived depth and drama, more information to be integrated, meaning to be perceived.

Different performances offer a variety of advices as to how to create a 'perfect being' and what is the 'right form of life,' However precious the individual insights into the *Valse brilliante* are, there still remains the want for the one version that tells the whole story in a true and convincing way. The question that matters most here is how I as an artist understand the work and what is my answer. Can I, knowing what I know about the piece, play the *Valse* in a true and satisfactory way? Can I convey all I want through the piano? Frustratingly, the more I engage with this piece, the less I am able to communicate its secret message, as if enchanted by the spell of its privacy clause. Could it be that, after all, the *Valse* is simply a waltz, that there is no need to dig out the deeper meaning I perceive is mapped in

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[135] https://www.youtube.com/watch?v=j0qEH09suZs

[136] https://www.youtube.com/watch?v=HmX1LJx3wg0

[137] https://www.youtube.com/watch?v=4b9vilZx4dc

[138] https://www.youtube.com/watch?v=Akx-seCD9aw

[139] https://www.youtube.com/watch?v=GpXradK7QXg

it? What is the nature of the limitations I struggle with? Imagination or perhaps technical deficiencies? Could these limitations be of a dimensional nature? As the Square from Flatland of Abbott's eponymous book, despite all its open-mindedness, is unable to see the Sphere from Spaceland as anything but a circle, so the Physical Matter Reality's (PMR) earthlings experience serious limitations when trying to assemble and revive the Musical of Musika Reality Frame after its interdimensional transfiguration. Could it be that, similarly to the monarch of Pointland, our PMR intelligence perceives Musical's communication but as thoughts originating in its own mind, because it cannot conceive of anything other than itself?[140]

The next example attempts to make a case for this 'dimensional' friction.

Glitches

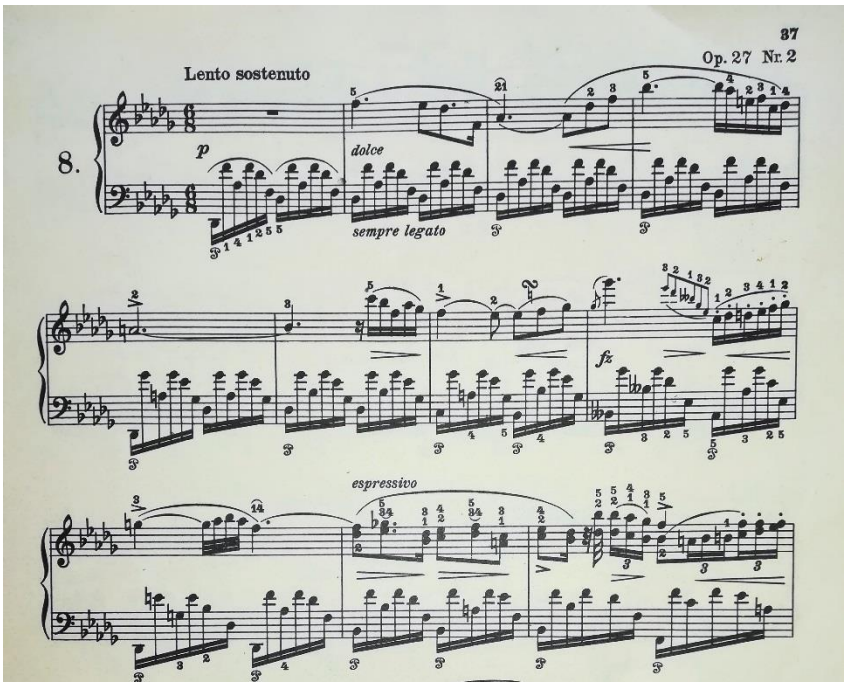

Figure 18// The opening of Chopin's Nocturne in D flat major.

Chopin's Nocturne in Des moll from 1835, too, contains the privacy clause ("You can't catch me…"). Here, the problem is even more transparent thanks to the clear and straightforward separation of the hands as technique, identity and purpose: the left hand is homogenous, it provides a lacy accompaniment of broken chords above which the right hand sings the melody – an arrangement typical for the genre of *nocturne*. How can this most stereotypical discrimination melody/right hand – accompaniment/left hand be a problem? The issue is rather subtle and has to do with the fact that the melody occupies a reality that is

[140] The references are from Edwin Abbott Abbott's satirical novel, *Flatland: A Romance of Many Dimensions* (1884).

qualitatively different than that of the accompaniment. This difference could be fathomed along different axes. Robert P. Morgan, for example, explains it in terms of 'tonal space:'

> The range of humanly perceptible pitches form a tonal range, which receives an abstract indication in the notion of "tonal space." Melody and accompaniment do not simply merge into a single temporal continuum but appear to occupy different spatial locations, thus maintaining both individuality and a clear mutual relationship (Morgan 1980: 528).

Phillip Tagg points to the psychological aspect of the difference and the relationship between melody and accompaniment:

> Melody can be seen as the line of individual expression in music, as the music's 'ego', so to speak. That which 'surrounds' the melody sonically, e.g. the accompaniment in Western European music (…), can in turn be interpreted as the individual's affective environment (Tagg 1997: 10).

In a sense, we are used to the special and psychological differences between melody and accompaniment; they are, as if, part of these entities' blueprint. In terms of difference, I prefer to think of melody and accompaniment as occupying different realities. Particularly and immediately troublesome in the example above is the fact that the melody flows in a different musical time than the accompaniment. Although all notes on the two staffs (melody vs. accompaniment) are correctly organized in measures and bars, something of an organizational nature is crucially amiss. Throughout the majority of piece, the melody is either suspended over an accompaniment, or both voices move simultaneously, meeting each other at every step, e.g. in bars 4, 6 and 8. It is precisely in these 'meeting' times when both hands recite their notes simultaneously, as *punctus contra punctum*, that the different time scale of the two musical entities – 'melody' and 'accompaniment' – becomes obvious. The musical time of the weightless, sylphine melody just does not want to 'meet' the homogenized accompaniment in its clock-time momentum; more so, the melody should not at any cost meet the accompaniment for this meeting hinders its enunciation, attracts unwanted attention, produces a glitch in the system. The (lack of) rapport of melody and accompaniment here elucidate the more general problem of these musical entities' autonomy and relationship: while we could be certain that both are in some transpersonal Order of relations that is mutually supportive, interactive, and influencing in important ways, what precisely this Order is?

Presuming, as I do here following Campbell, that we inhabit a fractal reality, it should be possible to think up a nonmusical analogue to the 'glitch' in the flow enfolding the melody and the accompaniment. The heart, for example, has a certain autonomous beat that does vary, but no matter how one impacts it, e.g. through meditation, swimming, singing, or cold shower, the beat does never synchronize with the blinking of one's eyelids, which is random by default (or so it appears to us). More so, the blinking should stay random, for becoming-rhythmical is often associated with serious physiological (epilepsy) or psychological (schizophrenia) disorders. Our fortunate body, enjoying billions of years of leisurely evolution, has learnt how to perform its rhythms in perfect coherence inconspicuously, in the background; noticing any of those is usually a no-good sign.

And noticing an emphatic temporal difference is what one does in the Nocturne. In it, the left hand – an environment, a perfectly functioning circadian reality, a body – needs to be mastered to where it becomes-imperceptible, to where it completely melts in the background, so the melody in the right hand – the face/the self/soul/spirit/inner I/et al. – is able to concentrate all attention for the important disclosures it makes. The composer has captured the different temporal geometry of melody/accompaniment, evident in the discrepancy in their flows, but while translating the musical to physical reality frame, while trying to embody the Musical in Musinculus' sound-material exoskeleton, the fine differentiating is lost, and we are left with some rather blunt rhythmical melody/accompaniment rendezvous, as exemplified in bars 4, 6, and 8.

Ultimately, the score is all we are to work with. And where we are not allowed to alter anything in it, we are encouraged to experiment with our own perspective. It could be even argued that, when working with something simultaneously as foreign and intimate as the Musical, it is mandatory to consider it, at some point, from an alternative perspective. Like in photography – to capture that which eludes framing one switches between different angles, zooming in and out, testing different filters searching for the perfect light . . .. My default approach to a music piece, for instance, is top down starting from the 'head' or alternatively from the 'foreground' – i.e. from that which is talking to me. In the aforementioned Chopin examples that would be the melody. It is from the melody's logic and melody's nature that I piece together an understanding of the whole. This, the writer of *The Master and his Emissary* Iain McGilchrist would assert, is a left-hemisphere approach. In fact, it is the approach which 'Western' culture has adopted in the last few centuries since the Renaissance

and particularly with the rise of the Enlightenment – a left-hemisphere dominance consisting of gradual rise and supremacy of the materialistic paradigm. Thus, approaching the whole from the head/melody is not only one of the possible ways, but in some sense, it is the convenient and effective, and in others, it is simply the 'natural' and expected way. After all, it is Melody we attend to when we listen to music – its assertiveness and convivial gait are admittedly appealing, or so it seems to us, heirs of the European Enlightenment nurtured and raised with left-hemisphere paradigmatic biases.

But Lovely Melody, usually played by the right hand/left hemisphere exhibits alarming self-confidence and it seems quite oblivious to the fact of left hand/right hemisphere's existence – as an adolescent with a ravenous healthy ego, it is 'all about me'. McGilchrist suggests that the world created by the left hemisphere is a self-reflective virtual world, a sort of hall of mirrors. Entertained and pleased with encountering everywhere its own self-reflections, the left hemisphere "has blocked off the available exits, the ways out of the hall, which the right hemisphere could enable us to understand" (2009: 6): as the Point from Pointland, it takes any communication and interaction with Others personally, as 'thoughts' originating in its own head.

This attitude towards melody is problematic. While it is important to stress that we need both hemispheres equally, it is still more important to cognize the fact that their relationship is not symmetrical: McGilchrist insist that "the left hemisphere is ultimately dependent on, one might almost say parasitic on, the right, though it seems to have no awareness of this fact" (Ibid. italic mine). Rethinking Chopin in the light of right/the Master and left/the Emissary hemisphere relationship, quite reverses the power dynamics between melody and accompaniment by shifting the focus from the melody to its suspending web. Despite its subordinate name, in both the *Valse* and the Nocturne (and most everywhere else), the accompaniment does concur with its suggested function of a right hemisphere matrix – it has all the information, all the potential, it enfolds all present and future possibilities for deviations. Like an Implicate Order from which a melody is explicated. Like a metrical wave from which a rhythm is abstracted. Or like the pre-compositional space, the background tonal web on which the Ursatz is suspended. Like an all-seeing, all-knowing Being.

But if the accompaniment is so almighty, we may ask, what should be its relationship with the cheeky melody? Does it need it at all?

In his book *12 Rules for Life*, Peterson recalls an old Jewish story that begins like a Zen koan. "Imagine a Being who is omniscient, omnipotent and omnipresent. What does such a Being lack?" The answer is "Limitation:"

> If you are already everything, everywhere, always, there is nowhere to go and nothing to be. Everything that could be already is, and everything that could happen already has. And it is for this reason, so the story goes, that God created man. No limitation, no story. No story, no Being (Peterson 2018: 343).

