COMPOSING IN AND THROUGH THE BODY
Work Commentary

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I hereby declare that the work presented in this thesis is my own.

Signature: Date:

ACKNOWLEDGMENTS

ABSTRACT

This commentary investigates role of the body in the composition, performance, and audition of the author's musical works included in the portfolio. Starting from Jean-Jacques Nattiez's model of the three-part 'total musical fact', this text describes how the compositional research both adheres to this model and attempts to transcend it through the body. It examines notational strategies that target performing or perceiving bodies, the use of physical and perceptual thresholds, the somatic experience of the composer at various stages throughout the compositional process, and the structuring of the listening environment. Human error and expressive failure are cited as means through which performing bodies forge collectivities with the audience, thereby exemplifying the queer utopian aesthetics described by José Esteban Muñoz and Judith/Jack Halberstam, especially as relates to the notion of hopeful exertion. The staging of absence is examined through various types of embodied engagements with musical material, highlighting the tendency of imminent physicality to draw perceptual focus away from material—an 'avalanche' that can all-too-easily elide the composer's 'fingerprint', in the language of Max Murray. Extended instrumental techniques, the use of electronics, and the genre of performance-installation are also discussed in terms of their relationship to the bodies of the composer, the musician, and the listener. Phenomena such as composed and field-recorded forms of metastasis and masking are addressed for their prioritization of perceptual responses in the listener above material or formal development. Given that all perceived sound is necessarily mediated through bodies (at the latest, through listeners' ears), this commentary and these compositions seek to concentrate awareness—vigilantly and in a number of specific ways—on the beauty and inherent transformative potential of this ever-present reality.

TABLE OF CONTENTS

LIST OF DOCTORAL COMPOSITIONS
(Dates of premieres given in the format DD.MM.YY.)

five monoliths (2014), for open instrumentation and electronics, 10'
    23.02.14, Kammerensemble Neue Musik Berlin, Présences Festival, Paris

Nocturne (2013), string quartet, 11'30
    09.11.13, Mivos Quartet, Wien Modern, Vienna

a tearing of vision (2012), large chamber orchestra, 11'
    12.01.13, Ensemble Intercontemporain, Cornelius Meister (cond.), Cité de la musique, Paris

puls (2012), solo percussion, 8'
    06.02.13, Peter Neville (ELISION Ensemble), University of Huddersfield

witness. (2012), soprano saxophone, e-guitar, piano, percussion, & electronics, 14'
    20.10.12, Ensemble Nikel, Donaueschingen Festival

flesh|veil (2012), octet, partially amplified 12'30
    27.07.12, Prizewinners' Ensemble, Darmstadt Summer Courses

Flesh (2012), two celli, 4' **[equivalent to 'cello duo I' in *flesh|veil* score]**
    not yet performed as a stand-alone work

Veil (2012), two piccolos, 3' **[equivalent to 'piccolo duo II' in *flesh|veil* score]**
    not yet performed as a stand-alone work

— *caul* — (2011–12), chamber ensemble, 22'
    29.04.12, Collegium Novum Zürich, Titus Engel (cond.), Witten Festival

Tenebræ (2011), for four modern and four Baroque instruments, 14'
    06.09.11, Ensemble Recherche & Freiburg Baroque Orchestra,
    Hochschule für Musik Freiburg

two masks (2011), conceptual music for large open instrumentation, ca. 7–12'
    26.07.12, Percussion Workshop Concert, Darmstadt Summer Courses

machine (2011), conceptual music for ensemble, 3'
    not yet performed

ألم *(Alam [Pain])* (2011), a concert installation for ensemble and electronics, 12'
    11.06.11, Kammerensemble Neue Musik Berlin, Akademie der Künste Berlin

LIST OF FIGURES

(Source is author's own compositional scores unless otherwise stated.)

I. Total Musical Fact and the Body

In his *Music and Discourse*, Jean-Jacques Nattiez opens with the contention that the musical work is not just the composition itself, but also the procedures that created it ("acts of composition") as well as those to which it gives rise ("acts of interpretation and perception"); he argues that a "total musical fact" is mutually constituted by these three coexisting levels and that an awareness of this "tripartitional conception" must be cultivated to avoid "problems and contradictions endemic to discourse about music".[1] In 1967 when Nattiez's work was first published in French and to this very day, the oft-discussed triad of composer-performer-audience was and remains nothing new. In fact Nattiez admits that upon first glance the point "might seem *terribly* banal," though he quickly counters that "in reality [it is] just the opposite".[2] This text takes as its point of departure emphatic agreement with Nattiez's assessment that the intersectionality of a musical work's three levels is both profound in and of itself as well as essential to the educated contemporary analysis and historical contextualization of a work. From there, it proceeds beyond this initial infatuation to engage the tridimensional model critically in an attempt to articulate its boundaries, behavioral dynamics, and potential weaknesses and/or contradictions through focused experimentation in the musical texts (i.e., the scores) I produced during my doctoral studies.

Indeed, the tripartite understanding of the musical work continues to raise fundamental questions that remain unresolved today. If the composer does not have actual control of the musical work, to what extent do her compositional decisions matter? To what degree can interactions between the three coexisting levels be scripted in the score? How fluid are the boundaries between levels and how radically can they shift during a single piece? Is this sort of 'historically informed performance'—that is, one acquainted with the specific history of a specific work—always desirable? Is the composer's biographical detail or his relationship with, say, the soloist who premiered the work essential to a proper interpretation? Are the levels always equally relevant and, if not, is it possible to transcend meaningful categorization (e.g., by shifting the focus from one level to the next so rapidly that both are effectively active at the same time)? Is Cage correct to always blame the

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1. Jean-Jacques Nattiez, *Music And Discourse: Toward a Semiology of Music* (Princeton, N.J.: Princeton University Press, 1990), ix–x.

2. Ibid.

listener for being bored?[3] More metaphysically, is it even possible to "hear a musical work" or is each performance merely one instantiation of an unattainable abstract concept, a Platonic form of sorts?

These questions are just a small portion of an immense problem set that cannot possibly be addressed adequately in a single doctoral commentary; I mention them here to sketch the landscape within which my inquiry unfolds. Again, my project uses Nattiez's semiological synthesis of composition, interpretation, and perception as a starting point only; it uses this conception as a philosophical undergirding to investigate a *commonality* between, or adjacent to, these coexisting levels: namely, **the human body**. *My research, then, seeks to more precisely apprehend, comprehend, and articulate through sound the relevance of the body and of embodied perception to the musical works (or, to use Nattiez's language, to the 'total musical facts') of which my compositions are a part.* It is informed by phenomenological and psychoacoustic lines of inquiry and aims to develop compositional and notational strategies that reflect a balanced awareness of the interpenetrating somatic experiences of musician, audience, and composer. Driving this research is the suspicion/hope that conditions can sometimes arise—and perhaps be engendered through the composed score—in which *the body is capable of subverting entirely this tripartite categorization*. (While examples of this follow below, such subversions are not the sole focus of my research.) As such, my project occupies a paradoxical space of both solidarity with and qualified refutation of Nattiez's theoretical model articulated above.

II. Research Questions

My understanding of practice-based compositional research is: that which attempts to 'compose through' specific research questions such that the resultant musical works yield evaluable results. Such experimentation requires, on some level, fixed parameters in the musical text (e.g., full notation, rules for improvisation) within which nuanced and controlled compositional decisions produce results that can be meaningfully analyzed. This analysis then forms the basis for resolving, revising, or reformulating the initial questions and/or establishing new lines of inquiry. Specific research questions are discussed later in the

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3. "If something is boring after two minutes, try it for four. If still boring, try it for eight, sixteen, thirty-two, and so on. Eventually one discovers that it's not boring at all but very interesting." John Cage, *Silence: Lectures and Writings*, (Middletown, Conn.: Wesleyan University Press, 1961), 93.

context of individual pieces. On the broadest level, however, the primary questions I engage in my practice-based compositional research can be grouped accordingly:

1. THE MUSICAL TEXT: How can notational strategies meaningfully engage with musicians' physical bodies and, by extension, other bodies—physical and abstract, present and absent—during performance?

2. THE PERFORMING BODY: How can musicians' physical limitations—by which I mean principally *thresholds of endurance*—guide compositional decisions? Is there something valuable or unique in this approach? In other words, do interpretations of the subsequent musical text generate sonic results I could not otherwise, especially through simpler or more direct means, achieve?

