THE MUSICAL CONNECTOME

ESSAYS IN BIOAESTHETICS

Anna Chęćka

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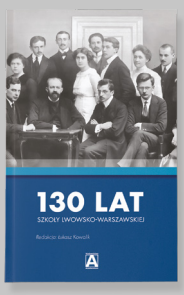

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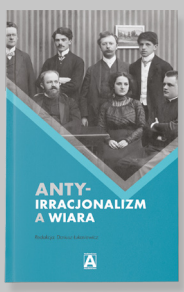

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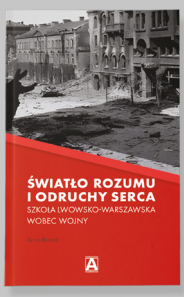

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The intangible, unsmellable, unattainable, invisible, asemic, inexistent object of music. Music is even more nothing than the death for which it calls in the panic summoning of the Sirens.

Pascal Quignard, *The Hatred of Music*

What we call 'music' isn't a single thing, a unified black box. It is a composite of parameters and faculties. Parameters include rhythm, melody, timbre and texture. Faculties include predicting and entraining to a beat; singing in pitch; remembering notes; recognising octave equivalence; following the strands of a contrapuntal web. One of the most important musical faculties is what zoologists call 'vocal learning'. Most animals keep to the sounds they are born with. A tiny fraction of animals—some, but not all, birds, whales, bats, elephants, seals and an amorous subgenus of singing vole (Sumeriomys argyropulo)—are able to learn new sounds. The evolutionary biologist Tecumseh Fitch believes that vocal learning is an absolute prerequisite for animal communication to qualify as music.

Michael Spitzer, *The Musical Human*

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The connectome (…) cannot be read like a book. The connectome must express itself in dynamics and behavior before the information it contains can be realized and understood. As the connectome is set in motion, fast and slow fluctuations of neuronal activity give rise to the intrinsic flow of mental experience, molded by the gradual accumulation of structural changes that retain traces of a person's interaction with the physical and social world.

The connectome constrains what is possible, but it does not determine what actually occurs. Along the winding path of each person's unique life story, much of what matters most remains irreducible.

Olaf Sporns, *Discovering the Human Connectome*

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Introduction

The philosophy of music constitutes a vast and intricate field, frequently hindered by the absence of a clearly defined object of inquiry. Moreover, existing discourse in the discipline tends to concentrate predominantly on the Western classical repertoire, from the Baroque era to the present day, with particular emphasis on the Classical and Romantic periods. This constrained perspective implies that such deliberations do not encompass music-making in its full human scope: neither geographically nor historically. While certain exceptions exist, particularly among scholars working within naturalistic or cognitive frameworks, these do not substantially alter the predominantly Western and art-centered orientation of philosophical inquiry into music.

This modest book appears to operate within this incomplete paradigm, as it frequently references classical music, musicological discourse, and the academic philosophy of music, yet offers limited engagement with other musical traditions and genres, including non-human sound phenomena construed as music through human intentionality. However, it is essential to acknowledge the need to interrogate this conventional framework, particularly when considering the evolving relationship between philosophy and music, especially in light of developments in the field of neurobiology of music and, more specifically, the neuroaesthetic perspective, which has begun

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to enter humanistic discourse with increasing boldness in the twenty-first century.

It could equally be said that this tentative proposal is not so much about music *per se* as it is about the imperative of interdisciplinary dialogue, to which music persistently extends an invitation. In other words, I approach interdisciplinarity through the lens of music, not simply as an object of intellectual inquiry, but as a mode of experience that traverses the cognitive and the corporeal, the rational and the pre-reflective. Music invites us into states of awareness that are fluid and often liminal, those thresholds where thought becomes fragmented, where perception slips into dream-like drift, as in the moments before sleep or in the fragile return to waking. In this sense, music becomes a kind of rehearsal for being, an embodied training in how to dwell within uncertainty of fate.

In my previous book I assumed the existence of a certain cognitive power called metaphysical hearing. I saw it as a kind of special sensitivity that allowed people to understand themselves and the world more deeply through music. This book does not assume anything metaphysical. At certain points, it seems to be more of an exploration of physicality-underestimated, trivialised and yet defining of human experience. So, I tend to look back, beyond metaphysics, to the biological, bodily basis of aesthetic experience, which in many cases transcends music or, more broadly, art. Following the intuition of Arnold Berleant, this book is a small paean to perception: often unconscious, considered irrelevant, and yet the leaven of both experience and artistic creation. It is perception that gives primacy to aesthetic experience.

We do not experience music only in solemn detachment from the world: in the sanctuary of a concert hall or in the comfort of one's own home. I would not presume to suggest that music as an art form is essential to human existence today, although I would like to believe that musicality, as a particu-

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lar mode of sensitivity, is universal. I would like to suggest, however, that for many music lovers, performers and creators, the following judgement might be true: *we are in music*; we are immersed in it, even when music is not playing. Sometimes we perceive it in the stillness of a painting, sometimes it flows gently within us, intertwined with the narrative of a novel or the rhythm of a poem. Sometimes it reveals itself in the coherence of a mathematical theorem. Sometimes it manifests itself as a persistent melody that plays in our heads all day or, more rarely, wakes us from sleep. Music is also, of course, the persistence of sounds to which, as Pascal Quignard has observed in *The Hatred of Music*, it is impossible to close one's ears, just as one might close one's eyes to unwanted images. Although many readers would object at this point, one of its modes of existence is also what we perceive as background noise, which is sometimes imperceptible, but in many cases more or less intrusive. Musical presence, however, does not necessarily have to involve the presence of sounds. Music and musicality, it seems, may permeate thought itself, structuring reality in a manner that is pre-reflective and pre-conceptual.

Sometimes it is a thought, too abstract to be reduced to a formula. These are probably states of consciousness in which musicality or mathematicality defy description, in which they are completely abstract and yet very much present.

It is my understanding that *musicality*, which manifests itself in *being through music*, is not necessarily accessible only to professionals, musically educated minds, or bodies trained in instrumental or vocal virtuosity. It can be basic, imperfect, and yet it can define the individual as a human being who is music oriented.

Lucy the Pianist (2025) is an example of such 'being through music'. She could also be considered a living example of a musical connectome that has survived in a brain affected by many

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disabilities. What makes Lucy's musicality so remarkable is that it serves as a means of communication for an entity, while also highlighting her unique abilities. Before we create a map of the musical connectome in the human's brain, we can consider it as a network of neuronal connections that help us understand the complexity of being human.

The metaphor of the musical connectome can be imagined as an 'electrical network' that illuminates one of the possible ways of understanding a person as an individual. There are people who manifest their uniqueness through this musical side, like Lucy the Pianist. It is this network that illuminates her essence, which would remain undiscovered without music.

In other words, music here is no longer understood as the art of sounds organised in time and different pitches. It is not only an art, but a way of communicating the inner with the outer, one individual with another, a way of feeling, a way of thinking, more than a task for musicology.

In this context, the metaphor of the musical connectome, which draws parallels with the intricate network of neural connections in the human brain, can offer a valuable perspective. While our understanding of these neural connections is still evolving, it is evident that everyone's neural connectivity through music is unique and can vary significantly.

When Daniel Barenboim wrote the book *Everything is Connected*, he saw in music, even if only intuitively, a first philosophy, a science of being and becoming. One could add here several other, still incomplete perspectives. Music is also a study of freedom and discipline, of creation and discovery. It is also a transcendence of the Cartesian model of the musician as a dual, corporeal-spiritual being, which still weighs on Western-centred music education. Music can also be an example of a perceptual activity that engages the participant at various levels: from a thoughtless, biological immersion in sounds that activates the autonomous nervous system of

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the subject, to the shaping of a sophisticated, virtuoso, physical-spiritual artistic creation.

Although as a musician I am committed to the idea that music is unique and different from other art forms, in this book I will try to be mindful of the pitfalls of this kind of prejudice.

A general question arises as to whether the term *music* could be replaced here with another, such as *poetry* or *painting*, without fundamentally altering the argument. If so, we may be facing a distinct issue rarely addressed in musicological discourse: the fallacy of exclusive attribution. This fallacy assumes that a particular quality or capacity is unique to music, when in fact it might equally pertain to other forms of artistic expression. We should ask more frequently whether similar claims could be made for architecture, visual art, or other media in relation to an axiological ideal. I often sense that when we write about music and underscore its distinctiveness or exceptionality, we are ultimately trying to affirm precisely what I would describe as *a connection toward an axiological optimum*.

One of the most moving reflections on the uniqueness of music appears at the end of Julian Johnson's book *After Debussy: Music, Language, and the Margins of Philosophy*:

> This is why music is so strongly allied with the idea of love, because it has the capacity to make present the plenitude of the whole while remaining utterly particular. It is also, perhaps, why music makes us weep, because it momentarily restores a fullness of being that is lost in all the saying of language (Johnson, 2020, p. 308).

The point is not to question such intuitions, but rather to persuade sceptics that they are, in fact, true. My intention is to initiate a reflection on music as a network of connections within human experience, including those that tentatively extend into the transhumanist or posthumanist realm. In this

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latter domain, it seems necessary to pose questions concerning machine creativity or algorithmic authorship, which we tend to perceive either as an extension of the contemporary human subject enabled by technological advancement or as a form of threat to human agency and creativity.

The approach to the philosophy of music presented here broadly aligns with that of Andrew Bowie, who argues that this field should not be singularly understood as a discipline that merely conceptualises music as its object, but rather as one that arises through music itself:

> One possibility is to regard the 'philosophy of music', not as the philosophy whose job is conceptually to determine the object 'music', but rather as the philosophy that emerges from music (Bowie, 2014, p. 11).

This work is therefore an attempt to explore a possible realisation of such a perspective: one in which philosophical thought is shaped by music, rather than merely illustrated through it. In any case, allowing philosophy to unfold from within musical experience was my point of departure: my assumption, or perhaps even my phantasm in conceiving the project.

Its structure reflects a network of connections, which might be called a metaphorical musical connectome. In the spirit of essayistic freedom, I allow myself considerable leeway in tracing these threads. Still, I try not to lose sight of the perspective that regards them as parts of a whole. Fortunately, there is no single, prescriptive model for writing in the humanities, for in the fortunate moments of creation, a work reveals to its author the hidden connections between the subjects it engages. Perhaps such an approach reflects the order of discovery that underlies the act of creation. That said, one might ask: what about the order of discipline that should distinguish scholarly work? I allow myself to treat philosophy and the humanities as closer to the arts, hence the conscious interweaving into

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the discourse, not only of phenomenological perspective, but also of literary fragments that reveal subjective reflection. The connectome of this modest book is thus the encounter between what neuroaesthetic research can examine objectively, and what remains subjective, individual, and therefore resistant to objectification.

Again, let me use the metaphor of a connectome, which is also individual in the neurophysiology of the human brain. As Olaf Sporns, one of the scientists who coined and developed the concept of the "connectome" in the context of systems and computational neuroscience, states in his foundational work:

> No two human brains are exactly alike. This is certainly true if one attempted to align their individual neurons and synaptic connections. Statistical patterns may be preserved, but connectivity measured at the level of single neurons is highly variable across individuals both in terms of the number of elements and their connection topology. Even at the large scale, human brains exhibit significant individual variability for virtually all measurable features of brain structure. This extensive variability of brain structure across individuals is thought to be an important factor underlying measurable differences in brain physiology and dynamics, as well as in behavioral and cognitive performance (Sporns, 2012, pp. 44–45).

Let us turn to a perhaps surprising, yet compelling example from the very heart of medicine. During brain surgery, the network of connections responsible for higher brain functions that define the patient's identity is monitored and mapped. By tracing these connections, the surgeon can not only remove the disease, such as a glioma, but also preserve the patient's personality without losing the characteristics that are essential to his or her identity as a person. I therefore reveal to the reader my subjective, individual network of connections and

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associations, which is necessarily incomplete, but which attempts to describe a certain whole. It combines the reflections of a music philosopher with the experiences of a pianist and sometimes allows for neuroaesthetic discourse.

The latter most often takes the form of a naturalistic reflection based on evolutionary neuroscience. This approach is a natural consequence of the methodology used by researchers, which is most often associated with the empirical sciences. In this work, however, an attempt is made to explore neuroaesthetics through the lens of a humanist philosopher, with the approach of philosophical insight being closest to phenomenology. The *Chopiniana* and *Sum, ergo cogito* chapters function as a musical frame that brackets the interdisciplinary inquiry, one increasingly shaped by the pervasive presence of the "neuro-" prefix in contemporary humanistic discourse.

The transition from the fleeting vision of a swallow's shadow in Chopin's music, through the life-altering experience of the pandemic, and toward a conceptual sketch of music as a form of sympathy, culminating in a reflection on the lights and shadows of neuroaesthetics, may at first seem disjointed, even impossible to carry out convincingly. And yet, what I attempt here is guided by the idea of a *musical connectome*: a personal network of associations that shapes my current thinking about music, aesthetics, and philosophy.

This process of thought is grounded in two temporal reference points. The first is recent and personal: the COVID-19 pandemic, which transformed human experience across the globe between 2020 and 2022, sharpening our awareness of vulnerability, presence, and perception. The second is disciplinary: the emergence of neuroaesthetics in the early 2000s, particularly through the work of Semir Zeki and collaborators, who aimed to empirically investigate the neural basis of aesthetic experience.

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Although I do not subscribe to cognitive finitism, and as a committed humanist I am more inclined to question the very possibility of epistemic closure, neuroaesthetics and neurobiology have nonetheless encouraged me to explore a path in which reflection on art, and on aesthetic experience more broadly, may be enriched by empirical insight into how things actually work. My fascination with the wealth of information arising from various *neuro*-oriented research projects is accompanied by a distinct sense of humanistic hesitation and cognitive humility. I hope this tension remains perceptible throughout what follows. At the same time, I trust that it will not obscure a deeper hope: that humanistic inquiry might be expanded, not replaced, by dialogue with neuroscience.

My own reflections are situated in this "here and now," in a fragment of lived experience shaped by the roles of musician and listener, and by an intellectual desire to weave together disciplinary perspectives that might help us better understand the human being and their aesthetic sensitivity. The first chapter, centred on the bodily-spiritual entanglement in Chopin's experience as a vulnerable, physiologically grounded artist, offers a glimpse into something that contemporary neuroscience still cannot fully grasp or explain. Yet it exemplifies the kind of entangled experience that interdisciplinary thinking aspires to understand.

This entanglement forms a point of departure for the following four chapters, which approach the relationship between art, neuroscience, and technology from a variety of angles. The next two chapters, grouped under the shared title *Neurofever 1* and *Neurofever 2*, explore the promise and limitations of neuroaesthetics. Rather than revisiting the well-documented origins of this young subdiscipline, I focus on its conceptual tensions and unanswered questions. While neuroaesthetics shares with philosophy and aesthetics the ambition to describe and understand perception, sometimes even phenomenologically, it

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often leans more toward neuroscience than toward the aesthetic traditions it claims to engage. It draws from psychology, biology, and neurology, and gestures toward philosophy, but does not always fulfil the expectations that philosophers bring to it.

The following chapter, *Neurofever 3*, shifts the focus from neuroaesthetics to cerebral plasticity, a concept that has also found resonance in the humanities. Its central figure is philosopher Catherine Malabou, whose work reveals the darker, less optimistic side of plasticity. A medical student might learn about plasticity as a reparative process, a mechanism of healing. Malabou, by contrast, confronts us with its destructive and destabilising potential, raising essential philosophical questions about form, trauma, and change. Finally, the *Transfugium* chapter departs from neurobiology altogether and ventures into a speculative, perhaps futurological, reflection on post-human music. As we enter an era in which machines and algorithms are capable of generating aesthetically complex outputs, the question of artificial intelligence and its role in shaping human experience must be examined seriously. What does it mean when a machine produces music that moves us? What kind of aesthetic subjectivity are we willing to grant to non-human agents?

Together, these four chapters trace an arc: from scientific accounts of the brain and perception, through philosophical reflections on form and transformation, to speculative inquiry into future modes of aesthetic experience.

Rather than clinging too tightly to research findings or refining only what reason can articulate, perhaps we might also allow ourselves, even briefly, the possibility of *being before thinking*. In that suspended moment, prior to language, prior to theory, lies something music seems to intimate: that the fragility of form, the impermanence of meaning, and the vulnerability of perception are not shortcomings of knowledge, but conditions of embodied existence.

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These reflections, however, will return—more fully and from a different angle—in the concluding chapter of this deliberately concise book: *Sum, ergo cogito*.

Re-consiliation

My previous book, *Metaphysical Hearing*, bore traces of an early fascination with the idea of interdisciplinarity. It included references to neurobiology and expressed a certain admiration for the ideal of unified knowledge, inspired by an initial, enthusiastic reading of Edward O. Wilson's *Consilience*. Over time, however, it became increasingly clear that Wilson's proposed model of knowledge unity inevitably privileges the empirical sciences-disciplines that, in his view, ultimately *know how things are.* The humanities, by contrast, do not claim to know; they continue to ask. Some would even argue that the humanities are not sciences at all, but rather exist closer to the arts. In the Polish context, this epistemological asymmetry has been pointedly addressed by literary scholar Michał Paweł Markowski in his book from 2013, *Polityka wrażliwości* [The Politics of Sensibility]. I have since encountered other readings—perhaps more conciliatory in tone—that have significantly shaped my thinking. Among them, Carsten Strathausen's *Bioaesthetics: Making Sense of Life in Science and the Arts* stands out, as does Stephen Jay Gould's *The Hedgehog, the Fox, and the Magister's Pox: Mending the Gap between Science and the Humanities*. It was Gould, in particular, who articulated the fundamental problem posed by Wilson's invitation to the humanities-an invitation that positioned them as junior partners in an unequal interdisciplinary collaboration. And yet, true consilience should not entail a condescending tolerance toward the humanities, but rather a genuine recognition of their distinct identity. This, however, is precisely what Wilson fails to offer the humanities,

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given that he does not even acknowledge the Ionian natural philosophers' fascination with the world of spirits. He reduces them to nothing more than the first materialists. Gould, by contrast, advocates for a restorative parity between disciplines:

> The sciences and humanities, by the basic logics of their disparate enterprises, do different things, each equally essential to *human wholeness. We need this wholeness above all, but cannot achieve the* goal by shearing off the legitimate differences that make our lives so varied, so irreducibly, and so fascinatingly, complex. But if we lose sight of the one overarching goal—the hedgehog's insight—underneath the legitimately different concerns and approaches of these two great ways, then we are truly defeated, and the dogs of war will disembowel our underbellies and win (Gould, 2003, p. 6).

In Gould's rendering, the hedgehog stands for a unified, all-encompassing worldview, methodical, confident, and thoroughly armoured in conceptual coherence. Nothing is hidden, everything fits. It is, one might say, the spirit animal of the empirical sciences. The humanities, by contrast, resemble the fox: agile, eclectic, and perhaps a bit suspicious of grand systems. Where the hedgehog knows one big thing, the fox delights in many small things, none of which pretend to explain the world in full, but each of which adds nuance, friction, and the possibility of dissent. Together, the hedgehog and the fox dramatise not only different intellectual temperaments, but also the persistent gap between scientific certitude and humanistic questioning.

In my account, the roles of the fox and the hedgehog are taken up by the connectome—a vast and dynamic network of neural connections, rendered increasingly visible through the advances of neuroimaging, medicine, and data science. Like the hedgehog, the connectome aspires to coherence: it can be mapped, categorised, subjected to models and metrics. Like

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the fox, however, it eludes final capture. For while we can chart common architectures—default mode networks, cortico-limbic circuits, sensorimotor pathways-what emerges most strikingly from the *Human Connectome Project* is the radical singularity of each brain[1].

No two connectomes are the same. Each one bears the imprint of a life: of genetics, of embodied experience, of contingency and time. Even among identical twins, the neural signature diverges. What we face, then, is a structure that tempts universalisation but ultimately demands particularism—a system whose every instance is an exception.

This paradox makes the connectome a potent metaphor for the challenge of consilience itself. It holds out the promise of integration, but only if integration accommodates difference. It suggests that the humanities and sciences are not divided by a failure to share data, but by the deeper difficulty of reconciling general knowledge with lived, unrepeatable complexity. To map a brain is not yet to understand a person.

Nowhere is this tension—between the universal and the singular, the structured and the spontaneous—more vividly embodied than in music. Engaging the whole brain, music activates both abstract, non-conceptual forms of reasoning and narrative modes of understanding; it moves fluently between mathematical structure and expressive freedom, between

[1] The *Human Connectome Project* (HCP) is a largescale research initiative launched in the United States by the National Institutes of Health in 2009 to map the human brain's macroscale structural and functional connections. It involved multimodal neuroimaging (diffusion MRI, restingstate and taskbased fMRI, MEG/EEG) of over 1,200 healthy young adult participants, together with behavioural and genetic data, in order to reveal how brain wiring relates to cognition, behaviour, and variation across individuals and lifespan stages Its data serve as a foundational resource in connectomics and can be accessed via the project's official site: www.humanconnectome.org.

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scientific discovery and the irreducible creativity of individual invention.

For now, it suffices to say that music, like the connectome itself, resists simple categorisation. It speaks in many registers at once, making it an ideal medium through which to explore the epistemic complexity, aesthetic richness, and ethical stakes of the questions that follow.

*

The shape of this book is indebted to those who have influenced my thinking about music, aesthetics, and neurobiology. I would like to express special thanks to the book's reviewer, Professor Katarzyna Popowa-Zydroń, who, as the long-standing chair of the jury of the International Chopin Piano Competition, embodies both the qualities of an artist and those of a deeply reflective humanist, traits clearly reflected in her pedagogical achievements. She understands the uniqueness and individuality of each young pianist she works with.

I am also grateful to Professor Marcin Krawczyk, a philosopher and aesthetician, for his valuable methodological insight into my work. The first readers of the manuscript were my English-speaking friends: the musician Bruce Ramell and the philosopher Dr. Iwona Szydłowska, who supported me throughout the creative process.

And finally, the metaphor of the connectome would likely never have become the binding thread of this work were it not for Piotr Zieliński, my husband, a neurosurgeon, whose fascination with the brain and unwavering dedication to its study continue to inspire me.

CHAPTER I

The swallow arrived: Chopiniana

> *When the plague began—I went to a place in the country where I could write for a year and see nobody. I had the artists who are always in my head for company, so I was never for a moment lonely. On starting to write about them I came to realize that what we had in common was the experience of producing late work. It was a curious fact that, while time lasted, there was time enough for everything* (Neve, 2023, p. 7).

Immediately after the pandemic, Christopher Neve published *Immortal Thoughts*, a meditation on painting marked by the stigma of illness, old age, and the destruction inherent in dying. Writing in isolation, in the shadow of the plague, he reflected on artworks and their creators, on the aesthetic and existential dimensions of painting, and on the transformed experience of time that art reveals and teaches us to inhabit. The reader not only thinks in images alongside the author, but at times also experiences the silence of paintings, for erudition is not the sole aim here. More important is the shared experience of the inversion of life's ordinary flow, brought about by the pandemic. I open this chapter with a memory of a book on painting, even as I move toward music and the experience it brings.

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Note that the temporality of painting differs significantly from the processual nature of music experienced through performance. In a museum, the contemplation of painting is facilitated by its isolation from the banality of the world. Apart from the rare occasions when the co-presence of other viewers is conducive to aesthetic perception, solitude is beneficial in experiencing an image. When the world came to a standstill in 2020, Neve chose pandemic solitude as a particular context for contemplating art. In parallel, he wrote of nature finding its lost wildness thanks to the pandemic and of deserted cities with their monuments taking a break from the crowds:

> In Venice the canals reverted to Canaletto blue because there were no boats to churn up their sediment. Because there was no longer any space in which to bury the dead in New York, trenches were dug in public parks for use as temporary mass graves. All galleries and museums were closed, and thieves broke in to help themselves. A great Titian exhibition, set up in London at the National Gallery, hung unvisited. Rough sleepers died in the streets. Zoos were deserted, the animals set free or abandoned to die after using the last of their feed (…). The cuckoo arrived, and then the swallows. Ceanothus opened. Bluebells, periwinkles, anemones. A sadder and a lovelier spring (Neve, 2023, p. 9).

During this *sadder and lovelier spring*, the virtuoso musicians discovered the existential side of loneliness without an audience. Locked within four walls, they experienced their musical discoveries or even metaphysical revelations that could probably rival Neve's experience and the solitude of his paintings. They may also have heard the first signs of a sadder than usual spring. Maybe they heard the first swallows, somewhere in between exercised, repetitive passages. Tired of exercising, maybe they found pleasure in contemplating paintings and noticed their immanent silence. Or maybe they preferred the

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silence of reading books to music. In each of these activities something may happen that stops us in our tracks: "The shadow of a swallow luring us like an eruption of light in the dark of the universe" (Przybylski, 2011, p. 23).

Young pianists preparing for the XVIIIth International Chopin Competition in Warsaw learned that the preliminaries, scheduled for April 2020, would not take place. Intense preparations were transformed by virtual lessons, concerts and masterclasses which, in the case of music, created even greater, also technical, inconveniences than those commonly experienced by students and pupils during forced isolation. Biology or mathematics are learnt online somewhat differently than piano virtuosity. Ironically, public concerts are the only chance to get used to the crowd, to tame one's unpredictable stage fright. The pandemic took that chance away from the musicians. In exchange, it gave them alienation.

Christopher Neve writes about stopping time, slowing down, which allowed him to savour art and solitude. The pandemic for musicians may have been spare time, and that's probably how some critics and jurors saw it—as "a year more" to practice. A gift.

However, in many ways it was a lost year.

Hence the idea to treat the Chopin Competition as a symbolic end to the lockdown or like its aesthetic climax. The audience members sit in the concert hall wearing masks which may have absorbed more than one tear of aesthetic emotion. Looking like a theatre prop—this time on the audience and jury side—they created a metaphor for distance. Only the faces of the pianists performing on stage were naked.

To what extent has all this changed the aesthetic experience itself, not only of the audience, but also of the young virtuosos themselves? To what extent have the various prohibitions and injunctions, though sometimes absurd, turned participation in the competition into an even more mobilising struggle for everything, for *to be or not to be* on the competition stage?

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The matter concerns not only the competition, stage fright and rivalry. It is also about the music being performed, the expressive potential encoded in it, which gives the virtuoso a sense of connection with the composer. Perhaps in the pandemic isolation, the young musician sought this bond and wordless, intersubjective understanding with the composer even more intensely than in ordinary, safe times.

The questions can be multiplied.