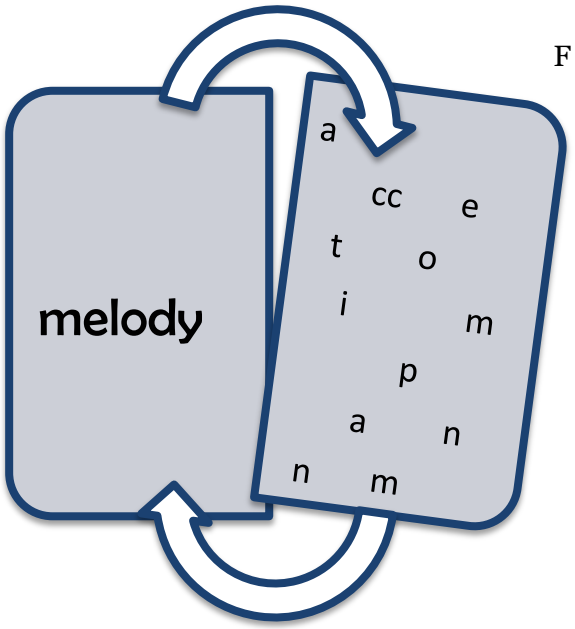

Figure 19// The relationship Melody – Accompaniment is analogous to the dynamics between the Implicate – Explicate Orders.

Mirroring the ways of man and God – or of the Explicate-Implicate Order – are melody and accompaniment, an example of interpersonal relationship between the general and the particular. The accompaniment has all the information, it is brimming with potential, enfolding all possible moments of a given reality. Despite this power, it is caught in a feedback loop, remarkably unable to form a single thought and for this reason, containing all of them. Melody is the *cogito*, the thinking Self that abstracts information from the impassive data and distills it into meaning. Melody could have been any other m e l o d y – in the way You could have been your brother, had your parents met earlier or later, had they been warmer or colder at the moment of conception, and so on. The fact that a melody – a materialized musical thought – is explicated from the homogenizing, unifying, self-perpetuating and perfect-in-itself accompaniment is matched by the equally incredible fact that a being like you has been unfolded out of the billion years old machine of life, running

on recycled genetic differences. Such way of thinking permits comparing our melody to self-consciousness – a phenomenon with beginning, middle and end, dialoging with itself, yearning to become. And as in life, the question of what to do with one's self is the greatest question, what to do with a melody becomes the greatest problem of a music work:[141] how to find the right form – whether of life or of music.

However much one is inclined to contemplation, one is still to sit before the keyboard and play the music. But what to play and how to play it? What, for example, is to be done regarding the power dynamics of the melody and the accompaniment, if anything? On the one hand, emphasizing the melody and hushing the accompaniment is the obvious, though quite uninteresting, smearing the implicate tension, route. Another one, slower and encumbered, is the route exploring and boggling over such minute, barely perceivable and almost ineffable 'problems' as those discussed here. Where is the mean between the polished and slick but psychologically lacking and possibly superficial version, and the granular and thick yet likely awkward and still wanting read? Is this apparent choice between two options just another evolution of the tension between the physical and the musical? Does it pertain to the material and the capacities of the specific medium?

And then, more generally,

- Can the epignosis of the work be translated into gnosis and correspondingly, performed and shared?
- Is the listener able to independently perceive any of these fine cracks in the body of music, through which flickers light of otherness?

Cracks

I begin with the last question first, as it is the more narrow and practical one; it presupposes the adoption of another perspective, that of the 'listener', which may illuminate our inquiry 1) through the distance from the object it demands, and 2) through the different attentions it requires. For me, becoming a listener means leaving the comfort and familiarity of the piano

[141] Melody here is used in its broadest meaning, as a foreground, theme, the central idea or the opening statement.

and entering another realm, in this case, the realm of voice.[142] The issue with the Musical's embodiment in sound receives a fundamentally different, perhaps clearer and more direct articulation and problematization through the voice.

The voice is one of the oldest musical instruments and, among those, one of the first ones to achieve a modern day level of sophistication. Of all Musinculi media, the voice has had the most biological time to refine itself and to osmose, to integrate the Musical. In the prehistoric, thick impenetrability of the rainforest our ancestors have relied on the voice to convincingly perform urgent meanings long before the body was harnessed as a musical performing instrument and before language emerged as a mode of communication. Although the body is not typically regarded as musical instrument, the voice cannot be disclosed without it; in ancient Indian musicology the voice is *sharira vina*, i.e. the instrument of the body. The peculiar nature of the voice-body relationship is at the basis of voice's explicit stand in regard to the Musical – unlike the instrumentalist (pianist) and the instrument (piano) who work through a relation of exteriority, the voice and its body are entangled in a codependent relation of interiority, i.e. it is performer's own body that produces both the Musical and the Musinculus, simultaneously. Two seriously disparate functions and aspects of music must make home in a single body and issue a univocal statement. Compared to the pianist and the piano, who each have a separate ontological status, as two Musikons in Musika's reality, the voice and the body of the singer are in a more difficult situation. Where the pianist is deliberating on problems of perspective, integrity and meaning of constituent layers, like melody, harmony, or bass, the voice seeks coherence between (usually) the meaning of the words, the meaning (the logic, dynamics, conventions, integrity) of the music, and importantly, the meaning of the performing body (including timbre) – i.e. the word, the sound and the gesture. Conveying the Musical in a given *aria* is predicated on what the latter represents and on how one embodies its meaning/s. This, counterintuitively, is not an obvious discrimination to make (Fig.20).

[142] Disclaimer: while I enjoy the activity and often practice it, I am not by any means a professional singer.

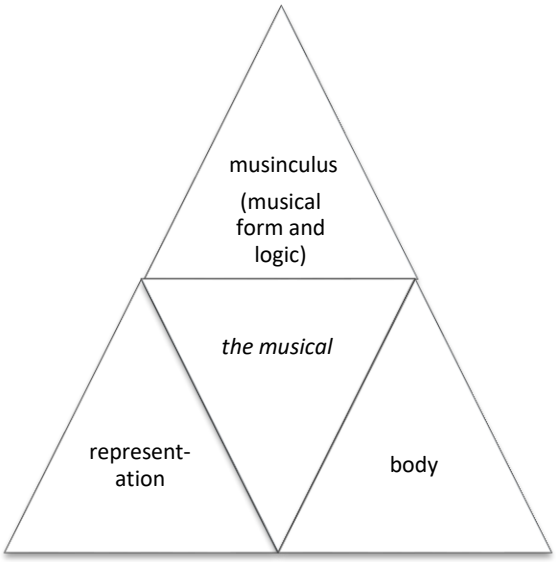

Figure 20// The power triangle of singing: music-language-gesture. From within it must emerge the Musical.

More frequently than not, the timbre and the inflections of the voice – its materiality – are crucial for conveying the Musical, for 'believing' the singer and the character she presents. Schubert's song *Gretchen am Spinnrade*, for example, I've listened in various interpretations, all available on YouTube – Barbara Bonney,[143] Renee Fleming,[144] Elisabeth Schwarzkopf,[145] Kiri Te Kanawa,[146] to name a few. Undistracted by body's gestural declarativity and expressive power, all one has to do here, is to listen to the voice itself. Upon the absence of visual information, all elements of the musical assemblage here must converge into the voice, inducing the semblance of a maiden – infatuated, dreamy, restless. The artists I mention above offer us only some of the best portrayals of Gretchen, each constituting a singular entrance into character's personality. Recalling the two-sidedness of the music project, we hear the scientific side, the Musinculus, beautifully rendered – with its rich sound machine's capacities, the voice conveys information of the 'main line' of the repertory item through the music that is in the score. The other side, the Musical, the magic, is the music that is precisely not in the score – it conjugates the timbre, the tempo and its deviations, the nuances of the dynamics, the breaths, the pauses, the rich expressivist repertoire of the voice as medium… in short, the 'back channel' of the story, or the information that is the psycho-emotional makeup of the character. The first side, informing about the character and its story, presupposes knowledge of Gretchen's facts: the story comes from Goethe, the music from Schubert, and the composition is a representation of the

[143] https://www.youtube.com/watch?v=-LQgXtDOaYU

[144] https://www.youtube.com/watch?v=aUhY0Zc58v4

[145] https://www.youtube.com/watch?v=RV7QWJyFQVI

[146] https://www.youtube.com/watch?v=MY0eeotSDi8

genre of *Lied* from the beginning of the 1800s, which the artist must perform with all intrinsic stylistic nuances. The second side, the magic, is collective and virtual; it must suspend our disbelief and manifest the Musical Free Will Awareness Unit of the character itself.

There are interesting aspects in all performances: Barbara Bonney provides the voice – young and lyrical, Elisabeth Schwarzkopf wraps it in an aura of doom, Renee Fleming discloses Gretchen's passion and fervor, and Kiri Te Kanawa, delivering an exquisite culmination, gives us even a taste of Faust's kiss. The common thread in all these Gretchens is that each one of them comes out 'interpreted:' slightly exaggerated, memorably idiosyncratic – the Pure, The Expressionist, the Passionate. In performing their own edition, these artists shape different characters; in fact, the difference in their versions perhaps traces a difference in their personalities. What is being performed, therefore, is not the character *herself* but rather artist's exaggerated grasp of it as an alchemical distillation down to a pure ingredient, to a single capacity. The question is, is this distillation convincing? Can one facet – however finely cut – give us the whole? The instinctive reaction to such a purification is diffusion. And we diffuse the character over many and diverse singularizations – our chance to experience a full-blooded, whole, rich and complex Gretchen is to appreciate her as a multiplicity, as an amalgamation of all the Gretchens we can get hold of, in both actuality and virtuality. The totality of Gretchen's Being across time – the assemblage of all her Musikons – would give us her 'Self,' aligned and harmonious. The addition of all interpretations results in an over-interpretation, i.e. integration. This super-assemblage of the one True Gretchen is the example one refers to when one thinks "Gretchen," its coherence providing a model for proper being.

Another example of asymmetry between the 'main story' and the 'back track,' here already translated as a disparity between voice and body, we find in the opera *Manon* by Jules Massenet (1884),[147] recounting the story of Manon Lescault, one of opera's archetypal *femmes fatale*. The *Gavotte* "Obéissons quand leur voix s'appele" from the third act of the opera portrays a subtle emotional-psychological moment. Celebrating the opportunities youth and beauty afford, Manon urges us to never miss a call of love for we won't stay 20 forever. The second verse of the song brings in a change of tone, meditating on the dark side of the preceding lines: youth and beauty are short-lived; equal to the chilling impartiality of

[147] The opera is based on the 1731 novel *L'histoire du chevalier des Grieux et du Manon Lescault* by Abbé Prévost.

temporality and aging is the tragic logic of the Heart, which, too, is propelled toward change, thus it always moves on and forgets its Love. Here, Manon gives us a piece of self-analysis – it is perhaps her own 'faithful heart' that, horrified of age and death, does not resist any 'call of love'. If this supposition is correct, the key to interpreting Manon's character is not so much in her surface femme-fatale-ness but in the deeper and more complex layer of a charming but psychologically underdeveloped and emotionally stunted personality with a narcissistic, opportunistic, impulsive response to life. A greedy exuberant child wrapped in voluptuous woman's body.