3. THE COMPOSING BODY: Does my somatic experience during the compositional process (hands-on experience with instruments, notating my own physical gestures, etc.) *actually translate* through the notation into meaningfully similar (i.e., correlative or otherwise predictable) somatic experiences for the musician(s) or audience?

4. THE PERCEIVING BODY: How can listeners' physical limitations—by which I mean principally *thresholds of perception*, since works or sonic processes with long durations that engage listeners' endurance thresholds ultimately manifest as *perceptual distortions* such as ear fatigue or aural hallucinations—be leveraged through composition? Can alternative listening environments be structured to engage otherwise neglected and/or unexplored aspects of embodied experience more deeply? (On a related note, are traditional listening environments inherently and unconditionally hostile to certain forms of embodiment or might these environments be salvageable?) Finally, might it be possible to leverage the perceptual limitations of *traditional listening environments* to expressive ends?[4]

III. Formal Organization of this Commentary

In writing about entities that are mutually constituting, one is faced with a difficult problem: Where to start? Linear presentation is ill-suited to discussing interpenetrating relationships since commenting on one entity comments implicitly on others, thus necessitating further

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4 . For instance, *Yarn*, an ensemble work by the young Greek composer Marianthi Papalexandri-Alexandri written for the 2008 Darmstadt Summer Courses, borders on the inaudible for much of its ten-minute duration and could well be said to harness, if not thematize, the concert hall's failure to transmit dynamic and timbral subtleties below a certain threshold. Many of the musicians' actions were readily perceptual visually, despite being virtually soundless. This perceptual gap evoked a sort of expressive inadequacy that this listener, at least, found poignant.

clarifications elsewhere, which leads precipitously to a sort of hall of mirrors. By following multiple—even contradictory—lines of flight one may arrive at some conception of the (invariably fractured) whole. Each chapter of this commentary thus takes an arbitrary starting point, focusing on a single work or idea and exploring its conceptual strands through concrete musical examples with an understanding that some relevant material must, at least initially, remain unsaid in the interest of following a single line to one of its ends. However, the exception proves the rule: Such lines are occasionally ruptured.

»*Ruptures look like this. They appear in italics in a contrasting seraph font and are enclosed in guillemets to distinguish them clearly from the main text. They either begin a new paragraph, as here, or are embedded within an existing paragraph. Their purpose is to explore relevant tangents or to provide imagistic or poetic commentary on the topic of discussion. As such, they often abandon conventions of academic writing in favor of a more abstract approach, with the understanding that less concrete language can, at times, be a more effective and direct way to communicate a given concept, or at least to illuminate an aspect otherwise difficult to express.*«

As often happens with a body of creative work composed over an extended period, the underlying conceptual and artistic preoccupations of my compositions over the past three-and-a-half years were not immediately obvious. In the process of formalizing my inquiry at the outset of my doctoral studies, it became clear that existing works had already begun to grapple with, albeit far from exhaustively investigate, the specific research questions I was subsequently to lay out. As such, the first chapter will discuss the 'heritage' of my present doctoral research by examining the concepts of human error and physical thresholds in four earlier works.[5] Such 'stagings of failure' constitute a core aspect of my research into embodied experience that informs and delimits the lines of inquiry traced by works composed thereafter.

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5. These four earlier works are *die Haut Anderer* (2008) for solo piano, *Chamber* (2006–07) for three (untrained) amplified (male) voices, *viscera* (2010) for trio basso (viola, cello, contrabass), and *personæ* (2009), a duo for bass flute and bass clarinet.

Chapter 1

The Body and Failure: Error as Compositional Material

Everything that is a failure is always a victory.[6]

—David Foster Wallace

I. Species of failure

Failure is inevitable. Every composition is an unfaithful transcription of the original idea. Every performance is a failure to capture the entirety of an interpreter's vision of a work, every memory an incomplete record of a given event's details. Every communication fails to transmit thought from mind to mind unscathed. We subsist in perpetual failure, in distortion, elision, and approximation. Everything that is a victory is *always* a failure.

Staged failures differ wildly in content, method, and nature and tend to resist description as simple dichotomies (such as win/lose, good/bad, hit/miss). This chapter will discuss passages in six recent works that incorporate error as compositional material, thus outlining a preliminary and necessarily incomplete taxonomy of what I term 'expressive failure'. Coalescing around a compositional preoccupation with the body writ large as well as with sonic phenomena in which instability and fragility inhere, these instantiations of intentional *error-enabling*—as distinct from error-making—ask *how* the physical bodies of listeners and performers act, interact, and transact during live performance.[7] My work understands expressive failure as a queer discipline of embodiment, one that must necessarily enfold oppositional relationships and seeming paradoxes within its practice (e.g., intending the unintentional) to nurture an in-dwelling transformative potential.[8]

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6. Dazzle Communication, "Le Conversazioni 2006," *YouTube* video, 2:52, May 26, 2007, https://www.youtube.com/watch?v=mVzhhvCRTCo.

7. Though both doubtless represent types of performed failures, intentional error-enabling and intentional error-making are incommensurable. The former opens a space that fosters unscripted events (errors are genuine, authentic; there is *actual uncertainty* regarding their timing, nature, and morphology), whereas the latter scripts events (errors are faked, inauthentic; there is *feigned uncertainty* regarding their timing, nature, and morphology). Pretending to trip is error-making. Creating a situation in which you cannot help but trip (running barefoot over rocks, binding the feet, blindfolding) is error-enabling.

8. 'Queer' is here understood in a broad sense, encompassing many affiliated experiences and conceptions of alterity across relational lines, be they sexual, racial, national, gender-based, generational, or otherwise.

Contemporary music is well acquainted with a certain aesthetic of failure that relies on overloading a player with multiple strands of dense information such that errors or omissions with respect to the notation are effectively in-written. By problematizing the performer's relationship to notation, this approach ostensibly destabilizes the aesthetic object, attaining the unnotatable through notation, or, more specifically, through a performer's failure to realize a notation designed to thwart—or at least to redefine what is meant by—faithful execution.

> In **Cassandra's Dream Song** (1970) (Ex. 1) for solo flute, the material has been intentionally so slanted as to present, at times, a literally 'unplayable' image. The boundary separating the playable from the unplayable […] has been left undefined, depending for its precise location on the specific abilities of the individual performer, whose interpretational endowment forms a relativizing 'filter'. In the introductory notes I wrote, at the time:
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>> "…the audible (and visual) degree of difficulty is to be drawn, as an integral structural element, into the fabric of the composition itself."[9]

Regardless of performers' actual or perceived accuracy, much of this work draws power from the sheer physicality of its execution. Such enshrining of (hyper-)virtuosity underscores the *dissimilarity* between the bodies of audience and performer, invoking a Romantic fascination with and glorification of superhuman mastery. (Moreover, the density of information precludes listeners' ability to gauge accuracy, foreclosing any meaningful assessment of said mastery.) These works, I would suggest, harness virtuosity and failure in an ultimately divisive manner that actively promotes audience estrangement and, in refusing solidarity, endorses extant power structures, be they linked to unreflective composer-performer relationality or to privilege more broadly defined (indeed, one might well add that composers associated with this aesthetic tend to be overwhelmingly, if not exclusively, white men).

Admittedly some of my own work fits this problematic profile. Virtuosity and complexity do often dazzle me as both a listener and a composer, especially as a strategy to engender urgency (a sense of something unnamable and vital being 'at stake'). In my work, an idolizing respect for and indebtedness to various manifestations of virtuosity and/or complexity in existing repertoire (from Scriabin to Ferneyhough to the devastatingly beautiful work of my colleagues Josiah Oberholtzer and Timothy McCormack) is, perhaps unsurprisingly, coupled with an idol-killing critique: Beneath the flashy surface, I am

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9. Brian Ferneyhough, "Aspects of Notational and Compositional Practice," in *Collected Writings*, ed. James Boros and Richard Toop (Amsterdam: Harwood Academic Publishers, 1995), 5.

interested in mining virtuosity and complexity for their ability to self-efface and invert, to reveal themselves as anti-virtuosic and anti-complex. Recent works of mine attempt to divorce exertion from complexity, exposing compositional artifice through reduced textures, blunt repetition, and thresholds of endurance or perception.[10]

In contrast to the divisive nature of failure described above, I endeavor to stage failures with which ordinary bodies can identify—if not experience directly as failures or distortions of perception, as with aural hallucinations—in the hopes of uniting the bodies present in a moment that is at once intensely collective and intensely individual. I am concerned with the immediate poignancy of bodies that struggle and fail to perform feats of execution or cognition that are either common or readily perceptible, engaging physical and perceptual thresholds to queer the commonplace through the body. Because a clear ground against which mistakes can be heard is nearly always present (again, in stark contrast to the aesthetics of failure outlined above), this work plainly exposes performer vulnerability. Error—and perhaps vulnerability itself—becomes compositional material, thereby posing unconventional questions to the interpreter: What is a masterful error? Can failure be practiced or be made into a practice? How can one intend the unintended, sound the paradox? These questions gesture toward the need for an alternate virtuosity that undermines traditional conceptions of interpretative mastery, suggesting new, horizontal frameworks for virtuosity's relation to power.