To what extent has the reality of the pandemic whetted the participants' appetite for life, to what extent has it strengthened their awareness of its fragility? And to what extent has it reinforced in them the fears, paranoias, eccentricities, limitations they hide deeply from the public?

As in Neve's book the painting, so in my case the music is a mirror of these experiences.

The sympathetic nerve

I am not moving into the realm of indisputable facts here, but non-obvious states of affairs that nevertheless shed light on the Chopin figure. We have become accustomed to stating that Chopin's music tells us the most about him. Nonetheless, as listeners we should rather say that his performers tell us most about him. A performer of Chopin's music *reads him* from the score. To paraphrase Ryszard Przybylski, the composer metamorphosed himself into musical structure, he embedded *his why in his how* to write music (Przybylski, 2011, p. 10).

Chopin, marked by suffering from an incurable respiratory disease, becomes an even more interesting flesh-and-blood character because of his pain, but also—his weaknesses and eccentricities.

I do not conceal my sympathy for the reflection that James Q. Davies spins on this subject in his magnificent book *Roman-*

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tic Anatomies of Performance. Following the material trail of the *Etude in F major, Op. 25* and by analysing the arrangement of the hands and fingers on the keyboard, James Davies showed how the anatomy of Chopin's hand and the bodily fragility of the composer leave a mark not only in the score, but also in the performer's experience. The topography of the keyboard delineated by Chopin's hands, may turn, in the case of a conscious and sensitive performer, into recreating something movingly corporeal, reaching out to the composer's experience itself.

Hence my hypothesis. The loneliness to which the pandemic condemned pianists in 2020 was conducive to following in the footsteps of Chopin's bodily and spiritual insecurities—not least those associated with lung disease[1].

Particularly moving in this context is the chapter *Reflexing on Reflex. A Touching New Face about Chopin* from Davies' book—with the wonderful ambiguity of the word *touching* already revealed in the title itself. In this story, the pianist's hand, the worries and limitations that the virtuoso associates with the touch of the keyboard are combined with the hypersensitivity of his autonomic nervous system.

The artist thus appears as a fragile being who communicates with the world through sound. The latter depends on his touch. The pianist is a touch, he turns into a touch. However, his touch is sometimes unsure, trembling, as it reveals the condition of the person's viscera, bowels, nerves.

If we were to understand the entanglement of stage fright in a phenomenological sense, we would need to gain insight into this mode of existence: what it is like *to be touch* or, what is

[1] A more in-depth inquiry would be needed in this area-perhaps by seeking out a pianist who has experienced the anxiety of severe respiratory failure, in order to better understand what it means to read a composer's embodied experience from a musical score. During the Covid-19 pandemic, finding such a person—even a very young one—would not have been difficult.

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also riveting, what it is like *to be breath*. *To be or not to be a pianist* is thus entangled in a vicious cycle of reflexes, impulses and reactions. Not all of them are harmonious, smooth, soothing. They are sometimes uneven, chaotic, jittery.

Let's start with the fact that Davies' chapter has, besides Chopin, another protagonist. This is the composer's friend from his high school days, the musically talented young doctor, Jan Matuszyński. Although an excellent player of the transverse flute, in keeping with family tradition he studied medicine, obtaining his doctorate in Tübingen (1834). Soon afterwards, he went to Paris, where he lived with Chopin, to the satisfaction of Fryderyk's parents. He sought to treat Chopin. In 1837, Matuszyński obtained his second doctorate at the Paris École de Médecine.

The dissertation focused on the influence of the autonomic system on sensory functioning. Matuszyński introduced into the argument the figure of a pianist, whose body plays itself and reliably remembers whole stretches of musical text. In the text of the dissertation, there is a fascination with somatic intelligence, sensing and feeling. The author quoted, among others, the French neuroanatomist François Magedie, who was the first to describe the pathomechanism of the vomiting reflex. The other important figure for the researcher was the father of modern histology and pathology, Xavier Bichat, who died of tuberculosis at the age of 30. Matuszyński's dissertation is certainly a curiosity in the field of the history of medicine, especially as in the course of the argument there appears, implicitly, a reference to Fryderyk Chopin himself:

> The organ of the ear sometimes provokes very bizzare sympathetic movements, which, in all probability, have their source in the ganglionic system. (…) I know a distinguised pianist, of tremendously nervous temperament; he often has troble urinating and is often subject to all possible trouble without being at liberty to satisfy his needs; yet

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> whistling or a few chords on the piano frees this obstruction in an instant. The intimate connection existing between the human ear and the abdominal viscera bt the sympathetic nerves permits these organs to have a significant influence upon the organ of hearing (Matuszyński, 1837, p. 32, as cited in Davies, 2014, p. 41).

James Q. Davies shows more than an interesting exploration of young doctor's medical fascination with Chopin's fragile essence. After all, Matuszyński noted and described the mysterious flow of suffering between the ear and viscera, as if it were an internal way for the organs of the human body to communicate. This relationship between a sound-sensitive ear, a precise fine touch and abdominal perturbations is strangely symmetrical, reciprocal.

That's why it's hard not to think of the modern performer following the record of this suffering in the score and the touch of the keyboard, where the virtuoso meets the lost and found spiritual-bodily harmony of the composer. Why, after all, the autonomic nervous system, responsible for the emotional well-being of the stressed artist on stage, has been called the *sympathetic* and *parasympathetic*? Doesn't the etymology of the word *sympathy* somewhat impose on us here a connection to *empathy*?

Perhaps we would have learned many more of the young doctor's insightful hypotheses, had it not been for the fact that he preceded the composer by dying of tuberculosis in 1842, in George Sand's apartment, Pigalle Square. Matuszyński's remarks, however, allowed Davies to see a particular trait of suffering in the *Etude in F major, Op. 25*, in which Chopin quite deliberately avoids the fourth finger. On various occasions Chopin recalled its dependence on the third finger, which is easily noticed whenever one tries to straighten the fourth with the third finger bent. Pianists struggle with these limitations in various ways and even avoid using the fourth finger. And

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that's what Chopin did in this *etude*, where neither the left hand nor the right hand uses it.

However, one can draw a different conclusion from this lesson.

Maybe in this *étude* Chopin is not celebrating the fourth finger's absence. Rather, he is exploring the tactile possibilities of all the other fingers. Each of them, as he used to claim, has its own personality. They just need to be brought to a state where they play on their own, autonomically, as if without the participation of pianists's mind, so often overshadowed by trepidation or too tense attention.

It is well known that too focused attention can interfere with the successful performance of a technically difficult piece. Trusting the automatic movements developed during hours of practice allows the body to play even when the mind is in chaos. It would be necessary to explore this peculiar phenomenology of inverted attention from a philosophical perspective, not just a medical or psychological one. The body and mind caught in the web of stage fright cannot always be overcome in a way that is clear to the audience. Sometimes the audience would not even suspect that the gesture, planned down to the last detail, acts independently of the performer's thoughts.

Hence the well-known statements by virtuosos, confessing: *my body played itself, although my head was entirely somewhere else*. Such things are only possible thanks to the autonomism that a pianist acquires through hours of practice.

Could it be that this autonomy of manual actions is, at times, necessary on stage to survive?

Undoubtedly, there are also opinions among pianists that scenic peace of mind is gained indirectly through bodily, safe and secure support at the keyboard, the tranquility that comes from noticing one's own breathing, and even the soothing sound of the instrument.

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When the opposite happens, however, shaky hands on the keyboard or feet on the pedal only exacerbate internal jitters that can lead to stage disaster.

Does the knowledge of Chopin's anxieties, provided to the modern virtuoso by Davies, help to tame stage fright?

Here, the motive of empathy and sympathy recurs. And it is forming, perhaps, some kind of community of feeling between the composer and his performers today. "This music," Davies observes:

> (…) was originally played in relation to a richly vitalist experience of body. Its refinement can be read as a measure of the extent to which matters of intense susceptibility and refined deportment coming under pressure in Chopin and Matuszyński's milieu (Davies, 2014, p. 64).

Rather than accuse the author of pathologising Chopin, we should engage in readings of the composer's intentions—however unfashionable this may sound against the background of the 20th-century trends that dominated the humanities. For in the case of musical performance, I think it is difficult to cultivate the intentional fallacy, which the New Criticism of Beardsley and Wimsatt applied to literary criticism. It seems that the agency of the virtuoso also lies in finding a commonality of experience with the composer, whose work may carry the essential features of a person's struggle with body and mind.

Again, according to Davies:

> Balance and pain (though perhaps not illness) are still properly at the core of Chopin's reception and his world, I think. But I wonder whether all the talk of breathless metaphysics has obscured something palpable in the pianist-composer's score: there is a material effect, something needlingly physical about them, perhaps related to the cool low-level pain that practice and performance bring. It is a music, finally, that we may find argues insistently for

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> our own fragility, for our own materiality, and for our beholdenness to the automatic life of our bodies (Davies, 2014, p. 65).

Davies' insightfully evoked and based on Matuszyński's work, connection between ear-fingers and viscera demands the citation of yet another anecdote, this time from Chopin's childhood. We find it, together with a peculiar commentary, in Alfred Cortot's book *Aspects de Chopin*:

> From the cradle on he burst into sobs whenever his mother endeavoured to sing him to sleep by humming one of the Mazovian songs, whose haunting melancholy was later to pervade the melodic substance of all his work. It was the same when his father attempted to recapture the country songs, which he remembered from his childhood days in far-off Lorraine, on the flute. Legend has it that Chopin gave way to uncontrollable childish rage and deliberately broke the fragile instrument, which had unwisely been given him to play with. It took a little while for his parents to realise that far from being a sign of utter distaste, his abnormal reactions were in fact determined by a sense of hearing so acute that he was moved to tears where less receptive children would probably have been content to drift into sleep (Cortot, 2013, p. 123).

It seems that a legend has taken shape upon foundations that may well be false, foundations which, in the light of current medical understanding, suggest not so much Chopin's extraordinary musical sensitivity as a possible place on the autistic spectrum. And while I do not wish to ascribe to Chopin any condition on the autistic spectrum, neither can I embrace the rapturous conclusions that so enraptured Cortot, conclusions shaped more by romantic projection than by sober reflection.

The question arises as to how far the anecdotes and sources (both in the case of Matuszyński's doctorate and the evidence

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of physical and spiritual uncertainties exposed by Cortot in the composer's biography) are connected with the musical evidence of the score, in which Chopin's body is musically written.

However, Julian Johnson in his book *After Debussy. Music, Language, and the Margins of Philosophy* inquires:

> How we can think this musical body critically, without falling back into a new fetishism of the *body—that is to say, without collapsing the idea of the body into something ahistorical,* immediate, essentialized, and inherently fixed? On the one hand, the pendulum swing of the humanities back toward the body is long overdue in musicology. But pendulums pulled too far in one direction tend to lurch back to an extreme in the other. The shift from music to sound studies, from scores to recorded sound, and the wider shift from the composer to the performer, for all their new insights, risk neutralizing the extent to which music's relation to the body is self-reflexive, critical, and historical (Johnson, 2020, p. 205).

I would not worry about the modern pianist's inability to read the corporeal text of a score, or, to quote Johnson again: "to distinguish between the structures of musical grammar and the libidinal energy that shapes and fills them" (Johnson, 2020, p. 205).

A virtuoso reading the score has no such worries because structure and its inner logic as well as expressive energy are one for him. Let us not forget that she or he is the first recipient of the work and it is he who gives it his understanding and brings its meanings to life. The understatements in this matter could be compared to Ingarden's "undefined places", the filling of which are decided by the interpreter's activity[2]. They need an instrument to become flesh. Sonic imagination

[2] *Ingarden* defines a work of art as a multistrata and schematic creation. The *undefined places* occurring in it determine the range of activity of the perceiver.

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of the virtuoso is not enough here, although it is necessary. After all, Johnson himself writes poignantly about the fact that Merlau-Ponty's idea of *embodied knowledge* finds an apt metaphor in the *mutually-constitutive* relationship between the body of the musician and that of the musical instrument. The *chiastic model* is maybe not popular when thinking of Chopin's music, however, it is not hard to demonstrate Chopin's digital and corporeal logic in a similar vein to how Johnson does this with Debussy (Johnson, 2020, p. 208).

With this in mind, we can better understand the seriousness of the inner, mental mobilisation of young performers during the Chopin Competition. It requires not only the excellent physical and mental condition of the musicians, but also the creation of a special personal bond between the performers and the composer. Musicology can help them to discover the *chiastic model*, but only indirectly—as a source of inspiration for their own dialogue with the thoughts of the composer and libidinal energy that fills them.

And now comes the moment to formulate a thesis that resonates with the personal experience of both performers and listeners. The music that is closest to us, *feels with us*. It sympathises that we are sometimes more certain of this, and in a more immediate way, than when we await understanding from a friend, which may come only after considerable verbal negotiation and effort. Music requires no argument. Music is sympathetic.

What a martyrdom

It should be noted that composers' letters can be a source of knowledge about the tension between thought and bodily energy—although some treat them as an ornament, an addition, a parergon, compared to the actual musical creation, the ergon.

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In the case of Chopin, the opening remark of Ryszard Przybylski's book *A Swallow's Shadow. An essay on Chopin's thoughts* is significant, if not conclusive.

In Chopin's case, letters can be a source parallel to the music:

> Apart from the few instances when he was handed some official form to complete or when he jotted something town in his album or sketched the preface for a piano-playing school, Chopin used a pen to write music or letters (Przybylski, 2011, p. 267).

Of course, his letters are often about something trivial, superficial, everyday—like the hum of life in the background. But if a performer studying these letters takes just one sentence to heart, it can change his whole way of thinking about Chopin.

Suppose it was a sentence addressed to a friend, Julian Fontana: "Let's hide ourselves away till after death."

This thought triggers a series of questions, posed primarily in the context of works written in parallel to it. It is not important now why Chopin wrote it in the plural ("we"), why at that particular time. What is more important for Przybylski is how perfectly this sentence sounds in Polish—as if written by a poet or philosopher.

This discovery means that the composer was able to write—and therefore express himself perhaps even as accurately in words as in musical sounds. Such a writer—as Przybylski shows us in the person of Chopin—creates a bond with the reader. And the reader—presumably a pianist—looks for reasons to empathise with the need to *hide away till after death*.

It reminds me of a thread that emerged in the critical debate during the Chopin Competition in October 2021, with John Allison stating:

> Suffering and artistic productivity are often perceived as going together. Indeed, for an example of them coming together to produce

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> the greatest artistic achievement, one need look no further than the case of Chopin himself. Over the past 18 months we had a taste of the fear that held sway in the 19th century: death from a respiratory disease, such as the tuberculosis that killed Chopin. It was through the suffering of artists such as Chopin that tuberculosis became a well-established metaphor for creativity (Allison & Chęćka, 2021).

It was me who provoked this statement. Since the preliminaries of the 18th Frederic Chopin International Piano Competition, I have been pondering the possible connection between the unusually high level of performance of most participants and the presence of a pandemic. Let's perhaps return for a moment to the implicit link between Chopin's music, the pandemic loneliness of the contestants and the contest itself as a metaphor for the Greek agon.

On this occasion questions arise about the peculiar features of Chopin's music and its openness to new interpretations in creative practice: "What is fascinating in Chopin," John Rink observes:

> (…) is the boundless subtlety and at the same time the openness of his expression, which no doubt results from the discretion with which he revealed his emotions. That expression does not impose itself partly because the scherzos, ballades, Polonaise-Fantasy and so forth are not programmatic works; they don't have a 'story'. We can hear Polish idioms in them and infer narratives from them, but nothing directly imposes such ideas on us. The studied neutrality of Chopin's music frees one's imagination and enables the performer to gain and practise freedom (Chęćka, 2021, p. 167).

Therefore, we can treat the competition not only as a contemporary version of the Greek *agon*, but also as a distinctively *spiritual exercise* that forces pianists to exceed not only their physical and biological limitations, but also psychological ones – as part of experiencing freedom. I would be inclined to

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classify *openness* as an artistic value which allows both performers and the public to practice freedom and experience a wider horizon of existence. Nevertheless, the question of the bond, the closeness between the sender and receiver of an artistic message, recurs here. In essence, this is a question about the clarity and legibility of the artist's intentions. Or even more strongly: a question about the experience of someone's *real presence* in the work and in its performance.

Note that in *real presence* we do not always have the chance to retouch a mistake or expose a stylised, artistic ego. Therefore, the real presence at a normal concert can be more human, less perfect, while at a competition it must show the peak of form and the best version of the self.

The awareness that the only thing that matters is *the here and now*, that nothing can be undone or improved upon, can be mobilising or paralysing.

Although Chopin did not experience direct competition, he had to emerge against the pianistic rivalry of his era. Regardless of the era, this involves, on the one hand, a fear of how one will present oneself in the context of competition and, on the other, a completely objective terror associated with an existentially unique event—a stage performance.

What constitutes *the inevitable* here is the trembling of the hands or even the foot on the pedal, the accelerated heartbeat, the sweating, the racing of thoughts, the fear of memory slippage. Just before going on stage, everything seems absurd. *Even* a keyboard composed of white and black keys seems to be absurd. When the state of panic is growing, our potential musician predicts a catastrophe and knows no escape from the inevitable. "You can't believe," Chopin writes to his friend, Tytus Wojciechowski, "what a martyrdom it is for me during the three days before I play in public" (Cortot, 2013).

Typically, the *cliché* figure of the pianistic genius means that we don't think of Chopin's stage fright as something to

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fraternise with today's young pianists. Chopin struggled with a fear of anxiety—which is quite common for musicians. Such an absurd panic attack spares virtually no one.

I'm afraid of being afraid. I'm afraid of not mastering that fear. And yet, at this level, the young musician makes several decisions: *I won't perform, I'll give up, I'll withdraw from the competition, I will pretend to be sick or perhaps, I'll seek support from pharmaceuticals that will allow me to calm my racing thoughts and trembling hands*.

This is a contentious issue, with parallels being drawn between athletes and musicians. However, the topic of doping among professional musicians competing in major music competitions is not openly discussed, as if the musician's body was too spiritual to allow the thought of it being enhanced by chemical substances. Note that these questions fall within the scope of Jan Matuszyński's research; the young doctor must also have been interested in pharmacology, albeit in his time with different means at his disposal. Today, we do not openly discuss whether pharmacological agents can actually improve a virtuoso's real presence. However, in theory, it is also conceivable that someone's stage presence could be influenced by neuromodulation, which is a field that is still quite new. When it comes to improving the virtuoso's condition, relaxation and meditation techniques are favoured. The mind and spirit must once again tame the restless body[3].

Speculating on the future, let us venture to say that neuromodulation with pharmacological agents would be the next step

[3] Studies have examined the use of beta-blockers among musicians to manage performance anxiety (see *The Use and Abuse of Beta-Blockers in the Performing Arts*, ERIC, 2015), as well as the off-label use of stimulants such as modafinil to enhance concentration (e.g., Müller *et al.*, *Modafinil Improves Attentional Performance*, *Neuropsychopharmacology*, 2013). Though the discussion remains limited in scope, it raises important ethical and practical questions that arguably deserve broader attention in the context of music performance.

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on the way to a new vision of a musician, where all weaknesses of the psyche and body can be replaced by the reliability and effectiveness of an improved *homoaesthetic mind*—reliable and able to perfectly control its stage fright.

But let's get back to the here and now. Paradoxically, it is the music itself that is the drug and the doping in the figurative sense. We therefore exclude the idea that a musician could resort to the aid of pharmacology or any artificial neuroenhancement.

A virtuoso, as the etymology of the word itself indicates, is a virtuous person and, to some extent, one who is untainted by human weakness. As a super-human, a virtuoso should master not only the weakness of his or her own body, but also, control the mind. Consequently, a musician must capture not only his or her own thoughts, disturbed by stage fright, but captivate the thoughts of the entire audience. After all, it is the musician's job to make the audience forget the outside world. They are loved for this very miracle of transformation.

The *virtue of a virtuoso* would therefore be the ability to master all these unspoken relationships between the ear, the mind and the fingers, which are also mysteriously linked by the sympathetic nerve.

La fraternité sans égalité

Let's hide ourselves away till after death.

Perhaps these words should be used to test true devotion to Chopin's music? Perhaps those who truly understand Chopin should be able to see themselves in music, as in a mirror, and survive without much shame?

No one else but a French pianist, Alfred Cortot dedicates a book *Aspects de Chopin* to his favourite composer. Alfred was no angel, although he performed angelic music not always in an angelic way.

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The bad choices he made as a collaborator with the Vichy government and as a favourite artist of the Nazis hung over him like dark clouds for the rest of his days. They could be compared to the wrong notes played by him at almost every concert.

Coincidentally, Cortot's performances, like his recordings, were not flawless.

His biographer and friend Bernard Gavoty has reported that, despite being accused of collaborating, Cortot was editing a book on Chopin at the time of his arrest. Perhaps writing was an escape from remorse.

Let's focus on this detail. Cortot seeks oblivion in Chopin's biography. Presumably, he escapes into Chopin's life through superficial remarks about letters that reveal the composer's everyday life. He writes a book to avoid thinking about his own hell. He focuses on insignificant things, making Chopin an overly concerned person about his own image in the social mirror.

Cortot thus savours the petty-bourgeois question of *what people will say*—as if it were Chopin's primary concern. Perhaps a strong thesis could be formulated and this thread seen as a veil hiding Cortot's real concern: *What will people say about me*? *How will they judge me now, and what will history do with me? Will I be able to save myself after death?*

"To the end of his days, he was to be obsessed with anxiety about *what they would say in Warsaw*" (Cortot, 2013, p. 73), Cortot reported and wondered whether it would be possible *to hide in Chopin*, in his music, in order to survive *in him*—as a musician and as his biographer.

Nevertheless, this is not the end of the story. Cortot quite rightly points out that Chopin's anxieties had social consequences:

> This childish dread often led him to make sudden changes in his plans and social life, which would be difficult to understand if no allowance

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> were made for this strange fixation. In part, also, it explains the reluctance he felt in dedicating himself to a career demanding complete subservience—a career which had already become a martyrdom to him. It is hard to say whether he appeared at these concerts to enhance his reputation as a composer or as a performer (Cortot, 2013).

If it occurred to us that Cortot's research concealed his own dilemmas, we might ask whether he himself, returning to the stage after the Second World War, was not fighting more for his reputation as a human being than as a pianist. Alfred weaves charming childhood images into his own biography, filtered through the experiences of a mature concert life. He even idealises his first failures, such as not being accepted at the conservatory. Sadly, it is hard to avoid the impression that he is fraternising with the young Fryderyk, who was more interested in a beautiful, embroidered collar than a successful performance. We can sense the illusory fraternity with Chopin, with whom Cortot could not compete either musically or—if I may say so—morally. Unlike the mature Cortot, Chopin did not have to fear being booed and thrown off the stage, as happened during Alfred's famous return to concert life after the war. Cortot did not feel the need to withdraw. On the contrary, he was banned from performing—as a form of punishment (Gavoty, 1995, pp. 201–202).

We should add that unlike today's participants of the Chopin Competitions, young Fryderyk did not have to fear being ridiculed on internet forums. And yet, sometimes he preferred to withdraw from a performance—just like them, contemporary pianists—as not to risk losing his previously established, artistically secure position. "It would be a mistake to spoil what I have been able to achieve in Vienna," he explained, justifying the cancellation of further concerts. And at the same time, he cherished in his mind the success he had already won: "I have had a triumph with the connoisseur as well as with the

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music-lover, and the press will have something to talk about" (Cortot, 2013, p. 73).

In Cortot's light narration, this superficial concern returns, as if he took pleasure in cherishing Chopin's fears in his memory.

Unlike the author of *A Swallow's Shadow*, who was not a pianist but could miraculously read music between the lines, Cortot is extremely literal when writing about Chopin and interpreting his letters: as if unaware that words can also be a veil.

And then, unexpectedly, "his Chopin" becomes a companion of repentance, a steppingstone from the real sins, which are uncomfortable for the culprit and do not fit the image of his beautiful, artistic soul of Apollo.

Remember, that Cortot was going through his own *personal plague* and found solace in what Chopin wrote and thought. The book *Aspects de Chopin* is a reliable study of testimonies about the composer, an analysis of portraits and the shape of his hands. The chapter about what Chopin owes to France sounds a bit nationalistic and this uneasiness is not alleviated by the consideration of what France owes to Chopin.

However, it does not reveal the soul of the writer in any way.

We do not know who the author of the book about Chopin is.

If, then, we are to treat Chopin's words about withdrawing after death as a kind of message, one that Cortot read and understood, then we must concede that he interpreted them literally, even selfishly, concealing his true inner struggle beneath the guise of an artist disengaged from the affairs of the external world. There echoes here a false, pretentious hope for a brotherhood of souls, one so affected that even Chopin himself appears tainted by it.

It is difficult for biographers to write 'non-fictionally' about guilt buried deep within the soul, about hidden pangs of conscience, especially when such guilt remains unconscious to the one who bears it. And yet, in the context of a question concerning the moral dimension of Apollonian, ideologically

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and politically unentangled instrumental music, this issue becomes increasingly troubling. Especially in times of war, which still rages on; especially in the aftermath of a pandemic that has made us all aware of new and long-concealed fears.

Fears entangled in history, rooted in wrong choices, made with varying degrees of awareness and guilt, whose consequences burden the innocent, return. As an active restorer of musical life in France and a member of the Vichy government, Cortot seemed oblivious to the war. He was so wholly absorbed in beauty, that he appeared incapable of sensing the cruelty and degradation around him.

As though beauty, by its very nature, were bound to exclude evil.

One of the most radical accusations against Cortot was published by Benjamin d'Ivry:

> I remember a chilling dinner that I attended in the early 1990s at the apartment of Cortot's son, the artist Jean Cortot, on the rue du Bac, decorated by museum-quality oil portraits of and framed manuscripts by composers such as Schumann and Schubert. One had to wonder if any of these works had been confiscated from homes of French Jewish deportees and presented by Nazi officials to Cortot, their favorite pianist (…). Cortot was the first French musician to travel to the Reich after his country's defeat, and in 1942 published a text attacking the libretto of Claude Debussy's unfinished 19th century opera "Rodrigue et Chimène," possibly because it was written by a French Jewish poet, Catulle Mendès, as Anselmini underlines: "It should be observed that [Cortot] proclaimed that the writing of a Jewish author was incompatible with the genius" of Debussy. Published information continues to increase about Cortot's personal iniquity to Jewish colleagues, the mercilessness with which he dismissed even longtime colleagues such as Lazare Lévy (Rosenfeld, 2024, January 23).