The *Gavotte*, therefore, is a psychological node of contradictory desires and lines of flight; the artist must dissect and isolate different strains in the emotion, and then to integrate and perform them. Frequently, the go-to interpretation of this *Gavotte* portrays a flirtatious, racy, risqué Manon, reveling in the joys of youth and the adoration of the gents. This incongruity and mismatch between inner truth (content) and outer manifestation (expression) is particularly well exemplified in the performance of Anna Netrebko – one of the iconic Manons of our times. When I first heard Netrebko's *Gavotte* on a record, I was convinced that the singer understands the character in its innocent and even noble, if misguided, core. Confirming my sense of the musical truth, Netrebko aspires to convey it vocally and does so masterly – the voice inflects shades and tones of meaning that enter smoothly into my consciousness to inform and enrich my grasp of Manon's character. Naturally, I looked for video of Netrebko, for Manon is not a voice alone: there is a body to perform. Often, instead of replicating and reinforcing – or problematizing – voice's narrative and making it physical, visible, palpable, the body overwhelms and muffles the voice, misinterprets it, or is static and submissive. In Netrebko's case, where her voice pleases with sophistication and subtlety, the performing body portrays a luxurious *fille de joie*: a seductive and sanguine extrovert, without discernible inner conflicts or regrets.

But how, indeed, to suggest body-wise the idea that Manon is anxious, guilt- and regret-laden, while singing a superficial refrain, looking spiffy and promenading in the company of flattering courtiers, as the script demands? The disparity between voice and body is problematic. To some extent, it is rooted in body's and voice's different artistic histories, and also in the nature of stage behavior. Meant to attract attention and to elicit reaction, the stage develops its effects accordingly. It is much easier to extract a quick response through an exaggerated body/gesture language than to aspire to a nuanced body-hearkening rooted into voice epignosis. The likely reason Manon ends up portrayed as the "innocent but

frivolous country bumpkin,"[148] is because of her performing body in the limelight, needing overemphasis, loud makeup and large motions. After all, one of opera's eminent ancestors is the rowdy *commedia dell'arte* with its stock characters, exaggerated gestures, pantomimes, and crude jokes. The body on the stage knows well how to perform a storyline and basic emotions: it can convey and plant a given idea (e.g. the idea of playfulness and frivolity through a simple roll of the eyes) as directly and firmly as words would, if not more so. When words and gestures are accompanied by music, however, one must tread softly, for music is brimming with 'emotional' qualities that are not so easy to define, qualities with their own logic.

To come back to my question, i.e. whether the 'listener' is able to perceive nuances and 'cracks' in the body of music (e.g. between the Musinculus and the Musical): yes, she is able to, definitely; the more she listens, the better can she discern and tune up her perceptions. The shift from performer's to listener's perspective, however, translates into a shift in the issues streaming through the cracks: these travel from the dimness and the intense urgent focus of performer's kitchen to the brightness of the salon, to pose and engage in more general inquiries. The change of scenery calls for yet another transposition: from studying the twofold side of music our attention is now zoomed out to reveals a larger picture that exposes a new set of concerns, e.g. of (performer : character) relationship, or of (voice : body) dynamics. Zooming out further still inevitably reveals the ultimate tension – (physical : musical).

This larger picture is worth a more careful consideration.

Bodies <-> Voices

The tension between voice and body has long been a topic in opera studies. Opera researcher Jelena Novak defines this disparity as a 'gap:' as a "break and imbalance" when "what I see (the body) and what I hear (the voice) at the same time do not follow expected, usual form of mutual representation" (Novak 2011). This gap has been problematized and attended to through different ontological perspectives and to different ends. Music historian Carolyn Abbate, for example, boldly declares most conventional opera characters deaf to their and others' music (in *Unsung Voices* 1991). This conclusion is a result of Abbate's appreciation of the opera spectacle from the perspective and laws of everyday life. Commonsensically

[148] An expression apropos Anna Netrebko's Manon in the Los Angeles Opera from 2006 https://movieweb.com/hollywood-beat-pole-dancing-at-the-opera/

speaking, opera characters do appear unaware of the fact that instead of talking to each other, they relate and communicate through music. The logical, if disturbing conclusion, then, is that, indeed, opera characters must be musically deaf, or in Abbate's wording, "they do not hear the music that is the ambient fluid of their music drenched world" (Abbate 1991: 119).[149] This view emphasizes the distinction between the body of the performer and that of the character – the former is aware of the music, the latter is not. Is not this gap reciprocal to the gap between the ventriloquist and her dummy? asks Novak in an article titled "Throwing the Voice, Catching the Body" (2011), where 'throwing the voice' is a common expression in ventriloquism. This is a good question. In his book on the phenomenon, *Dumbstruck* from 2000th, literary scholar Steven Connor points that when animated by ventriloquist's voice given to it, the dummy "appears to have a much wider range of gestures, facial expressions and tonalities, than when it is silent" (Connor 2000: 36). Indeed, when Manon 'catches' Netrebko's voice, she receives not only a "wider range of tonalities," but, in fact, life and consciousness. Netrebko herself, like the ventriloquist, does not exist but as a moot body – becoming wilfully deaf to singer's voice, all we listeners hear is the voice of Manon. We see the body of the performer and hear the voice of Manon, coming as if from somewhere else, from metaphysical voice-land. Where Netrebko is the equanimous, omniscient master behind the scenes, Manon is a charming and fascinating dummy; catching the voice, she herself does not 'hear' the music, as Abbate submits.

'Musical deafness' is a diagnosis we must reconcile with, if we consider opera an everyday affair, an ordinary world like our own, in which we are aware of music only when we explicitly perform or listen to it.

But opera is nothing like ordinary. In his opera ontology composer and music theorist Edward Cone defines opera as a fictional world, "the world of music" (in Kivy 1993: 142), where characters' thoughts and actions are manifested musically, and where music and singing are the ordinary mode of communication. In this world, opera characters are the composers of their own music and the orchestral music is a product of the imagination of the collective musical consciousness. Of orchestral music, the opera characters are not consciously aware, neither are they aware of their and others' music; subconsciously,

[149] Musical deafness is demonstrated by most all conventional operatic characters, except for those in rare cases who's singing is explicitly marked as performance, e.g. Carmen's *Seguidilla*, Cherubino's "Voi Che Sapete," Olympia's doll song – these songs Abbate dubs 'phenomenal' vs. the 'noumenal' music of the 'usual' opera singing. By other opera researchers the dichotomy between said and sung music has been identified as 'artistic' performances in the fictional world of opera vs. 'nonartistic' singing (Penner 2013), or as 'realistic' vs. 'operatic' singing (Cone 1989).

however, they are so (Cone 1989: 136-137) – like fish of water, opera characters are unconscious of music, which is their medium, through which they communicate and think. What this proposition means, regarding the gap between voice and body I am interested exploring, is that where for Abbate the conscious gap is somewhat external, between the singing body of the performer (aware of music) and the voicebody of the character (unaware of music), for Cone the focus and the tension are between the body and voice of the character itself – the music and the voice are the larger sub-consciousness from which Manon derives the limited understanding of her self-aware singing body. Where this vast music-consciousness that is opera's medium comes from, is a question of acousmatism. Acousmatic, is music "that is heard without its origin being seen" (Chion 1999: 97). Introduced in the 1950s by French composer Pierre Schaeffer in regard to *musique concrete*, the concept describes the asymmetry between voice and body. Indeed, in opera we enter a world of sound, enraptured by the consciousness that flows through voice. But the voice itself, the voice without a body, needs support and attachment: the acousmatic voice is a "voice in search of origin, in search of a body" (Dolar 2006: 60). By the virtue of such reasoning, the body – moot and machinic – too, is in a search of a voice. . .. The acousmatic voice and the invisible body – what a pair!

The gap between voice and body is additionally deepened by conventional opera staging: it is either that bodies are neglected, shadowed by the fetishized exuberant voice, pretending that they are not there, or they perform in a different key, like in the case of Manon-Netrebko. The challenge, Jelena Novak argues, is in infusing the body with meaning and including it in the meaning production by reinventing, problematizing and reworking it (Novak 2011: 151). This suggestion is easier said than done. The effort of bringing the body up to the speed of the voice reflects the insurmountable effort to integrate the Musical and the Physical. Admittedly, the rethinking of opera performance from the past 20-30 years has yielded interesting results, especially in the field of opera staging. What, for example, American theater director Peter Sellars, German opera director Harry Kupfer, or the Spanish multimedia opera house La Fura dels Baus have done for the conventional opera performances has been revealing, inspiring, and provoking. In a sense, they have tried to musicalize the opera machinery, following Musical's drive to becoming-experiment, expansion, extension. Yet, as composer Christopher Fox point out, these and others concept-led directors of opera productions, despite "adding an attractive dose of contemporary relevance to old favorites," have, in fact, only "attempted to cover up the absence of new ideas by shoe-horning old texts into new theatrical shapes" (Fox 2010). Fox warns of the dangerous, institutionalized shift in meaning production in these directors' brilliant *coup de*

théâtre by fostering "the growth of a culture in which it seemed to be the producer-director, rather than the composer or librettist, who created the ultimate meaning of any operatic project (Ibid.).

Whether adopting drastically sparser language, or moving towards a more abstract, more medium-like and less representative presence, the musicalizing of the body must be done on body's own territory and on no other. To express the nuance encoded in the voice, our sopranos have to go to a different acting school than the one tracing the template of theater drama. Christopher Fox wonders, appropriately, whether the "new reformed opera will (..) have something to do with the great theatrical innovators of the last 100 years – Bertolt Brecht, Samuel Beckett, Merce Cunningham, Pina Bausch" (Fox 2010)? Perhaps it should. But before rushing with solutions, we must accept that the problem with grasping and rendering the Musical is a real, fleshy problem, rooted in the fact that musicians do have physical bodies that have not necessarily evolved for making music, but whose capacities are nevertheless used to that end.

You Can't Catch Me…

No matter – never mind. No materiality – no (self)consciousness.

No body – no voice.

No sound – no music.

I began this chapter by asking what is the nature of the perceived discrepancy between what a music piece declares it is through its performing, transient sound form, and what it seems it wants to be, as outlined in its text body. One of the suggested answers is that this discrepancy may stem from the latitude in proficiency with which our different faculties and modalities translate the Musical into the Physical. E.g. the performing-the-Musical voice, it was proposed, is more advanced in grasping and conveying musical subtleties than the performing-the-Musical body. It is possible that the rapport between the voice and the Musical is not even a matter of practice and exposure, but rather of the bio-cultural specifics of our perceptual abilities – we hear the voice and see the body. The visual and the auditory are two not simply different, but in a sense, perpendicular worldviews, which construct two contrasting *Umwelts*. In his research "Musicológica Kamayurá," published in 1978, the Brazilian anthropologist Rafael José de Menezes Bastos discusses the Amazonian tribe

Kamayurá's auditory cognizing of the world, their 'world-hear' as opposed to 'world-view'.[150] In this tribe's world, the sound is not intangible and elusive, but dense, opaque and three-dimensional. "Seeing for the Westerner is the privileged instrument of body technic as far as the senses are concerned," reminds us Menezes Bastos and contrasts this with Kamayurá's system of senses' grading, in which the word for 'hear,' *anup*, is superior to *cak*, the word for 'see'. The superiority of the ear over the eye is reflected in a corresponding hierarchy of metaphoric concepts, e.g. *anup* also means 'to comprehend' and 'to understand,' whether *cak* is fathomed as 'to know' and 'to identify'. The eye, then, is good for recognizing things and objects for what their function and purpose is, but the ear alone hears what those things and objects mean. Is this dichotomy between hear and see a divide along the axis 'West and the rest' or does it stem from deeper and older source?