Were one to identify the ever-present absence against which the presence of 'failure' is rendered comprehensible in my works, 'success' (or 'victory' as the Wallace epigraph above would have it) might seem an appropriate term. Acknowledging that such dialectical pairings are, at best, flawed models for understanding more complex mechanisms, I would like to propose that a constitutive feature of expressive failure is that the ever-present absence against which it is defined would not be 'victory' but rather 'hope'. It is, in a sense, a doomed, impossible hope—one that persists, ardent and sincere, not in the face of failure (as when struggling to realize impossibly dense notation) but *solely through* failure. *»A cresting, a breaching.«* Every staging of expressive failure thus manifests a form of hope as a present-

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10. Crucial to all of these methods of exposure is a notion of duration closely allied to Bergson's: "Pure duration is the form which the succession of our conscious states assumes when our ego lets itself *live*, when it refrains from separating its present state from its former states." Henri Bergson, "The Idea of Duration," in *Henri Bergson: Key Writings*, eds. John Mullarkey and Keith A. Pearson (New York: Continuum, 2002), 60.

absence, a pure and ineffable hope having no real object or intentionality that exists in an undefined, interstitial space between absence and presence.

»*Hope without object. Potential* itself—*absent direction and intention—rather than a hope* for *something or someone. A gathering of the pure energy that is embodied hope/hoping. Willingness. A stretching–into–infinite–possibility of the moment just before energy is directed at an object, before the propulsion along a trajectory. A summoning. Is 'potential energy' sufficient? No. More.*«

By wedding virtuosic performance to notions of failure, hopeful exertion, and the commonplace in this way, my music might said to be engaged in the sort of "queer utopian aesthetic practice" or "queer art of failure" recently articulated by, respectively, leading queer theorists José Esteban Muñoz and Judith Halberstam.[11] Queer failures that re-imagine commonplace actions such that they dislodge from accustomed modes of understanding or perception celebrate the strangeness and *inherent transformative power of the ordinary*, uniting bodies through corporeally empathic enactments.

Put simply, a performing body that fails in a way familiar to perceiving bodies (i.e., in a way they have failed or could easily imagine themselves failing) unifies all bodies present in and through the performed act of failure. In contrast, a performing body that fails in a way utterly foreign to perceiving bodies, such as by executing hyper-virtuosic demands of complex music notation, divides those same bodies through the performed act of failure.[12] Such instances of expressive failure in abstract music, to borrow language from German visual artist Gerhard Richter, comprise "fictive models" that articulate "a reality we can neither [hear] nor describe, but whose existence is implied" (Richter, 1982), thus demonstrating an awareness of potential, or, indeed, *demonstrating potential itself*.[13]

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11. In a discussion of Jack Smith's influence on contemporary queer performance art, Muñoz outlines "two aspects of […] a queer utopian aesthetic practice: failure and virtuosity" while Halberstam underscores failure's role in imagining other futures in this passage: "The queer art of failure turns on the impossible, the improbable, the unlikely, and the unremarkable. It quietly loses, and in losing it imagines other goals for life, for love, for art, and for being." José E. Muñoz, *Cruising Utopia: The There and Then of Queer Utopia* (New York: New York University Press, 2009), 169. Judith Halberstam, *The Queer Art Of Failure* (Durham: Duke University Press, 2011), 88.

12. A simple example of queering the commonplace that illustrates the in-dwelling transformative potential of ordinary materials: Repeat any word to yourself out loud until it begins to lose meaning. Through repetition and duration, the signifier is transformed, disengaging from the signified, to become at moments, perhaps, pure sound unmoored from its associative tethers.

13. "Abstrakte Bilder sind fiktive Modelle weil sie eine Wirklichkeit veranschaulichen, die wir weder sehen noch beschreiben können, auf deren Existenz wir aber schließen können." Gerhard Richter, untitled text in *documenta 7*, exhibition catalogue, ed. Rudolf Fuchs (Kassel: Dierichs, 1982).

»*Nothing underscores the immediacy of the present in live performance more than a mistake. The feeling that something could go wrong is a key feature of liveness, whereas we know when listening to recordings that whole species of failure are categorically excluded (while others, such as technical problems, are opened up). Because it "isn't supposed to happen" we observers become intensely aware of the Now, of its precious, precarious nature. One of the most poignant and memorable performances I heard during my undergraduate studies at Oberlin was a solo recital by a faculty piano professor. She'd programmed Scriabin's treacherously difficult Piano Sonata No. 4 in F# Major, Op. 30. Early in the brisk final movement (*Prestissimo volando*), she suffered an obvious and severe memory slip. She re-started numerous times, suffering the same slip, conquering it, suffering new ones. Ultimately—and excruciatingly—she gave up, tearfully announcing she couldn't continue from the stage. Shock. Long, awkward intermission. Tense atmosphere as she re-approached the piano for the second half. Flawless, triumphant execution of the complete Chopin Scherzi. Thunderous ovation. More tears. Encores.*«

In embracing the 'now' as an essential fact while at the same time revealing its plasticity, expressive failure envisions the present moment as both undeniably structured and patently *mutable through the actions of ordinary bodies*. It is this combination of an intense awareness of the present, a critique of the present as somehow insufficient (which implies an imperative to improve it, if possible), and the present's manifest mutability that emboldens Muñoz to use a term as lofty as 'utopian' to describe what is, in essence, quotidian and uncontroversial: a people united can, even in the smallest of ways, shift the reality we collectively structure, possibly improve it slightly, inch it toward a more perfect society. The following discussion of musical examples, then, traces aspects of his and Halberstam's readings of failure's performance as a terrain of potential queer utopian transformation, emphasizing the centrality of the human sensorium, the concomitant array of temporalities inherent to embodied perception, and the various transactions of meaning perpetuated by productive and consumptive bodies.

»*'Production' and 'consumption' are not meant to establish a binary according to which musicians have productive performing bodies and listeners have consumptive perceiving bodies; rather, the boundaries of these modes of production and consumption are fluid and ever-shifting. There is an interpenetrating play between and within bodies during—as well as before and after—a performance. Only on the most superficial level do performing bodies produce and listening bodies consume: Every performer knows the feeling of "reading the room" during performance; this is a consumption of energy produced by listening bodies in response to their own consumption. All bodies filter what they consume*

and produce meaning and possibly perceptible actions that other bodies can consume and interpret. Listeners may cough, hiss, boo, sigh, gasp, faint, shift in their seats. Performers may alter details to 'play to the audience'. Granted, the range of possible responses in some disciplines, say, improvisation, is massive, though even when it comes to the 'standard performance practice of contemporary music' (if one can speak of such a thing), in which performer freedom is somewhat limited and faithful execution of the text is prized, performing bodies are certainly free to explore what flexibility they have in live performance (slightly extend or abbreviate pauses, adjust dynamics or tempi, etc.). Bodies move perpetually from inside to out and from out to in, igniting unions and fusions, always.«

II. Musical Examples

My work titled *die Haut Anderer* [*the skin of others*] (2008), *für e. h.* for solo piano and optional video playback was seminal for my compositional investigations of failure. It was written for pianist Rei Nakamura and inspired by Emma Hauck's unsent letters to her lover, Mark.[14] In their obsessive desire to communicate, penciled words heap upon and elide themselves in dark, frantically amalgamated columns. Rendered illegible, they fail to convey cogent thought and instead take on an entirely different—and more immediate and poignant— expressive quality. Outlined below are four instantiations of corporeal failure in *die Haut Anderer* that invoke these themes of obsessive repetition and transcendence.