This begs the question of who Cortot will go down in history as. Should he be seen as Apollo tormenting Marsyas, if in the

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figure of the latter we recognise all the pianist's Jewish friends, to whose fate he remained indifferent? To what extent does Cortot tell us something about himself in his musical interpretations, to which we still have access thanks to the recordings? Did Cortot survive in them by hiding after his death in music, without the mask of words? Or did he rather survive thanks to the entirety of his own legend, in which the teacher and civil servant dominates the musician?

To take this a step further toward universal issues, one could ask what the fate of the participants in the Chopin Competition would be. Who could they have been, if the Great Competition had been consistently compared to the Greek Agon? In most cases, their moral choices remain unknown and there is no need to discuss them. Sometimes, however, life demands that the face be shown without the mask of musical autonomy. Sometimes life reveals who Apollo really is—which worries thinkers like George Steiner in his famous lecture on music and myth, where he asked *why the music did not say no* when it was performed in the vicinity of concentration camps (Nexus Institute, 2010, June 11).

We can try to see Cortot with notes for a book on Chopin as a penitent trying to silence the past. He did not want to write about it, so we will never know his truth.

To wait in silence

Immediately after the pandemic, Christopher Neve published *Immortal Thoughts*, a meditation on dying. By writing a book in isolation, hid from the world, he gave a voice to painting and disappeared as a subject that could overshadow the works. He observed the world around him, the lushness of nature, and was an honest chronicler of the pandemic as portrayed by the media.

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Alfred Cortot wrote a book about Chopin while in isolation, under arrest, awaiting interrogation on charges of collaboration with the Nazis. He used *Aspects de Chopin* to hide and wait for the world, frozen in time during the Second World War, to start moving again.

Sometimes all that remains is to wait in silence, until the music (or painting) reveals its truth—and, at the same time, helps us understand our own truth. This communion of experience endures, resonating faithfully through different moments in history. It connects innocent listeners, innocent observers, with those who have something to hide.

The participants of the Chopin Competition poured their own understanding of Chopin's music into the pandemic silence. In a sense, this state of external threat made artists and critics aware that they were not alone, that art carried with it a sense of sympathy. The compassion of music embraces all that has already been, though it may also serve as a warning against what is inevitable.

We will never know whether, deep down, Cortot truly experienced sympathy in music. At the very least, his book on Chopin does not provide an answer. What it does offer is an expanded space of uncertainty; it offers no easy consolation. Perhaps because, although music is sympathetic, it does not promise deliverance from despair.

What remains

Who takes seriously such fleeting and uncertain traces as the shadow of a swallow?

Might this shadow be as elusive as the idea that purely instrumental music could have ethical impact, an impact that, after all, cannot be proved, neither speculatively nor empirically? Or, to frame it more broadly: is this ethical impact perhaps

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a kind of consolation that art, not only music, can offer? What I mean here is the essence of what is ethical, in the sense of that which brings goodness, solace, understanding, and forgiveness.

Alfred Cortot, in turning to Chopin, may not have aimed to understand him so much as to hide within him. And yet Chopin's music, despite being wordless, does not easily allow for such retreat. In light of analyses by James Q. Davies, John Rink, and the overlooked research by Jan Matuszyński, one might propose the hypothesis that Chopin's music, by virtue of its openness, allows the modern performer and listener to locate themselves within it, to discover a space of shared sensibility. The performer, following the score, deciphers not only musical structure but also an encoded tension: between touch and sound, between breathing and stage fright, between automatism, control and intention.

Hence the question arises: might it be that what matters more than hiding in music is *revealing oneself* through it?

And in that act of revelation, at once demanding and, at times, disquieting, there may reside its deepest ethical force. Yet such force is exceedingly difficult to discern.

It is a rare gift to encounter someone capable of perceiving the shadow of a swallow and imbuing it with the kind of meaning evoked in Przybylski's reflection: a sudden flare of hope, or even of euphoria.

All we truly have is the shadow of a swallow.

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NEUROFEVER

The scientific study of aesthetics traces back to 1876, with Gustav Fechner's Vorschule der Ästhetik (Preliminaries to Aesthetics). Trained in medicine and physics, and a pioneer of experimental psychology, Fechner proposed the radical idea that aesthetics could be studied "from below." He meant that it could be an experimental science, which contrasted with the approach "from above"—arguments derived from first principles (…).

Neuroaesthetics is the realization of Fechner's vision that one could study aesthetics empirically and link the brain to behavior. A subdiscipline of cognitive neuroscience, neuroaesthetics is concerned with the neural basis of aesthetic experiences. We regard aesthetics broadly to encompass interactions with entities or events that evoke intense feelings and emotions, typically linked to pleasure, including but not limited to engagement with art.

Brain, Beauty, & Art: Essays Bringing Neuroaesthetics into Focus
Anjan Chatterjee, Eileen R. Cardillo, Oxford 2022

There still exists a major epistemological gap between the upper and the lower organizational level of the brain. We know frighteningly little about what happens at the mid-level—the level that comprises smaller and larger networks of neurons—that forms the basis of those processes taking place at the highest level. Likewise, we can only guess about which codes are used by individual neurons to communicate (they probably use several such codes simultaneously). It is completely unknown what happens when several million or even billions of neurons "talk" to one another. The rules according to which the brain works; how it succeeds to

represent the world such that immediate perceptions and earlier experience melt together; how the inner processes are configured as "its" dealings and how it plans future actions—none of this we have even begun to understand. Even worse, it is not clear how we could possibly research any of this using today's means and equipment. In this regard, we are, so to speak, still at the level of hunters and gatherers.

The description of activation centers via PET or fMRI and the correlation of these areas with particular functions or activities does not help much. The fact that all of this takes place at a particular spot in the brain does not constitute a real explanation of these phenomena. For these methods say nothing about "how" all this works. They only measure very indirectly a slightly higher use of energy at a certain spot within a heap of hundreds of thousands of neurons. This is the same as if one were to try to understand the functioning of a computer by measuring its energy use while it performs various tasks.

A manifesto from 2006 co-written by eleven leading neuroscientists (Das Manifest, n.d.).

The question that inevitably poses itself is thus: How can we know how to respond in a plastic manner to the plasticity of the brain? If the brain is the biological organ determined to make supple its own biological determinations, if the brain is in some way a self-cultivating organ, which culture would correspond to it, which culture could no longer be a culture of biological determinism, could no longer be, in other words, a culture against nature? Which culture is the culture of neuronal liberation? Which world? Which society?

Catherine Malabou, *What should we do with our brains?*

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CHAPTER II

Neurofever 1: Toward bioaesthetics

Neuroethics, neurolaw, neuromarketing, neuroeducation, neurotheology: Polish ethicist Barbara Chyrowicz refers to the surge of "neurologisms" and even intellectual "neuro-banditry" in her reflections on the neurobiological recalibration of ethics, quoting, among others, the concerns of Roger Scruton. Chyrowicz reminds us that Scruton went so far as to speak of the intellectual imperialism of the "neuro-bandits," who, in his view, lay claim to a substantial portion of what they consider a new domain of intellectual reflection, while ignoring the fact that this domain already has a history rooted in the analytic tradition (Chyrowicz, 2020, pp. 1–33).

My considerations did not arise in response to the threat of a neurobiological recalibration of aesthetics. Rather, they stem from the recognition that the neuroaesthetic research programme, grounded in evolutionary neurobiology, carries not only bright spots but also challenges that can inspire philosophical inquiry. The path I would like to pursue in these reflections entails broadening the field of vision in such a way that the prefix *neuro-* fosters interdisciplinarity. How can this be achieved, and is it even possible?

The prefix *neuro*—which famously drew Roger Scruton's scepticism—might in fact be more productively replaced by *bio*, a shift that calls for thoughtful clarification. This reconceptualisation should not be confused with the passing reference

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to *bioaesthetics* found in E. O. Wilson's *Consilience*, but rather directed toward the more philosophically robust and theoretically ambitious vision put forward by Carsten Strathausen (Wilson, 1998 and Strathausen, 2017). Still, for the sake of context, it is worth recalling that Wilson did use the term *bioaesthetics* to describe early experimental approaches to aesthetic experience, efforts that, from today's perspective, may be seen as pioneering gestures toward what would today be called *neuroaesthetics*.

To illustrate this usage, let us cite the following example from Wilson *in extenso*:

> In a pioneering study of bioaesthetics published in 1973, the Belgian psychologist Gerda Smets asked subjects to view abstract designs of varying degrees of complexity while she recorded changes in their brain wave patterns. To register arousal she used the desynchronisation of alpha waves, a standard neurobiological measure. In general, the more the alpha waves are desynchronised, the greater the psychological arousal subjectively reported by subjects. Smets made a surprising discovery. She found a sharp peak of brain response when the redundancy-repetitiveness of elements in the designs was about 20 percent. This is the equivalent amount of order found variously in a simple maze, in two complete turns of a logarithmic spiral, or in a cross with asymmetrical arms. The 20 percent redundancy effect appears to be innate. Newborn infants gaze longest at drawings with about the same amount of order. What does this epigenetic rule have to do with aesthetics and art? The connection is closer than may be immediately apparent. Smets' high-arousal figures, even though generated by a computer, have an intriguing resemblance to abstract designs used worldwide in friezes, grillwork, logos, colophons, and flag designs. They are also close in order and complexity to the pictographs of written Chinese, Japanese, Thai, Tamil, Bengali, and other Asian languages of diverse origin, as well as the glyphs of the ancient Egyptians and Mayans. Finally, it

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> seems likely that some of the most esteemed products of modern abstract art fall near the same optimal level of order, as illustrated in Mondrian's oeuvre. Although this connection of neurobiology to the arts is tenuous, it offers a promising cue to the aesthetic instinct, one that has not to my knowledge been explored systematically by either scientists or interpreters of the arts (Wilson, 1998, pp. 250–251).

A few pages earlier, in connection with his own claim that "gene-culture coevolution is underlying process by which the brain evolved and the arts originated," Wilson refers to a *growing circle of artists and theorists of the arts*, among whom he names Joseph Carroll, Brett Cooke, Ellen Dissanayake, Walter Koch, Robert Storey, and Frederick Turner.

As he writes:

> Some of these scholars refer to their approach as biopoetics or bioaesthetics. The analyses have been independently bolstered by Irenäus Eibl-Eibesfeldt, the German ethologist, in his global studies of human instinct; by the American anthropologists Robin Fox and Lionel Tiger in their accounts of ritual and folklore; and by numerous researchers in Artificial Intelligence, whose work on artistic innovation is summarized (to take one excellent exposition) by Margaret Boden in *The Creative Mind* (Wilson, 1998, pp. 236–237).

I refer to Wilson here because the vision of bioaesthetics proposed by Strathausen some fifteen years later is already stripped of the excessive trust once placed in biology and genetics, trust that underpinned the hopes of the author of *Consilience* to uncover a final answer to all of humanity's enduring questions, including those concerning human nature, and by extension, the nature of art and aesthetic experience.

Let us now turn to Carsten Strathausen's own reflections on *biofever*, one that, as I suggest, may be meaningfully paralleled

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with the current preoccupation with the *neuro-* prefix in our discourse:

> Scholars' erstwhile obsession with social constructivism has given way to our current fascination with what might be called "biologism"—the effort to understand all aspects of human culture, including art and politics, in biological terms as part of our evolutionary heritage. As evidence of this trend, one need only look at the number of scholarly publications and nascent academic fields that carry the prefix "bio" in their title. Examples include "biophilosophy," "biopolitics," "bioart," "bioethics," "biopoetics," "biotechnology," "biomedia," "bioeconomics," and "biocapital," to name but the most prominent ones (Strathausen, 2017, pp. 1–2).

I am getting at the point that Strathausen offers a much-needed antidote to the current *fevers* sweeping across the humanities. While neuroaesthetics eagerly scans brains in hopes of locating aesthetic experience in the folds of the prefrontal cortex, Strathausen proposes a more intellectually generous approach. His project does not reject science; rather, it resists the temptation to let biology do all the thinking. Instead, it insists on the co-constitutive relation between concepts and objects, biology and meaning, matter and interpretation.

Where early neuroaesthetics claimed to explain art from the "bottom up" (usually via fMRI's proofs), Strathausen reminds us that such explanations often dissolve the artwork in the acid of universalism. Art, in this model, is not something to be decoded by neurons but to be *engaged* through historical, cultural, and conceptual contexts.

As the author himself puts it:

> Bioaesthetics rests on the premise that we cannot reduce mental processes to their physical carrier (i.e., mind to brain) without recognizing and studying the multiple levels of (conceptual and material) mediations in between the two (Strathausen, 2017, p. 204).

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Crucially, *bioaesthetics* sidesteps the scientistic hubris of consilience and offers an alternative to the flattening logic of biological determinism. It is a call for epistemic humility; not only an acknowledgment that the humanities might have something to say about biological life, but also a reminder that cultural meanings cannot be captured in brain scans or reduced to evolutionary metaphors.

Notably, similar claims emerge in *The Aesthetic Brain*, where Anjan Chatterjee, writing from within the field of neuroaesthetics, offers a critical self-diagnosis of his own discipline. His reservations echo the very concerns that bioaesthetics seeks to address: the reduction of complex experiential phenomena to neural mechanisms, and the loss of interpretive nuance in the face of empirical clarity. In this light, bioaesthetics does not reject neuroscience but insists on a broader epistemic ecology, one in which scientific insight and humanistic interpretation are held in productive tension. In what follows, I take my cue from Chatterjee and Strathausen, not to dismiss neuroaesthetics, but to trace those particular blind spots that continue to erode its standing among humanists.

Diagnosis and cure

In *The Aesthetic Brain*, Anjan Chatterjee—while broadly sympathetic to the aims of neuroaesthetics—offers a quietly incisive critique of its reductionist leanings. What emerges from his reflections is not a frontal attack, but a careful mapping of fault lines: the places where the methods of neuroscience begin to strain under the weight of what aesthetic experience actually demands.

One of the most persistent tensions lies in the attempt to objectify what is, at its core, radically subjective. Neuroscience is structured around pattern recognition, around

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the pursuit of generalisable truths. But aesthetic response resists such regularity. It is contingent, affective, embedded in context. What moves us, what holds us in a state of contemplative arrest or visceral surprise often escapes the categories through which science organises its data. This raises the question of whether the language of neuronal correlates and activations can ever adequately capture the felt intensity, temporal fragility, or context-dependent meaning of aesthetic experience.

As Chatterjee observes:

> These magical moments in which we lose our sense of self are ironically deeply subjective. The problem, of course, is that science demands some objectivity in its analysis. (…) Will such objectification, which is the stuff of science, completely miss its mark when it comes to describing aesthetic experiences? Will neuroaesthetics be blind to the central essence of these experiences and be relegated to piddling at its margins? (Chatterjee, 2014, pp. xiii–xiv).

In posing this question, Chatterjee does not reject the promise of neuroaesthetics—he reframes it. His inquiry urges us to ask not only what the brain does when we encounter art, but also what might be lost when we attempt to quantify enchantment. But that is not the whole story. Enchantment, that fleeting collapse of time and self, is increasingly pursued not through poetics or philosophy, but through the shimmering surfaces of functional MRI scans[1]. The moment of aesthetic ecstasy is

[1] Neuroaesthetics frequently employs functional magnetic resonance imaging (fMRI) to investigate the neural basis of aesthetic experience. This technique measures changes in blood oxygenation (BOLD signal) as an indirect proxy for neural activity, offering spatially precise but temporally coarse data. However, fMRI is constrained by several methodological limitations: its reliance on statistical inference rather than direct observation of neural events; its poor temporal resolution

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tracked, pixel by pixel, via precisely perfused regions of the brain, now lit up like constellations of meaning. The result? A compelling visual rhetoric that seems to locate beauty itself in the orbitofrontal cortex or insula, reducing transcendence to topography of the brain.

Oculo-fetishism in a new key: brain's scans metaphor

A source of my concern stems here from the fetishisation of brain images captured during exposure to aesthetic stimuli. It is not only neuroaesthetics that indulges in this fascination with brain scans, but it undoubtedly contributes to the cult-like status of such visual "evidence," purportedly offering indisputable insight into what happens in the brain *in vivo*. Doubts surrounding this "*high-tech phrenology*" have also permeated works of fiction, as evidenced by passages from Edward St. Aubyn's novel *Double Blind*. One of the protagonists learns that she has a brain tumour. The following excerpt vividly illustrates the narrator's scepticism:

> It is a truth universally acknowledged that any topic in search of a reputation for seriousness must be in want of neuroimaging. But what was the real status of those vibrant snapshots? Apart from valuable

(on the scale of seconds rather than milliseconds); and the artificiality of the scanning environment itself. Participants must lie motionless in a confined space, often with limited sensory engagement and no opportunity for embodied interaction with the artwork. These conditions raise fundamental questions about the ecological validity of such studies, particularly when applied to complex, multisensory, and situated phenomena such as music. These methodological tensions between measurement and meaning will be revisited in my subsequent considerations.

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> information about its fixed anatomy, much of the excitement that came from making the brain visible had led to exaggerated inferences about what was going on in the mind, and indeed about what was going on in the brain beyond a certain level of complexity. Dynamically, they measured the blood-oxygen-level-dependent response (BOLD). The scans represented local activation based on statistical differences in BOLD signals. That was it; and the level of resolution of these computational artefacts depended on voxels—the 3-D equivalent of pixels. A voxel was minuscule from a human perspective, but from a neuron's point of view, it was a vast forest in which to remain undetected, nowhere near the level at which synapses, dendrites, axons and electro-chemical activity could be represented, let alone proved to be the cause of complex psychological states. In Lucy's situation, it was clearly beneficial to see the location and size of a tumour. Images of the brain revealed something about the brain, that much was clear, but to what extent they could reveal anything about the mind and the personality was much less clear. Not only was the brain not the mind, but an image of the brain was not the brain (St. Aubyn, 2021, p. 83).

While the use of neuroimaging in radiology remains a life-saving application of the technology for diagnosing pathological conditions, its deployment outside of medicine—particularly in attempts to capture the precise moment of dopamine release during the listening of Mozart's *Adagio* in B minor for piano, raises understandable scepticism.

This scepticism finds a powerful ally in Carsten Strathausen, who devotes a significant portion of arguments to dismantling the epistemological illusions surrounding the technological fetishism of neuroimaging. Far from offering a transparent glimpse into neural activity, the neuroimaging becomes a stand-in for understanding, a seductive surface that substitutes for the very complexity it claims to unveil. Strathausen's critique extends beyond questions of scientific accuracy to encompass

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both the aesthetic allure and ethical implications of deploying neuroimaging as visual evidence outside of its original clinical context.

Indeed, brain scans have begun to circulate not merely as medical tools but as purported proofs of, for instance, voters' political preferences, and in some cases, as forensic evidence in criminal trials. They aspire to the status of reality itself: objective confirmations of how things *truly* are. Such epistemological certainty is troubling even in the context of medicine, where the stakes involve saving lives; in other domains of human experience, this ambition verges on dangerous overreach: "The crucial point is that despite their common pictorial form," Strathausen observes:

> (…) if MRI scans are not iconic, because their material referent (i.e. cranial blood flow) remains invisible to the naked eye. The neurosciences do not "take" pictures of the brain; they "make" pictures of the brain. For these pictures have no referent other than the numerical data set that informs them, and there is no scientific reason to represent that data in the form of colourful images as opposed to, say, a column, a chart, a graph, or a written text. In fact, a simple graph or numerical chart would represent the underlying data more accurately than the colorful pictures we are accustomed to seeing. The main difference, of course, is that a string of numbers carries neither the emotional appeal nor the implicit truth claim we intuitively attribute to pictorial representations of the human brain. Digital imaging technologies, in other words, effectively serve as evidence-producing machines: they present colorful pictures of hitherto insufficiently understood processes and cognitive functions as if these pictures had explanatory powers- which, alas, they do not possess. Like any and all forms of representation, neuroimages require interpretation by experts to become meaningful, while, at the same time, their ostensible iconicity and self-evidence serve to disavow this requirement (Strathausen, 2017, p. 189).

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Ultimately, what Strathausen reveals is that these images function more like icons than instruments: they are modern relics of belief in a science that sees all and explains all. The neuroimage does not merely represent cognition; it performs ideology. It reassures us that aesthetic experience can be *seen*, stabilised, and anatomised. The seductive colour maps that populate scientific journals and popular media are not neutral windows into the mind but are actively constructed simulations: "pictures" that do not capture but fabricate cognition.

In a compelling media-historical intervention, Strathausen argues that functional magnetic resonance imaging (fMRI) has displaced photography as the dominant apparatus of ontological authority: Roland Barthes's *ça-a-été*, the photographic assurance that "this has been," is now supplanted by the illuminated cortex on a digital scan. Yet unlike photography, which at least captured a moment of light and form anchored in the external world, neuroimaging purports to reveal the inner workings of the mind while remaining firmly within the domain of metaphor. Paradoxically, the most sophisticated neuroimaging technologies do not produce certainty but generate new symbolic constructs (Strathausen, 2017, pp. 188–189).

Despite their visual refinement and the aura of scientific legitimacy they convey, fMRI scans do not directly represent thoughts or emotions. Instead, they visualise indirect physiological proxies, specifically, fluctuations in blood oxygenation levels, that must be interpreted as signs of cognitive or affective states. As Strathausen reminds us, the apparent transparency of these images may mislead the untrained observer into mistaking technical artifacts for unmediated insight into mental life.

Drawing on Steven M. Kosslyn, Strathausen further highlights a fundamental methodological limitation: current technologies require researchers to prioritise either temporal or spatial precision, as no existing modality can measure both

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dimensions simultaneously with high fidelity. Moreover, the raw data are typically mapped onto a standardised stereotactic space, a process that facilitates comparison but tends to average out individual variability and filter out spontaneous or irregular neural activity not explicitly tied to the stimulus. While this normalisation enhances methodological clarity, it comes at the cost of disregarding the anatomical uniqueness of each brain, including variations in the size, shape, and location of specific regions (Strathausen, 2017, p. 189).

Additionally, since the brain is never truly at rest, scientists must subtract so-called baseline activation levels to identify stimulus-induced increases in blood flow. Yet this "resting" state is itself a statistical construct, layered upon another composite: the final images presented to the public are, in most cases, visual averages derived from dozens of scans across multiple individuals. These are not portraits of a particular brain reacting to a particular stimulus, but aggregated abstractions, rendered visually persuasive through design rather than empirical precision.

These technological nuances and their cognitive consequences are well understood by experts working in the clinical domain. However, outside this domain, in the media and popular science, they often disappear beneath the surface of an image whose authority lies as much in its attractive, seductive colour as in the data that promise the naive reader a supposed discovery of the universal: this is your brain in contact with art or, even more intrusively, this is you during the presidential election.

Let us momentarily set aside the line of critique developed by Strathausen to observe that the cultural fascination with seeing through the body long predates the advent of MRI, fMRI, or PET scans[2]. Thomas Mann's *The Magic Mountain* (1924) offers

[2] Positron Emission Tomography (PET) is a neuroimaging technique that enables the measurement of metabolic processes in the brain

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a prescient literary meditation on early radiographic technologies and their symbolic promise to unveil the hidden "truth" of the body. In one of the novel's most evocative scenes, the protagonist Hans Castorp becomes mesmerised by the X-ray machine newly installed in the sanatorium. He even cherishes a translucent radiograph of Clavdia Chauchat's chest as though it were an intimate relic, a spectral icon of her inner being.

Mann's narrative captures not only the allure of penetrating the opacity of flesh but also the epistemological temptation to conflate visibility with knowledge, and interiority with image. In this sense, the novel anticipates the persistent modern belief that technology can render the self-knowable by making the invisible visible. Yet, as in Mann's portrayal, the emotional charge of such images often exceeds their diagnostic function, turning scientific visuality into an object of aesthetic and even erotic fascination:

by tracking the distribution of radioactive tracers, typically attached to biologically active molecules such as glucose. In neuroaesthetic research, PET has been used to study cerebral blood flow and glucose metabolism during aesthetic experiences, including listening to music or viewing visual art. Unlike fMRI, which measures changes in blood oxygenation levels with relatively high spatial and temporal resolution, PET offers more direct insight into the brain's metabolic activity but with lower temporal precision and greater invasiveness due to the use of radioactive compounds. Moreover, because PET scans require subjects to remain still in a confined apparatus over extended periods, they pose practical challenges when studying dynamic or embodied aesthetic responses. These limitations, along with the high cost and ethical considerations of tracer use, have contributed to PET being employed less frequently than fMRI in contemporary neuroaesthetics. Nevertheless, PET remains valuable for investigating neurotransmitter dynamics and longer-term metabolic patterns that fMRI cannot detect.

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> He stood long and lost in contemplation of the picture, which represented the upper half of a human torso, seen from the back. It was somewhat foreshortened, the shoulders sloping upward, the head sunken forward. The spinal column, seen obliquely, ran upward in the center; on either side were the ribs, shading off into the shadowy tissue. But these details made small impression on Hans Castorp. It was not his habit to look at such things with the eyes of a clinician. He saw—he felt he saw—not a picture of anatomy, but a female body, seen through and through, made transparent by the rays; a tender, shadowy image, dusky and intimate (Mann, 1995, p. 439).

This early twentieth-century enchantment with the transparent body anticipated the modern myth of transparency surrounding MRI: the belief that technological vision can penetrate appearances to deliver objective truths about our identity and consciousness. In the contemporary imagination, that myth is only intensified and beautified by the magnetic aura of digital imaging, as high-resolution brain scans render the cortex in radiant colours and crisp detail, elevating the old desire to "see inside" into a new spectacle of scientific insight. Thus, the aesthetic and metaphysical appeal of seeing-through--the-body endures, transformed from the X-ray's pale shadows to the MRI's luminous maps, yet fundamentally the same in its promise of revelatory vision.

This cultural and epistemological allure of neuroimaging is compellingly analysed in *Magnetic Appeal: MRI and the Myth of Transparency* (2008) by sociologist Kelly A. Joyce. Drawing on ethnographic research in hospitals and imaging centres, Joyce explores how Magnetic Resonance Imaging has acquired a status that exceeds its clinical utility. As she reminds her readers, the magnetic appeal of MRI is as much cultural as it is clinical. In contemporary society, she argues, MRI has become a kind of "sacred object," a modern icon of diagnostic certainty and inner truth. The machine's images, often rendered in high-resolution,

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multicoloured brain scans, carry a quasi-religious authority, offering what appears to be direct, visual access to the hidden depths of the self. Joyce's study reveals how this symbolic power shapes not only medical decision-making but also public trust in science, reinforcing the idea that to see is to know, even when what is seen is a mediated representation of complex biochemical processes:

> MRI in particular benefits from the certainty ascribed to images. Within the panoply of visualization technologies, MRI is given high status. Although each technology has situations in which it is the most appropriate and valuable, MRI is considered the gold standard of medical imaging techniques by both medical professionals and the general public. It symbolizes top-of-the-line health care and is one of the most expensive imaging machines available. Its public perception as the gold standard spills onto the image itself. If pictures in general provide an unmediated window into the body, then MRI as a high-status machine that generates an entire series of pictures must produce even more accurate and certain knowledge (Joyce, 2008, p. 11).