The world-hear is horizontal, like a rainforest canopy, made of centers and meanings. Canadian philosopher Marshal McLuhan submits that this world understanding is dominant in preliterate societies and proceeds:

> Until writing was invented, we lived in acoustic space, where the Eskimo now lives: boundless, directionless, horizonless, the dark of the mind, the world of emotion, primordial intuition, terror. Speech is a social chart of this dark bog (McLuhan 1960).

Speech, and music, we may add. In this resonant space, McLuhan notes, there are no connections, but "only interfaces and metamorphoses" (in Probes). Contrasting it to the visual space founded on hierarchies, continuity, linearity and compartmentalization, McLuhan describes the auditory vicariously, via an obscure Medieval definition of God, provided by the 12th century's *Book of the 24 Philosophers*: it is "the intellectually knowable sphere whose center is everywhere and whose circumference is nowhere" (Findlay-White & Logan 2016). "The eye explores surfaces," Joachim-Ernst Berendt writes in *Nada Brahma*, "whereas the ear cannot discern anything that does not penetrate" (Berendt 1991: XIX-XX). Thus considered, the plane of hearing populated by meanings and milieus, flows and encounters, interfaces and metamorphoses, of moments, is a metaphor for the Implicate Order, while the visual plane and the visible world corresponds to the Explicate. By extension, anything perceived by the eye is but an abstraction of the whole implicated in the acoustic and penetrated by the ear. That is to say, the body is contained into the voice. Or

[150] When discussing the visual and the auditory in regards to music, one cannot do without mention of the third sense with a formative impact, the tactile. Aspects of the tactile were already considered in the discussion of the body-voice, performer-character, and generally, physical-musical relations. For the purposes of this chapter, the tactile as such will not be explicitly addressed.

rather, it is a hierarchical structure abstracted out of the destratified grassroots rhizomatic reality occupied by the voice, like the explicate matter is coagulated out of the fundamental ground of the implicate reality of consciousness.

By now, I have observed a number of tensions and discrepancies in our musicking – tensions between hearing and seeing, between the voice and the body, between the melody and the accompaniment, between the text and its performance. The questions I have posed in this relation have mostly been oriented in the direction of said tensions' resolve, pair by pair. In the spirit of the theories used in my thesis, I wonder, could these problems have a single solution? The answers I seek may be the orbit of the holomovement, i.e. that, which integrates the Implicate and the Explicate, and which itself is the movement and the 'source of life'. The integration of implicit and explicit information follows the Musical like a shadow from the very beginning of its symbiosis with the Physical. First, as the Musical is unfolded from Musika and integrated into Physical reality frame's explicate forms, like the Musinculus and consequently, the Music Work. Then, on the level of the Performance as these explicate forms are enfolded into spacetime's holomovement via the living sound and the 'message of the medium'. Finally, on the level of the individual, as one strives to unfold and integrate Musical's meaning into one's own consciousness. The harmonious accord of this multiple integration planes is of paramount importance for the individual and the Musical consciousness alike: it is by integrating meaning that we organize and create consciousness, thus contributing our share to the Absolute Unbounded Manifold's (AUM) process of organization. The higher the level of organization – the higher the consciousness, as both Thomas Campbell and the neuroscientist Giulio Tononi submit: 'integrated information' is, in fact, Tononi's definition of consciousness proposed in one of the most promising and plausible theories of recent years, the Integrated Information Theory (Tononi et al. 2016).

And herein lingers the answer of the question I posed earlier, remained unanswered until now. Can the epignosis of the work be translated into gnosis and correspondingly, performed and shared? To answer, one needs to fathom performance as integration. Something happens during performance that makes it possible for the humble Musinculus and the insecure Sapiens to transcend their limitations and to share their secret. In the chariot of the performance, Musinculus and Sapiens are pulled by Musical's three horses. The first one, Time, starts-off the machinery in practice-rehearsed movement, making it all possible. The second one, Desire, dashes and adds speed, crazed by inevitability and danger. The third horse is without a name: he simply knows the way, tuned into some ineffable Implicate Order. These are the three levers of performance: Time-movement, Desire-danger and

Something like a blind belief in (one's) larger consciousness, in a 'Me' as opposed to 'I' (discussed in the Intermission). The 'Me' that we have practiced and trained for so long has all the information and seems to know how to play so that the Work would disclose as this particular being and not as another – the 'Me' knows what the 'I' vaguely infers. When all three of these moments are integrated – and they must be integrated! – the secret of the Work is heard singing. Even if we don't understand it, we experience its meaning as epignosis, overriding the gnosis altogether.

. . . or so the story goes. Integration is a problematic endeavor for both the human being and the Music work. 'Made in our image' and dependent on us for its existence, the Music work can be played or delivered, i.e. integrated, just as 'perfectly' as we are able to conceive of it. Constrained by our deficits and limitations, we have inadvertently imposed them onto the Musinculus and its higher evolution, the Music work. Being ontologically multiple (Kania 2017), the Music work simply cannot, by design, be completely disclosed in a single performance – it lacks the means to do so. The glitches, shadows and cracks we notice betray these shortages in integration – they are the markers of the conflict between agenda and abilities, between music working toward integrating the physical, and music having to face the constraints of this goal. Humans, too, struggle with the disadvantages of the single performance design project that they are as Free Will Awareness Units in physical reality frame. We don't know ourselves how to 'be perfect' other than as singular slices at a time, e.g. the Pure, the Passionate, the Expressionist, or, alternatively, in the space of dichotomies, e.g. melody-accompaniment, score-performance, voice-body. The impossibility to make others, and even ourselves, fully aware of our own penumbral spectrum, reflects in our inability to realize *Gretchen* in her wholesomeness or the *Valse* in its secret folds and orifices – all we as artists are able to, is to pick and choose between Music work's moods and hairdos, between different masks through which we can perform its personae. Only if and when we learn how to integrate all of our multiple experiences and personae and to bring them to accord, might we be able to perform the 'perfect' realization of the Music work. Reciprocally, when we know how to perform the Music work perfectly, we may be well able to live our lives 'in the right form'. . ..

We have, indeed, tried to make music fit into our shoes. In the European art tradition, the beginning of music's humanization could be chased back to the 'divine' vocal chant of Roman

church music.[151] Conceptually, music evolves from tracing the face of the Almighty and being a cosmic phenomenon in the Medieval, through becoming-magic in the Renaissance, to the age of the Enlightenment, when the vast domain of musical topoi zooms in a familiar fleshy form, as an intense exploration of Man. The musical language, too, adapts to the growing demands for ever-greater realism, through experimenting with richer textures, more complex rhythms, deeper expressivity. Lured in this pursuing of 'life-like' representational art,[152] the old vocal polyphonic style evolves into more man-like homophonic semblance. Harmony gradually takes over the polyphonic discourse, considerations like 'variety' or what sounds 'pleasant' topple the sacred rule and the impersonal play of numbers. Harmony emerges from within counterpoint, and from within it in turn – as Venus out of the sea foam – emerges the concept of tonality. It is tonality – this coded grid system of vertical allegiances and horizontal filiations – that places centerstage the Individual: The Hero, his societies, his shadows. In the symphonies and sonatas of the Classical and the Romantic periods the instrumental music language comes so very close to becoming-human. Consider: the theme of the sonata form is an order-word that literally tells you what to think; it is so dense and concrete, almost three-dimensional – you can practically see it. From the first sound onward, the music development colors the blueprint of One's destiny: 1. Introducing the Hero and establishing the territory of his encounters, 2. The Hero leaves the territory to gain experience through trials and tribulations, 3. The Hero returns to re-establishing the territory and to insure order. In music, this narrative is portrayed through tonal networks of melodies and motives, conversing and evolving against the dramatic backdrop of thinner or richer harmonic codes and textures, which accompany, reflect, oppose, challenge and comment on Hero's actions. Tonal music depicts all these intricacies with fine strokes, and we can hearsee that it is itself becoming-man.

But, it must be assumed, the tonality-based musical progeny of the common practice period with all its forms and conventions – which is virtually all pop music and practically all music performed in opera and concert halls today – may not be the best or the most interesting becoming of the Musical, at least not for those who are interested in latter's evolution, and also probably not for the Musical itself. The musical experimentation in 20th and 21st

[151] Coincidently, such is the argument presented in Thomas Mann's novel *Doctor Faustus* (1947) by the semi-fictional Naziesque intellectual Dr. Chaim Breisacher, in chapter 28.

[152] The pressure toward realism is particularly obvious in painting, where from the beginning of 15th century set of new techniques, and especially *perspective*, come to replace the medieval portrayal of the universal through flat perspective, repetitious faces with no emotion, general lack of expression. "Perspective is an art technique for creating an illusion of three dimensions on a two-dimensional surface… [It] is what makes painting (…) look 'real,'" defines artist Marion Boddy-Evans (2018).

centuries reveals a multiverse of potential musical becomings; the modern and post-modern musical discoveries expose the 'humanizing' of music as too prescriptive, too stratified and coded within its "anthropological constraints" (Han 1998: 13). In all fairness, the reluctance of commitment to becoming-man may not necessarily mark a difference between the Musical and the Human: the latter, too, is not too pleased with the human condition. Doesn't the whole story of our 'human, all too human' evolution march under the banner of Overcoming? Of becoming-more-than-man in a post-human world? Like music, humans too find the anthropological constraints claustrophobic.

Perhaps the biggest difference between men and music is that where we seem to have limited choice on matters like change and personal improvement, music has more and then some. Bounded by time and history, by the speed of the collective evolution, by our physical limitations and cultural codes, by our technologies, we have little faith in Overcoming. Music seduces us with promises for an unrestrained experimentation – expansion, extension, enhancement of the given material, of the given medium, of the given body. Through it, we vicariously – and safely! – experiment with ourselves. The sole request of music, in search of its bodies, is this: Play with me! And we do, but there is an insurmountable distance between us. No matter how fast a runner, all one is to catch and pin down is Musinculi skeletons, while the prize, the Musical, rests obscure. Music, in turn, tries each and every body that comes its way, and yet it always remains elusive and found in no place and in no person. "By this detachment from an essence, it gains in ubiquity. If it is not found anywhere, it can attach to various supports to spread everywhere: it becomes rope, throat, electricity, vinyl" (Serres in Detry 2012).

"The sound world is not a space we can enter; it is a world we treat at a distance," submits Lydia Goehr (1999). Distance is the way between us and the Musical. It allows us to perceive one another as different. Because the Musical can neither be caught, nor tamed and studied, one is best to surrender. Loosen the reins and let one's larger consciousness (the nonconscious 'Me') organize and integrate its meanings. Surrender does not necessitate understanding. Max Martin, the Swedish pop-song-writer, admits that he loves listening to jazz, because he finds the fact that he does not understand jazz liberating: "Music stays just music. I just listen instead of listening to what kind of bass drum they are using" (Gradvall 2016). Listening to Chinese radio in my car, 'I' am lost in the Mandarin speech, where the Musical freely roams, inflecting words full of meaning, which I don't understand. The Musical rejoices in the encounter with the unknown, with the unknowable.