In the passage shown in Figure 1, the pianist is required to accelerate until her hands are literally out of control. As the speed increases, the deviations from the notated pitches become more extreme, resulting in clusters by the final repetitions. Losing *all* control risks injury, as the hands could land at an awkward, painful angle. Virtuosity in this context requires the performer to invoke, paradoxically, both discipline and surrender: she must gradually approach then audibly transcend her own physical thresholds, such that mistakes are genuine and increasingly severe, yet maintaining enough control to prevent bodily harm.

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14. Hauck composed these letters in 1909 during her stay at the Heidelberg University Psychiatric Clinic, where she was being treated for schizophrenia. These and other artworks created by the mentally ill are now housed in Heidelberg's ethically controversial Prinzhorn Collection. Monika Jagdfeld, "Emma Hauck," *Sammlung Prinzhorn: Universitätsklinikum Heidelberg*, accessed January 26, 2015, http://prinzhorn.ukl-hd.de/index.php?id=67&L=675.

Fig. 1, *die Haut Anderer* (2008), for piano solo, mm. 110–114

Two forms of failure operate in Figure 2. The first relates to the performing body: Inevitably, the pianist fails to maintain a perfectly regular dynamic or pulse ($\quarternote \approx 72$). The psychological pressure of playing this passage evenly is exacerbated by the fact that, due to the sheer duration and the radically reduced material, listeners' sensitivity to even the smallest inconsistencies is magnified. The second relates to the perceiving body: Listeners may experience a sort of *trompe l'oreille*. Despite knowing, rationally and visually, that the repetitions are produced with relative uniformity, the ear fails to perceive the sound uniformly over time, instead experiencing involuntary, individualized shifts in perceptual focus from the repeated pitch to the wooden attack sound to the aural hallucination of a sustained pitch. This imagined sustained pitch and the oscillation of perceptual foreground and background are related to the brain's tendency to impose change onto static stimuli, a cognitive phenomenon often studied in sensory deprivation experiments.[15]

Fig. 2, *die Haut Anderer* (2008), for piano solo, mm. 150–152

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15. See D. O. Hebb, et al, "The effect of isolation upon attitude, motivation, and thought," in *Fourth Symposium, Military Medicine I,* (Ottawa: Defense Research Board, 1952).

Figure 3 shows the opening of the piece in which the pianist silently depresses the keys, releasing them with sudden, audible accents on each rest. Due to the tempo, hand distribution, and strange fingering, some notes will sound involuntarily. These errors are then interwoven with intentionally sounded notes to create a sort of fractured *crescendo dal niente* effect over the work's first 30 bars, equaling about 90 seconds.

Fig. 3, *die Haut Anderer* (2008), for piano solo, mm. 1–7

Despite the irrational meter in Figure 4, bars 89 and 90 can be performed accurately with ease, but the awkwardness of the interlocking durational permutations in the subsequent four bars are intended to boggle the performer's sense of pulse, inviting struggle and imprecision. On the surface, this boggling effect is similar to the destabilization effected by complex notation discussed earlier, in that the performer is asked to execute to a degree of precision it will very likely not attain, but, rather than veiled beyond meaningful recognition, the obvious repetition of the pitch material combined with the relative simplicity of the first two bars establish such a clear ground that errors are utterly exposed.

Fig. 4, *die Haut Anderer* (2008), for piano solo, mm. 89–94

Chamber is based on a simple idea: a voice tries to sing a note *just beyond* its uppermost range. The result is a fragile and richly textured 'shadow tone'. »*The unsingable, the beyond-the-self.*« This technique is most effective in the male falsetto range and untrained voices are preferred due to the considerable—possibly damaging—strain on the vocal cords.[16] This core sound occurs in all three voices in the excerpt in Figure 5, marked by the underlined word 'shadow' and a solid line with a dotted line underneath following the formant, which indicates that the sound is on the threshold between voiced and unvoiced. In its prolonged striving for the unattainable, this sound lays bare the anatomy of this species of failure: quiet tension ensheathed by hopeful effort.

Fig. 5, *Chamber* (2006–07), for three (untrained) amplified (male) voices, mm. 139–144

Flickering involuntarily between two pitches, the gentle failed multiphonic depicted in Figure 6 is the final gesture of a theretofore frenetic and aggressive string trio for viola, cello, and contrabass entitled *viscera*. Through slight adjustments to bowing parameters such as speed, pressure, angle, contact point between bow and string (i.e., proximity to bridge), and amount of bow hair in contact with the string, the interpreter attempts to sustain simultaneously two very high adjacent partials (ca. 24th and 25th) on the E-string. Locating and sustaining this threshold sound is precarious—the tendency is either for other partials to intrude involuntarily or, if one adjusts bow speed and bow pressure to impede these intrusions, for the tone to pale into an unpitched air sound—and this precariousness casts in relief the relative stoicism of the bassist's slow, subtle movement.

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16. That said, ekmeles, a New York–based ensemble of trained singers, have performed this work and managed to perform the techniques safely.

Fig. 6, viscera (2009), for viola, cello, and contrabass, mm. 169–71

As the score in Figure 7 indicates:

> Contrabass has separate tempo. Synchronicities that would result from strict adherence to given tempi are shown with dotted lines. However, it is much more important to create a sense of *audible friction* and *struggle* between the contrabass solo and the viola & cello duo than it is to execute the temporal ratio and its verticalities with absolute fidelity.

Though errors within a texture of this density may not be as apparent as in previous examples, the failure to align disparate temporalities should suffuse this passage and the bodies interpreting it in live performance with a perceptible, if not easily locatable, tension.

Fig. 7, *viscera* (2009), for viola, cello, and contrabass, mm. 118–125

Figure 8 shows the entire last page of *personæ*, a duo for bass flute and bass clarinet. Here, the bass flutist is asked to circular-breathe throughout while sustaining a continuous pitched sound centered on the lowest C, the instrument's lowest fingered pitch. In this extreme low register (sounding C3), the result of this circular breathing technique will necessarily be unstable: perforated with physically induced instabilities such as pulsations, involuntary overtone glissandi, and a shaky, breathy, and unfocused tone. The sound is further destabilized by rolling the flute in and out to produce the microtonal glissandi, resulting overall in a highly exposed, gentle failure sound akin to the preceding contrabass example from *viscera* shown in Figure 6. More subtly, the unpredictability and plasticity of these involuntary disruptions engender a feeling of time that is audibly distinct from the more tightly controlled clarinet part. This juxtaposition creates, for me, a sensation of misaligned, incommensurate temporalities that somehow coexist, not *at* but *in* the same time, opening through synchronic failure a space of queer temporality.

> *Queerness is that thing that lets us feel that this world is not enough, that indeed something is missing. […] [It] is essentially about the rejection of a here and now and an insistence on potentiality or concrete possibility for another world.*[17]

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17. Muñoz, *Cruising Utopia,* 1.

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Fig. 8, *personæ* (2009), for bass flute and bass clarinet, mm. 104–122

CHAPTER 2
MODULAR COMPOSITIONS (TIMELINE PIECES)

I. Performing Bodies, Composing Bodies

As a trained performer, the physical engagement with a given instrument and the subjective psychological reality of live performance are at the forefront of my mind when I compose. I strive to envision as clearly as possible the nature and intensity of the physical motions required to generate the sounds I write. At times, sculpting a choreography of physical intensity and bodily movement can be tantamount to structuring their sonic results in a given moment, blurring the distinction between content and expression. This relates directly to my first research question stated previously: How can notational strategies meaningfully engage with musicians' physical bodies? As it relates to the works discussed in this chapter, the question can be further specified: How does embodied motion—real or imagined—manifest in a (musical) text?