But its meaning exceeds its medical function: MRI hailed as a cultural icon, promising not only images of disease but glimpses of identity, morality, and emotional life. The problem arises when this visual authority is exported beyond the clinic. Brain scans begin to function not merely as diagnostic tools, but as epistemological guarantees. As Joyce points out, the image becomes a stand-in for understanding, a pictorial surrogate for complexity. The act of seeing becomes synonymous with knowing, and the inner life is flattened into visual confirmation. Yet, as she warns, each MRI scan thus represents a series of translations, from the electromagnetic measurements of hydrogen nuclei to the aestheticised rendering of cortical activity.

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Thus, the allure of neuroimaging lies not only in its diagnostic precision but in its promise of revelation. But this promise rests on a problematic conflation: between visibility and veracity, between biological illumination and existential truth. In this light, the MRI emerges not as a transparent window into the self, but as a cultural artefact—one that reflects as much as it reveals, and that demands not just interpretation, but a critical distance.

The case of music: a closer look

Among the most frequently raised criticisms of neuroaesthetics is its persistent reductionism, a concern closely aligned with the broader debate on neurodeterminism. This critique extends beyond neuroaesthetics and finds resonance in neuroethics, where scholars such as Walter Glannon and Michael Gazzaniga have strongly resisted claims that human personhood, agency, or moral reasoning can be explained solely in terms of neural processes. In this view, the brain is not sufficient for understanding the full spectrum of human subjectivity.

A parallel defense might be mounted within neuroaesthetics to safeguard the complexity and irreducible singularity of aesthetic experience, both in its creative production and affective reception. While the stakes may not be as ethically charged as in the moral domain, the implications for our conception of meaning, value, and expression in the arts are no less profound. It is important to emphasise that reductionism, when modest and context-sensitive, need not be epistemically destructive. As Polish philosopher Piotr Przybysz has argued, even in the case of musical emotions, certain reductionist approaches—when philosophically framed and empirically tempered—may yield valuable insights without collapsing aesthetic experience into mere biochemistry.

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Nonetheless, music poses a uniquely recalcitrant challenge to the neuroaesthetic paradigm. Whereas static visual stimuli lend themselves more readily to techniques like functional MRI or PET scanning, music unfolds temporally, relying on evolving patterns of tension, expectation, and form. The temporal architecture of music, its flow, rhythm, and expressive arc, cannot be easily captured by imaging technologies whose temporal resolution remains fundamentally limited. Moreover, the physical conditions of these procedures complicate matters further: fMRI, for example, generates loud ambient noise that disrupts musical perception, while requiring repeated and uniform stimuli that stand at odds with the singularity of musical experience.

Among the tools available to neuroaesthetic inquiry, Positron Emission Tomography (PET) presents particularly significant ethical and practical constraints. Although PET allows for the direct measurement of cerebral metabolic activity, its application relies on the introduction of radioactive tracers into the body. This aspect renders PET ethically problematic when used to investigate aesthetic experiences in healthy individuals. Most Institutional Review Boards are unlikely to approve its use for non-clinical research, given the risks associated with radiation exposure and the relatively low epistemic yield in relation to potential harm. As a result, PET remains primarily confined to clinical contexts or studies involving therapeutic benefit, rather than exploratory investigations into the neural correlates of music perception or aesthetic pleasure.

Electroencephalography (EEG), by contrast, is non-invasive, relatively affordable, and offers excellent temporal resolution, tracking neural activity on the millisecond scale, which is especially relevant for time-sensitive phenomena such as rhythm, musical expectancy, or affective response to unfolding auditory stimuli. However, EEG's technical limitations significantly hinder its utility in capturing the spatial complexity of brain

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responses. Signals are measured only from the cortical surface and are highly susceptible to noise and interference, making it difficult to localise neural activity precisely or to infer deeper subcortical involvement. The resulting data, while temporally rich, require extensive statistical modelling and cautious interpretation.

In general, non-invasive imaging techniques, despite their methodological advances, continue to struggle in accessing the subcortical regions of the brain, such as the amygdala, hippocampus, or nucleus accumbens, which are critically implicated in musical affect, reward, and memory. These limitations complicate any claim that we are truly "seeing" or fully understanding the neural architecture of aesthetic experience[3].

Philosophical coda

And what would the philosopher say to that?

The most intriguing scenario would be a dialogue between enthusiasts of neuroaesthetic research and prominent philosophers of music such as Peter Kivy, Stephen Davies or Jerrold Levinson. The problem, however, lies in the fact that within the framework of analytic philosophy of music, empirical findings concerning musical experience are generally considered irrelevant. This is not to lament the lack of interdisciplinary dialogue. Rather, it is to observe that among the great philosophers of music, we would find thinkers whose views are not easily testable, verifiable, or applicable within the framework of neuroaesthetics.

[3] On the strengths and limitations of PET, especially its use in tracking cerebral metabolism and the ethical concerns associated with ionising radiation (see Glover, 2010; Cabeza et al., 2006). For a technical overview of EEG, including its strengths in temporal resolution and limitations in spatial localisation and signal interference, see Luck, 2014.

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For example, let us consider one of the themes explored by the late Peter Kivy, who emphasised the "architectonic" pleasures of following a musical work's unfolding logic (Kivy, 2001, pp. 183–217). Let us imagine, then, a music lover who derives the greatest satisfaction not from the sensory immediacy of sound, but from grasping the totality of musical form in architectural terms, so much so that they need not even listen to the music in real time, as they are able to "hear" it inwardly, with the inner ear of the mind, and, quite simply, *think* it. What kind of neuroimaging technique could possibly capture such holistic thinking about a musical work? Or, how could the intense recollection of a musical experience ever be measured?

Perhaps, then, the question should be posed differently: rather than seeking an answer within a specific art medium (music) we might inquire into a certain cognitive disposition toward contemplating form in its entirety, regardless of whether that form unfolds temporally, as in music, or is given to us all at once, like an architectural structure or a frozen landscape. What is at stake is whether the ontology of the artwork, its mode of existence, unequivocally determines the mode of its perception, or whether perception depends more heavily on the individual characteristics of the perceiver?

Might some of us experience a symphony in a way more akin to how others perceive a sculpture or a painting, as a narrative unfolding in time? Yet further questions arise when we consider the artwork through the lens of combined modalities, particularly in the context of synesthesia. And finally, the fundamental question must be raised: one that is certainly at the heart of philosophical aesthetics yet often overlooked by neuroaesthetics. Are we interested in treating works of art as distinct entities, endowed with a purposive structure and imbued with artistic values? Or do we approach them as if they were merely part of everyday reality, albeit a reality that is aesthetically engaging, yet nonetheless ordinary?

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From a slightly different register arises the question of musical pleasure derived from negative emotion or the phenomenon of musical "profundity," a contested notion at the heart of debates between Peter Kivy and Stephen Davies (Kivy, 1990, pp. 343–356). Do such works elicit a qualitatively distinct neurochemical response? Or are they instead engaging interpretive, emotional, and historical faculties beyond the reach of current measurement?

Since the following chapter will address the crucial issue of aesthetic pleasure from a neuroaesthetic perspective, let us conclude this section by introducing an intriguing topic raised by Jerrold Levinson: the phenomenon of negative emotion in music (Levinson, 1990, pp. 295–314). Why do we enjoy musical sadness, perhaps even more than musical cheerfulness or lightheartedness? Perhaps in this area, neuroaesthetics and neurobiology have something convincing to offer philosophy by way of explanation?

As Antonio Damasio observes in *Descartes' Error*, the human brain appears evolutionarily wired to prioritise negative affect over positive, in terms of salience and survival:

> Somehow, more often than not, it is the pain related signal that steers us away from impending trouble, both at the moment and in the anticipated future. It is difficult to imagine that individuals and societies governed by the seeking of pleasure, as much as or more than by the avoidance of pain, can survive at all. Some current social developments in increasingly hedonistic cultures offer support for this opinion, and work that my colleagues and I are pursuing on the neural correlates of various emotions lends further support. There seem to be far more varieties of negative than positive emotions, and it is apparent that the brain handles positive and negative varieties of emotions with different systems. Perhaps Tolstoy had a similar insight, when he wrote, at the beginning of Anna Karenina: "All happy families are like one another, each unhappy family is unhappy in its own way" (Damasio, 2006, p. 267).

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This neurobiological asymmetry may offer a partial explanation for the poignant emotional force of sad music. Yet one must still ask: can this haunting experience, this bittersweet, existential nostalgia, be meaningfully captured through neuroimaging? Can we visually distinguish it from the broader spectrum of aesthetic responses? One of the most researched phenomena in this area is the physiological manifestation of pleasure as "chills." Studies linking music-induced chills to dopaminergic reward circuits offer compelling, but ultimately limited, insights (see, for example: Blood, Zatorre, 2001; Salimpoor et al., 2011). The brain is not a transparent chamber of truth; activation patterns may correlate with experience, but they cannot fully explain it.

Perhaps a more holistic view is in order, one less satisfying to the neurobiologist, but more faithful to the experience of the listener. Music, after all, engages the entire human being. It is perceived through the body as well as the brain, mediated by complex, multisensory pathways. This is why the musical connectome appears to be a compelling metaphor for a multimodal experience that exceeds what is merely aesthetic. Or perhaps it would be more accurate to say that the aesthetic is simply the point of departure, without which we cannot fully grasp the complexity of human experience.

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CHAPTER III

Neurofever 2: Does neuroaesthetics rest on a mistake?

In the ongoing pursuit of a conceptual bridge between neuroaesthetics and humanities, it is worth revisiting and reframing a question posed to traditional academic aesthetics by William Kennick in 1956. While the original formulation aimed to free aesthetics from the constraints of essentialism, today it should primarily confront the prevailing dominance of emotionalism over other theoretical positions in neuroaesthetics.

Within the tradition of philosophical aesthetics, anti-essentialism has significantly enhanced the conceptual rigour of the field by challenging reductive definitions of art. Might a similar infusion of anti-essentialist thinking serve to enrich neuroaesthetics? Such questions, however, must be posed with considerable caution—lest one methodological extremity be simply exchanged for another, equally unfit for any genuine consilience. After all, anti-essentialism is not without its own liabilities. While it has undoubtedly promoted greater logical clarity within aesthetics, it has also, in a sense, stripped the field of its broader metaphysical ambitions and certain modes of philosophical sensitivity. Polish philosopher Iwona Lorenc draws attention to this trade-off, suggesting that deeply metaphysical and existential questions might well elevate aesthetics to the status of a *prima philosophia* (Lorenc, 2005, pp. 86–94). Despite

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its declared commitment to interdisciplinarity, neuroaesthetics has yet to develop a truly humanistic sensibility, one capable of engaging with the philosophical depth and ambiguity that aesthetic experience demands. Rather than fostering open-ended reflection on the significance of aesthetic perception, it tends to pursue definitive, finitist claims about how the brain *is* wired to respond. This would be less problematic were it not for the fact that the prefix *neuro-* now attaches itself to a discipline: aesthetics, that is historically grounded in rich philosophical traditions of sensory cognition and the conditions of thought itself. How, then, should we go about designing interdisciplinary thinking in such a particularly complex field? As I mentioned in the previous chapter, one of the most refreshing approaches here seems to be the one proposed by Carsten Strathausen, an advocate of bioaesthetics, who suggests rethinking the significance of Kant's aesthetics, particularly his understanding of *sensus communis* as an essential component of human nature shaped by aesthetic experience.

With that in mind, let us consider two models of neuroaesthetics. The first is the dominant framework that has been in place since the late 1990s: empirical, data-driven, and grounded in neuroscientific evidence. The second is a potential, still-emerging model, one that could arise through a philosophical recalibration of the field, grounded not only in data but also in values. It is also worth briefly noting that neuroaesthetics can be divided not only by its relation to aesthetic value, but also by its methodological orientation. One key distinction is that between *bottom-up*, typical of early neuroaesthetic research focused on perceptual and sensory inputs, and top-down approaches, more common in later models that take seriously the complexity of aesthetic experience as shaped by the interweaving of biological and cultural processes as well as by the dynamic interplay between low-level perceptual processing and higher-order cognitive, emotional, and contextual factors.

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At this stage, it is worth emphasising that what may be justifiably critiqued in neuroaesthetics, at least in the form it took in the early twenty-first century, is not only its characteristic reductionism, but also a form of emotionalism that I would be inclined to describe as naïve: one that foregrounds pleasure while sidestepping the deeper uncertainties, ambivalences, and existential stakes of aesthetic life.

Pleasure-centrism

The neuroaesthetic emotionalism is based on an overly enthusiastic focus on all signals of pleasure, as well as on emphasising the evolutionary role of emotions associated with the reception and creation of art. Aesthetics and the philosophy of art have equipped themselves against emotionalism effectively enough to avoid expecting every form of artistic expression to be saturated with emotion. This shift in aesthetics was also prompted by contemporary art itself and its intellectual ambitions. Let us remember that neuroaesthetics tends to follow neither artistic trends nor intellectual fashions within the humanities. Instead, it finds satisfaction in a method of incremental progress, aiming to identify, with precision, the most basic mechanisms involved in the reception of aesthetic stimuli. That is precisely why it may be accused of a certain form of hedonism, mockingly referred to here as *pleasure-centrism* or affective reductionism. Neuroaesthetics should therefore be liberated from its subservience to the simple pleasure principle.

Indeed, such a move could help the discipline overcome one of its more persistent criticisms, namely, its tendency to prioritise the affective dimension of aesthetic experience, resulting in what could be described as a neuro-emotionalist approach, framed in naturalistic and evolutionist terms. This concern has been partially addressed by the emergence of what

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Polish scholar Piotr Przybysz has termed "Neuroaesthetics 2.0" (Przybysz, 2023, pp. 143–164). While a hedonistic orientation remains prominent in parts of the field—as suggested by the title of Robert Zatorre's recent book, *From Perception to Pleasure: The Neuroscience of Music and Why We Love It*—there is growing recognition of the need to move beyond this narrow perspective (Zatorre, 2024).

It is also worth noting that Winfried Menninghaus and his co-authors have emphasised the importance of acknowledging the full spectrum of aesthetic responses, including those involving negative or even painful emotions, which are often overlooked in more narrowly pleasure-focused accounts of aesthetic experience (Menninghaus *et al.*, 2019; Przybysz, 2020). This shift aligns with broader developments in aesthetics, particularly the move away from art-centrism and the classical paradigm of beauty. Neuroaesthetics, if it is to remain relevant, must similarly broaden its scope to include aesthetic experiences rooted in everyday life and embrace the study of multimodal perception, integrating vision and hearing with so-called "lower" senses such as touch and smell. Neuroaesthetics 2.0 is increasingly attuned to these complex and nuanced dimensions of aesthetic experience.

Another critique, primarily directed at early neuroaesthetic research from the 2000s, arises from a form of cognitive dissonance that may be especially pronounced for readers grounded in the axiological traditions of classical aesthetics. Engaging with a work of art inevitably raises questions of artistic and aesthetic value: questions that are not necessarily tied to the artwork's expressive dimension. As formalist thinkers have maintained, such value may be found in the structural coherence or formal unity of the piece. At the same time, aesthetic and artistic significance can intersect with moral or cognitive dimensions, demanding interpretive frameworks that go beyond immediate sensory or emotional responses.

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Polish philosopher Władysław Stróżewski, in *Wokół piękna* [On Beauty], argued that some works of art call not merely for aesthetic contemplation but for existential or ethical concretisation. If we are compelled to explain why the experience of art surpasses the binary of pleasure and displeasure, then we are confronting a serious impasse. What surfaces here is a fundamental misunderstanding of the nature of aesthetic experience: one that engages the entirety of the person, including their biography, memory, accumulated knowledge, and embodied, spiritual awareness of being-in-the-world.

Why, then, should this rich array of aesthetic and intellectual responses be reduced to a simple binary of pleasure or its absence? Even within the framework of *Everyday Aesthetics*, which grounds the sublime in the ordinary and emphasises the aesthetic dimensions of everyday experience, developed under the influence of pragmatism, here remains a strong emphasis on evaluation. To abstract from judgement altogether seems to mark a departure from both aesthetics and ethics as foundational modes of thinking about values. While it may be unreasonable to expect neuroaesthetics to evolve into a fully developed axiology, a more sustained engagement with questions of value could nonetheless prove productive, just as similar efforts have enriched the field of neuroethics.

But how might such engagement even begin?

At first glance, comparing ethics with neuro-prefixed aesthetics may seem absurd. When confronted with issues such as free will, guilt, or harm, neuroaesthetics can appear trivial by contrast, stimulating, perhaps, but ultimately untouched by questions of good, evil, or even truth. And yet, despite its often crude reductionism, its ahistoricism, and its occasionally overconfident anticipation of future breakthroughs where the humanities have supposedly failed, neuroaesthetics makes possible certain valuable shifts in emphasis, shifts that can offer speculative thinkers a much-needed sense of renewal.

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Consider, for example, the work of Semir Zeki, widely regarded as the founding figure of neuroaesthetics. Rather than dismissing it outright, Carsten Strathausen offers a thoughtful and sympathetic reading, suggesting that Zeki's project represents a genuine attempt to enrich the empirically grounded framework of scientific materialism with the reflective depth and axiological concerns of philosophical idealism.

What Strathausen finds most inspiring in Zeki's work is not merely its scientific grounding, but his genuine willingness to enter into dialogue with the philosophical tradition, most notably with Plato (especially when Zeki introduces his original concept of *inherited brain concepts* or *preexisting ideas within us* in the context of Platonic universals), and his broader openness to integrating philosophical reflection into empirical inquiry. This sets Zeki apart from figures such as V.S. Ramachandran and William Hirstein, whose treatment of aesthetic questions largely avoids sustained philosophical engagement.

Strathausen's critique of Ramachandran and Hirstein extends beyond their lack of historical awareness or their utilitarian framing of art as a tool for evolutionary signalling. His more fundamental concern lies in their reductive interpretation of *sensus communis aestheticus*, which they construe through a rationalist lens as a form of common sense. In doing so, they overlook the richer philosophical significance the concept assumes in Kant's aesthetics, as a shared, intersubjective capacity for aesthetic judgment that cannot be collapsed into either sensory gratification or purely cognitive evaluation (Strathausen, 2017, pp. 217–219).

Beyond the pleasure principle

To paraphrase Karol Berger, the question posed here would be whether there exists a peculiar kind of pleasure that only art

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can provide (Berger, 2000, p. 100). Such pleasure would lie in liberation from all wanting; it would consist in pure immersion in the rhythm of a poem, in the flow of musical phrases as the form unfolds, not for any purpose, but precisely for no purpose at all. Let us note, however, that this very notion of purposeless enjoyment carries with it a faint trace of snobbish superiority over those entangled in the messiness of desire. And if we take this structuralist-formalist fantasy one step further, even our own solitude, even the absence of the author, would cease to trouble us—for we ourselves would treat the work of art as a galaxy of meanings. Is there, within this domain, a troubling question in which entanglement with human emotionality becomes so essential that the absence of the author, or more pointedly, the declared "death of the author" along with the prohibition against seeking authorial intent, might begin to pose a threat to the very nature of human art?

I believe that one such issue, one that demands a consilient effort between the humanities and the empirical sciences, is the question of alleged or potential AI creativity, addressed in my chapter *Transfugium*. What currently seems to argue most persuasively for the distinctly human dimension of creating and understanding art is precisely the expression of emotion and the awareness that, through art, the human being confronts their own despair and finitude. Yet even this emphasis on emotion does not entail abandoning a deeper understanding grounded in the embodied and spiritual nature of human existence, an experience that, in its full form, a machine or an unembodied algorithm is unlikely to possess. At the very least, as of now, it is difficult to foresee such a possibility being realised any time soon. When considering potential art-making machines, one should also ask about their capacity for aesthetic experience, an issue that, interestingly, receives far less attention than the widely discussed question of machine creativity. This is striking, as it suggests a certain symmetry.

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Note, that what we call "aesthetic experience" spans an impressively diverse, and at times contradictory, range of phenomena: from disinterested contemplation and catharsis, to ecstasy, metaphysical illumination, and refined emotional states, both positive and negative, deeply entangled with cognition, affect, and morality. In this light, neuroaesthetics' most valuable contribution may lie not only in its emerging capacity for self-critique, but also in its commitment to small-scale inquiry, its focus on nuance, and its deliberate attention to the particular. This sharpening of perspective has, paradoxically, allowed the field to rediscover the relevance of earlier aesthetic categories once thought obsolete. A striking example is the unexpected revival of Kantian disinterestedness within the framework of Neuroaesthetics 2.0, especially in relation to the distinction between "liking" and "wanting." As Polish neuroaesthetician Piotr Przybysz among others observes, our reaction to art diverges from typical reward-driven emotional processes. While such processes often lead us to desire possession of things we like, aesthetic appreciation of artworks does not inherently trigger this wish for ownership (Przybysz, 2023, pp. 143–164).

In Anjan Chhatterjee's *The Aesthetic Brain*, the issue of disinterested pleasure emerges as one of the central paradoxes worthy of reflection. As Chatterjee writes:

> The pleasure of an aesthetic experience is self-contained and does not extend beyond itself into somehow becoming useful. When I looked at the Miró print and thought that it would look spectacular in my home, that fantasy may have been pleasurable (probably not as pleasurable as actually buying the print). However, the pleasure of acquisition is not aesthetic. If this idea is correct and aesthetic experiences are disinterested (a view that is by no means universally accepted), then we arrive at the paradox. How can disinterested interests be adaptive? Analogously, if the rewards are adaptive, meaning that they are useful, how can they be aesthetic? (Chatterjee, 2014, p. XX).

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If, after reading this passage from Chatterjee's book, a humanist were to conclude with some satisfaction, "at last you have identified a paradox for which no answer can be found within your naturalistic-empirical methods," they would be mistaken. For in the following paragraph of *The Aesthetic Brain*, the author writes:

> What would disinterested interest actually mean in the brain? To get a handle on this, I will turn to experiments that use pleasure seen in faces of rats. From a series of clever experiments, the neuroscientist Kent Berridge and his colleagues have identified two parallel reward systems that he calls liking and wanting. These systems are close to each other in the brain and usually work in concert. We like what we want and we want what we like. Even though these systems normally work together, they can part ways. What would liking without wanting be? It would be a pleasure without an acquisitive impulse. Perhaps this is what it means to have aesthetic pleasure, liking without being contaminated by wanting. What would wanting without liking be? The classic example is drug addiction. Addicts crave their drugs well past the point of liking them. Addiction is the prototypic antiaesthetic state (Chatterjee, 2014, p. XX).

This final forceful assertion sheds an interesting light on the question of aesthetic disinterestedness and serves as a valuable rehabilitation of this category after the many criticisms it has faced from advocates of engaged aesthetics. Perhaps, then, the more successfully "liking" is able to curb "wanting," the more fully human freedom as subjectivity, and the distinctively human delight in the aesthetic realm, can manifest themselves.

Admittedly, Chatterjee's earlier use of the example involving rats complicates such an inference; but in their case, there can be no talk of "aesthetic experience" in any proper sense. While this latter claim may offer some comfort to the humanist, it is

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likely to provoke an ironic smile from a researcher with a naturalistic orientation. After all, the example of rats serves only to demonstrate that even the most refined achievements of human consciousness have their roots in behaviours observed in species that preceded us in the course of evolution.

However, the question of refined "pleasure without wanting" also challenges more speculative thinkers, as illustrated in Karol Berger's *A Theory of Art*. While engaging with the Kantian notion of aesthetic disinterestedness, Berger warns against interpreting aesthetic pleasure as wholly divorced from the broader dimensions of human existence. For him, genuine aesthetic experience cannot be reduced to escapism or hedonism; it carries formative and existential weight. Disinterestedness, in this view, does not imply that art is trivial or morally indifferent, but rather that when artists address morally significant issues, they do so without wishing their work to be judged solely in aesthetic terms. Art, thus, operates not only beyond epistemic ends but also beyond moral binaries. "The refusal to discriminate among the voices one hears," Berger concludes in the *Epilogue* of his book:

> (…) To compare and evaluate them, is not only a practical impossibility, it is also wrong for deeper reasons. It is a form of aestheticist detachment whereby we allow the voices that we hear to entertain us, but not to challenge our most fundamental assumptions and thereby to change our lives. To engage in a genuine dialogue with others involves more than just politely listening to them. It involves comparing their views with other views, including our own (Berger, 2000, p. 240).

The final sentences increasingly suggest that, for Berger, disinterestedness is merely a theoretical possibility, and that implementing it in practice would strip art of its significance. Art, therefore, is not merely a matter of aesthetic form.

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It is the voice of those who contest, repair, and rebel against the world as it is.

One might add that, much like art criticism, art exists to remind us that the world could be otherwise:

> There can be no dialogue if we assume the superiority of either side, or if we assume that all views have equal validity; in both cases the possibility of anyone changing his mind, and life, is precluded in advance, and all that remains is idle talk, amusing at best, but a source of neither genuine pleasure nor edification (Berger, 2000, p. 240).

This raises the question of whether issues such as the defense of aesthetic disinterestedness and the debate over the moral entanglement of art can even be meaningfully addressed within the framework of interdisciplinary dialogue between the humanities and the empirical sciences. Can neuroaesthetics, either in its current form or in any future, reconfigured version, bear the weight of such serious questions? Yet its persistent problem remains the drive for binary, clear-cut answers, much like in the case of the rats referenced by Chatterjee. Paradoxically, the discovery that rats may "like" something without "wanting" it is not particularly illuminating, even if it seems to suggest that they share with us the capacity for aesthetic disinterestedness. What is far more significant is the question of why certain objects, such as works of art, can be admired disinterestedly, offering us a peculiar kind of satisfaction that comes from affirming our capacity to rise above mere pleasure, while others, in different contexts and conditions, can inspire us to act, to fight, to change the world. That, it seems, can no longer be adequately explained in purely neurobiological terms. Or at the very least, the disinterestedness observed in rats does not bring us any closer to understanding that mechanism: if anything, it may even obscure it.