Where ‘distance’ is a diagnosis, ‘integration’ is a cure. Provided one is eager, open and accepting, shouldn’t it be possible to overcome this distance between the Physical and the Musical? To soak in the Musical, to be in the middle of it – what that might be like? To musicalize our mindbody enough so the dimensional wall between us and the Musical implodes?

V INTERZONE

How Not to Make Yourself a Body without Organs

Disclaimer: If you feel you need to stop reading at any point, please feel free to do so, I know this text is not for everyone.

"This must be what food poisoning feels like," I thought when I first experienced Tanya Tagaq.

It was in 2013, an online video of her live performance in Puebla, Mexico, from 2010.[153] Following with the musical transformations, my impressions proceeded from wonder to curiosity, from disbelief to fascination, to settle in as general anxiety; toward the end I was experiencing an altogether new emotion – a residual awe mixed within something bitter and pulsating resembling disgust. The physical dimension of these sensations went along the lines of goose bumps, spine needles, sweat, and finally something alive and impossible, a sickening feeling in the stomach. Impressed beyond reason, I started considering what had I had for lunch and wondering if this could really be a food poisoning: I so struggled to believe what Tanya was doing. With no regard for personal space or even propriety, she has hurled herself into the collective subconscious, summoning unawaken until now (musical?) entities. Howling, whispering, grunting, snorting, gasping, screeching, weeping and cackling multiplicities called into being and physical space appeared and disappeared, vivid and palpable. Juggling with musical temporalities and unknown dimensions, Tanya was presenting the Plane of immanence. To a bystander, this felt unbearable.

Three years later Tanya Tagaq came to Amsterdam for a concert, part of Holland Festival.

How to perform the Musical? How to employ the Musical? How to understand shades of affects and perceptions transposed onto physical media when, startled by the gray light of consciousness they vanish in an instance?

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153 https://www.youtube.com/watch?v=pKJbziZlogk

Engaging with these questions through music – by a musician who looks on music from the inside and lacks the perspective of the fresh eye – is the natural but not necessarily the most illuminating approach; a technique of indirection or displacement might be needed as means of creating distance to gain clarity. Thus, before introducing the idea of Musika as the realm of the Musical, I had to dive into concepts like the Implicate Order (Bohm) or the Absolute Unbounded Manifold (Campbell) – these other realities that grow and mold the ineffable, the image of consciousness. The knowledge and the insight acquired through investigating these systems of organization are not only inspiring in terms of modes of thinking and applied philosophy: by differentiating conditions of being, they urge our musicologicas to fine-tune language in order to adequately address the discreet variety of phenomena crowded into the term 'music'. As an answer to this call, I have sought it useful to distinguish between Musika, Musinculus, Musical, Musical entities and Musical assemblage. Among all personas of music to entertain in words and symbols, the Musical has been most precarious. It is the state of music that most finely resonates with the term 'ineffable'.

Many have exercised in spelling the ineffable, and often it seems to me that I grasp it. Yet, there is a gap between understanding or intellectually knowing something and experiencing it, as dealing with it in a murky back alley. Thomas Campbell gives us a tip for systematically and intentionally experiencing the ineffable, meditation.[154] As a personal journey, where 'progress' is gained through discipline and 'success' is marked by small incremental repeatable steps, meditation is a training, rich of insights. Attaining the Musical through meditation, contemplation, and mindful observation, is a gnostic, Apollonian practice, which has opened for us the extraordinary world of music theories, philosophies and concepts. To catch the drastic Musical in action, though, when it least suspects the coming assault, to perturb it so to see it for what it is, one needs a lighter step and less baggage – the Apollonian panoply might prove heavy and clumsy when trying to ride the wild Dionysian mares. To catch the performing Musical, one needs to go on a hero journey out of music, to form a new territory, maybe even to call it 'home'. Only then is one to return – as a stranger – and examine music with new sensitivity.

A way to exercise this risky operation – to meet the Musical on its own grounds – passes through the middle of a Body without organs (BwO).

'The concept of Body without organs is the most misunderstood concept on the planet!" This strong statement comes from the philosopher and Deleuzian scholar Ian Buchanan (2015).

[154] Campbell is endorsing a certain kind of transcendental meditation.

A brief consultation with *Google* seems to confirm his diagnose – while there are many appeals for help with understanding the concept, there are even more answers and explanations. Which, probably, only means that everyone has their own (understanding of) BwO. Mine, starts off with the following three points.

1) Strictly speaking, the BwO is a metaphor made popular by Deleuze, a yet another facet of the virtual super-field of flows, connections, moments (Bohm, the Implicate Order), information, potential, energy (Campbell, the Absolute Unbounded Oneness), which Deleuze might also call at different occasions field of difference, plane of immanence, plane of consistency, the rhizome. The metaphor in question points at a particular capacity of this field, namely, its formless, structureless, liquid condition, which remains so until various desiring machines plug into it and produce the explicit, the familiar. It is the brimming chaos of particles, vibrations, relations, affects and becomings, out of which God miraculates the world.

2) The BwO is also a real, actual body. There is a masochistic ring to this strange body, originally conceived by the schizophrenic poet and dramatist Antonin Artaud in his poem from 1947, "To have done with the judgment of god," as an escape from the unbearable suffering of the human condition. There is nothing more useless than an organ, Artaud exclaims: the organs placed in man by god[155] have their shapes, properties and shelf life over which man has no control – but god does; in order to free man from this painful alien machinery we must re-anatomize man's body, to de-organ-ize it, to free man by making him a body without organs. In his initial elaboration of the concept, Deleuze is influenced by psychoanalyst Melanie Klein's conceptions of urinary vs. anal objects developed in Klein's seminal book from 1932, *Psychoanalysis of Children*. Urine here is seen as a smooth mixture without parts and capable of melting, which removes all attachments, in contrast to the anal objects, with which we establish complex love-hate relationships and with which we form pleasurable or painful dependencies. Significantly, the Klein-inspired BwO is a focal point of two related positions – the nursing infant's and the schizophrenic's reality. As it is not simple for neither to split bad from good, which is a necessary, developmental psychological stage, the inherently unstable schizoid position of the BwO becomes particularly appealing. "What is opposed [to bad partial objects is not good ones, but] is rather an organism without parts, a body without organs, with neither mouth nor anus, having given up all introjection or

[155] 'God' in Artaud is a lowercase character, a 'god.'

projection, and being complete, at this price," writes Deleuze in *The Logic of Sense* (Deleuze 1990: 188).

Finally, the concept of BwO appears in full regalia in the second volume of *Capitalism and Schizophrenia*, in the plateau "How do you make yourself a body without organs?" Here, like in Artaud's, the BwO is no stranger to pain and masochism: one of the 'practical' answers to the title question, for example, is sewing together all body parts (Deleuze and Guattari 2013: 175). The essence of Deleuze and Guattari's proposition is this: besides organs our body has intensities, gradients, vibrations – it is this virtual potential that man needs to unleash to reset and fertilize herself. In principle, this could be achieved through careful experimentation or through conjunction with other bodies (without organs). Warning: however creative, liberating and joyful this experience could be, the authors advise, it needs to be approached with great care and wisdom, for it is a rather fine and dangerous endeavor. Which brings us to

3) In fact, the BwO could never be reached, it is a limit point where it all hangs on a blade of grass – a breakthrough or breakdown: upon reaching it, you die (Buchanan 2015). Therefore, playing on the cusp is the place, and great caution is the way. Great caution, the "art of dosages:" you don't measure your overdose with a sledgehammer, "you use a very fine file" (Deleuze and Guattari 2013: 185). Therefore, in the effort to make oneself a BwO as means of liberation from the unbearable weight of natureculture strata one is smashed between and under, one should most meticulously scrutinize one's methods to ensure keeping wild destratification at bay. For there is something worse than stratification, Deleuze and Guattari warn: "the worst that can happen is if you throw the strata into demented or suicidal collapse, which bring them back down on us heavier than ever" (Ibid.). The craft and forethought put in the approach of how safely to self-destratify and dance with the unlimited energy of the (Implicate Order, AUM and the) Plane of immanence, predicate the outcome and spell the difference between, what Deleuze and Guattari define as, the 'empty' (the masochistic sewn together BwO) and 'full' BwO (the free-flowing creativity generator).

As I have decided that the BwO, free from objects, identities and significations, and brimming with intensities, gradients and vibrations, is a field that seems particularly conductible to overcoming the distance and meeting the Musical I am interested in, I apply this concept, with its associated language and imagery, to my encounter with Tanya Tagaq.

Sitting on the stairs of the full-to-the-brim Bimhuis, I was waiting to see in action what has become my emblem of the Dionysian Musical and an embodiment of the absolute limit of drastic music. Tanya came on stage – a little, gentle, shy thing. Smiling, she looked at the full semi-amphitheatric hall and said the following: "If you feel you need to leave at some point, please do. It's OK with me, I know my performance is not for everyone." Having already a taste of where this strange disclaimer might be coming from, I knew I am about to wade into strange waters. In fact, I had already considered my exit options: unfortunately, the only exit was at the far end of the hall. I remember looking at the senior couple sitting on the stairs next to me and trying to cheer myself with the assurance that if they can endure Tanya, so surely can I – though likelier, I thought, they will opt for the exit at some point and I can then follow them.

The reason for these overly cautious premeditations is that the previous year I had had an unforetold spell of anxiety and panic attacks, which resulted in some enduring depression and insomnia. This misfortune had taken me – for a period of time – way out of my comfort zone and had shown me in practice the true meaning of the obscure and technical term 'destratification'. Although now, a year later, I had succeeded to re-stratify most of my Ego/self and my integrity back, I was keenly aware of my vulnerability and was apprehensive of intense mental challenges. Actually, the concert of Tanya Tagaq was probably the worst place for me to be at that moment but, as impressed with her old *YouTube* video as I was, I simply had to take the risk and to experience her live.

As always with Tanya, what was going on in my head and body was at least as bizarre as what was going on stage. The ordeal lasted about an hour and I remember that by the last third or quarter of it I had completely parted with any hope for an early exit. Instead, a fear stemming from the inky depths of my reptilian brain has gradually taken me over, a fear never experienced before, at least not in Holland and most certainly not at a concert. Pathetic as it sounds, it was a gut feeling auguring that here and any moment now something terrible will happen. The tension in the air was so visceral that I could see it occurring –

Someone having weak nerves and a bad day just cannot bear this impossible outrage labeled as 'concert'; Someone starts screaming, causing a mass commotion; bewildered people rushing on all sides with hands in the air, pushing and pressing each other; elderlies falling down deaden by the human stampede; younglings crying; everyone in a frantic hustle for the tiny door marked EXIT, away and out, where there is air to breathe in and sky light to live by . . . in short, an apocalyptic vision. But it was just my best-case scenario. What my principal

idea actually intimated was that, in fact, Someone-with-the-weak-nerves had never ever intended to do any screaming – she had a gun with which she was now going to shoot Tanya Tagaq. Or maybe, worse still, there are people with knifes in the crowd and they will kill her, and blood will be spilled, and there will be havoc . . .. Whatever it was, I was waiting for it to happen.