These questions come into even greater focus in two works written in 2012, *Flesh* for cello duo and *Veil* for piccolo duo. These works are conceptual siblings; each is a virtuosic exploration of physical thresholds within the context of a frenetic two-part *quasi unisono* musical texture. As if shadowing or 'ghosting' one another, the two voices play nearly identical pitches and rhythms. To different extents, the duos *Flesh* and *Veil* represent attempts to transcribe, or perhaps even to transmit, physical choreographies. Much of their material is conceived of first as movement (or better yet, *exertion*) and second as sound, at least in the initial phase during which the material is generated. Following this generative phase, purely sonic qualities are carefully sculpted and specific compositional decisions at times trump movement. This research draws upon both my own physical engagement with these instruments—neither of which I am properly trained to play—as well as real and imagined choreographies culled vicariously from individual meetings with expert contemporary music players.[18]

»*The transcription process of one's own improvisations is necessarily flawed. That is to say, bodily experience (here, improvisation) is filtered through the same body (the composer's) and inevitably corrupted due to (a) the general imperfection of notation itself and (b) the time lapse between improvisation and notation, during which the memory is subject to error.*

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18. Cellist Åsa Åkerberg of Ensemble Recherche and flutist Matteo Cesari.

An improvising body is a body in motion. Ears, muscles, brain engaged. It is this embodied totality that the memory strives to replicate in notation through the hands. This ear-muscle-brain-memory-hand-pencil-page assemblage manifests in some form in the musical work; I want to emphasize and enhance this manifestation. The work should communicate a history of a moment and of its imperfect transmission through notation, at once acknowledging the presence of absence (the unattainable past moment) and scripting a future moment (the interpretation). It is a memento mori, a Mahnmal.«[19]

II. *Flesh* (2012)

When composing the cello duo *Flesh*, this improvised choreography results in short, heterogeneous notated fragments that center around a single pitch, D5, along with its adjacent microtonal inflections. Bound by a common energetic impulse and a restricted sound palette, these fragments are then composed out, refined, and extended under the governance of practical constraints (feasible double-stops, desired degree of rhythmic complexity, considerations of idiomatic instrumental writing)—in short, they are pulverized and reconstituted, not in an attempt to alienate them from their origin but rather to *reference* it. By mirroring the fractured heritage of misremembered specifics when transcribing an improvisation, this process of reconstitution aims to transmit to the present more perfectly, or at least honestly, an intrinsically fallible memory's imperfect replication of the unattainable past.[20]

At this point in the act of composition, *Flesh* is a solo cello line of about two minutes, a 'melody' that feverishly contorts a central pitch (D5) into its surrounding microtones.[21] *»A chain of self-similar, unrelentingly aggressive material. A choreography of motions my body has executed (real) or those I have tested with an expert (imagined). Motion that ultimately remains static,*

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19. German has two words for 'monument': *Denkmal*, derived from *denken* (to think) and *Mahnmal*, derived from *mahnen* (to warn). A *Mahnmal* commemorates loss or tragedy, implicitly cautioning the viewer against the loss's recurrence. In this case, work-as-*Mahnmal* mourns the unattainability of the immediate past—an absurd yet poignant endeavor linked to hopeful exertion and expressive failure as discussed in the previous chapter.

20. Such language may appear hyperbolic until one considers how sensitive to scarcely detectable variations early chaos theorist Edward Lorenz's 'butterfly effect' famously determined initial conditions to be.

21. This 'melody' can be understood as an instrumental (re-)transcription of a phenomenon from electronic sound processing: namely time-stretching. If one takes a high-quality audio sample of a single bowed cello tone, then massively time-stretches just the attack transient of the sound envelope, a similarly metastatic microtonal frenzy around a central pitch results.

lashing and writhing to escape the inescapable gravity of memory/past/tomb.« It is "the same note, just with a different pitch."[22] A line of 'counterpoint' to this 'melody' is then composed and both are subjected to 'imperfect transmissions' to generate more material.

In Figure 9, the first system (A) displays a fragment of the initial solo line, which was composed first. The material on the third system (B) was composed second, and is conceived as counterpoint in accordance with fairly conventional standards of balance and symmetry, principally as pertain to rhythmic density, register, and dynamics. (Since durations in the initial line are predominantly short, durations in the counterpoint line tend to be longer; since A stays in a single register, B explores several; etc.) Like any good rule, the contrapuntal nature of B is broken at times and passages of pitch and rhythmic confluence do arise.

Fig. 9, cello sketch for *Flesh* (2012)

At this point there is the initial melody (A) and its counterpoint (B). Each line is cloned in an artificially flawed process (the aforementioned 'imperfect transmission') designed to mimic

22. "*Der gleiche Ton, bloß mit einer anderen Höhe.*" The quote is from notes I took at a composition seminar by Mathias Spahlinger on Scelsi's *Tre pezzi* at the Hochschule für Musik in Freiburg. Admittedly it works much better in German due a play on words: The German word for 'pitch' [*Tonhöhe*, literally the 'tone height'] contains the word for 'tone' or 'note' [*Ton*].

errors and mutations. As is clear in Figure 9, the second system (A') imitates A and the fourth (B') imitates B. Roughly speaking, this compositional process yields four varying degrees of similarity; from most to least similar these are: (1) A–A' and B–B', (2) A–B, (3) A–B' and A'–B, (4) A'–B'. Fragments of all four lines are cobbled together to extend both cello lines to their final length, using the spectrum of similarity and difference inherent to their manufacture as a tool to sculpt the form.[23] Figure 10 analyzes an excerpt of the finished duo, using these color-coded labels above the material: green (unison), blue (*quasi unisono*), or red (contrasting).

In the wake of the Arab Spring and growing global protest against economic inequality, interest in crowd control and surveillance technology has risen dramatically and opportunistic technology firms smell a profit. Noise weapons, though they form just a tiny sliver of this brave new market, occupy a bizarre intersection between pioneering sonic exploration and Orwellian horror. One of these weapons in particular, a handheld speech-jamming gun, actually influenced aspects of this cello duo. Using a distance sensor, laser pointer, directional microphone, and directional speaker, the trigger-operated noise gun records the target's speech and fires it directly back at them with a delay of about 200 milliseconds. Apparently this induces a reliable physiological response called Delayed Auditory Feedback in which the brain, confused by the unexpected and precisely calibrated echo effect, can no longer properly formulate the next words it had been planning to utter.[24] Effectively, the target's own sound cannibalizes itself, rendering the target mute.

While I did not attempt to replicate this effect literally in *Flesh*, I imagine the difficulty of faithfully executing a line of material while simultaneously hearing nearly identical, overlapping material will result in some form of audible distortion. At the very least, performers—at least those who genuinely attempt to realize the text with fidelity—will be visibly and audibly 'on edge'. Specific research questions here are: (a) Is this distortion audible and what does it sound like (and might there be a better way to notate it)? (b) Does the degree of distortion correspond to the in-composed degree of similarity? (c) Was the spectrum of similarity and difference gauged such that perceptually distinct categories could result?

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23. In the percussion solo *puls*, discussed in Chapter 3, I use a similar approach to sculpt form along a different spectrum, namely one between identity and identifiability.

24. Sebastian Anthony, "New speech-jamming gun hints at dystopian Big Brother future," *ExtremeTech*. March 1, 2012. http://www.extremetech.com/computing/120583-new-speech-jamming-gun-hints-at-dystopian-big-brother-future

Fig. 10, *Flesh* (2012), for two celli, mm. 39–53

27

III. *Veil* **(2012)**

In evaluating the score of *Flesh* in the context of my research questions, I located a weakness and sought to redress it in *Veil*, written immediately after. Namely, the spectrum of similarity in *Flesh* is never really narrow enough; the celli are never actually asked to play *the same material* for extended periods. Of course, one should note that beyond a certain threshold of technical difficulty it may well be impossible for two bodies to play in perfect unison. In other words, even identically notated material would be marked by a degree of audible difference.

In order to create adequate conditions to address this problem, I composed the piccolo duo *Veil* with three distinct categories in mind, located at different points along a spectrum of similarity and difference: (1) genuine unisons (identical notation), (2) *quasi unisono* (two forms: identical pitches with different durations or identical durations with different pitches), and (3) contrasting material (different pitches and durations). Category 1 describes a quality with no range; Category 2 has a restricted range from slight to very slight degrees of difference; Category 3 encompasses a relatively wide range. To the previous three research questions above, I could now add a fourth: (d) Is there a meaningful difference in narrowing the spectrum of similarity with the genuine unison passages?