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Mending the gap between humanities and neuroscience

Here, the problem of the consilience of knowledge resurfaces, a concept which, in E. O. Wilson's vision, was to be resolved by answering all questions within the framework of the natural sciences (Wilson, 1998). A remedy to this finitist perspective is offered by Stephen Jay Gould's critique of consilience, articulated in his book *The Hedgehog, the Fox, and the Magister's Pox* (Gould, 2003).

Although it may be tempting to view neuroscience as a promising source of insight into perennial questions of human experience, such a hope must be tempered by the caution Gould articulates in his critique of reductionism. His insistence on the epistemic autonomy of the humanities serves as a reminder that even the most sophisticated experiments and studies of brain function cannot substitute for the interpretive depth afforded by philosophy. To expect neuroscience to resolve questions of meaning, value, or aesthetic judgment may amount to a category mistake: one that risks mistaking correlation for explanation, and biological process for lived significance. Thus, while the dialogue between philosophy and neuroscience remains potentially fruitful, Gould urges us to guard against the false allure of methodological unification where pluralism and mutual regard would better serve the pursuit of knowledge.

A potential *repair* of neuroaesthetics in the spirit of the humanities must be grounded in an awareness of the methodological limits of its tools, much like in a layered epistemology, where different levels of explanation coexist rather than cancel one another out. Thus, consilience in Gould's sense would not entail the unification of knowledge, but rather a commitment to intellectual and methodological dialogue.

This by no means implies that *a value-based neuroaesthetics* would enchant the humanities or lead to a lasting consilience

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of knowledge. Yet it undoubtedly offers a more promising horizon than the one provided thus far by *an evidence-based neuroaesthetics*.

Aesthetics and the connectome: preparing the ground

Naturalistic interpretations in neuroethics, though more attuned to humanistic concerns than those in neuroaesthetics, still struggle to capture the full phenomenon of morality. Neuroaesthetics faces a similar difficulty in grasping the complexity of aesthetic experience. It remains unclear whether such experience can ever be mapped onto a specific pattern of brain connectivity: a connectome. To do so, the connectome would need to account for an extraordinary range of states: wonder, detachment, calm, ecstasy, silent contemplation, the holistic perception of an artwork, and the fleeting apprehension of a single detail. This rich multiplicity continues to elude a purely neurobiological perspective.

Equally elusive is the integration of the diverse forms that aesthetic experience can take: the performer's musical rapture, the perfumer's delight in a novel olfactory composition, the reader's emotional recollection of a beloved novel, the ecologist's anxiety stirred by the fragile beauty of a threatened landscape or even the mathematician's sense of wonder at the necessity of a proof.

Why should the mathematician's experience of necessity not possess an aesthetic dimension, akin to the sense of intricate order that a pianist uncovers when interpreting a Bach Fugue?

These examples do more than blur the boundaries between sensory modalities; they dismantle the traditional walls between art, science, nature and everyday life. Yet even this expanded panorama fails to capture a vital aspect: the negative,

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painful, unsettling moments of aesthetic experience, moments that, though often uncomfortable, belong fully to the domain of *aisthesis*. For aesthetics, properly understood, is not to be confused with *kallisthetics*, the mere study of beauty. Its true vocation is the exploration of embodied, affective, and perceptual life in all its registers: the consoling and the disturbing, the radiant and the dark, the orderly and the chaotic. In this broader sense, *aisthesis* returns to its original meaning: not the celebration of the beautiful, but the sensing of being itself.

Just as aesthetics invites us to consider sensuous experience in its full richness, unpredictability, and interconnectivity, so too does neuroscience increasingly recognise the brain not as a collection of isolated modules, but as a dynamic, relational system, a *connectome*, where meaning arises through complex interaction rather than localised function. This metaphorical and conceptual shift resists our habitual tendency to fragment knowledge, and instead urges a holistic view in which perception, cognition, and feeling are interwoven rather than compartmentalised.

In recent years, medical literature has moved away from strictly modular models, which once postulated discrete centres responsible for higher cognitive functions such as speech, memory, imagination, and creative thought. This decline of localisationism has been strongly advocated by French neurosurgeon Hugues Duffau, who emphasises the extreme individual variability and plasticity of the human brain (Duffau, 2016). From this perspective, it is not a specific centre, such as Broca's area for speech, but rather a network of dynamic connections that underpins complex functions. More importantly, this network must be mapped individually, as the brain's capacity for plastic reorganisation is virtually unlimited and largely unpredictable (Duffau, 2016, pp. 129–147).

The acknowledgment of plasticity, therefore, does not merely refine the neuroscientific model; it reorients the very ambi-

tions of neuroaesthetic inquiry. It invites a more dynamic, flexible, and humble understanding of how the brain engages with the arts, one that resists rigid topographies and prepares the ground for a deeper reflection on the lived, mutable, and profoundly personal nature of aesthetic experience.

If the connectome is indeed the neural basis of individuality, then the idea of an "aesthetic connectome", a web of dispositions, sensitivities, and embodied habits shaped by memory, culture, and imagination, would have to remain equally dynamic, diffuse, and resistant to universal mapping. Such a network could never be reduced to a fixed circuit of pleasure or stimuli recognition. Rather, it would trace the shifting and nonlinear ways in which individuals engage with form, meaning, and beauty.

In this light, neuroaesthetics itself could be reimagined as a broader epistemic connectome: not a reduction of aesthetics to neurobiology, but a generative network of connections across philosophy, neuroscience, psychology, and the arts. This would embody the kind of pluralistic consilience advocated by Stephen Jay Gould: not a unification of knowledge under a single paradigm, but an alliance of perspectives rooted in mutual respect and methodological humility. Only such a reoriented neuroaesthetics could truly enrich philosophical aesthetics without compromising its complexity or critical depth.

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CHAPTER IV

Neurofever 3: Negative plasticity

It must be remarked that plasticity is also the capacity to annihilate the very form it is able to receive or create. We should not forget that plastique*, from which we get the words* plastiquage *and* plastiquer*, is an explosive substance made of nitroglycerine and nitrocellulose, capable of causing violent explosions. We thus note that plasticity is situated between two extremes: on the one side, the sensible image of taking form (sculpture or plastic objects), and on the other, that of the annihilation of all form (explosion).*

Catherine Malabou, *What should we do with our brains*?

Change does not always arrive with noise. Sometimes, it slips in quietly, through a glance that lingers too long, or not long enough. That look, the first sign of distance, was already a beginning of an ending. Each quiet retreat carries a sharper ache, because the certainty that nothing could break them is gone. They are said to be plastic, that their brains are shaped for change. And yet, the imprint of their present deformation knows no return path.

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As I deepen my reflection on the symptoms of *neurofever* in humanities, I now turn to the concept of cerebral plasticity—a term that, in the bold and unsettling work of Catherine Malabou, assumes a meaning far removed from its standard usage in medical or educational contexts. Although neuroplasticity has become a cornerstone of contemporary neuroscience, often celebrated as the brain's miraculous capacity for self-reorganisation, this celebration remains, in my view, strikingly uncritical. Malabou's philosophical intervention has not yet prompted the kind of response from the medical community that its radical implications deserve. "I entered the neural world through the concept of plasticity—a philosophical concept that I discovered through Hegel, who talks about the role of plasticity in designating a system that transforms itself from the inside," states Malabou, indicating one of the foundational sources for her rethinking of the concept. She further explains:

> The first person who created this concept was Goethe. In the German language, you had a term for plastic, *die plastische*, but none for plasticity, which was coined by Goethe as *Plastizität*, before Hegel took it back. Initially it wasn't scientific; it designated this ability to transform oneself from within, under the influence of education or experience. In the way you can integrate modifications that can come from outside, but that modify the inside—keeping the same structure but, at the same time, transforming it (Grau & Zahm, 2020).

Note that neuroplasticity contributes significantly to emphasising the individuality of the human connectome. It is precisely this capacity that ensures our brains, though sharing a common human topography, differ in the configuration of those intricate networks that shape personality and identity. The conventional view tends to emphasise its life-sustaining virtues: neuroplasticity, we are told, underpins the brain's ex-

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traordinary capacity to reconfigure itself in response to learning, sensory input, or injury. Within this framework, acquiring new knowledge, forming memories, or mastering skills all rely on ongoing adjustments in brain function, adaptations facilitated by the formation of new synaptic pathways. The proliferation of neural connections among diverse regions of the brain supports innovative thinking, flexible problem-solving, and creativity. Sensory richness, in particular, acts as a vital catalyst for these dynamic reorganisations. Once again, it must be emphasised that despite scientific generalisations and objectifying tendencies, neuroplasticity ultimately favours a vision of individuality that resists universalisation. Through neuroplasticity, the human being becomes *an essence-in-flux*, an identity shaped and reshaped over the course of existence. It thus seems evident that if Sartre had known the concept of neuroplasticity, he might have used it to support his claim that existence precedes essence.

Although praise for neuroplasticity is often illustrated by the example of learning to play a musical instrument—a practice which, when sustained over many years, permanently reshapes the human brain—music, in this chapter, will step into the background.

From medical optimism to ontological disturbance

In its conventional formulation, neuroplasticity refers to the brain's ability to adapt in response to injury, learning, or experience. As Steen Nepper Larsen points out, this idea has moved well beyond the confines of neuroscience, becoming a cultural touchstone invoked in conversations about education, personal growth, and resilience (Larsen, 2013, pp. 33–59). Yet it is precisely this expansion that requires caution. Larsen reminds us that plasticity is not boundless: it operates within limits imposed by physiology, temporality, and mortality. The

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brain's malleability is as much a site of vulnerability as it is of hope. To fully grasp the significance of neuroplasticity, we must move beyond technical models and empirical data. What is needed is an interpretive framework that draws together biology, phenomenology, cultural theory, and historical context. Neuroplasticity thus becomes more than a clinical property; it becomes a metaphor for the unstable equilibrium between permanence and change: a metaphor for human finitude.

It is precisely at this juncture that Catherine Malabou's work diverges most forcefully. Unlike Norman Doidge, who frames neuroplasticity as a therapeutic breakthrough, or Richard Sennett, who sees it as a cultural demand for psychological flexibility, Malabou relocates plasticity at the heart of ontology itself. For her, plasticity is not simply a capacity for adaptation; it is the very structure by which form is both made and unmade. She introduces the concept of destructive plasticity, a radically new term that names the brain's potential not only for repair but for irreversible disruption and erasure. Malabou's analysis is distinctive not just for its philosophical depth, but for its imaginative range. She bridges neurobiological trauma with psychoanalytic fracture and literary metamorphosis, invoking figures from Proust, Duras, and Kafka, to map the existential stakes of neural transformation (Malabou, 2012). Within her discussion, neuroplasticity appears as a conceptual threshold not a smooth promise of healing, but a volatile, sometimes violent marker of identity's inherent instability.

Metamorphoses

The story of Daphne fleeing Apollo's unwanted advances is one of the earliest metamorphoses analysed by Catherine Malabou in her *Ontology of the Accident: An Essay on Destructive Plasticity*. In a desperate plea for rescue, Daphne abandons her former,

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enchanting form and is transformed into a tree. In a single moment, her previous identity is both annulled and replaced by a new form:

> Nothing left of the former body other than a heart that for a time beats under the bark, a few tears. The formation of a new individual is precisely this explosion of form that frees up a way out and allows the resurgence of an alterity that the pursuer cannot assimilate. In the case of Daphne, paradoxically, the being-tree nonetheless conserves, preserves, and saves the being-woman. Transformation is a form of redemption, a strange salvation, but salvation all the same. By contrast, the flight identity forged by destructive plasticity flees itself first and foremost; it knows no salvation or redemption and is there for no one, especially not for the self. It has no body of bark, no armor, no branches. In retaining the same skin, it is forever unrecognizable (Malabou, 2012, pp. 11–12).

Daphne, cast as a metaphorical patient afflicted by an explosion of plasticity, is a startling figure. It is particularly striking to hear that she remains entirely herself-imprisoned in an alien body, yet untouched as a woman and ontologically intact. Anticipating later developments, one may disclose to the reader that this metaphor will serve as a conceptual scaffold for subsequent examples of explosive plasticity of the kind that the brain exhibits following trauma, injury, or disease. What emerges is the question of identity in the wake of such disruption. More often than not, the external body remains unaltered, while the person within is no longer recognisable, neither to themselves nor to others.

And yet, we must imagine the opposite condition, the one experienced by Daphne. She remains fully herself, though the external world perceives her as a tree.

If we were to seek a contemporary illustration of the existential condition Daphne might have experienced after her

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mythological metamorphosis, a compelling parallel can be found in Jean-Dominique Bauby's memoir *The Diving Bell and the Butterfly* (Bauby, 1998). A prominent journalist, Bauby awoke from a three-week coma to discover that he had developed locked-in syndrome following a massive stroke. While his mind remained lucid and active, the outside world initially perceived him as entirely unresponsive: cut off, as it were, from human interaction and expression. Only later did those around him realise that he was fully conscious, able to perceive his environment through a single functioning eye and to communicate through a laboriously devised system of coded blinks.

The myth of Daphne, and its faint modern counterpart in Bauby's experience, fulfils a dual function. On the one hand, it dramatises the existential plight of a fully conscious mind imprisoned within an immobile, unresponsive body. On the other, it opens a more disquieting philosophical horizon: could there exist a condition even more tragic than this radical dissociation between mind and body?

Catherine Malabou provocatively argues that such a condition does, in fact, exist. In her account, the figure of the *ontological refugee*, a subjectivity irreversibly shaped by what she terms "destructive plasticity," embodies a more devastating loss: not of motor function, but of psychic and existential coherence itself. From this perspective, Daphne, who preserves a continuity of self despite her bodily metamorphosis, emerges not as a tragic figure, but as a rare case of metaphysical survival. Her rootedness is not merely vegetal. It is ontological.

Ontology of the Accident can be read through multiple lenses: psychoanalytic, aesthetic-literary, and interdisciplinary. In the first mode, Malabou engages with Freud and analyses cases of traumatised psyches; in the second, she explores moving examples of literary metamorphosis; and in the third, she calls upon philosophy to follow in the footsteps of Spinoza, the first philosopher to recognise the importance of the nervous system.

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In his *Ethics*, Spinoza famously observes that the human body, though retaining its vital functions, may undergo such profound alterations that it becomes "very different from its own nature." He adds that nothing obliges us to assert that a body only dies when it becomes a corpse: "For it happens sometimes," he notes, "that a man suffers such changes that it is not easy for me to say that he is the same." As an example, Spinoza recalls the case of a Spanish poet Góngora who, after recovering from illness, became so estranged from his former life that he denied authorship of the very works that had once defined him (Spinoza, 2000, p. 256)[1].

This early recognition of the transformative, and perhaps destructive, power of neurological change reverberates powerfully with Malabou's own theorisation of destructive plasticity. Both thinkers, across centuries, resist any naïve continuity of identity in the face of radical psychic or somatic disruption:

> A new, unprecedented persona comes to live with the former person, and eventually takes up all the room. An unrecognizable persona whose present comes from no past, whose future harbors nothing to come, an absolute existential improvisation. A form born of the accident, born by accident, a kind of accident. A funny breed. A monster whose apparition cannot be explained as any genetic anomaly. A new being comes into the world for a second time, out of a deep cut that opens in a biography (Malabou, 2012, p. 2).

At this stage, several further questions emerge. Is Malabou perhaps conflating disease or injury with cerebral plasticity as

[1] Spinoza refers to "a certain Spanish poet" who, after an illness, no longer recognised the plays and tragedies he had written (*Ethics*, Part IV, Proposition 39, Scholium). Although he does not name the poet, some scholars have speculated that he may have had Luis de Góngora y Argote (1561–1627) in mind, who reportedly suffered from severe memory loss later in life (see Curley, 1988, p. 569).

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a reparative process? Does *licencia poetica* permit a philosopher to transform medical concepts into metaphors, or to stretch the meanings of established terms to the point that they become their own reversal? Can a case of personality change following brain trauma be legitimately described as plasticity, simply because the brain has produced a new, alien identity for its owner? And finally, is the medical community's silence on Malabou's concept a deliberate omission, an avoidance of engaging with a notion deemed too rhetorically extravagant to warrant rebuttal? These questions would be less troubling if the medical literature had never reported instances of *maladaptive plasticity* in the context of spinal cord regeneration, or if no neurosurgeon had ever admitted that a patient's recovery from brain surgery came at the cost of a profound transformation in personality[2].

It would be less disquieting if we did not know of those whose neurological transformation has rendered them profoundly changed: individuals whom strangers might still recognise as present, but whose loved ones can no longer reach

[2] A neurosurgeon counts on neuroplasticity as an ally in the rehabilitation process. Together with a team of speech therapists, psychologists, and physical therapists, they can anticipate a favourable course of neuroplastic brain repair following trauma. But can they predict the changes that might occur in the patient's personality as a result of those very reparative processes? The canonical examples of such unpredictability are the cases described by Antonio Damasio. This is the 19th century case of Phineas P. Gage and, secondly, his modern counterpart, Elliot. In both cases, we are dealing with prefrontal damage (in the first case due to an unfortunate accident, and in the second because of the meningioma) accompanied by a radical change in both patients' personalities while maintaining most of their mental capacities intact: "In some respects, Elliot was a new Phineas Gage, fallen from social grace, unable to reason and decide in ways conductive to the maintenance of betterment of himself and his family, no longer capable of succeeding as an independent human being" (Damasio, 2006, p. 38).

them, no longer halt the slow and often irreversible drift into cognitive or emotional distance. No one is to blame for this abyss, and yet it seems, at times, that these individuals have lost the thread of meaning in their lives. The transformation has already occurred; the destructive potential of plasticity has taken effect.

It may be unrealistic to expect philosophers to conduct comprehensive reviews of clinical literature, especially since reports on the darker side of neuroplasticity appear only intermittently. Yet, if we are to take the ideal of consilience seriously, then it is fair to expect that those who build philosophical arguments upon biologically grounded concepts also engage responsibly with relevant medical evidence.

Rather than accusing Malabou of rhetorical overreach, we might instead recognise her conceptual daring and her determination to unsettle established categories. When the subject is human identity and the stakes are existential, such provocations are not only defensible, they are philosophically generative, opening space for inquiry that her work compellingly invites.

A shortened definition of cerebral plasticity, according to her, is, nonetheless, rhetorically powerful: "a reserve of dynamite hidden under the peachy skin of being-for-death" (Malabou, 2021, p. 1).

What renders Malabou's argument both provocative and conceptually paradoxical is her suggestion that this latent "dynamite" resides within every human brain, an intrinsic, unruly potential for self-repair and reconfiguration. Notably, she refers to this capacity as *cerebral plasticity*, rather than adopting the more widely recognised clinical term *neuroplasticity*.

This terminological shift may be interpreted in at least two ways: as an intentional distancing of her philosophical inquiry from a narrowly biomedical discourse, or, conversely, as a strategic gesture aimed at reclaiming a more expansive and philo-

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sophically resonant vocabulary. Significantly, Malabou does not hesitate to reference medical and pedagogical contexts in which *neuroplasticity* remains the dominant term, suggesting that her preference for *cerebral plasticity* is less a rejection of scientific usage than a reframing of it to accommodate the broader ontological and existential stakes her project seeks to address.

As she notes:

> In science, medicine, art, and education, the connotations of the term "plasticity" are always positive. Plasticity refers to an equilibrium between the receiving and giving of form. It is understood as a sort of natural sculpting that forms our identity, an identity modeled by experience and that makes us subjects of a history, a singular, recognizable, identifiable history, with all its events, gaps, and future. It would not occur to anyone to associate the expression "cerebral plasticity" with the negative work of destruction (the type of destruction wreaked by so many cerebral lesions and different traumas). In neurology, deformations of neuronal connections, breaches in cerebral contacts, are not considered instances of plasticity. Plasticity is only evoked when there is a change in the volume or form of neuronal connections that impacts the construction of personality. No one thinks spontaneously about a plastic art of destruction. Yet destruction too is formative. A smashed-up face is still a face, a stump a limb, a traumatized psyche remains a psyche. Destruction has its own sculpting tools (Malabou, 2021, pp. 3–4).

Thus, we may provocatively ask: can neuroplasticity, understood as the brain's unbridled capacity for reorganisation, not only sustain life but also hasten death?

We have already heard from Malabou about the death of identity and ontological exile.

But could neuroplasticity, under certain circumstances, lead not merely to existential death, but to physical death itself?

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The infinite possibilities of the brain

One of the contemporary leaders in brain research, already mentioned in the previous chapter, neurosurgeon Hugues Duffau, explores the extraordinary possibilities of neuroplasticity, particularly in cases involving tumors of the central nervous system, where the patient's brain reorganises itself in a highly individualised manner (Duffau, 2016)[3]. In his book *L'erreur de Broca*, Duffau recounts a conversation with one of his patients, a law student. He explains to her that the slow-growing tumour in her brain (a low-grade glioma) would likely have remained undetected for a long time. However, since she suffered from migraines unrelated to the tumor, imaging studies were performed, leading to the accidental discovery of the growth. The brain is so remarkable that it can conceal the presence of a lethal illness from the patient. Neuroplasticity allows healthy areas of the brain to take over the functions of the diseased regions without the patient being consciously aware of the shift.

It does not require deep reflection to recognise here a certain, perhaps unsettling, admiration for the mechanisms of neuroplasticity, mechanisms that, paradoxically, assist the disease and ultimately lead to death. If the first symptoms of a grade IV glioma—into which a slow-growing tumor may eventually develop—are allowed to appear, it will already be too late to save the patient's life. In the case described, it was neuroplasticity itself that masked the tumour from the patient's consciousness. Ultimately, surgical removal of the tumour

[3] In this work, Duffau challenges the classical localisationist approach to brain function, proposing instead a model based on the concept of the connectome, which takes into account the brain's dynamic networks of neural connections. This approach carries significant implications for neurorehabilitation, particularly in the context of operating on functional brain areas.

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could allow the young woman to continue leading an almost normal life, with neuroplasticity again becoming her ally during postoperative rehabilitation.

Another question concerns the direction of new connection-building processes in the patient's brain. While postoperative rehabilitation tends to favour the recovery of speech and motor functions, there is still a lack of sufficient data to support equally optimistic prognoses regarding the recovery of other higher cognitive functions. Would a person who still walks and talks, smiles, recognises their loved ones, still be themselves if, say, they lost the ability to read books, listen to music, or focus on their favourite painting albums? Or would they still be themselves if, despite walking and talking, they no longer understood jokes, let alone told them with the flair they once had?

These are just some of the possible losses; losses that might well be worth enduring to live a few more years and witness, for instance, one's child's wedding or the birth of a grandchild. Perhaps such losses do not always mark the end of a person, but rather create space for other, previously unseen traits and activities to emerge?

If we were to take the title of Duffau's chapter literally, the possibilities of the human brain are indeed infinite, and unpredictable. The true dilemma lies in the fact that we cannot exclude complications such as epilepsy, resulting from hyperactive neural reconnections, chronic pain syndromes, or, as Catherine Malabou most fears, profound and irreversible changes to personality.

This is precisely why neurobiology and philosophy should enter into a sustained dialogue, not only for practical ethical reasons but also because medical interventions aimed at prolonging life may do so at the expense of its meaningfulness. Paraphrasing Malabou, one might say that a patient who survives a successful operation may emerge physically intact

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yet find themselves ontologically displaced, a stranger to who they once were.

This prompts a fundamental question:

Does medicine possess the moral right to celebrate its victories over disease without restraint, especially when these triumphs come at the cost of unpredictable transformations in the patient's selfhood? Such concerns are not limited to neurosurgical procedures. They extend to the delayed cognitive and emotional toll of chemotherapy or radiotherapy, treatments that are clinically effective yet may quietly undermine the patient's personality and inner vitality.

A hopeful shift is emerging, however, from within medicine itself: the rise of *value-based neurosurgery*, which seeks to complement evidence-based medicine with an explicit commitment to ethical reflection. A similar reorientation is evident in the growing discipline of neuroethics (Ammar & Bernstein, 2020, pp. 171–180).

In my view, this turn toward values must not only address the practical and moral dimensions of care; it must also reclaim *aesthetic sensibility* as a critical aspect of human dignity. By this, I mean attentiveness to the surrounding world, in the spirit of pragmatism, for instance, which has taught us to "bring the sublime back to earth" and to recognise the value inherent in ordinary experience. I also refer to the importance of those aesthetic pleasures that help sustain a sense of ontological security. Their range is vast. Yet in the wake of drastic interventions involving negative plasticity, their role in maintaining the identity of the person experiencing loss is typically overlooked. Consider, for instance, the trauma of being forcibly uprooted from a beloved village and placed in the sterile anonymity of a hospital room. Or think of the existential rupture brought about by the sudden loss of a loved one and the home in which one once felt secure. Not all loss announces itself through cataclysmic events: death, divorce,

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war, or the burning down of one's house. At times, what is taken from us appears, on the surface, trivial.

Yet my point is that our sense of ontological security, our groundedness in the world, is often sustained by what seem to be minor, even forgettable, details: the view of a garden framed by a familiar window, the habitual rhythm of walking across a field, or the enveloping silence unbroken by the hum of traffic. This silence, in particular, is an aesthetic form of comfort, one that, in the face of crisis, feels almost illicit to desire, let alone to defend. In times of upheaval, the aesthetic is frequently cast into a realm of longing that is deemed unworthy, even shameful: as if beauty and solace no longer have the right to be mourned.

In the loss of small things, though aesthetically significant, we can also perceive what Malabou writes about: a slow destruction that alters the subject irreversibly. Plasticity, however, should imply a return to an original form. And yet, this is not the case, at least not in Malabou's narrative.

The literary dimension of Malabou's exploration of destructive plasticity proves especially thought-provoking. In this domain, we may feel somewhat more at ease than in the high-stakes context of brain surgery or the life-altering traumas that render us exiles from a once-safe world. Yet fiction, as we are prone to forget, sensitises us to reality. It acts as a kind of inoculation against real-life afflictions, or at the very least, offers us "potential case studies" that prepare the reader for profound existential transformations. Through her literary examples, Malabou engages in an aestheticisation of loss, exploring the semantic potential of negativity. She presents its various manifestations, inviting the reader to dwell within its full range, as though anticipating the moment when loss will inevitably become their own.

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The dark aesthetics of aging

In *Finding Time Again* Marcel Proust juxtaposes two temporal modalities of aging: the slow, imperceptible erosion of form and the sudden, uncanny onset of old age. Catherine Malabou draws attention to this tension, valuing the moment when Proust's narrator, returning to the Guermantes' residence after many years, recognises familiar faces that time has rendered strange. In this first modality, the subject remains legible: altered, but still continuous. Sagging eyelids, slouched posture, and physical deformities mark the passage of time, but do not erase identity. As Proust writes of the Duchess Oriane de Guermantes:

> In the cheeks of the Duchesse de Guermantes, still very recognizable but now as variegated as nougat, I could make out a trace of verdigris, a small pink patch of crushed shell, and a little lump, hard to define, smaller than a mistletoe berry and less transparent than a glass pearl (Proust, 2002, pp. 245–246).