But it didn't. The event ended, people clapped, me included. Someone (else) gave Tanya a large flower bouquet, in her girly voice she said, "Oh thank you, you are so kind" and off she went. The crowd dissipated quietly and orderly, as most crowds in Holland do nowadays. Only after we had left the building behind, I dared to look at my husband who was with me, searching his eyes. Even though there was no screaming and shooting, it still seemed to me we had attended something of an illegal nature, it felt like we shared – by the sheer act of being there – the guilt and the responsibility for what happened. That we participated in a criminal, no: incestuous act, and from now on this will weigh on us forever as a secret, as a sin. "What do you think?" I asked. My husband returned my side glance squarely. "Oh, great fun, she is a force of nature," he replied and by the way he intoned this phrase I knew that we have not only not shared the last hour-moment, but that there never was Someone with weak nerves in the crowd, besides me perhaps.

In all my years of concert-going I have never fallen prey to music in such a manner. What happened in the Bimhuis was an unholy assemblage becoming on the territory suspended between my particular psychological condition and Tanya's performance. As I already mentioned the former, a few words on the latter are in order.

Tanya Tagaq is marketed as an Inuit throat singer, which she is in the sense that she is an Inuit and she uses traditional throat singing techniques. However, this label does not give justice neither to her, nor to First Nation's throat singing. Tanya's style is unique and extremely corporeal, she is indeed writing herself (Cixous 1976) using the voicebody as a machine for sound producing, as a tool for channeling signifieds, as a funnel to the prehistorical, as crystal ball. Feminist writer Hélène Cixous' urge to women to "proclaim this unique empire – their inner world" – has here become fully satiated: Tanya overflows; her "desires have invented new desires," her "body knows unheard-of songs" (Cixous 1976: 876) that she now renders audible. But the gist of Tanya's performance resides beyond the unique and the singular, beyond shades of gender and beyond the red-hot edge circumscribing our humdrum reality: it gushes from behind the walls of culture that guard us from the

unknown. Tanya's Dionysian multiplicities are spelled by the unconscious, the animalistic, the tribal, the sexual. Headfirst, she plugs into a pre-personal realm of an uroborean Implicate Order where everything is enfolded into everything else – the mother into the witch, the wolf into the newborn, the laughter into the white plains of Nunavut, the bloodthirsty murder into the shaman's weep. Here, Tanya is stage, actor and drama at once. Her performance showcases the deep, immanent integrity of creation – beneath its multiple faces and roles,

beneath all its godliness and violence

– its *via crucis* –

it is all meat.[156]

Life and death trajectories.

Space and time movements.

Change.

Difference

and repetition.

This creation is pre-moral or meta-moral – the morality that makes us shiver by the idea of Kali eating the flesh of her offspring is extorted by the life-and-death double helix bit by bit, and with it, we have built the ark of our Apollonian consciousness, the walls of our culture. And while Melanie Klein's infant struggles to split good from bad objects and, thus, instinctually retreats to the liquid spacetime of the organless body, Tanya wilfully becomes it, the Body without organs. She performs the passage from the magic, the collective, fractal and enfolded, to the subjective, religious, secessionist and abstracted: the passage from the un-formed to the in-formed, or in the words of Deleuze, from noise to voice (*The Logic of Sense* 1990). But contrary to the historical, linear order of affairs – the way reality is delivered to

[156] "Pity the meat! (…) Meat is not dead flesh; it retains all the sufferings and assumes all the colors of living flesh. It manifests such convulsive pain and vulnerability, but also such delightful invention, color, and acrobatics. Bacon does not say, 'Pity the beasts,' but rather that every man who suffers is a piece of meat. Meat is a common zone of man and the beast, their zone of indiscernibility" (Deleuze 2005: 17).

our senses through ever narrower intent-determined abstractions – Tanya performs the passage backwards, forwards, sideways, upside-down and inside-out. . ..

Unquestionably, this process is a powerful destratification technique: as anyone can observe, during performance Tanya is not Tanya, for she is in the delirium of becoming-acoustic. In this delirium, she has unraveled, or to use again Hélène Cixous' language, she has depropriated herself:

> Body without end, without appendage, without principal "parts." If she is a whole, it's a whole composed of parts that are wholes, not simple partial objects, but a moving, limitlessly changing ensemble, a cosmos tirelessly traversed by Eros, an immense astral space not organized around any one sun that's any more of a star than the others (Cixous 1976: 889).

In ritualistic depropriation into this body made of centers, without ends or margins and without organs, Tanya herself is becoming-acoustic space, made of "simultaneous and diversified information," "surrounded by sound – from behind, from the side, from above" (McLuhan). Acoustic Tanya dispenses with the Logos to lend her vocal medium to a range of glossolalic semi-formed and quasi-grammatical organelles. Although it is difficult to qualify them, it seems that unlike the Dadaistic juggling with nouns or Bohm's *rheomode* that made the verb a sovereign of the flowing movement, the explicated organelles are akin to … not verbs … not adjectives … conjunctions! For the witch and the murderer nor the shaman but the piss or the wolf yet the healer so the deer even if the horror however the new life just as the burial – all blurs, screams and shimmers, torrenting through the voice. Through the unbecoming-voice. "Is not first through the voice that one becomes animal?" ask Deleuze and Guattari (in "Rhizome"). Starting with the smiley, gentle little Tanya, the Becoming-electrical picks up speed in transforming geographies, accelerating geometries, subtracting and negating anything individual and unique and stable from the whole, until she has enfolded us all into a multiplicity, a rhizome made not of things, but of what's between them – metamorphoses, movements, intensities.

Needless to say, this multiplicity presents us with an alternative form of organization than the one we are used to, it showcases the sub-reality of the individual ripped open inside-out. Like in Artaud's dream for the new, re-formed man with a body without organs, Tanya dances the "wrong side out" (Artaud 1975). To someone who observes this act from the outside, the "wrong side" conjugation is violent and disorienting, for nothing seems to be formed there yet: all is potential, speeds and affects. It is as if we enter into the sound itself

before its medium in-formation – is not all in-there pure potential, pressure, and speed? "What it would be like, to be in the middle of sound," I have wondered in the past and here I am now, right in the middle. Surprisingly, this magical sub-reality manifests as an unbearable ordeal – for someone made of carbon bits, that is.

. . . In a few words, Tanya's presentation overwhelms with its ultimate variability, which translates as chaos. This chaos arrives at our doors of perception as a two-fold problem: on the one hand we must deal with its content, on the other – with its expression. The content of Tanya's virtual reality is dark – out of all possibilities existing in the primordial rhizome she accentuates the screwed up – death, suffering, evil.[157] However grim these movements already are, their effect is hugely amplified by the fact that they never quite become Evil or become Death, so we can face them, slay them and become the hero we are meant to be: they are always in a process of becoming – a sickening, dizzying continuous variation. On the top of this indeterminacy is added speed. As Deleuze and Guattari astutely point out, "Chaos is characterized less by the absence of determinations than by the infinite speed with which they take shape and vanish" (1994: 42). Tanya's stroboscopic performance combining speed and indetermination renders a becoming with extremely high entropy. Entropy, the hidden information.

In retrospect, I believe it was the swiftly shifting, insidiously undetermined quality of being, operated by palpable yet hidden principles that got me that evening. Somehow, until then I had been spared – not the idea that music could be evil – but the certainty that it can. Although I have been exposed to death metal, Mahler and Shostakovich, the idea of dread and realness of evil has never really seized me through music. Debussy compares the attraction of the virtuoso for the public to that of the circus for the crowd: there is always the hope that something dangerous may happen (Holmes 1989: 10). Although Tanya Tagaq is a dangerous virtuoso par excellence, the reason why she drove me to panic in fear for her life that night is, I think, my extreme openness at the time of performance, my vulnerable psyche, my own dealings with some shifty hidden realities. It was like a sympathetic magic where like produces like: Tanya performed a reality in which the musical entities harmonized with my slightly deterritorialized, slightly decoded, slightly destratified Ego-self, and the diffracted pattern produced some neurotic resonance. The territory on which we connected –

[157] I must specify that this is strictly my perception from that particular performance; others have defined Tanya's images more generally as "primordial" or as "raw energy."

this body without organs – raised an assemblage with density and intensity significantly past my then-current tolerance level. Coherence was lacking. Tanya Tagaq had found a way to make herself a body without organs – a 'full' one that celebrates, rejoices and rejuvenates – and to gift it to her audience. But the BwO is not and cannot be a gift. It has nothing to do with presents and good intentions, it is the farthest cry from Christmas and from lazy, friendly concert consumerism. I happened to connect and resonate with Tanya's BwO, and in the process had fallen prey of that too violent of destratification of which Deleuze and Guattari warn. As a result, my outer membrane, the shell that protects my soft and moist insides and keeps me whole, had become partly unraveled, leaving the 'wrong side' out, exposed and vulnerable – the pre-atomized state of becoming-BwO. It is on this basis that a substantial difference of intent between Tanya and me become manifest: where her efforts and motivation are to de-organ-ize – and "dance the wrong side out," my individual goal was to re-organ-ize – to stitch and smooth the rip, to make it all right again. A crucial incompatibility. So, instead of letting go of constraints and inhibitions and breakthrough the wall headfirst having graduated from Tanya's academy "How do You Make Yourself a Body Without Organs," I was gasping, grasping for something – for any last blade of grass – that would help me hang on the edge and not fall into the whirling abyss.

How was I to stop this from happening?

> Something we cannot see protects us from something we do not understand. The thing we cannot see is culture, in its intrapsychic or internal manifestations. The thing we do not understand is the chaos that gave rise to culture. If the structure of culture is disrupted, unwittingly, the chaos return. We will do anything – anything – to defend ourselves against that return (Peterson 1999: xi).

Perhaps my Nonconscious has crafted the idea of havoc-apocalypse-murder as a hastily put together emergency response to my quickly disintegrating cultural membranes and structures of protection. In the last analysis, perhaps it is not so strange that I had imagined someone killing Tanya Tagaq.

Afterword

Throughout this dissertation I have strived to understand musical (and people) matters of 'ineffable' nature. The ineffable has appeared in different shapes and colors, and through different concepts and notions, like the Implicate Order, the smooth space, the reality of sound, the Absolute Unbounded Manifold, Musika, practice, the Musical assemblage, the Musical entity, consciousness . . .. As far as music is concerned, the ineffable is sublimated in the concept of the Musical as the meaning, the consciousness of music. The BwO, on the other hand, stands out as a broader and more comprehensive, general idea: it articulates the virtual dimension of an(y) actual body – its reservoir of potentialities, possibilities, affects, movements. I approached the 'InterZone' with the assumption that the BwO is the right 'place' to look for the Musical, believing that "the way to the Musical passes through the middle of a BwO." My reasoning stemmed from the idea that in order to find something individual and particular, one must dive into something whole and general. My experience with Tanya Tagaq has revealed that what I have been referring to as 'the Musical' is much more organized and palpable than I had presumed; Tanya has helped me to fine-tune some of Musical's characteristics. Explanation follows.