On the whole, the two lines in *Veil* are much more similar, including extending passages of material notated in unison. It begins with two solo gestures played by piccolo 1. Piccolo 2 then joins in Gesture 3 (m. 8), 'ghosting' piccolo 1 for 13 bars; that is, piccolo 2 plays the same material but at a noticeably softer dynamic. This approach emphasizes the physically congruent choreography while downplaying the sonic congruence through dynamic masking. With the minor exception in m. 10, the duo has been solo or unison up to this point at which Figure 11 begins, m. 21. As with the previous example from *Flesh*, three categories are color-coded and labeled in Figure 11.[25]

Far before actually composing the work, I met with flutist Matteo Cesari, winner of the 2010 *Kranichsteiner Musikpreis* for interpretation, for an intensive research stage. Though I do not play a wind instrument myself, I wanted to compose a part that was at its core physical in order to engage deeply with the flutist's bodily relationship to the instrument, to breath, and to the sensation of the hands. Matteo was kind enough to dedicate three full

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25. Though these categories were technically first formalized after having written *Flesh* as a means of structuring the research in *Veil* more strictly, the fact that they can be so readily be applied to analyze *Flesh* reflects their latent operation during its composition.

days to help me develop the sound palettes for my composition at his studio in Paris, vicariously teaching me how a flutist's body moves.[26]

»If we take Nattiez seriously, the intervening months between sound research and actual composition, being themselves part of the act of composition, are by definition part of the musical work. In the interim, my memory of the physicality of the piccolo surely faded somewhat, enhancing some details, eliding others. Pages of notes and audio recordings could counteract this somewhat, but some distortion doubtless remained. This temporal gap, it could be argued, represents a fundamental shift from a bodily engagement in the act of composition from short-term memory (as employed when immediately notated improvised fragments when composing the material for Flesh*) to long-term memory.«*

Months after my sessions with Matteo, I bought a piccolo and began experimenting with simple techniques (mostly key slaps and forced air sounds used later in the coda of *flesh|veil*). *»A body witnesses embodied motion it cannot perform…and* imagines. *To imagine embodied sensation is to embody imagined sensation. One cultivates a sort of phantom limb, an abstract machine.«* With the piccolo's weight in my hands and my neck, mouth, and lips aligning to attempt to produce a tone, I drew on my deteriorating memory of an expert body in motion, projecting an imagined physicality, imperfectly filtering both through my unspecialized, otherly attuned musculature.[27] *»Memory distorts the lesson. A body mimics imperfectly, re-imagines, and constructs a text that choreographs a distillation of this dance of forgetting.«*

As a result, a fifth, two-part research question arose: (e) Are these aspects of time (forgetting, nostalgia, memory) or these aspects of vicarious bodily experience somehow perceptible in the resultant work (if even only to the interpreter)? *Flesh* and *Veil* attempt to work through these five questions, an endeavor that eventually took a larger form in the resultant modular composition *flesh|veil*.

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26. "Bodies cross paths, rub up and press against each other, embrace or collide with one another: they send each other all these signals, so many signals, addresses, notices, which no defined sense can exhaust. Bodies produce a sense beyond sense. They're an extravagance of sense." Jean-Luc Nancy, *Corpus*, trans. Richard A. Rand (New York: Fordham University Press, 2008), 153.

27. "The splendor of the short-term Idea: one writes using short-term memory, and thus short-term ideas, even if one reads or rereads using long-term memory of long-term concepts. *Short-term memory includes forgetting as a process*; it merges not with the instant but instead with the nervous, temporal, and collective rhizome. Long-term memory…traces and translates, but what it translates continues to act in it, from a distance, off beat, in an 'untimely' way, not instantaneously." Gilles Deleuze and Félix Guattari, *Capitalism and Schizophrenia, Vol. 2: A Thousand Plateaus*, trans. Brian Massumi (London: Continuum, 2008), 17, emphasis added.

Fig. 11, *Veil* (2012), for two piccolos, mm. 21–31

IV. *flesh|veil* (2012)

The cello duo *Flesh* and piccolo duo *Veil*, in addition to being standalone concert works, also form the backbone of a modular sound collage work for eight musicians entitled *flesh|veil*. Commissioned by the Darmstadt Summer Courses for New Music in conjunction with a scholarship prize I was awarded in 2010, the work was premiered at the Orangerie in

Darmstadt, Germany on July 27, 2012 by the Prizewinners' Ensemble, a group comprised of 2010 scholarship winners and the flutist Matteo Cesari. Like the concert installation *Alam* that I discuss in the next section, the duration and instrumentation of *flesh|veil* are flexible. At present, the only version in existence is that of the premiere. It lasts 13 minutes and is scored for two piccolos (both doubling alto flute), prepared electric guitar, 2 violins, 2 celli, and piano. Violin II is amplified throughout and has a special role, which I address at length below. Violin I plays first on an unamplified violin; switches to an amplified, prepared violin for the B section (module 7, foam duo); and then retakes the unamplified, unprepared violin.

Instead of a traditional vertical score, the work is arranged into a timeline-based collage comprised of thirteen independent sound modules:

(1)   cello duo I (*Flesh*)
(2)   trio (violin I, electric guitar, piano)
(3)   piccolo duo I
(4)   piccolo duo II (*Veil*)
(5)   piccolo duo II coda ('forced air')
(6)   violin II solo (amplified)
(7)   foam duo (violin I and electric guitar, both amplified)
(8)   cello duo II
(9)   climax sextet (6 soli: 2 alto flutes, electric guitar, violin II, 2 celli)
(10) alto flute duo
(11) piano solo
(12) cello duo III
(13) coda sextet (flute II, electric guitar, violin I, 2 celli)

Each module has its own tempo and meter. In lieu of a conductor, a large stopwatch visible to all musicians is positioned at the front of the stage for all to see (see Figure 12 for a staging diagram). Within each module, musicians coordinate with one another (using tempi, traditionally notated verticalities, cues, etc.) while coordination between modules is governed principally by stopwatch reference times that correspond to specific numbered gestures in the parts. Along with their parts, the musicians receive a list of stopwatch times for each gesture. To create a new version of the piece from these modules, certain gestures could be added, omitted, or repeated and/or the stopwatch times could be changed. A new version could also contain new modules and/or omit existing ones.

Precise or 'sharp' synchronizations such as could be expected from a traditional vertical score are made possible through strict obedience to the common stopwatch,

supplementing with visual cues as necessary. Imprecise or 'fuzzy' synchronizations are also woven into the fabric of the composition, so that composite features of the full ensemble such as texture, counterpoint, and harmonic structure can be composed in 'clouds' to a considerable degree (in my experience, deviations of ca. 1-2 seconds from the 'ideal' version in which all players strictly follow notated tempi and stopwatch times are to be expected). As such, some degree of temporal flexibility in the form of *rubato*, minor tempo deviations, and slightly extended or abbreviated rests is preserved, despite the rigidity of the stopwatch-controlled temporal progression.

Staging

The staging (shown in Figure 12) reflects the initial four modules: cello duo, piccolo duo, trio, and violin II solo, which should appear both visually and acoustically as an 'outsider'.

Fig. 12, staging diagram for *flesh|veil* (2012)

The three chamber groupings contained within rectangles need to ensure adequate eye contact with one another for coordination purposes, especially since the initial cello duo is loud enough to preclude reliable acoustic clues, with several gestures of both the trio and

32

the piccolo duo I dynamically beneath the cello duo. When these gestures emerge during brief silences in the cello duo, it is important that one hears these modules as *already in progress* rather than having abruptly started; the rests are like windows that open up to reveal a quiet progression that is otherwise masked by the violence and immediacy of the aggressive cello duo. This idea mirrors the oppressive masking of the violin II part by the ensemble as a whole. Amplification is required for electric guitar and violin II (DPA microphone affixed to the bridge or high-quality contact microphone, such as Schertler) throughout, with violin I playing on a second instrument equipped with a contact microphone for the amplified foam duo (Module 7).

Form

As indicated on the timeline (see portfolio, p. 131), the work is an asymmetrical rounded binary form (A B A′) with a coda. The work begins with an eight-second buffer of silence (to allow one of the musicians the time to trigger the laptop's stopwatch app). Cello duo I (*Flesh*) runs from 0'08 to 4'24 and is the principal focus for the first four minutes. Piccolo duo II (*Veil*) runs from 2'45–5'23, augmenting the frenetic, dense character of the cello duo and continuing for another minute after the celli have quieted down (at 4'24, where the celli begin a quiet coda section), and ending at the commencement of the B section (at 5′23).