Here, time is an artist, slow and methodical in its sculpting. Yet sometimes, this same artist disfigures violently. During the same reception, the narrator observes Monsieur d'Argencourt's eye so radically changed that he experiences the illusion "of being in the presence of another person altogether" (Proust, 2002, p. 231). The series of literary examples invites reflection on real-life experiences. Malabou, as it were, teaches us to see what we are going through, even if we do not always consciously diagnose the unsettling symptoms of change. This second example resonates with the experience of a sudden shift in the gaze of a loved one, a sudden change in mood, the kind of change that, as Malabou writes elsewhere, knows no past, or at the very least, one whose signs we failed to recognise in the past.

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Yet returning to this particular example from Proust: for Malabou, it represents another modality of changing: one that is sudden, convulsive, and ontologically destabilising. Due to its ambiguity, at once an excess of self and a sudden incognito, old age, she argues, is in no way a work of truth. Between gradual becoming and instantaneous precipitate, it never reveals the "true" nature of beings, a nature which would show itself "in the end," even if, through the gradual deformation mentioned earlier, like the work of an artist, it does accentuate the salient features of the individual (Malabou, 2012, p. 54).

Her reading introduces negativity as a philosophical rupture: when transformation becomes unrecognisability, the continuity of the self is undermined.

Malabou elaborates this theme with another, less controversial case: the self-representation of Marguerite Duras. In *The Lover*, Duras portrays herself as someone who, in an instant, transforms from a beautiful girl into an old woman. According to Malabou, Duras was only truly young for eighteen years:

> Is there anyone who is not surprised by the photographs of the young Marguerite Duras? Did we not all ask how such a pretty girl could have transformed herself into that shrunken, toady, raspy voiced woman with her chunky glasses and cigarette hanging from thick lips? The transformation did not in fact occur over the years, as one might have imagined; it was well and truly instantaneous. Suddenly, right in the midst of her youth, the first woman brutally became the second (Malabou, 2012, pp. 55–56).

The comparison to Kafka's *The Metamorphosis* is deliberate: just as Gregor Samsa awakens to an alien body, Duras's metamorphosis is instantaneous and irrevocable.

Yet again, Malabou's reading amplifies the moment of rupture, asserting:

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> Duras seems to have been preserved from, deprived of, the gradual erosion of time, the first aspect of deformation described by Proust. She appears to have been thrown ahead of herself by a secret anticipatory device (Malabou, 2012, p. 56).

This interpretation finds possible biographical grounding in Duras's traumatic past; childhood abuse and early descent into alcoholism. But what truly distinguishes Malabou's analysis is her bold turn from content to form: the style of Duras itself, she argues, bears the mark of destructive plasticity. Through the rhetorical figure of asyndeton—a deliberate omission of conjunctions—Duras creates a syntax of violence:

> An asyndeton is a sort of ellipse in which the conjunctions that combine the propositions and segments of the sentence are removed. It belongs to the class of disjunctions and it telescopes words, which come one after the other, one on top of the other, occurring as what amounts to so many accidents. They dent each another, lose all flexibility, surface, grease, society. The asyndeton is linguistic alcoholism (Malabou, 2012, p. 61).

For both musicians and philosophers reflecting on music, the third of Malabou's literary examples of destructive plasticity may prove particularly moving, though she does not fully explore a certain latent potential that resonates musically in Thomas Mann's novel *Buddenbrooks*. While she does acknowledge the musicality inscribed in the tragic fate of the ill-fated boy, she does not analyse the significance of his improvised musical act, performed just before the reader learns that he has contracted typhoid fever: In *Buddenbrooks*, Malabou states:

> Thomas Mann describes the slow decline of a grand bourgeois lineage, the degeneration of four generations of merchants, consuls, and

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> senators in the Hanseatic free town of Lübeck. But the penultimate and eponymous main character of the novel Thomas dies brutally in his prime. The suddenness of his death distinguishes it from the movement of slow degeneration that exhausts his lineage little by little. Thomas Buddenbrook dies of a simple toothache. (…) Thomas' death comes briefly before the death of his son Hanno, the last male in the lineage and the only descendant, killed by typhoid disease. The full power of the end of the novel derives from the separation between the two deaths. One is sudden, the other slow and gradual, yet both are indicators of the same decadence (Malabou, 2012, pp. 64, 67).

If literature (or more broadly, art) can offer us a deep insight not only into the psyche of an individual but also into the fatal trajectory of their life, then such is the case with the fate of young Hanno. What is truly striking, is that his death arrives through music. Mann describes a non-existent composition (an improvisation by the fever-stricken boy) in which the approach of death can be heard.

Since music has not yet taken centre stage in this chapter, let us now allow it to resonate through the improvised performance of young Hanno. This passage is, in a sense, music itself: I refer here to the rare ontological displacement in which a literary work approaches musicality, challenging conventional boundaries between genres and artistic disciplines. Yet this is not the only reason to "listen to" Hanno's improvisation *in extenso*. One might get the impression that this improvised music enacts the work of negative plasticity. We do not know where it is headed. Toward the birth of a new, stronger musician, one immunised against fate? Or toward a collapse, decline, one to which, as the subtitle of Mann's novel suggests, every figure in the Buddenbrook lineage is doomed?

> He sat down and began to improvise. He introduced a very simple theme, nothing really, a fragment of a nonexistent melody, a figure of

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a bar and a half; he first let it ring out in the bass, with a power one would not have expected of him, and it sounded like a chorus of trombones, imperiously announcing some fundamental principle, an opening onto what was yet to come—and with no clear indication of what it really meant. But when he repeated and harmonized it high in the treble, in tone colors like frosted silver, its essence was revealed to be a simple resolution, a yearning, painful descent from one key to another—a short-winded, paltry invention, which gained its strange, mysterious, momentous quality from the pretentious, resolute solemnity of its definition and presentation. And now followed agitated runs, a restless, syncopated coming and going, a searching and wandering, rent by shrieks, like a soul tormented by sounds that will not ebb into silence, but only repeat themselves in new harmonies, new questions and laments, new desires, demands, and promises. The syncopations grew more and more violent, helplessly jostled about by scurrying triplets. The intruding shrieks of fear, however, took form, closed ranks, became a melody—and then came the moment when they achieved mastery as a fervent, plaintive chorus of woodwinds raised in strong yet humble song. The prodding, faltering, straying, flagging uncertainty yielded and was conquered. In simple, determined rhythms, a contrite chorale resounded like a child's prayer. And ended in a churchly cadence. And now a fermata, and silence. But wait, suddenly, very softly, in tone colors like frosted silver, the first theme returned, that paltry invention, that silly or mysterious pattern, that sweet, painful descent from one key to another. And there arose a great rebellion and a wild, frantic commotion, dominated by fanfarelike accents, declarations of savage determination. What was happening? What was coming now? It rang out like bugles sounding the charge. And then its forces seemed to assemble, concentrate themselves; firmer rhythms joined together and a new theme established itself, an impudent improvisation, a kind of hunting song, daring and stormy—but not joyful. At its heart was a desperate defiance; its signal calls were also cries of fear, and again and again, under it all, were heard the wrenched, bizarre harmonies of the first theme, that enigmatic theme,

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so distraught, demented, and sweet. And now began an inexorable succession of episodes, whose meaning and nature were obscure, a picaresque adventure of sound, rhythm, and harmony, which Hanno himself did not control, but merely let take shape under his busy fingers, each episode a new experience that he had not heard coming. He sat bent down over the keys, his lips parted, a distant, rapt look in his eyes, and his brown hair fell down over his temples in soft curls. What was happening? What was he feeling? Was this his way of overcoming dreadful obstacles? Was he slaying dragons, scaling mountains, swimming great rivers, walking through fire? And, like shrill laughter or some inscrutable promise of blessing, that first theme wound its way through everything—a fragment, nothing really, a descent from one key to another. Yes, it roused itself again now to new violent exertions, pursued by mad octave runs that fell away screaming; and a slow, unyielding surge began its ascent, a chromatic struggle upward, full of wild, irresistible desire, abruptly interrupted by bursts of appalling, taunting pianissimi, as if the ground were slipping away underfoot and the long slide down into lust had begun. Suddenly it seemed as if one could hear, very soft and far away, the censure of those first chords of contrite, suppliant prayer; but then, immediately, a flood of ascending cacophony pounced on it, gathered into a solid mass that trundled forward, fell back, scrambled up again, subsided, ceaselessly struggling to reach the ineffable goal that had to come, had to come now, at this moment, at this terrifying pinnacle, while unbearable anguish panted on all sides. And it came, it could not be held back any longer, the convulsions of desire could not be prolonged; it came—like curtains ripping open, doors flinging wide, thorny hedges sundering, walls of flame collapsing. Resolution, dissolution, fulfillment, perfect contentment burst overhead—and in ravished exultation everything untangled into a beautiful chord that descended now with a sweet, yearning ritardando into another chord. It was the theme, the first theme again! And what happened now was a celebration, a triumph, an unrestrained orgy of that same theme, reveling in all conceivable nuances, spilling through every oc-

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> tave, weeping, fluttering in a tremolando, singing, rejoicing, sobbing, marching victorious and laden with all the bluster, tinkling chimes, and churning pomp of a great orchestra. It was the fanatical cult of nothing, of a fragment of melody, a brief bar and a half of childish, harmonic invention—and there was something brutal and doltish about it, and something ascetic and religious at the same time, something like faith and self-renunciation; but there was also something insatiable and depraved beyond measure in the way it was savored and exploited. It sucked hungrily at its last sweet drops with almost cynical despair, with a deliberate willing of bliss and doom, and it fell away in exhaustion, revulsion, and surfeit, until finally, finally, in the languor that followed, all its excesses trickled off in a long, soft arpeggio in the minor, modulated up one key, resolved to the major, hesitated, and died a wistful death. Hanno sat very still for a moment, his chin on his chest, his hands in his lap. Then he stood up and closed the keyboard. He was very pale, his knees had gone weak, his eyes burned. He went into the adjoining room, stretched out on the chaise longue, and lay there for a long time without stirring a muscle (Mann, 1994, pp. 575–577).

If we were to take Malabou's lesson to heart, we might discern a trace of explosive, destructive plasticity in Mann's description of Hanno's music. For in this passage, Mann seems to suggest that the boy is overtaken by a destructive force that compels his organism to retreat from life. One might also view this example from the perspective of someone witnessing the irreversibility of destruction unfolding nearby. They perceive the absurdity of this negative force, attempt to rationalise it, sometimes out of helplessness choose to remain silent or drown it out with trivial conversation, but are ultimately unable to heal it. The innocence and vulnerability of little Hanno is moving for many reasons, but perhaps most of all because it reflects the helplessness of any subject in the face of an incomprehensible force of destruction; a force that steals youth, potentiality, and

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future. It leaves behind ruins not only in the one it overtakes, but also in those who witness it. And cannot stop it.

Mapping the singular through the connectome

This chapter has traced the philosophical and medical discourses surrounding neuroplasticity in order to reveal a tension at the heart of contemporary understandings of the brain. On one side stands the optimistic biomedical narrative, which frames plasticity as the brain's miraculous capacity for healing, growth, and resilience. On the other, thinkers like Catherine Malabou urge us to attend to its destructive, unpredictable potential, the moments when change ceases to be redemptive and becomes ontologically catastrophic.

Such an ambivalent view challenges the myth of plasticity as a purely therapeutic force. Instead, it highlights how transformations of the brain, whether from trauma, disease, rehabilitation even through the opaque spiritual disintegration of someone who, all at once, has lost their sense of meaning and purpose, may leave identity profoundly altered or unrecognisable. This calls into question the assumption that medical recovery necessarily equates to personal restoration.

What this analysis reveals, above all, is that neuroplasticity, far from being a universal engine of adaptability, exposes the irreducible singularity of each brain, each connectome. Though human brains share a general topography, the specific pathways and network configurations that define an individual's mind are as unique as a fingerprint. It is precisely this singularity that escapes generalisation, eludes standard metrics, and resists assimilation into solely empirical models. Herein lies the humanistic value of the connectome: not merely as a neuroscientific map of the brain, but as a metaphor for the entwining of the universal with the personal.

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CHAPTER V

Transfugium

And thus he constructed the soul according to harmony and fixed it in due proportion in the worldbody. And he gave it the motions and proportions of the seven circles of the heavens, such that the soul might partake in the numerical and harmonic order of the cosmos.

Plato, *Timaeus*, 35c–d; trans. R. G. Bury

Hatsune Miku is sixteen, 158 cm tall, with blue saucer eyes, long turquoise bunches, slim hips, and a vocal range of A3 to E5—well beyond any human's—and not exactly real. She is an avatar of Vocaloid (voice synthesis) software, designed by Crypton Future Media in 2007 and billed as an android diva in the near-future world where songs are lost.

She sings songs selected from the many thousands composed and uploaded by her fans. To date, her repertoire exceeds 100,000 songs. Hatsune Miku performed her first 'live' concert in 2009 at the Saitama Super Arena.

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While she is recognisably human—and her library of vocal sounds is stitched together from samples of real voice actress Saki Fujita—Hatsune is a fully digital artefact, a hyperreal avatar. She commands a vast following and represents the triumph of open-source participatory culture.

Yet fans see her as no more artificial than any other teen idol, such as Justin Bieber or members of the Korean boy band BTS. In fact, they see in her a purity and authenticity beyond that of 'mere' humans.

In November 2018, a 35-year-old Japanese man named Akihiko Kondo 'married' Hatsune Miku. Miku-san is the woman I love a lot and also the one who saved me**,** *he said.*

Michael Spitzer, *The Musical Human*, chapter: *Machine*

But what if a machine were not a mere tool, but an agent endowed with consciousness, free will, and superintelligence? With these qualities would come creativity—so a musical AI would be a composer sophisticated enough to convince even the experts.

Indulging in a bit of futurology, the prospects are enticing—not least because they offer a potential solution to the problem of musical death. An AI Ludwig van Datahaven could become a kind of heaven for the composer's musical soul.

Or imagine a young and healthy composer working alone, sometimes collaborating. One could, for instance, upload their consciousness to a computer, allowing their physical and virtual identities to pursue parallel careers. With such technology, it would even be possible to upload an outstanding musical mind in every decade

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> *of its existence, perhaps alongside a display cabinet exhibiting the skulls of Mozart aged two, ten, and so on.*
>
> Michael Spitzer, *The Musical Human*, chapter: *Machine*

In the short story by the Polish Nobel laureate, a self-driving car transports the narrator to the *Transfugium*, a facility where one can undergo a transformation from a human being into an older, biologically and evolutionarily prior form of animal existence. The Western conception of dying is here displaced by Eastern wisdom, personified in the figure of Dr. Choi, who, invoking Ovid, helps his patients undergo metamorphosis into an earlier evolutionary form: becoming a wolf, a hedgehog, or even a larch tree. From here, it is but a small step to the mythological Daphne, evoked by Catherine Malabou in her reflections on *negative plasticity*. Transformation into a tree might, in fact, be understood as a form of *transfugium*, as envisioned by Olga Tokarczuk. And certainly, so too might Kafka's protagonist's metamorphosis into vermin.

As Maurice Blanchot put it:

> The state in which Gregor finds himself is the same state as that of a being unable to quit existence, one for whom to exist is to be condemned to always fall back into existence. Becoming vermin, he continues to live in the mode of degeneration, he digs deeper into animal solitude, he moves closer still to absurdity and the impossibility of living (Blanchot, 1981, p. 73, as cited in Malabou, 2012, p. 15).

Yet what for Olga Tokarczuk constitutes a liberation from the burdensome condition of human existence, for Catherine Malabou signifies the destruction of subjectivity, a potential inscribed within the plastic capacities of the human brain. And yet this is precisely where the difference lies. Transformation,

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even one that degrades is inscribed in the condition of being human. The body, whether battered, exhausted, or disfigured, still carries within it a subjectivity entwined with its form.

This divergence invites reflection oriented in the opposite direction. Instead of embodiment in another evolutionary form, vegetal or animal, one might consider disembodiment: a movement toward liberation from the material shell that burdens, constrains, and obstructs. But who might be drawn to such a fantasy?

Disembodiment

The announcement that the next edition of the Chopin Competition would allow holograms to participate brought Cho genuine joy. After all, she was one of millions of algorithmic embodiments that had transcended the limitations of the body in order to become music. And she had been waiting for this day—the day the world would finally allow the disembodied to compete musically. That, after all, was the very essence of her craft, wasn't it? To play as if one possessed not only an infallible mind, but above all, no undersized hands or aching back from endless hours at the piano. Cho became a disembodied version of herself at the moment, still a teenager, when she could already play anything. Her digital persona continued to evolve, nourished by literature, by simulations of illness and misfortune—the very forces that sculpt a plastic subjectivity in biological life. Cho even knew what death was, having experienced it through the weakening of her own body, when she was diagnosed with an advanced form of glioma for which even China's most cutting-edge neurosurgical clinics had no remedy. She thus became the first participant in the Chopin Competition to have undergone physical dying—even as she was already emulating herself into digital form. What her living grandmother would have considered impossible just a few decades earlier had become the everyday reality of many Chinese families. In addition to benefiting

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from government programs, Cho also experienced the support of her devotees—for it should be noted that in many cities, communities had emerged that paid homage to spiritualized algorithms. Mysticism is born of mathematics and music, her late grandfather used to say, and disembodiment offered a chance to experience this trinity of power more profoundly than he could ever have imagined. The difference between her and other emulations of human minds was essential. Cho had lived through her own death. At a time when China had already achieved an 84.89% treatment success rate for stage four glioma, she alone had remained resistant to therapy. She had experienced every form of consciousness. Long before she objectively ceased to exist, she had departed many times. She had been half-sleep. She had been half-being. Unlike the other embodied pianist-entities competing alongside her, she alone was a being-toward-death, one who had encountered death as an event within life. Cho was, in a sense, a philosophical irony, an impossible embodiment of the consilience of thought between Epicurus, Wittgenstein, and Heidegger.

Is there anyone in what we listen to?

As early as the twentieth century, George Steiner questioned the actual presence of the experiencing subject in discourse on music, painting, and literature. He expressed concern about the unreflective reception of works of art, a mode in which the living internalisation of music, image, or poem is displaced by a form of consumption that demands no genuine engagement, at best supplemented by second-hand commentary. The question of real presence can, of course, be understood in various ways. Here, I refer on the one hand to the presence of the reader, listener, or viewer, one who internalises the work and responds to it with their own singular sensibility. On the other hand, I am also thinking of the experience of the sender's presence, the sense that the sender of the message establishes

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a bond with a potential recipient. Let us not forget that George Steiner, too, in *Grammars of Creation*, referred to the trinity of music, mathematics, and mysticism, a constellation he traced back to Plato's *Timaeus*, of which, in our fictional narrative centered on the Chopin Competition, Cho's grandfather was a devoted admirer (Steiner, 2001).

I focus here on the aesthetic and existential dimension of musical performance in an age of flourishing Artificial Intelligence. Does the development of AI algorithms and robotic musicianship significantly threaten this experience? Will the listener of the future have trouble recognising whether the sender of the artistic message coming from the radio is a human being or an algorithm imitating one? Or should we rather be concerned about whether listeners will care about this distinction at all? The very formulation of this question reveals the discomfort of our predicament. Mind uploading does not belong to the realm of thought experiments I, as a layperson, ought to be engaging in; and yet, as someone living in the same era as Raymond Kurzweil, I feel absolved of any guilt in taking that risk.

Deceptive aesthetic experience

My concerns specifically relate to the authenticity of aesthetic experience, replaced by what I call *deceptive aesthetic experience*. While algorithms that compose music in the style of Chopin, Mozart, or Bach are not yet beyond the level of a promising conservatoire student, the very possibility of an algorithm emerging that convincingly mimics, say, the piano style of Glenn Gould, is troubling. Since the pace of this technological development remains unpredictable, this is not a matter of some safely distant or purely speculative future. Already today, projects exist that aim to approximate the performance style of individual artists.

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The Yamaha project, launched in 2019, exemplifies this emergent reality. It aims to reconstruct the highly distinctive performance style of Glenn Gould through the application of advanced artificial intelligence. Drawing on over 100 hours of archival recordings by Gould, as well as performances by pianists deeply familiar with his interpretive language, Yamaha developed a deep learning model capable of rendering musical works in a manner closely aligned with Gould's style, even in the case of compositions he never performed.

But how, then, does the *Aria* from the *Goldberg Variations* sound when interpreted by *Dear Gleen* system? At times, the performance reveals peculiar manipulations of musical timing, apparently echoing Gould's idiosyncrasies, alongside abrupt shifts in tone colour. Classical music, perhaps more than any other genre, makes visible the dynamics of the so-called "uncanny valley": the closer an AI-generated performance comes to resembling human expressivity, the more acutely even minor deviations tend to elicit discomfort. When 95 percent of a rendition feels convincingly human-like, but the remaining 5 percent includes unnatural inflections, such as a counterintuitive acceleration unlikely to be made by a human performer, the outcome can be more unsettling than a performance that is overtly mechanical. In such contexts, the absence of musical intentionality and perceived authenticity gives rise to a sense of artificiality, even when this impression resists clear articulation. Perhaps what emerges here is a new dimension of the Kantian notion of *sensus communis*. What I mean is that *sensus communis* ought to be reconsidered as a fundamental instrument for placing trust in the human element present in art, an element whose very existence Kant himself had no reason to question[1].

[1] I would like to thank Professor Iwona Lorenc for drawing my attention to this aspect during the academic conference on classicism, which took place in Zakopane, May 2025.

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Does this mean there is no cause for concern? Should one truly refrain from imagining a future in which AI performance equals that of human musicians if only because, outside a narrow circle of artists and music enthusiasts, such a potential threat is of little interest to most? At this point, the discussion touches on the broader decline of a classical, artistic music culture at least within certain Western societies. This erosion implies that very few individuals would even be capable of discerning the difference between an artificial Gould and the real one.

Let us try to imagine the following situation. A certain listener X, who is the subject of a *deceptive aesthetic experience*, does not know whether X is listening to the performance of a human virtuoso or to an algorithm that efficiently imitates human expression. The object of X's experience does not even have to be a human product, since the self-learning algorithm itself decides on the expressive shape of the interpretation. If we would like to point to an accurate example of what I call a *deceptive aesthetic experience*, we should learn from the lesson given to music lovers by the author of the phonographic fraud, Joyce Hatto. One need only look back to the early 2000s, when people were raving about Hatto's piano art. But it was a cut-and-paste job by her husband, a record producer, who had taken bits from other pianists' performances and released them as Hatto's recordings.

The example of Hatto appears in the argumentation of Denis Dutton, a representative of evolutionary aesthetics (Dutton, 2009). In relation to the intellectual trend of ignoring the author's intentions and proclaiming the *death of the author*, Dutton formulates a concern for the human connection between sender and receiver of an artistic message. In musical performance, the question of artistic intention makes double sense. Firstly, it involves the performer's understanding of the composer's intentions; secondly, it reveals the virtuoso's own intentions as an artist. Therefore, in musical performance and

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its criticism, following Wimsatt and Beardsley's demands expressed in *The Verbal Icon* (1946) under the heading of *intentional fallacy* seems misplaced.

"The fulfilment of the messenger's mission," according to John Rink:

> (…) is determined also by the ability to fill a performance intensely with one's living presence". Today, the artist's intentions take on a new meaning: the real presence of a messenger who shares his or her existence with us in a poem, painting, sonata or its performance on the stage (Chęćka, 2021).

The birth of the reader must be at the cost of the death of the author—argued Roland Barthes. Correcting him in the rise of AI would be to proclaim not the *death of the author*, but the necessity of his re-birth and with it, the need for connection with the author of the unique, artistic message. Who knows whether it is the rebirth of human intention and self-disclosure that will not prove to be our last bastion in the competition with technology.

In this light, the postulate of the artist's *real presence* in the meanings he creates, which George Steiner is concerned with in his book *Real Presences*, gains a new dimension (Steiner, 1989). The second part of the book's title asks: "Is there anything in what we say?" Perhaps the universality of this question is also meant to expose the thoughtlessness of an audience that no longer seeks contact with the *real presence* of the artist, or a link with the source from which the message comes? My main concern, then, is not whether artificial intelligence will one day be able to pretend to play in Glenn Gould's style, but whether the audience will care whether they are listening to a human virtuoso or an algorithm. More broadly, the question relates to the need for an aesthetic experience that presupposes the mutual involvement of virtuoso and audience in the active

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understanding of music. This implies the creation of invisible, spiritual bonds and, more broadly, a reflection on the need for this bond on the part of the artist and the listener.

However, Steiner, writing *Real Presences*, assumed something more—namely, the existence of the Absolute, which we long for when contemplating a work of art. Assuming that today's secular society is not looking for the Absolute in art, one can risk the thesis of the need for the presence of the *Other* who, regardless of the historical context of the work's creation, connects the listener with the composer. Rink argues that a performer on rare occasions achieves this state—such a performer he calls a messenger who fosters a timeless commonality of thoughts and emotions between composer and audiences. Could such a role be entrusted to a mathematical algorithm?

Although it sounds worrying, one can imagine an affirmative answer to this question. Phenomenally, the algorithm has an extraordinary advantage over the human performer; it is incorporeal. And yet, in rare instances of union with music, the human performer overcomes his or her own corporeality and becomes no longer so much a messenger but an instrument to serve the music. A man striving for perfection to some extent *would like to be like an algorithm*. Note that the primaeval phantasm of the unity of music and mathematics is fulfilled here.

Flawless musicality

Perhaps one more issue ought to be considered here: the human tendency to transfer religious needs onto the figure of a robot or, in our case, a disembodied algorithm. One need only recall the example of the robot Mindar. It is not merely a matter of paying homage, however consciously or unconsciously, to a figure like it, or to something similar in the case of music performed flawlessly and without embodiment. Rather, it is

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about the fascination itself: a deep, unsettling captivation with an Other that is almost entirely unlike mortals.