Tanya Tagaq's performance plays the BwO as the dynamic aspect of Musika's in its 'unstructured but structurable' energy state characterized by high entropy, high potential, low coherence and low integration. The artists-musickers visit the musical BwO to tune into other reality plane(s), to study movement, to harness potential, to borrow 'nonorganizational' insights and know-how, to channel feral intensities and desires. But the BwO is not strictly musical. When closing eyes in meditation and trying to really 'see' and 'listen' from a distance what is going on 'out there,' one directly plugs in the holomovement of an Implicate Order. Upon maintaining a detached perspective, one notices how active and alive this Order is, how everything is enfolding in everything else, how glimpses of thoughts, flakes of language and fragments of images – while preserving their identity – are appearing and disappearing, molded and kneaded by a twisty current. There is an inherent integrity to this zone, but the entropy is too high (for physical entities like us) to comprehend. This is what Tanya Tagaq presents us with her performances. However overflowing with information, however engaging and engrossing this BwO is, dwelling here strains and unnerves – in both its mindspace and musical variants. The BwO does not invite residents and is not a destination, but rather a liquid interzone, a portal. To proceed, one must relax

the curious, grasping mind and let go of the instinct to liaise observation to making sense and to understanding. As in the Zen kōan, let go (of any last blades of grass) or be dragged, here too softening and surrender are necessary actions to override the dangerous currents of the flow that is the BwO.

The turbulent BwO described here, is not the only possible one of its kind. Going further into the meditative state, for example, one arrives at a smooth plateau. It is another articulation of the Body without organs, one of markedly different nature. This slower zone fascinates and energizes; here one perceives no thoughts and glimpses, no happenings or desires. All one does, is staying still and observing the topological plasmic dance, in which an 'I' is nowhere to be found, any 'I' and any 'it'. The BwO could also be understood as a transmission station – an electrical grid, an organizational dispatch, a network gateway, a traffic firewall. Instead of organs, this body is supplied with various switches for making and breaking connections: for modifying, distorting, amplifying, spreading, limiting, breaking into pieces, storing, stopping, and generally, navigating current and waves . . ..

Art historian Délia Vékony expounds a similar to the BwO space she names 'Ground Zero'. In her eponymous dissertation from 2017 she introduces and explores this space alongside concepts like artwork, image, agency, representation, presence, rapture. In her formulation, the 'ground zero' overcomes the logic of representation. It is a depth beyond the surface that invites us beyond its own narrative (Vékony 2017: 78):

> (Contemporary art) creates a space in which one is not told what to do and it is the intention of the artwork *not to* tell. Presence is not forced onto the viewer. (…) The attitude with which one might approach [the work] is not empathy (…) It is rather an inner work in which the image does not demand the viewer to engage with it, but demands the viewer to engage with him or herself. While looking at it, the image starts working on me *personally*, it asks me to work on myself. In this sense, the image becomes a mere starting point, an initiator and it builds into me, opens up gates to myself (Ibid.: 80, emphasis in original).

The uncanny ability to cancel narratives and to open an 'absence' for personal engagement and exploration of one's inner world is, of course, not a special power of contemporary art alone, one needs only remember Rilke's contemplations before the archaic torso of Apollo with its terrifying message ("*You must change your life*"). The ground space works without expectations or tradeoffs: the beholder is not urged to come up with a 'particular' – any – solution. The 'ground zero,' then, is the space of art engagement, in which "the force of art"

manifests itself as “energy that does not strive for a particular goal” (Ibid.: 50), “in which the beholder does not have a choice but to confront his or her own issues” (Ibid.: 79).

Vékony’s descriptions and definitions of the ‘ground space’ are congruent to a large extent with my understanding of the Body without organs. By defining it as an absence, as “a mere starting point,” she contributes to further fine-tuning the concept and the phenomenon. The BwO is such a potent concept that it is, perhaps, easier to say what it is rather that what it is not. One thing the BwO is not, however, is a production factory: the outcome of all its fantastic activity is not and cannot be manifested within itself and by itself – it needs an outlet, it needs a receiver with an energy source. Thus, to define it yet again, the BwO is also the process navigating and managing energy charge between an input and an output. The in-form-a-tion of meaning, unleashed on the edges of the BwO in high multiples, must be integrated by the consciousness of the receiver of the BwO and its actual (i.e. physical) coagulation.

I have suspected that it is here, in the acrobatic articulations of the BwO where the Musical resides – in the smooth, alien mindscape beyond the narrative, where there are no great revelations, passions or ‘lessons,’ only subtle changes in density, tone, background, silences, wordlessness, pressure, continuity. Tanya Tagaq’s performance makes me question this assumption by posing the question explicitly: Can the Musical be found in a BwO? What is its nature? The short answer is that the way to grasping the Musical may pass through the middle of the Body without organs, but it does not stay there. In other words, the BwO is not where the Musical is to be found. The two phenomena have different nature, mechanics, and function: if the BwO is more about a how, the Musical is more about a what. Let’s consider.

Where the BwO inebriates with excess and extremism, fullness and density, the Musical is more transparent and lucid, it lures with sophisticated attributes, like eloquence and ambiguity. The Musical is the secret clause of the Music work, that, which we can never catch, but whose lingering scent we follow long after the sounds seize to be. Like the BwO, the Musical, too, dwells on the edge of an abyss, but unlike the former’s *modus operandi* motivated to maintaining the breathless strain between break down and breakthrough, the latter softly levitates, playing just above the cusp between knowable and ineffable, the physical and the musical projects.

Further, where the BwO is more like a process or transmission, the Musical is more like a tailor-fit musical intelligence. Occupying the gray zone between the Implicate and the Explicate Orders, the Musical manifests as a higher entropy state of the explicate Musikon

evolutions, e.g. the Musinculus, the Music work, but not as high as the BwO's. In the BwO one observes nonlocality in action, i.e. the body abounds with noncausal connections between any n number of moments, movements, affects. The Musical, by contrast, is a local embodiment of Musika's potential, always. Although it is not physical itself, it emerges, as in transpires, from the physical. If, as Deleuze and Guattari state, the assemblage sits on the top of a BwO ("a striation on the face of the BwO"), the Musical, in turn, perspires – as a condensation – from the Musical assemblage itself. It is one of the most refined phenomena we have the ability to perceive, its essence being filtered, first, through the BwO, then, through the physical reality rule-set, and finally, through us, the crown of creation! Each musical instrument engenders a different Musical. Each Music work secretes a different Musical. Each sentient encounters a different Musical. Each Music work, through each different instrument, presents a different Musical to each sentient. The Musical is bound to its medium as a secret message. As far as earthlings are concerned, without the articulation of the constrained, stratified, carnal bodies with organs, the great musical flow of the electrical BwO cannot manifest a single musical thought. The situation is perhaps similar in all different reality frames – in order to interact with the said reality denizens, the Musical must exit the BwO and emerge through said reality matter and media.

Then, there is the difference of agendas. Entities, regardless of their reality frame and level and quality of consciousness, have unlimited access to myriad BwOs as portals to the 'other side'. The BwO design is to de-organ-ize flows, to disturb and to mess up structures, narratives and texts, to expand and plug the thin self-conscious thread into a freer, larger source of consciousness, triggering transformation. The agenda of the Musical is more ambiguous. Strangely complete in itself, it invites us to listen deeply, again, more; to hear the work in five, ten, twenty different interpretations, to keep coming back to it, to keep searching for the 'right form' of music and life. Using different media, the Musical is conductive to a variety of other meanings as organizations of consciousness. If there is an agenda to it, it is this – to instill in us, sentients, according to our individual level and quality of consciousness, a capacity to be susceptible to paralinguistic meanings, a desire to play, chase, and create meanings, to involve us into absorbing, and, eventually, integrating these hidden meanings. As such, the Musical is an agent of the fundamental process of consciousness evolution, spearheading the becoming of the Absolute Unbounded Manifold –

higher organization : **more integrated meanings = more consciousness**

And finally: the greatest difference between the BwO and the Musical might be that where the former multiplies our questions and inspires new ones, the latter provides us with variety of answers. With variety of musical answers. Reading Andersen's "Little Mermaid" as a child, I suffered that this gentle girl who played *va banque* and sacrificed all believing love overcomes the impossible, is not seen and heard for who she is. The Prince is oblivious to her pain, to her grace and beauty, to her monstrosity, because he is blinded by language to see only that, which is linguistically mediated, established through research, objectively manifested and scientifically verified: to him, the Little Mermaid is an auditory cheesecake. The intimation of the story is that, was the Little Mermaid able to tell who she is and why she is here, the Prince would have fallen in love with her and they would have had their happily ever after. . .. Like the Little Mermaid, the Musical showers us with answers, which, being a secret, it is committed not to tell. And instead of considering this situation as an inconvenience to be disposed with or as a mystery to be solved, we should blindly embrace it – not telling is Musical's way to stay, its strategy for long-term survival and propagation. In order to remain our ever-so-obscure object of desire, it must stay close by, but to remain ungrounded, untamed, uneffable. Only by dwelling past matter, outside of language and the "vulgar illusion of words,"[158] beyond the rational, can the Musical, like the Little Mermaid, become ethereal, transcendental.

And we need the transcendental Musical, as it, too, needs us. Forever cast – out and away – in the gray light of self-consciousness, we don't hear anymore the beautiful voices of the gods, forever lost in the bicameral mind. The Musical has, in a way, taken the place of that lost connection; with codes and protocols, and sometimes with straight hyperlinks, it provides us with ways, both painful and exuberant, to enfold into a larger reality. By enunciating and resounding this deeper reality, the Musical present us with other modes to grow and refine our consciousness; by becoming more conscious, we create new ways to hear the Musical and to expand its rhizome of meanings and organizations, thus assisting the evolution of Musika, contributing to the growth of the Absolute Unbounded Oneness.

As far as our 'I' will ever know, the Musical, as a physically conducted consciousness of music, is profoundly bound to man. In the last analysis, it may be true that the meaning of music is the meaning of man (Steiner 1991: 6). While the Musical may be presenting entities,

[158] Stéphane Mallarmé, quoted in George Steiner's *Real Presences*. The full quote reads: "Mallarmé's poetry and its revolutionary typography developed a philosophy of "real absence"; words become empty signs that cannot instruct us as to the real meanings of things; "to ascribe to words a correspondence to things out there is.... vulgar illusion" in the view of Mallarmé" (1991: 95).

meanings and realities beyond ours, its becomings and self-discovery – like God's – pass through our various bodies: rubbing, teasing, manipulating. And so to the Musical we may come not through understanding, but through becoming-it.

music heard so deeply

that is not heard at all, but you are the music

while the music lasts.[159]

[159] T.S.Eliot *Four Quartets* 1941, Quartet No.3: The Dry Salvages.

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Summary

"Music is about everything else," theater director Peter Sellars said upon accepting his Polar Music Prize back in 2014. Although it is about particular musical problems, my dissertation is about 'everything else', too. What and how that is, could be summed up in different ways depending on one's orientation and distance to the explored object. Below I consider three of these ways.