The relatively calm B section focuses on quiet noise techniques on prepared electric guitar and prepared violin (foam duo: 5'15–6'36), punctuated by short, aggressive echoes of heavily muted previous material (cello duo III, piccolo duo II coda) that give way to ethereal, liquid sounds (alto flute duo, cello duo II). Cello duo III uses *quasi unisono* fragments from cello duo I, though they are played here with heavy metal practice mutes, creating a tinny, distant echo of the previous material. In the piccolo duo II coda, the instrument is gradually closed off and muted manually (the mouth fully covers the hole on the head joint and the fifth finger on the right hand plugs the end). In this position, the player is asked to blow air into the fully blocked tube, building up considerable pressure, and then to press or release certain keys to produce a range of 'forced air' sounds, expelling this air forcefully.

Following the general pause between 6'38 and 6'45½, violin II has its only outburst (violin II solo, Gesture 5), a *sfffpp* double stopped noise multiphonic on the amplified violin, followed by a crescendo to *f* and back to *pp* on a pitch pipe, an auxiliary instrument held in the mouth and played simultaneously with slowly bowed double stops on the violin. The B section gradually becomes more restive (*poco a poco agitato* from 8'30 in both the foam duo

and cello duo II), leading to a climax of six simultaneous soli (9'00–11'33, with a sudden general pause from 11'00–11'03).

Because these soli return to the material and character of the cello duo and piccolo duo of the A section, I refer to this section as A'. It differs from A in that it contains structured improvisation (the 'gaps' in the soli are filled with material improvised from a given palette of gestures or harmonics, executed at the players' discretion); the flutists play alto flutes rather than piccolos; and the electric guitar and violin I have been added. From 11'20–11'33, all players improvise using material very similar to the solos and a coda from 11'33–12'56 provides a sort of quiet resonance to the violence of the climax, with violin II, heretofore virtually inaudible, coming ever so slightly into focus.

Role of Violin II solo

Violin II plays a special role that warrants closer examination. With a solo line that runs from 1'17–12'38 (with a seven-second interruption at 6'38), it is the longest yet least audible part. Its material is extremely reduced, exploring a total of just three fingerings, but implementing a wide array of techniques to achieve subtle variations. Its amplification is sufficient to hear the sounds clearly if no other musicians are playing, yet not at all for it to cut through the ensemble. Thus, it is acoustically masked, or 'veiled', for virtually the entire work—a representation of the subaltern existing materially and temporally apart from, spatially adjacent to, and dynamically beneath the remaining seven players in the ensemble.

»*Dynamic veiling is present to some degree in other modules in flesh|veil, notably in piccolo duo I, which is very quiet and audible only in the brief pauses in the much louder cello duo I. Because both duos center around the pitch D5, these pauses engender a distorted echo effect: Piccolo duo I has a softly writhing, fluid surface that uses multiple pitch-bending techniques (singing into the flute; glissandi produced with the finger, lip, and/or tongue) to vary the beatings throughout. When masked material that is in near-constant motion is unveiled, a listener suddenly perceives sound* in medias res, *and presumes the existence of a process that has occurred beyond their perception and led to this point. When material is masked again, a listener presumes the process to continue outside their perception. Such music forces a confrontation between the real and the imagined.*«

The violin II solo also has an important, if subtle, visual element. As if stuck in slow motion, the soloist—or, indeed, anti-soloist—moves their bow at a glacial yet constant

pace.[28] The part consists of eight musical gestures lasting from 14½ to 143 seconds. Bow speed is controlled by notating the length in seconds for each full downbow or upbow, ranging from two to 31 seconds (mean: 21½, mode & median: 23). Dynamics, which are predominantly quiet, are notated traditionally; since all bowstrokes' durations are fixed, the principal parameter available to the player for controlling dynamics is bow pressure (though clearly the amount of bow hair in contact with the string and the bowing angle contribute as well, albeit much less significantly). Thus what appears as a traditional notation could, in effect, also be considered a simplified and efficient means of notating a parametrically conceived part. Figure 13 depicts Gesture 1. The notation gives an initial fingering in square brackets, string and finger pressure indications in the middle, bowing above (contact point, stroke direction, and duration), and traditional dynamics below.

Fig. 13, Gesture 1 of violin II solo from *flesh|veil* (2012)

This parametric approach to the violin writing is also evident in the notation of four progressive degrees of finger pressure (from full *ordinario* pressure to ¾-pressure to ½-pressure to light pressure as for a harmonic, though this need not always be employed to produce clear harmonics) and four contact points between the bow and the string (*SPx* = *molto sul ponticello*, *N* = *normale*, *STx* = *molto sul tasto*, and *FL* = *Flute,* a special *molto sul tasto* effect that requires bowing precisely one octave above the fingered pitch to produce a

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28. Though not explicit in the score or even conscious during the composition of this work, it appears likely to me now that a subconscious reference for this mute, vitally important figure is the hooded, djellaba-clad Auditor in Beckett's theater piece *Not I* who thrice interrupts Mouth's feverish monologue. The Auditor's subtle arm movements parallel the three moments in *flesh|veil* in which Violin II is the primary focus. In Beckett these gestures follow a clear trajectory of increasing subtlety to the point of being "scarcely perceptible" by the third repetition, whereas the violin solo becomes increasingly dense and has its most perceptible moment in the middle. Samuel Beckett, *Not I*, in *Samuel Beckett: The Grove Centenary Edition, Vol. 3: Dramatic Works*, ed. Paul Auster (New York: Grove Press, 2006), 405.

discrete hollow timbre with a weak overtone spectrum). String indications are notated throughout as are the fingerings, of which there are only three. The first five gestures use the 2nd partial (octave harmonic) on the D-string and the 3rd partial on the G-string fingered at D4, which results in a unison D5. In Gestures 6 and 7, a different node is fingered on the G-string to produce the same harmonic and same resultant pitches, which alters the *Flute* effect on the G-string and also allows a seamless transition to the third and final fingering). Gesture 8 employs a special fingering that allows an E-natural to be added very faintly a major ninth above the *quasi unisono* D5 using a quiet and fragile sustained triple stop.[29]

Due to several factors that distort the sound, the resultant pitch material is more complicated than the fingerings might suggest. To wit: "in general this solo consists of quiet noise techniques produced with a slow, light bow and various subtle alterations to timbre and texture. pitch comes in and out of focus, usually masked in a cloud of noise, suffocated" (score indication). First and foremost, these 'quiet noise techniques' and 'subtle alterations' result from the notated bow speed, which is too slow for the notated harmonics to speak properly. Second, accidentals function more like tablature than indications of resultant pitch: certain fingerings and half-pressure fingering effects, especially the quarterflats on the G-string in the second and third gestures, produce a reliable and complex multiphonic. The octave harmonic is particularly generous with regard to intonation, especially when coupled with half-pressure, and can be 'bent' by approximately a half-step in either direction (Gesture 2, during upbow). Third, the placement of the bow and its movement along the string during transitions alters the ratio of pitch to noise, as well as the portions of the multiphonic's spectrum that are being emphasized. Fourth, stuttering interruptions to the bowstroke, represented in the score by irregular breaks in the horizontal lines following noteheads, perforate an already unstable sound, thereby intensifying the unfocused pitch content of the chaotic initial period of a bowed string's motion (the transient state). Fifth and finally, the abundance of transitional states maintains a state of flux and instability, especially when

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29. Under normal circumstances, triple stops can be sustained only for short periods using considerable bow pressure to 'level out' all three strings. If, however, the middle string is fully depressed and the outer strings are not depressed at all (either open or fingered using harmonic pressure, as is the case in Gesture 8), then a quiet sustained triple stop is theoretically possible. This will not result in a clear even sound, however, as the optimal bowing parameters necessary to produce a clean sound for the fingered pitch on the middle string and for the harmonics on the outer strings differ (the latter require more speed and less bow pressure). Of course, the slow bow speed further destabilizes and distorts the sound. Nonetheless, the result will be a rich noise sound with three main components, one on each of the strings.

occurring simultaneously on different parameters (for example, the first downbow in Gesture 3 alone spans three simultaneous transitions: *Flute* to *Normale* bow placement, very gradual downwards glissando from half-pressure D-sharp to half-pressure D-quartersharp *sul D*, very gradual downwards glissando from harmonic-pressure D-natural to D-quarterflat *sul G*).