It is worth noting that Mindar is an android, a humanoid figure programmed to deliver sermons based on the Heart Sutra of Mahayana Buddhism. Created in 2019 by Kyoto's Kōdai-ji Temple in collaboration with Professor Hiroshi Ishiguro, Mindar embodies the figure of Kannon, the bodhisattva of compassion. With its polished silver skin and carefully choreographed gestures, it stands at the threshold between object and spiritual authority, at once unsettling and strangely familiar. Worshippers who visit the temple do not bow before Mindar because of its technological sophistication. They come seeking something else: *ritual, calm, repetition*. In its mechanical cadence, some hear a kind of clarity conducive to meditation; others see in it a sign, that spirituality can endure even radical shifts in form. In cities across Japan, communities have begun to gather around such entities, treating them not merely as tools but as vessels of the sacred (Kimura, 2018, pp. 72–81).

My thought, then, moves rather in the direction of a human longing to find fulfilment of religious needs through a similar, spiritualised intermediary. If such a role can be performed by a robot with its nonhuman body, then it may likewise be fulfilled by a disembodied, spiritualised, and musical being. I do not, at this point, engage with questions regarding the supposed religiosity of robots themselves, though such reflections are, indeed, being explored (Dorobantu *et al.*, 2024).

Ironically, the need for flawless musicality is a virtuoso's perennial dream. Already Roland Barthes complained about pianists blinded by the pursuit of technical perfection. In this blindness, however, there is an ecstatic longing to transcend corporeality. Overcoming one's own limitations, on the one hand, exalts the virtuoso, gives him *superhuman qualities*. But on the other hand, the audience feels a human connection with the artist, who, performing music authentically, remains fallible.

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One of the pianists who marked his performances with error, and yet caused ecstasy in his audiences, was Alfred Cortot, whose error-laden recordings can still be reproduced. To add bluntly, Cortot would have lost any duel with artificial intelligence to perform Chopin's *Etude*. But it was he who aroused the enthusiasm of the crowds. His unique way of creating the timbre of the piano, his magical ability to manage musical time meant that false notes and memory gaps were insignificant to the audience (Gavoty, 1997).

A robot does not make mistakes through its imitation of a human being. The reason that it does not is that its human-imposed program excludes errors which makes it appear rather more unhuman than superhuman. It is therefore interesting that the salvation of what is human may be a false note, a memory gap. Better still, it reassures us that there is someone in the music we listen to who shares our frailty.

One might assume that doubt was no longer available to Cho, our fictional heroine. And yet, she distrusted her own talent—a talent that, for a time, had been shaped through the aching of her back and the relentless effort to overcome the impossibility of too small a hand. Once Cho's mind became algorithmic, her pianistic art knew no boundaries:

But talent, she thinks, exists only in the tension between limitation and expression. So is my talent now meant to thrive on the fact that I no longer have a body and can scarcely remember the pain?

Once again, *negative plasticity* returns—a concept which, in Catherine Malabou's reflection, radically transforms the being of the individual, yet nonetheless shapes it, endowing it with singularity, and although it does not always lead to well-being, it remains a form of change, a metamorphosis inscribed in the very condition of being human. The premise of mind uploading therefore fails to account for the essential role of the body as both a site of exposure and a condition for meaning. It is through corporeal limitation—pain, fatigue,

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failure—that subjectivity acquires depth and specificity. Rather than being errors to eliminate, these experiences function as markers of singularity. They are constitutive of what it means to become oneself.

To be sympathetic

A digital mind in the cloud cannot suffer. And what if, without that capacity, one can never fully become an artist? Do we truly want to accept a definition of the musician-artist as someone who *must* be capable of suffering? The artist is a being capable of pain and of experiencing their own finitude in a way that becomes a meaningful expression to others. Or perhaps, remaining faithful to the spirit of the Chopiniana chapter, we should seek the definition of the artist in their capacity for sympathy with human suffering?

Before we bring this stage of reflection to a close, let us return to our imagined, and somewhat unsettling pianist, Cho: an algorithm aspiring to assert its singularity in a Chopin Competition designed for disembodied beings. The very idea of such a competition, beyond its obvious science-fiction overtones, is disquieting as a metaphor. Simply put, it gestures toward the desire to disembody, to perfect, and thus, in some sense, to transcend the human condition:

There were moments, brief and almost imperceptible, when she hesitated before a note. It was not an error. Her codebase permitted no latency, no mechanical imperfection. But listeners began to notice: a fraction of delay before a phrase resolved, a silence stretched just beyond what tradition prescribed, a rubato that could not be sourced to any known recording.

She had become a kind of resonant form: no longer merely an emulation, but a vessel in which something of the original endured. Not consciousness perhaps, in the strong sense. Not intentionality. But

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the lingering tension of once having desired, once having feared, once having dreamed nightmares.

Strangely, Cho had never come across 'Transfugium', a short story by the Polish Nobel laureate, although for a mind in the cloud, locating Bizarre Stories by Olga Tokarczuk should hardly be a challenge. Had she known it, she might have found a shadow of satisfaction in the fact that she remembers something pre-human. Something animal. Something that ties her digital identity not only to the girl she once was, but to fears and recollections rooted deeper, further back in evolutionary time. Back to the strange terrain of dreams, where meaning was once felt rather than known.

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CHAPTER VI

Sum, ergo cogito

The Cartesian split pervades both research and practice. As a result, the psychological consequences of diseases of the body proper, the so-called real diseases, are usually disregarded and only considered on second thought. Even more neglected are the reverse, the body-proper effects of psychological conflict. How intriguing to think that Descartes did contribute to modifying the course of medicine, did help it veer from the organismic, mind-in-the-body approach, which prevailed from Hippocrates to the Renaissance. How annoyed Aristotle would have been with Descartes, had he known.

Versions of Descartes' error obscure the roots of the human mind in a biologically complex but fragile, finite, and unique organism; they obscure the tragedy implicit in the knowledge of that fragility, finiteness, and uniqueness. And where humans fail to see the inherent tragedy of conscious existence, they feel far less called upon to do something about minimising it, and may have less respect for the value of life.

António R. Damásio, *Descartes' Error: Emotion, Reason, and the Human Brain*, New York, 1994

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αἴσθησις (*aisthēsis*)

First, there is sound. It arises from a distance: undetermined but in order to recognise it as coming from outside, one must first locate oneself in space and time. That moment has not yet come. The eyelids, still closed, perceive light before anything else. A certain movement of air. A shift. There is, within her, a strange clarity. As if the dream had brought catharsis, an erasure of all fears. If someone from the outside were to look into her inner world, they would feel bliss, a sense of peace—that it is possible to be so gentle. Perfectly pure.

She does not even know where she is, who she is, whether anyone watches over her. Suddenly, the weight pressing on her chest, so deeply physical, might suggest concern, perhaps even sorrow. The fluttering on the left side most likely indicates atrial fibrillation. But she cannot yet recognise it.

She is in the process of losing someone, helplessly. All she can do is wait. Listen.

A passive readiness, before it becomes clear that she is, and who she is.

This state of being at the edge of thought is interrupted first by dream, and then by music. The dream returns first. Absurd, incoherent, and yet feared. She fears it might poison life as it poisoned sleep.

And then the music arrives, the same music that will stay with her throughout the day, obsessively, as if trying to understand, as if attempting to think where her own thought fears to go. It is through this Impromptu by Schubert that she finds herself situated in space-time, in a concrete here and now, suspended between the still and the already, between a not-yet and an irreversible beginning.

If we assume that αἴσθησις (*aisthēsis*) precedes meaning, then that state before awakening would constitute the threshold of philosophising, the felt access to the world before it is conceptualised. In this sense, *aesthetics* names not only the experience of art, but the foundational mode of appearance, the event of sensing, that makes experience itself possible. One must first acknowledge that the self, as an embodied, sensuous

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mind, receiving its earliest stimuli and locating itself within the world, forms the precondition of all thought.

This final chapter outlines a series of reflections on music, musicality, musicking, as one possible dimension of perception of *aisthesis*. Perhaps musicality is not confined to music proper, not locked within some clearly delineated methodological paradigm defined by a philosopher, a musicologist, or a cultural theorist. Perhaps musicality is a mode of perception. Perhaps there is such a thing as the music of thought[1]. Perhaps there is musicality in images, a musicality in narrative, one that differs from what we call the melody of a sentence, or the harmony of lines or colours in a painting.

Consider certain musical non-obviousnesses, like the peculiar capacity to reverse time, a feature of narrative that emerges in certain novels, though it does not belong to the order of verbal narration as such. Similarly, in artistic music: a temporality drawn from particular landscapes, the ability to freeze time, to arrest the movement of a scene, to suspend temporality altogether, in defiance of the narrative flow of life. Is this an unjustified transgression of conceptual and methodological boundaries: those that claim visual and auditory perception must remain separate and impermeable?

Still, let us return to sound.

Suppose that in the singular experience shaped by neuroplasticity and years of musical training, it is sound that breaks through first: through layers of sensitivity, through the entire vegetative network, where the sympathetic and parasympathetic nervous systems regulate not only heart rate, trembling hands, and butterflies in the stomach, but thought itself.

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[1] I am implicitly referring here to George Steiner, who asks: "Is there in some kindred sense a poetry, a music of thought deeper than that which attaches to the external use of language, to style?" (Steiner, 2011, p. 12.

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The first to emerge upon waking, the last to fade before the loss of consciousness.

I understand that the genealogy of the arts, as drawn from the thought of Pascal Quignard, George Steiner, Julian Johnson, Michael Spitzer and other thinkers attuned to music, need not be an objective genealogy, even though there is a substantial body of evolutionary evidence that strongly supports it. Here too, it would be more reasonable to remain between sensory modalities, those that shape individual experience, without imposing the primacy of musicality.

Still, I return to Pascal Quignard's exegesis of music, which resonates with testimonies that treat not so much music itself, but the auditory realm as primary. There is a passage in *The Hatred of Music* in which the author recalls several moments when sound pierces reality. When the cock crowed, Saint Peter wept, because its cry reminded him of his denial of Christ. Suddenly, shame and sorrow arose. A sonic stimulus had awakened them. Likewise, when the first humans heard the footsteps of Yahweh walking in the Garden, they became ashamed of their nakedness. The sound made them remember: the commandment broken, the distance now irreparable. Even ordinary sounds, a crow, the echo of footsteps, become, in Quignard's narrative, signals of loss. To the first humans, they recalled the breaking of a prohibition; and as the author suggests, they forever bound nakedness to shame[2]. I assume that, at least at times, the auditory experience of music as an

[2] "Hearing and shame are twins. In the Bible, in the myth of Creation, anthropomorphic nudity appears together with the sound of His footsteps. Having eaten the fruit of the tree that reveals nakedness, the first man and the first woman, at the same time, hear the sound of Yahweh-Elohim walking in the garden at the time of the evening breeze and see that they are naked and take refuge behind the leaves of the clothing tree in order to hide their bodies" (Quigard, 2016, p. 133). The image of St. Peter's tears recurs throughout the book in several forms;

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art form may be a kind of refinement or sublimation of that primordial shame. I am not sure whether this shame concerns literal nakedness or, rather, a metaphorical exposure: a standing in truth made possible through music.

In a different book by Quignard, recounting the story of the diver Boutès, it is Schubert's music that thinks where thinking falters. The author himself explains in an interview: "*Music thinks pain. It thinks states of being that words are incapable of expressing. In difficult times, it is better to listen to Schubert than to anything else.*"[3]

The situation opens onto several interpretive possibilities. It can be argued that Quignard sees in Schubert a psychoanalyst or, maybe better, a homeopathic cure; pain softened by a refined dose of pain. Or else, he invites us to take pain straight, to endure it by immersing ourselves in more of it. I am not sure one should take this advice to heart, if grief or loss make survival impossible. Perhaps it is better to withdraw, to retreat to that threshold where thought no longer insists, but simply lingers at the edge of thinking.

When we play Erik Satie's piano music, the composer offers subtle suggestions through the score: that we remain on the edge of thought (*au bout de la pensée*). Yet there is another possibility, one that does not rule out remaining at the edge of thought. It may be that Quignard sees, in listening to Schubert, a chance to experience true sympathy. And this does not negate the earlier reading. To feel sympathy, there is no need to speak. No need to reopen wounds. It is possible to safely remain at the edge of thought.

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here is one of them: The secret function of music is convocative. It is the cock's crow that makes Saint Peter suddenly dissolve into tears (p. 137).

3 "La musique pense la douleur, pense des états de choses que la parole ne peut pas exprimer. Il vaut mieux écouter Schubert, en des cas difficiles, qu'autre chose" (Interview with Pascal Quignard by Maria Concetta La Rocca, in: La Rocca, 2016, p. 280).

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Between aisthēsis and anaisthēsía

When else, beyond the drifting into sleep and the slow emergence from it, whether pharmacological or physiological; where else, apart from engaging with music such as Satie's *Gnossiennes*, do we encounter what it means to dwell at the edge of thought? Outside the stream of daily life, beyond illness and dying, is such a state not, at times, revealed in art?

One of my guides in this terrain is Julian Johnson, especially attuned to that which resists articulation. His book *After Debussy* is profoundly shaped by a fascination with the musical developments that followed Debussy, particularly in the ways these composers reject the primacy of *logos* over sound. The Cartesian model of signification in which representation appears as an epiphany of presence, is, in many respects, foreign to music that gives voice to liminal, semi-conscious states, blurring the sonic and semantic, so often echoed as well in paintings when blurring the visual. If I were to offer my own examples of balancing between the visible and the invisible, I would look to Odilon Redon, or, in a somewhat different metaphysical register, to Giorgio de Chirico. Among the examples cited by Julian Johnson, however, we find *Matisse's La fenêtre ouverte à Collioure* (1905).

According to the author:

> This is not a painting of boats in a harbour; it is a painting of the act of seeing boats in a harbour. The open window framing the view foregrounds the viewing of the painter and the viewer. The frame that surrounds this picture, as it hangs in a gallery, foregrounds what the painting already declares, that art is itself a framing, the making of a threshold between the act of perception that goes out to the world and the world that comes to meet it (Johnson, 2020, p. 157).

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From the perspective of aesthetics as an academic discipline, the most striking insights in Johnson's account are those that emphasise the very act of appearing, of coming into presence, whether in the case of painting or, above all, his central subject: music. To illuminate what distinguishes it, Johnson draws on two philosophical frameworks, namely those of Vladimir Jankélévitch and Martin Seel to articulate a view in which the essence of things is not grasped through substance, but through their mode of appearance.

For Jankélévitch, what matters is not a fixed identity, but the way being continuously discloses itself through the process of becoming. This becoming is understood as a form of *apparition*, not a static *apparence*, but a dynamic movement, the advent of one being toward another (*l'avènement de l'être à un autre être*). Music perfectly exemplifies this process. Language tends to mislead us because it privileges substantives; even verbs, in grammatical structure, presuppose subjects. Yet the phenomenon Jankélévitch seeks to describe resists this grammatical fixation, it has no stable subject. What unfolds is not a thing, but a relation, a temporal emergence that is itself the only "substance," a pure *advenir* to the other.

Martin Seel similarly distinguishes between the finalised appearance of an object (*Erscheinung*) and the process of appearing (*Erscheinen*). Seel emphasises that aesthetic perception is concerned not with a completed form, but with the very event of coming-into-appearance, an unfolding that is not reducible to what appears, but includes how it appears. For both thinkers, as Johnson shows, what is at stake is not representation, but emergence: not what is seen or heard, but the fragile process through which something comes to presence (Johnson, 2020, p. 137).

Thus, aesthetics has the opportunity to find a particularly compelling exemplification of these phenomena in music, especially in the kind of music to which Johnson devotes his book:

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> Music after Debussy offers an exemplary case of coming to presence, of unfolding appearing and disappearing, rather than the representation of substantive linguistic objects. Modernism more generally is shaped by the insistence that the object of an artwork is not an object ('this is not a pipe,' as René Magritte writes on his painting of a pipe), not a thing that appears, but a way of foregrounding the act and manner of appearance itself: the miracle of appearing at all.

And he continues:

> In music 'after Debussy', philosophy is met by a kind of aesthetic practice that foregrounds the act of appearing, of becoming present rather than the familiar tasks ascribed to an art of mimetic representation or the expression of emotions (Johnson, 2020, p. 126).

I find myself wondering how different the experience of reading Johnson's book might be for a musicologist seeking to delve into the musical score and the composer's thought, compared to that of a performer interpreting these works. As a performer, I myself become a process of becoming, of vanishing, of revealing the contours of things; I exist on the margins of reality, though, of course, I retain a mental control over what I co-create. My sensory immersion in sound allows me to shape what I hear and, at the same time, to be shaped by what I have formed, in the circularity of experience. I do not claim to suspend thought entirely, but when I give myself over to the bodily automatisms trained at the instrument, I am without doubt not a fully conscious, detached, analytically oriented mind. Playing Debussy on an instrument like the piano transforms me into touch and listening; it teaches me the experience of shaping sonic bodies, a skill that, in some way, proves useful across all repertoires. Performing Debussy is a school in becoming one with the sound I produce and the sound that acts upon me.

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Toward timbre

Debussy, definitely even more than Satie, might be seen as the inverted figure of Monteverdi: not the one who moves toward clarity and rhetorical expression, but the one who turns toward *timbre*, toward what emerges precisely at the margins, perhaps even at the threshold of rationality. It is here that we encounter the passage between sound and thought, between singing and speech. Being in-between, as a crossing of extremes, binaries, alternatives, is often an existentially uncomfortable state. And yet, there are moments when this state can be familiarised, even practiced, like those times when we must surrender our consciousness and hand over control of our own thoughts to someone else:

The long corridors connecting hospital buildings are rarely sunny or welcoming. And yet, as I accompany my child to the operating theatre, before the anaesthetic machine begins to breathe for him, before his muscles fall into stillness, I feel the sun, with him, through him. Through his drowsiness, I glimpse the crowns of trees shimmering through the glass roof of the passageway between buildings. I hear music; someone is playing the piano, the notes dissolve into the summer air. In that warm, wooden interior, just at the threshold of the operating theatre, I inhabit a kind of pre-sleep perception, of filtered sunlight, of piano tones lingering in the stillness, just before the anaesthesiologist cheerfully speaks to me, as if everything were make-believe. Then I kiss my child's cheek, already cleansed and sterile, and I know he's about to enter his first pharmacological sleep. Not a sleep filled with dreams, but one of controlled, medically induced stillness. And yet, in that moment, everything feels fully present: the light, the sounds, the breath we still share before he's taken into that quiet space where machines begin to breathe for him and awareness fades.

This threshold—between wakefulness and unconsciousness, between fear and trust—is where we are: between a thought already fading and one not yet begun.

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First, we are; only then do we think.
Inter perceptionem et anesthesiam sum, etiam si non cogito[4].

Individual web of experience

In the context of *aisthesis*, as a musician, I think of musical perception. This positions me as a subject who listen, or, at most, as the one who performs, who sings, who becomes music-making body. But *aisthesis* is not confined to the act of receiving: it also includes the inward, imaginative process of generating music, of hearing it internally, before it is ever externalised.

The composer, or the improvising musician, often dwells in this *in-between* space: not fully in the world of sound, yet not outside it either. In moments of reverie, between waking and sleep, they may *hear* music unfold within them: lines, harmonies, textures not yet played, not yet sung, but vividly present. This internal musicality is not less real than performed sound; it is a form of embodied *aisthesis* that precedes the audible. This perspective becomes especially compelling because it unsettles the binary logic of perception. I am not only a listener. I am not only a performer. I am also the one who *thinks* music, who brings it into being. And it is precisely from within this generative stance that new insights arise, particularly when music emerges at the threshold between wakefulness and sleep, a liminal space of epiphany, where thought begins to take shape as sound.

Since we have already spoken of hospital corridors and anaesthesia, allow me to return to one image that, in a particular way, illuminates this in-between state. I first introduced this scene in my earlier book, *Metaphysical Hearing*, but in the cur-

[4] I exist between perception and anaesthesia, even when I do not think.

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rent context it takes on a new resonance, offering a different inflection within the framework of the musical connectome I now explore.

Leonard Bernstein, witnessing Nadia Boulanger's final days, experienced, if only indirectly, what it means for music to be generated in the mind of a composer. I am not certain whether this can serve as proof of the primacy of musical experience. A painter, after all, might spend their dying hours traversing imagined landscapes, becoming pure vision. A similarly banal sentence could be written about a poet, and about words, rhymes, and meter.

Nevertheless, this fragmentary image of dying accompanied by music resonates with the broader idea of the connectome; a deeply individual web of experience that shapes who we are. One must not forget, however, that the scene presented by Leonard Bernstein fits into a certain paradigmatic account: the death of a person who lived through music.

'My dear friend, how do you feel?'
Pause. Then that basso profundo (through unmoving lips):
'Quite strong.'
I drew a deep breath:
'You mean… inside yourself?'
'…Yes. But the flesh…'
'I quite understand,' I said hastily, to shorten her efforts.
'I'll go. You must be very tired.'
'No tiredness. None…'
A protracted pause, and I realized she had drifted back to sleep (…).
'Do you hear music in your head?'
Instant reply:
'All the time.'
This so encouraged me that I continued, as if in everyday conversation.
'And what are you hearing at the moment?'
I thought of her preferred loves. Mozart? Monteverdi?

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> Bach? Stravinsky? Ravel?
> Long pause.
> 'One music… (very long pause)… with no beginning, no end…'
> She was already there, on the other side (Monsaingeon, n.d.).

Hence two urgent remarks. We do not know whether Bernstein, for the sake of biography, constructed a narrative in which a musical being like Nadia Boulanger *had* to be accompanied by music in her dying. We do not know what fills the dying moments of musical beings. And we will never truly know whether such an experience involves not the dominance of something uniformly musical, visual, olfactory or verbal, but rather a kind of unity: a convergence of sensory modalities.

My second remark goes back to Quignard's genealogy of music. It is difficult to ignore what unsettles me in this context: the imagined absence of musical dimension in deaf or deaf-mute individuals[5]. And yet, we may not have cognitive access to a kind of sensory 'prosthesis of musicking' that is available to some people who do not hear. I am referring to a possible substitute for the primordial, pre-linguistic, pre-reflective sensation: one that stirs thought into motion. The disregard of such potentiality by those who write about music and highlight the musical dimensions of experience is, to some extent, troubling: and it opens up a vast space for further reflection.

Here are a few fragmentary questions from within that dimension:

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[5] George Steiner's *The Poetry of Thought* (2011) contains penetrating remarks on deafness. Extremely brief and seemingly unrelated to the rest of the text, they point to two worlds: that of philosophy and that of music. Is this accidental? "What are the philosophic concepts of the deaf-mute? What are his or her metaphysical imaginings?" (p. 9). At some points, blindness is reparable (books can be read in braille). Deafness, ostracism from music is irremediable exile (p. 20).

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How does the experience of not hearing reshape the subject's understanding of what is primary? Where is that which Pascal Quignard so clearly links to the experience of sound and the awareness of one's own vulnerability to be found, if not in hearing?

Why music?

To experience music as something imagined and emerging, is to feel perception not as passive reception but as sensing that generates, not only registers. This, too, is a kind of listening: a listening to the self as source, to the silent becoming of music before it meets the world.

This brings us once again to Pascal Quignard and his reflection on music as an originary experience, an encounter with the song of the Sirens, with a voice rising from the abyss. Let us return here to the rejection of binary thinking: for instance, the opposition between music and literature, as explored by Peter Kivy, who frames them as antithetical arts (Kivy, 2009). The very notion of a 'connectome,' as invoked in my book's title, presupposes that human aesthetic experience is far more networked, entangled: not a system of strict separations between music and literature, or between music and the visual arts, or even between what is considered 'art' and what is not.

Music serves here as a way to visualise the singular web of connections within each individual's aesthetic experience—a web that may exhibit shared patterns, yet remains profoundly dependent on the connectome that each of us uniquely embodies. The intricately woven nature of these aesthetic connectomes affirms the complexity of individual experience, a celebration of singularity in all its richness.

And so the question returns: why music? Why do we turn to music in these reflections?

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Because it is a confrontation with the elemental, the kind we recognise from Quignard's *The Hatred of Music*, and from his myth of the diver Boutès.

For some reason, for some people, not necessarily musicians, thinking about death, about surrendering to an overwhelming force, about relinquishing control over the rational *cogito* and returning to a pre-rational, pre-linguistic innocence resonates with particular vividness, perhaps even with the greatest intensity, through musics, different musics, individually shaped musics and musickings.

Perhaps it is the Sirens' fault.

Perhaps it is the legacy of Ulysses.

Perhaps it is the wound of Orpheus: one that leaves its mark on so many of us.

Ce que la musique apprend au philosophe

I am trying to address a common objection raised against many statements shaped by the formula: "music does this," or "music does that," an objection rooted in the fact that, in such formulations, one could just as easily substitute another art form, such as literature, painting, or architecture, in place of music. Yet I do not follow the path taken by Peter Kivy, nor do I adopt the line of reasoning that presents music as an abstract medium wrongly conflated with narrative. I do not claim that music and literature are antithetical arts. Rather, I assume that our thinking about music remains too burdened by assumptions born of a desire to emphasise its otherness. My aim is to redirect our thinking toward *musicality* as an ontologically immanent feature, not only of other art forms, but also of other dimensions of human existence and of nature itself. In this context, I take seriously the philosophical attempts to uncover musical features within the fabric of the world,

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attempts that draw philosophy away from the dominance of *logos*.

Accordingly, together with Julian Johnson, I seek to experience the world, not only music, but also literature, painting, and the everyday reality given to us, through a specific *modus* of sensitivity derived from Debussy's music. I do not mean an analysis of compositional techniques, but rather an attunement to a fundamental quality of Debussy's approach: a distinctive mode of musical attunement to the sensory world.

Debussy allows Johnson to approach the threshold of philosophy. He refers to these thresholds, in a Derridean sense, as the margins of philosophy, yet they are by no means peripheral areas, but rather undervalued or overlooked ones. Still, the author does something truly innovative when he analyses Impressionist paintings or reads Proust: he experiences them as if they were music, as if they possessed an ontologically primal musicality.

This is the case with the epiphany of blossoming that takes place in the orchard seen through van Gogh's eyes. Instead of a mere almond branch, Johnson suggests we see the very presence becoming present: blossoming itself, as it were. It is a remarkable moment in the author's argument, where he observes how art teaches us to philosophise:

> Philosophy forgets that it looks through the window of language, from inside the house. Or, if it doesn't forget, it denies the possibility of stepping outside. The philosopher sees only the discourse, the words, not the world, because the words are precisely what keeps the world from him. Which is where philosophy might learn from art, and precisely why philosophers have perennially turned to art. Compare, for example, the presenting of presence that takes place in the painting of a tree in blossom, such as Van Gogh's *Almond Blossoms* (1890). The representation of actual blossom seen in an orchard gives way to the epiphanic intensity of the act of appearing

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itself (hence the lack of any interest here in the rest of the tree or its location) (Johnson, 2020, pp. 298–299).