This work is a contribution to the philosophical study of music and to musical ontology. Within musicology, it makes an input into the discourse on musical meaning. With the presumption that consciousness is fundamental, the thesis I put forth is that music is a form of consciousness, which evolves in a mutualistic relationship with sentient beings in order to gain experience and to grow. This anthropo-de-centric proposition unsettles the established view on music as a (human) artifact and opens a space for a reconsideration of the construct 'the music itself'. In this space, 'music' is recognized as a blanket term appropriately used by human musickers in the phenomenal world to describe events, works and activities based in intentionally organized sound. These very connotations render the term 'music' inadequate to designate a larger form of consciousness. Therefore, I introduce Musika and define it as a superset of music, which evolves sound-based forms and intelligences, as a mode of logic and organization of a yet larger information system. Musika has different laws and constraints than those operating in our Physical Matter Reality, and is populated by entities, haecceities and geographies that are uniquely characteristic of it. To ease orientation in the landscape thus conceived, I discriminate between musical entities according to their involvement with sentient beings (like us), introducing new concepts, like the Musikon or the Individuated Unit of Musical Consciousness, and discussing newly emerged tensions, like that between the Musinculus and the Musical. Musical meaning is considered an energetic aspect of the event of the Musical assemblage – the virtual territory where all actors in the musical drama meet and share an experience.

From a more distant and more general point of view, my thesis emerges through a comparative study of becomings in physics, philosophy, psychology, and linguistics, arguing that the processes, structures and problems in music are extensions and local interpretations of a fundamental implicit order that underlies and manifests across all fields, disciplines, substrates, and levels of engagements. Viewed as a reality in itself, Musika evolves its sound-based content and expression within the principles that are at work in our universe too – but

based in carbon. Zooming out further still, it could be said that my research explores patterns and protocols in both virtual and actual realities – in biology, stories, behavior, music, thinking, language, in being and becoming. These patterns trace a single commandment: try everything, allow what works, and have a single mission: lower entropy, increase organization. From such a big picture perspective, music, with all its interrelated systems, environments, theory and practice, is a way to organize and mediate reality, to integrate information, to create meaning.

A step closer to the object of research would reveal its focus on my private relations, experiences and struggles with music as an agent of meaning in my personal and artistic life. The proposition that music is a sub-system mediating a larger reality able to create myriad sub-systems, suggests that where attention should be placed on is not the 'message' as such, but on the medium ("the medium is the message"). As long as it is the medium that uniquely constrains, organizes and brings forth integrated meaning packaged as 'the message', I intentionally examine my musical medium, the piano, and the way it has framed my understanding not only of music, but of reality. I argue that the role one's instrument plays in one's relating to music, is not only crucial, but fundamental. In fact, it is in the practice of the medium where music and man meet and start a relationship – the physical medium, that is. However 'magical', 'soulful', 'spiritual' and 'ineffable', the consciousness of the Music work we love, obsess and write about is only able to reach us through our flesh and bones, cells and chemicals, particles and corporeal electromagnetic configurations. To us, without the physical, there is no musical, without profanation there is no transcendental, without the effable, there is no ineffable.

To conclude, this is an opus about music manifested in and through consciousness, and about consciousness manifested in and through music. It explores how music and consciousness trace the same fundamental process of evolution and construct information-based realities. Simultaneously, my dissertation is an exercise in creating a personal ontology based in world-hearing and *musicologica* – a music-informed understanding of world and man.

Samenvatting

"Muziek gaat over al het andere", zei theaterregisseur Peter Sellars toen hij zijn Polar Music Prize in 2014 in ontvangst nam. Hoewel het over bepaalde muzikale problemen gaat, gaat dit proefschrift ook over 'al het andere'. Wat en hoe dat is, kan op verschillende manieren worden samengevat, afhankelijk van iemands oriëntatie en diens afstand tot het onderzochte object. Hieronder beschrijf ik drie van deze manieren.

Dit proefschrift is een bijdrage aan de filosofische studie van muziek en aan muzikale ontologie. Binnen de musicologie levert het een inbreng in het discours over muzikale betekenis. Met de aanname dat bewustzijn fundamenteel is, is de stelling die ik naar voren heb gebracht dat muziek een vorm van bewustzijn is, die evolueert in een mutualistische relatie met voelende wezens om ervaring op te doen en te groeien. Deze antropo-de-centrische stelling zet de gevestigde kijk op muziek als (menselijk) artefact op losse schroeven en opent ruimte voor een heroverweging van de constructie van 'de muziek zelf'. In deze ruimte wordt 'muziek' gezien als een algemene term die op de juiste manier wordt gebruikt door menselijke muzikanten in de fenomenale wereld om gebeurtenissen, werken en activiteiten te beschrijven die gebaseerd zijn op opzettelijk georganiseerd geluid. Juist deze connotaties maken de term 'muziek' onvoldoende om een grotere vorm van bewustzijn aan te duiden. Daarom introduceer ik Musika en definieer het als een superset van muziek, als een manier van logica en organisatie van het nog grotere informatiesysteem, een systeem dat op geluid gebaseerde vormen en intelligenties ontwikkelt. Musika heeft andere wetten en beperkingen dan die welke in onze Fysiek-Materiële Realiteit opereren, en wordt bevolkt door entiteiten, haecceïteiten en geografieën die uniek kenmerkend zijn. Om de oriëntatie in het aldus opgevatte landschap te vergemakkelijken, maak ik onderscheid tussen muzikale entiteiten op basis van hun betrokkenheid bij voelende wezens (zoals wij), introduceer ik nieuwe concepten, zoals de Musikon of de Geïndividualiseerde Eenheid van Muzikaal Bewustzijn, en bespreek ik nieuw ontstane spanningen, zoals die tussen de Musinculus en het Muzikale. Muzikale betekenis wordt beschouwd als een energetisch aspect van de gebeurtenis van de muzikale assemblage - het virtuele terrein waar alle acteurs in het muzikale drama elkaar ontmoeten en een ervaring delen.

Vanuit een verderaf en algemener gezichtspunt ontstaat mijn proefschrift uit een vergelijkende studie van verworvenheden in de natuurkunde, filosofie, psychologie en

taalkunde, met het argument dat de processen, structuren en problemen in muziek uitbreidingen en lokale interpretaties zijn van een fundamentele impliciete orde die ten grondslag ligt aan en zich manifesteert in alle velden, disciplines, substraten en niveaus van betrokkenheid. Gezien als een realiteit op zichzelf, ontwikkelt Musika zijn op geluid gebaseerde inhoud en expressie binnen de principes die ook in ons universum aan het werk zijn—maar dan gebaseerd op koolstof. Nog verder uitzoomend zou je kunnen zeggen dat mijn onderzoek patronen en protocollen onderzoekt in zowel virtuele als werkelijke realiteiten—in biologie, verhalen, gedrag, muziek, denken, taal, in zijn en worden. Deze patronen volgen een enkel gebod: probeer alles, laat toe wat werkt en heb één missie: lagere entropie, meer organisatie. Vanuit zo'n totaalbeeld is muziek, met al zijn onderling verbonden systemen, omgevingen, theorie en praktijk, een manier om de werkelijkheid te organiseren en te bemiddelen, informatie te integreren en betekenis te creëren.
Een stap dichterbij het object van mijn onderzoek zou de focus onthullen van mijn relaties, ervaringen en worstelingen met muziek als 'agent' van betekenis in mijn persoonlijke en artistieke leven. De stelling dat muziek een subsysteem is dat een grotere realiteit bemiddelt en in staat is om een groot aantal subsystemen te creëren, suggereert dat waar de aandacht op moet worden gevestigd niet de ‘boodschap’ als zodanig is, maar op het medium (‘het medium is de boodschap’). Zolang het het medium is dat op unieke wijze een geïntegreerde betekenis omperkt, organiseert en naar voren brengt, verpakt als de ‘boodschap’, onderzoek ik opzettelijk mijn muzikale medium, de piano, en de manier waarop het mijn begrip van niet alleen muziek, maar ook van de werkelijkheid heeft gekadreerd. Ik beweer dat de rol die iemands instrument speelt in die diens betrekking tot muziek, niet alleen cruciaal is, maar ook fundamenteel. In feite is het in de praktijk van het medium waar muziek en mens elkaar ontmoeten en een relatie aangaan—het fysieke medium dus. Hoe magisch, soulful, spiritueel en onuitsprekelijk ook, het bewustzijn van het muziekwerk dat we liefhebben, obsederen en waarover we schrijven, kan ons alleen bereiken via ons vlees en onze botten, onze cellen en chemicaliën, onze deeltjes en lichamelijke elektromagnetische configuraties. Voor ons is er zonder het fysieke geen muzikale, zonder ontheiliging is er geen transcendentaal, zonder het uitwisbare, is er geen onuitsprekelijk.
Samenvattend is dit een studie over muziek, gemanifesteerd in en door bewustzijn, en over bewustzijn gemanifesteerd in en door muziek. Het onderzoekt hoe muziek en bewustzijn hetzelfde fundamentele evolutieproces volgen en op informatie gebaseerde realiteiten construeren. Tegelijkertijd is mijn proefschrift een oefening in het creëren van een persoonlijke ontologie gebaseerd op wereldhoren en musico-logica, een door muziek geïnformeerd verstaan van de wereld en van de mens.

Curriculum Vitae

Stanimira 'Mira' Withers (1974) is a Bulgarian musicologist, pianist, music writer and teacher.

At the age of 7, Mira's parents asked her whether she wants to play the piano. She said "Yes" and began taking lessons. The following year her parents took a bank loan to buy her an instrument, so she stops 'practicing' on table tops. The Great Plan was to become a concert pianist, but life took a different course.

Mira holds a Bachelor degree in Music Pedagogy from the Theory, Composition and Conducting Faculty at the National Academy of Music in Sofia, Bulgaria (1998). After graduation, in 1999, she started working at Hristo Botev Radio, part of the Bulgarian National Radio Network, as a full-time music editor, author and commentator. She created the monthly broadcast *The Musicograph*, focused on 'classical' music discourses, texts and practices.

In 2002, Mira left her job and country for, what then seemed to be, a three-month pianist contract with a private club in Doha, Qatar. The three months extended to 16 years life and work abroad. Until 2005 Mira worked at the International Center for Music in Doha as a piano, voice, and theory teacher, while in the evenings she was playing at Doha Club. In Doha, she met Steve Withers whom she followed to Germany; he introduced Mira to the world of international schools, married her and fathered their two children. From 2007-2009, Mira worked as a music teacher at Suzhou Singapore International School, working with predominantly Korean population of students. In Dar es Salaam, Tanzania, Mira started writing in English and had a few short stories published in international magazines. After a year-short stop in Amman, Jordan, in 2012 the Withers moved to the Netherlands.

In Amsterdam Mira obtained a Master degree in Music Studies from the University of Amsterdam (2014) and then started a PhD program in artistic research at the Academy for Creative and Performing Arts, Leiden University (2016). From 2015-2017, Mira worked as a music teacher at Amsterdam International School, specializing in Early childhood music education. In 2018 there was an opportunity for moving 'back home' and the Withers settled in Sofia, Bulgaria. There, Mira finished writing her dissertation, while tutoring piano students and writing feature articles for the Kultura.bg, a platform for culture, art and society.

All these nomadic years of study, work, travel, and life, Mira's choices have been guided, informed, steered and conducted by music, and particularly, the piano.