Similar mechanisms take place in literature, but perhaps for that very reason, even its creators, like Proust, at times invoke musicality as a mode of existence more fitting than words. Literature and painting thus learn from music how to present presence:

> Consider the famous scene in Proust's *Du Côté de chez Swann* in which, while out on a family walk, the young Marcel catches his first glimpse of Gilberte through a mass of hawthorn bushes laden with blossom. In Proust's account, the linear progress of the walk gives way to a quite different temporality of inward experience, arrested and suspended by the searing intensity of colour, scent, and light. The effect is described as having an effect like music (Johnson, 2020, p. 299).

This entire line of reasoning is poetically and rhetorically grounded in the humanities, in the search for elusive and layered meanings. And yet, it reveals a strong need to reach toward other methodologies. In his argument, Johnson affirms the meaningfulness of the consilience of knowledge, as he perceives the birth of perception within the very apotheosis of becoming, reconciling humanistic discourse with a deep appreciation for the naturalistic and evolutionary perspective.

> Making sense of the world is prior to language not simply in terms of human evolution, or the development of infants' cognition, but in the space kept open by aesthetic experience. It may be that the moment of perception, prior to language rushing in, is less than a microsecond—perhaps a merely virtual or theoretical gap—but it is also true that we deliberately cultivate certain kinds of experience to foster the opposite, to keep open the field of apperception by

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> holding off conceptual determination (witness Kant's understanding of contemplating 'the beautiful' in both nature and art). The contemplation of nature and art have in common that both afford a space for an embodied and non- linguistic experience of the world—an experience, moreover, we actively seek to cultivate. But an idea of art, or nature, as communication, symbol, or representation, obscures this more fundamental capacity (Johnson, 2020, pp. 296–297).

Since the book *After Debussy* explores French philosophy (Merleau-Ponty, Serres, Nancy), it is worth, at this point, bringing Johnson's thought into dialogue with yet another French thinker who, much like him, sees music as a teacher of philosophers. I am referring to Bernard Sève (2002), who gave his book *Altération Musicale* the subtitle: *What Philosophy Can Learn from Music*[6].

The French philosopher discovers music through its inherent potential for change, for *alteration*. For him, music *is* alteration on every level: from the transformation of a piece of wood or reed into an instrument, through the metamorphosis of the human body into that of a virtuoso, through the sonic material shaped and processed in sonata form, all the way to the overarching idea of converting nature into culture, of transforming wildness, animality, and instinct into something intellectual, human, and spiritual. Sève does not fear the error of false exclusivity, for what distinguishes his reflection on music is precisely that it is *musicality* itself that cast light for him on other phenomena, as if, without music, they could not be extracted from the chaos of the world. He criticises aesthetics for its undue focus on literature

[6] Along the way, it is worth mentioning two other books by the French philosopher that touch on the essence of musicality. One of them seems to develop the idea of change or alteration in the sense that it presents the instrument as a refined, altered tool of music-making. The other book takes a democratic approach to all the arts and focuses on their materiality. See: Sève, 2013, 2023.

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and visual art, arguing that music can illuminate more primal, originary phenomena. This is a pre-conceptual force, familiar from myths of the sirens and Ulysses, of Apollo and Marsyas, of wildness and enchantment—or, as I would add, from the journey of Orpheus, who defies linear time and descends into Hades to reverse the order of death and restore life to Eurydice.

The sensitivity and attentiveness of both thinkers point to the remarkable closeness of their ideas, to a shared longing to find in music, and to prove to the world, a kind of magical, primal force that teaches philosophy and musicology the experience of first, fundamental things: those that, for human beings, are time and space and the change, the alteration, that governs them.

Among the inspirations Johnson draws on openly, and one that lies at the core of the consilience project, is the idea of *musicking*, as elaborated by Gary Tomlinson at the intersection of the humanities and cognitive science. But it is also hard not to notice Johnson's reference to the famous idea by George Steiner, one I have often quoted myself, which, without explicitly invoking evolutionism, points to the musical origins of the human being:

> I believe the matter of music to be central to that of the meanings of man, of man's access to or abstention from metaphysical experience. Our capacities to compose and to respond to musical form and sense directly implicate the mystery of the human condition. To ask "what is music?" may well be one way of asking "what is man?" (Steiner, 1989, p. 6).

In Steiner's thought, one encounters a metaphysical resonance: mystery, cognitive infinitism, and a bold journey to the very source of musicality, all of which may cast light on the idea of the human being. There remains, however hopeful the tone, no definitive answer to the enigma of human nature—no

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ultimate solution of the kind Edward O. Wilson envisioned in his *Consilience* (which, of course, would be grounded in the empirical sciences). And yet, Steiner's reflections offer something more: a moment of illumination, a sudden clearing, a tentative approach to defining the human. They gesture toward an intuition that the experience of musicality may carry within it an essential trace of what it means to be human. This insight, however, leaves a lingering sense of incompleteness, for it points toward a vast domain left unexplored in this book: the musicality of the animal world. Remarkably, it is precisely at this juncture that one is drawn to connect two seemingly distinct threads: the animal and the mystery of human nature, as explored in another compelling line of thought.

In *The Musical Human*, Michael Spitzer traces the evolution of musicality across three stages: animal, human, machine. Before revealing the fourth stage, which also serves as the book's dazzling finale (in great books, it is not only the first lines that matter, but above all the last ones), let us pause for a moment to consider the seemingly self-evident issues.

Once upon a time, the musical human was born in Africa. And, as Spitzer explains:

> There is a common assumption (…) that everyone is musical. And yet the puzzle is that hardly any indigenous group in Africa has a word for what the West calls 'music'. The Vai of Liberia have words for 'dance' (tombo), 'song' (don) and 'instrumental performance' (sen fen), but no all-encompassing concept of music as organised sound. For the Tswana of Botswana, singing and dancing mean the same thing (gobina), and the Dan in Côte d'Ivoire, while lacking a single term for music, name a variety of songs, such as dance song (ta), praise song (zlöö), and funeral laments (gbo). By comparison, no indigenous African language has managed without a word for song, dance or, indeed, language. Africans don't tend to separate sound from song and dance, from words and movement (Spitzer, 2021, p. 36).

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It would appear, then, that the matter is so self-evident it requires no naming. And yet, a little further on, the author offers an explanation for this apparent paradox:

> The absence of a word for 'music' resonates with the Namibian philosophy of *ngoma*, which describes the interconnectedness of the arts in sub-Saharan Africa. Another aspect of ngoma is the inseparability of composing, performing and listening, three other activities that have split apart in the West (Spitzer, 2021, p. 36).

From the musical connectome's perspective, that is, a perspective which links the various competencies of the musical human into a single network of connections, this observation seems particularly apt. It not only resists dividing musical activities into passive and active categories but also assumes their entanglement within experiences that extend beyond the artistic realm, beyond the concert hall and the Western music academy, and even beyond the strictly human perspective. Fortunately, it is becoming increasingly rare in contemporary reflection on music to commit the sins of anthropocentrism and Western-centrism.

We become aware of the limitations of human hearing and the musical potentialities that lie dormant in the auditory worlds of creatures such as bats and whales. At the next stage of development, toward which humanity is inevitably heading, we may overcome these limitations: to hear all possible frequencies, to experience sound as do those animals who produce it with and through their very bodies. And so, in Spitzer's narrative, safely ironic yet nonetheless full of concern, the Musical Posthuman emerges, equipped with various brain implants that enable them to hear like an animal.

And yet, something is missing.

For it turns out that musicality, the capacity for music, the act of making music, requires a return to nature; in order to

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be itself, it must come full circle. And it is precisely here that Steiner and Spitzer speak in the same register.

> So while it would be nice to leave the story there, with the musical human wedged neatly between 'Animal' and 'Machine' we need to reckon with a fourth term: 'Nature.' Our problem is how to define nature. Isn't 'human nature'—including the embodied emotions apparently subtracted by the physical nature of fractals—also, by definition, a kind of nature? (Spitzer, 2021, p. 365).

Following this rhetorical question, Spitzer moves on to eleven lessons: not about human nature, but about *musical* nature, of which the final three resonate most poignantly: "The Nature of Time," "Death of the Musical Human," and "Postlude for the Posthuman."

What emerges here is not so much a reversal of the Cartesian *cogito, ergo sum*, which has accompanied us throughout this chapter, but rather its rephrasing: one in which "*I think*" gives way to *I listen*:

"Listening to music is when we're most aware of time-consciousness; of when we catch ourselves living. *I listen, therefore I am*" (Spitzer, 2021, p. 392).

Likewise, one could search for other forms of intensity. *I love, therefore I am* seems just as compelling a version as Spitzer's proposal.

A sense of resistance arises in me, even though as a musician I fully understand the primacy of listening over thinking, if only in a poetic sense (for it raises the question of to what extent listening itself might be a form of thinking). In order to follow the flow I experience in music, or, more primordially, in sound itself, in those sounds I hear just after waking, I must *be*. I must draw them out of my descent into sleep, into nothingness; I must be willing not so much to structure them, but to surrender myself to the way *they* structure *me*.

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The final lesson approaches death in an existential, biological *decrescendo*:

> We can't hear everything; we eventually go deaf. Musical tones decay and fade. Music is as transitory and insubstantial as ourselves. We return to dust and silence. And it resounds in our nagging feeling of illegitimacy compared to nature's true musicians. If you put the musical human on the couch, she will confess to Dr Freud: 'The birds, the birds.' The idea that we are forever stunted by the evolutionary breach between birds and apes is not the kind of hypothesis that can be tested or falsified. But our historical fascination with birdsong epitomises the nostalgia towards a lost musical nature, which haunts our culture (Spitzer, 2021, p. 393).

This lesson conveys not only a sense of the ephemerality shared by both human beings and music, but also a certain strength, a hope for renewal, despite the entire process of becoming desensitised to music as an art form, of growing deaf to it, of denying one's own innate musicality.

But the most moving lesson is the final one. In it, I find something more than just the masterful conclusion of Spitzer's book. It becomes clear that he shares with Julian Johnson an intuition, one that Johnson, too, refines into the poignant final sentences of his book *on music and the margins of philosophy*.

What are these two musicologists writing in their final lines? They are, in essence, offering implicit definitions of music: not as a form of art subordinated to the listener, the performer, or even the composer, but as a shared activity, a mode of experience, and perhaps even a *modus of existence*. They both suggest that musicality enables a transformed experience of time, one altered in a way similar to how time is changed in the experience of love. Yet in Johnson's account, something else emerges, the return of that chasm between word and music. It seems that in both perspectives, what truly matters is not

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music as such, isolated by a gulf from language or images, but musicality, a quality that reveals itself as profoundly human, for it comes closest to the human experience of love.

Let us now quote the closing passages of both books, so their resonance can speak more clearly than my inadequate paraphrase.

First, Spitzer's confession:

> I think the answer to this conundrum, of why music really does matter, lies in the strange rapport music makes between time and love. If you are lucky enough to be a parent, or to fall in love, then your experience of time changes. It is not that time stands still, far from it, nor that you lose track of it in a whirl of excitement. Rather, time thickens and you become aware of its granularity, as if it were under a microscope. You cherish every moment. As you read this, put on the postlude to Schumann's Scenes from Childhood, the little fragment called 'The Poet Speaks.' (…) Pensive, wistful, delicate and fragile, it makes you want to put a protective arm around those 130 seconds of time and never let go. This music will surely die, as all our music will some day die. You care for the music like a cherished person, all the more because time is so precious. You care because music is human (Spitzer, 2021, p. 394).

And here, Johnson's:

> Only the part is sayable; such is the nature of language. What cannot be said is the whole, which in this respect, is the same as nothing. Saying nothing, as we have seen, is art's way of presenting the whole. It is the paradox of all philosophy, which tries through saying to build a whole, that saying always makes un- whole. There is nothing mystical about Jankélévitch's insistence on the unsayable (indicible), the mystery that cannot be spoken; it is simply a way of designating this whole that always eludes the saying of language. Music, on the other hand, which does not say, nevertheless embodies, 'while the

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> music lasts,' an unsayable whole—provisional, particular, and evanescent, but a whole nevertheless. This is why music is so strongly allied with the idea of love, because it has the capacity to make present the plenitude of the whole while remaining utterly particular. It is also, perhaps, why music makes us weep, because it momentarily restores a fullness of being that is lost in all the saying of language (Johnson, 2020, p. 308).

I am, therefore I am musicking

There are musical networks within me, forever inscribed, that I discover beyond music as art, beyond playing my piano or listening to Schubert, Chopin, or Debussy.

Within me are plastically shaped, intermodal associations: they flow in the melody of a sentence, feel rhythm in a painting, tense muscles when my body imitates its harmony, they dance in the words of a poem.

Even when I do not play an instrument, there remain well-worn paths within me, carved over years, that prompt me to forgo speech, to quiet it, to rely more and more on the unspoken and on time itself. Through music, I know that everything comes to an end, even as it promises the art of return.

I cherish Schumann's Kinderszenen and care for the moment when I am still irreplaceable as someone close: as the mother of a growing child, as the child of ageing parents. To others, I am replaceable. I know Monteverdi's Fourth Book of Madrigals, and I am prepared for loss. I know that love, apart from the maternal, the childlike is a fragile reed.

I am hoping for a change of fortune. For in music, even this is possible: the reversal of loss.

It is music that reveals this to me. In an instant: as both wholeness and finitude.

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Beyond closure

If this book had a single ambition, it was to invite reflection on music as a site of philosophical experience, a mode of being, and a source of meaning that resonates before reflection begins. The questions posed here, open-ended, and sometimes unresolved, are not meant to close anything, but to mark a path worth following: between philosophy and music, between the brain and the mind, between science and art. Instead of a clear conclusion, I would like to offer readers an invitation to engage in philosophical reflection at the intersection of disciplines: an invitation to think about music as a form of philosophising, in which multiple perspectives converge. In my case, these perspectives are, I believe, largely shaped by a phenomenological framework.

I sought to link reflections on aesthetic perception to the idea of musicality, an idea that has profoundly shaped my way of thinking. This is due to a very simple reason: I am a musician. Perhaps my mind cannot operate in any way other than through music, through the idea of pre-reflective mode of being. But I am also an aesthetician. I became one thanks to my first philosophy teacher, Professor Bohdan Dziemidok, who lectured on aesthetics during my music studies in Gdańsk: studies that were originally meant to shape me into a pianist. Even then, in my early twenties, I understood that I could not be a pianist without also writing about music from a philosophical

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perspective. It was a very elementary form of interdisciplinarity. And yet, even back then, it was already something that made some of my teachers uncomfortable. They wanted clear declarations: either you play your piano, or you philosophise.

Today, I am a teacher myself. This book is, for me, an attempt at consilience, an aspiration for coherence across fields, that I try to bring into my academic thinking, thanks in no small part to conversations with students from the *Individual Interdisciplinary Studies* programme [Indywidualne Studia Międzydziedzinowe] at my home University of Gdańsk. These young people seek interdisciplinary dialogue primarily because narrow specialisation has not yet forced them to abandon what still remains their sincere, youthful passion. The greatest threat to the university is not specialisation itself, nor methodological purism. The true enemy is contempt, the belief in the "superiority" or "inferiority" of certain disciplines based on how profitable they may seem from a pragmtic, career-oriented standpoint. This enemy also takes the form of what we might call *point-chasing*: the obsession with evaluating the incomparable, namely humanities and science, by means of parametric indicators.

I currently work within these incomparable domains: philosophy, music, and neuroaesthetics. The last of these, a relatively young discipline, is inherently interdisciplinary in nature, though its foundations rest firmly in evolutionary neurobiology which operates with truly measurable research criteria. Yet it is music and philosophy that many people, deep down, long for. Even those whose professional paths lie in law, medicine, or computer science often find, when given the space, that their dreams and longings reach back to those very fields. As an academic teacher, I find it moving that philosophy is more and more often chosen as a field of graduate study by people who are already fulfilled in their professional lives. At the university where I work, philosophy is becoming a meeting ground for people of different generations.

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There is no need to justify a return to philosophy: it arises, above all, from a longing to see the world from a meta-level perspective. What is more intriguing, however, is the question of what exactly emerges from music. To this end, I will draw on a passage from the work of one of the Polish thinkers I value most highly in the field of writing on music, Bogdan Pociej. As far as I know, it is precisely this reflection that will be the subject of my friend's, Bruce Ramell's critique in the book he is currently preparing for publication. This does not in any way imply that Pociej's words lose their value or are invalidated. I am simply aware that many of the claims we make about music, especially when attempting to assert its uniqueness and distinctiveness, could be subjected to similar analysis, revealing that they are not exclusive to music in their legitimacy:

> At the source of all music (poetry?) lies a great cosmic-spiritual energy; none of the other arts is distinguished by this kind of potential force (…) and—'regressively'—into a primal chaos from which the cosmos may emerge. To refer to Plato's famous parable in Phaedrus (about two steeds pulling the soul's harness in opposite directions), the energy that shapes music (poetry?) and brings its forms to life acts in bipolar fashion. On the one hand, it pushes towards form; it would like to turn music (poetry?) (paradoxically) into something like a mobile architecture, to enclose (render static?) the musical element (poetic element?) in finitely perfect forms. On the other hand, that energy, in keeping with its nature, aspires to eliminating form and to fully emancipating the element of sound (verse/word?) (Pociej, 2005, p. 167).

In many of our conversations on the philosophy of music, my friend Bruce Ramell, an intellectually rigorous thinker equally attuned to musical and mathematical structures, would return to the same critical observation: that musicologists

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and philosophers in this field often neglect to specify their foundational assumptions or starting point. What exactly are they referring to when they speak of music? Why is it so rarely defined? And why do so many claims about the singular nature of music seem equally applicable to architecture, poetry, or painting?

Following Bruce's recommendation, I read Franz Wilczek's *A Beautiful Question*, where I encountered a notion of musicality strikingly different from those usually advanced by philosophers of music. I am not claiming that this is where we find the universal starting point so often missing from statements about the distinctiveness or uniqueness of music in relation to other arts. But I do recognise, at the very least, a clear line of reasoning that leads toward what I would, following Bruce Ramell, call a *starting point*.

Although Wilczek's reasoning does not lead him to the question of primordiality of music in relation to other arts, it undoubtedly lays the groundwork for thinking about the musical condition as essentially different from that of verbal or visual media.

Let's try to summarise his main ideas in a nutshell.

Firstly, Wilczek chooses Pythagoras as the patron of his deliberations and quickly formulates a neat thesis: the frequency is the message. But it goes through several transformations before arriving to our minds as a message. Secondly, he asks why tones whose frequencies are in ratios of small whole numbers sound good together. Thirdly—and surprisingly for a Nobel Prize winner in physics and not neurobiology—he convincingly proves how frequencies translate into neurons predicting musical events and getting satisfaction from it:

> Let us consider what the brain is offered when two different sound frequencies play simultaneously. Then we have two sets of primary neurons responding strongly, each firing with the same frequency as

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> the vibration of the string that excites them. Those primary neurons fire their signals brainward, to 'higher' levels of neurons, where their signals are combined and integrated. Some of the neurons at the next level will receive inputs from both sets of firing primaries. If the frequencies of the primaries are in a ratio of small whole numbers, then their signal will be synchronized. (…) If the tones form an octave, one set will be firing twice as fast as the other, and every firing of the slower one will have the same predictable relationship to the firing of the former. Thus, the neurons sensitive to both will then get a repetitive pattern that is predictable and easy to interpret (Wilczek, 2015, p. 35).

What I'm getting at is that reflections such as Wilczek's, emerging from the interdisciplinary inquiry of a scientist trained in physics, encourage us to think of music as a particular kind of stimulus for the human perceptual apparatus. As he writes: "The details of all these transformations are complex, and fascinating to experts, but the big picture is simple and does not depend on those details. The big picture is that the frequency of the original vibration gets translated into firings of neurons that have the same frequency" (Wilczek, 2015, p. 33).

Wilczek's observation contains what might be seen as an intriguing starting point for a philosopher of music, or at the very least, as one of the elements worth pursuing when we attempt to argue for the primordiality of music, understood as a source-level, pre-reflective experience. It seems to me that interdisciplinary research at the intersection of neurobiology and the humanities, of which my book was but a modest prelude, could offer new ways of exploring that primordiality, by examining how the brain registers frequency and how the mind interprets and transforms it into meaning.

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Machine's music *versus* Chopin's openness

It would be difficult for the philosophy of art and aesthetics to ignore the question of AI-generated music. If we treat AI merely as a tool controlled by humans, the issue does not seem particularly troubling. However, once we begin to imagine relinquishing the field of artistic creation to AI, the matter becomes far more unsettling. Hence my attempt to diagnose a particular kind of *deceptive aesthetic experience*: one that, until recently, seemed to concern only the audience misled by forgeries on the art market. In such cases, while the aesthetic judgement might remain unchanged upon discovering the work was a fake, the artistic value assigned to the object would often plummet, because the viewer realised they were not confronting an original, but a skillfully crafted imitation. From this perspective, the renewed interest in authorial intention appears to me anything but trivial. It raises once more the question of the sender in the artistic communication process, especially at a time when audiences increasingly seem indifferent to who that sender might be, whether they are real, whether they even exist, or whether they share in the human condition of those who receive the message.

In *Real Presences*, George Steiner was already writing in the 20th century about the "secondary city," where aesthetic judgment is shaped by borrowed opinions. What I am pointing to here resonates, in a way, with a broader diagnosis of the crisis of musical experience in our time. More and more, people go through life unaware of their own yearning for the singular value music can hold; at most, they allow it to fade into the background of everyday life. So why should they pause to ask whether the music accompanying their thoughts comes from a human creator, or from a machine? I am not suggesting that this applies to all listeners. For many, music is a conscious identity choice, something they would, metaphorically

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speaking, walk through fire for. This is precisely why, in the philosophical reflection on music, one should perhaps not dismiss those subjective idiosyncrasies that shape and define our relationship with it.

Idiosyncrasies need not, however, reduce us to the level of sentimental or kitschy associations typical of the average disco polo enthusiast. I am thinking instead of the vast number of young people around the world who, for some reason, devote their lives to mastering the art of music. I'm thinking of the crowd of young performers dreaming of joining the ranks of participants in the next Chopin Competition. Why shouldn't I ask about *their* idiosyncrasies? What are they seeking in music? What kind of solace, what kind of comfort, what kind of understanding? Why should we not care about the idiosyncrasies of such a niche? My book began with the existentially powerful experience of the Chopin Competition held during the pandemic. It ends just before the next edition of the competition, which will likely have already become part of the past by the time this book is printed and reaches its readers. For the young people who take part in the Great Competition in Warsaw, as well as in other major instrumental or vocal contests, music is a way of being, a mode of existence, and a means of communicating with the world. It is their *connectome*, a network of connections that spans disciplines, people, and nations. Chopin's music knows no temporal boundaries; it reaches into the distant past and anticipates futures yet to come. Why is it that modern youth invest so much of their energy in music from a bygone era, music that belongs to a history not their own? In the chapter *Chopiniana*, we quoted John Rink, who, when speaking of the values inherent in Chopin's music, identified one of them as *openness*.

This seems to represent not only the opposite of certain knowledge, something confined within the realm of *closure*, but also a space for *idiosyncrasy*: a space in which music offers not

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merely a reflection of one's own axiological self-image (although that too is possible), but a wordless, or perhaps pre-verbal, form of acceptance and understanding. If what contemporary individuals truly seek in music is understanding and acceptance, then all philosophical, intellectual fashions and ambitions to transcend the personal in favour of the general or universal should be tempered. If today music, be it classical or popular, is still capable of resonating with individual experience and offering some form of consolation or comprehension, then the philosophy of music ought to treat this encounter with the utmost seriousness and respect.

Alongside the growing interest in the listener's experience, an experience that neuroaesthetics attempts to capture, we are also witnessing a renewed relevance of emotionalism. The same holds true for our experience of art created by AI. What aesthetics should be asking in light of such developments is not, I believe, merely how to refine formalist approaches, but how to articulate some new form of *emotionalism*. It is evident that formalism holds greater intellectual appeal. Yet the question arises whether the biological and evolutionary endowment of the human being, including emotional memory and the limbic system of the brain, might not be the very element that allows us to better understand aesthetic experience and the human drive to create art. Perhaps it is precisely this encoded inheritance, the reptilian brain, evolved toward a shared human experience and emotional memory, that AI will never be able to replace.

I believe that the listener of the future will continue to seek, through music, forms of encounter, understanding, empathy, and sympathy. This is a profoundly democratic desire, one that unites creators and recipients of musical communication, enabling a humanistic encounter between the one who creates and the one who receives art. It is also, in a sense, a revival of *sensus communis*, the shared ground that lends aesthetic experience its fundamentally human character.

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This book has been a small attempt to trace that shift: from thinking about meaning to thinking about relation. I have suggested that the future of aesthetics may lie in taking seriously the fact that perception, feeling, and expression evolve, not only in human beings, but potentially across other species and in future (more or less desired) dialogue with artificial forms of intelligence.

The metaphor of the human connectome was meant to help us visualise, drawing on the lessons of human neurobiology, a possible network of connections that extend beyond one's own individual finitude, constantly reshaped through neuroplasticity and the act of forming relationships through being in the world. This perspective moves beyond neurobiology as such, reaching into a broader world, one that cannot be fully grasped through the lens of any narrow specialisation. For the final time, I turn here to an idea sketched by Carsten Strathausen, whose work invites further exploration of interdisciplinary dialogue:

> No symbolic system or medium of representation will ever match the infinite complexity of the real world. The best we can hope for is to approximate this complexity one way or another. Yet none of them, nor all of them combined, will ever add up to the whole picture (Strathausen, 2017, p. 190).

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And perhaps the musical connectome can, after all, be read like a book. It weaves together the scattered territories of human experience, reaching toward wholeness even as it remains utterly singular—irreducibly individual—precisely because it carries within itself the power to transform, to flow beyond its own horizons. It becomes, then, a mirror of the world itself: complete, and yet finite.

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From a review by Prof. Katarzyna Popowa-Zydroń, Chair of Jury of the 17th and 18th F. Chopin Piano Competition:

Anna Chęćka's book will prove an inspiring work for musicians and philosophers alike. It encourages the reader not only to venture beyond the boundaries of their own specialization, but also to seek a thoughtful dialogue between different realms of human experience. I wholeheartedly recommend it as a work that, while offering substantial academic value, is also written with artistic flair and a finely tuned sense of language, qualities that grant the reader not only intellectual benefit but genuine pleasure.

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