As discussed above in relation to the development of the material for *Veil* and *Flesh*, my own hands-on experimentation with the instrument itself was a crucial part of my research for the violin II solo in *flesh|veil*. It is, in a sense, a piece that privileges the natural instabilities of an amateur's incompetence; an untrained violinist such as myself could play it quite well, provided the notation and techniques were understood and that a certain level of musicianship were present. These gestures are, perhaps unsurprisingly, edited transcriptions of my own improvisations; in fact, Karin Hellqvist, the violinist who premiered this solo at Darmstadt, requested videos demonstrating the techniques and sounds, which I provided. Subsequently we worked closely together to sculpt the solo, grafting choreography from one body onto the next.

This solo's engagement with divergent embodied experienced (trained/untrained) is an attempt to address two specific questions related to my research: What happens to musical material culled through the filter of an untrained body when it is learned and rendered by a trained body? Is the friction between the trained and untrained aspects of the 'total musical fact' relevant to the experience of a live performance?

This eschewal of standard classical technique might tempt analogy to contemporary music's eschewal of standard classical sounds in general; however, most extended techniques require considerable specialist training and control (voice and woodwind multiphonics, brass split tones, etc.) rather than the amateur-friendly techniques used here. Returning briefly to the previous chapter's discussion of queer utopian aesthetic practices, this exalting of non-specialist techniques is in some sense grounded in a collectivizing celebration of ordinary bodies. Without sacrificing a certain musical refinement, this solo aestheticizes the careful and curious—yet unskilled—investigation of one more or less non-spectacular body, namely the violin ('non-spectacular' because here divorced from its context of historical significance, a mere object among many that can be used to produce sound) by another more or less non-spectacular body, namely an untrained performer.[30]

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30. This approach to the instrument as a mere object was radicalized by, among others, Fluxus artist George Brecht in numerous works, notably *Piano Piece* ("a vase of flowers on [to] a piano"),

Chamber, a voice trio written in 2006–07 discussed briefly in the previous chapter in the context of error, could be regarded as a precursor to this mining of an untrained body's experience. *Chamber* has been performed many times by untrained vocalists (who, it must be mentioned, were professional musicians trained on other instruments) and once by trained vocalists. This violin solo was not explicitly written for an untrained string player though it could be played by one; to date, it has been played only by a professional violinist specializing in contemporary music. The terms 'training' and 'specialization' here indicate a physical practice, a series repeated and carefully sculpted movements aimed at evincing a certain corporeal fluency and manner. Trained bodies are predisposed to specific patterns of motion, a sort of choreographic repertoire that becomes habitual, second nature.[31]

If we accept the above linkage between training and choreography, then, in the case of the techniques and motions employed in this violin solo, it was I, the untrained violinist, who was a trained specialist and the professional violinist was the untrained non-specialist. The transfer of my knowledge to her occurred through notation, video demonstration, and individual 'lessons' (one-on-one rehearsals in which I would discuss the piece with the performer, addressing questions and demonstrating as necessary). Having assimilated this new knowledge, the professional violinist could now be considered 'trained' and could endow this fresh choreographic repertoire with the qualities of their existing training, hopefully preserving a sense of curiosity and discovery in the performance itself.[32] While it is likely that these qualities (greater control of bow speed, smoother bow changes, etc.) would positively impact the piece, it is worth noting they could conceivably have a negative impact. Insofar as professional training 'irons out' technical deficiencies that may be essential to produce certain sounds convincingly, a skilled player may even find some techniques

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Flute Solo ("disassembling, assembling"), and *Solo for Violin, Viola, or Contrabass* ("polishing"), all from 1962. George Brecht, "Piano Piece," "Flute Solo," and "Solo for Violin, Viola, or Contrabass" in *The Fluxus Performance Workbook*, eds. Ken Friedman, Owen F. Smith, and Lauren Sawchyn ([Great Britain]: Performance Research e-Publications, 2002), 14.

31. Such predispositions often reveal themselves when learning to improvise: most trained musicians initially resort to familiar figurations and the strongest impulses stored in their muscle memory. These embodied patterns must be actively resisted if one wants to explore the unfamiliar.

32. Clearly this quality of discovery and unexpectedness is desirable for any performance, but here they are actually generative influences since the solo grew out of my solo improvisations. As such, one might argue that a faithful interpretation should strive to reflect this impromptu nature for the sake of historical propriety in the sense of my third research question. In other words, a performer concerned with presenting the 'total musical fact' has a duty to consider the composer's somatic experience during the creative process.

impossible to produce effectively, such as those that result from poor bow control (e.g., unstable pitches, quivering, or random variations to the point of bowing contact or the bow speed). Given their excellent degree of control, attempts to imitate such technical deficiencies often constitute audibly inauthentic instances of error-making rather than the audibly authentic error-enabling discussed earlier (see page 11, footnote 7 of this document).

»*Training inhibits one's ability to sound convincingly untrained. Years ago before I spoke any German, I met a woman from Cologne while traveling in Thailand. Upon her request, I demonstrated what her native language sounded like to me, using made-up words and what I thought might be German-sounding phonemes based on the scant exposure I'd had at the time (stereotypical accents in films and pop culture, etc.). Good-natured but completely ignorant and possibly offensive; thankfully, she thought it was funny. Now that I actually speak German, I'd struggle to recreate anything like my improvised fake German. My skill set is an obstacle to that performance. One could potentially fake fake German by establishing and practicing systematically a repertoire of made-up words and German-sounding phonemes. In other words, given my current skills, I would need to develop a different precise and practiced skill set in order to appear unskilled, imprecise, and unpracticed.*«

Temporal Coordination: Verticalities and 'Fuzzy' Synchronicities

While composing *flesh|veil*, I built sections around the work's core components, *Flesh* and *Veil*, using 'fuzzy' synchronicities in which the temporal overlap between gestures could be somewhat imprecise (within a tolerance of, say, 2-3 seconds) and still be effective. Fuzzy synchronicities can be found, for instance, between piccolo duo I and cello duo I. The piccolos quietly echo the pitch material of the much louder celli, but due to the dynamic disparity, the piccolos are only audible during the brief celli rests that occur in mm. 5, 9, 14, and 21 (which last, respectively, 0.625, 0.268, 0.536, and 3.5 seconds). Given the brevity of the first three rests, one does not have quite enough time to hear much detail in the piccolos; just a hint of them peeks out from beneath the dynamic mask. Preceding the three-and-a-half-second rest in m. 21 of cello duo I, however, is a quiet double harmonic that emerges from silence, crescendos to *mp*, and diminuendos back to *pp*. This gesture begins at roughly the same time as m. 10 of piccolo duo I (ca. 0'50 on the timeline).

In addition, 'sharp' synchronicities, in which precise stopwatch times or visual cues are used to align attacks, also occur. For instance, Gesture 5 of the cello duo I and Gesture 6 of the trio for violin, electric guitar, and piano start together at 1'19½. This gesture is cued by the pianist and the celli have a brief bar of rest in m. 29 immediately preceding the attack so

they can take make eye contact with the pianist, abbreviating or extending the rest as needed to ensure absolute precision.

Modular Composition

flesh|veil employs a form of modular composition in which multiple independent elements, or sound modules, are superimposed into a collage; a timeline shows the vertical alignment between sound modules and thus serves as the work's score. Precursors to this sort of temporal organization of constituent modules include Richard Barrett's *DARK MATTER* (1990–2003) and *CONSTRUCTION* (2005–11), James Saunders's *#[unassigned]* series (2000–09), and Rebecca Saunders's site-specific concert installations *chroma* (2003–present) and *Stasis* (2012).[33] Of these composers, James Saunders applies the concept of 'modular composition' in the most radical way: for each of the work's 149 performances between 2000 and 2009, which vary widely in duration and instrumentation, he constructed a new collage from a massive bank of relatively small modules (individual gestures he has defined for each instrument).[34] Rebecca Saunders and Richard Barrett, on the other hand, tend to base their collages around extant stand-alone concert works, recontextualizing relatively long horizontal strands of independent material as core layers within a denser texture of a large-scale spatial installation.

This latter approach is most similar to my own and, indeed, the second modular composition included in my portfolio is an installation work entitled *Alam*, discussed immediately below. Like *flesh|veil*, it is also comprised of individual modules of chamber music arranged into a timeline and was based around an existing work—a trio for viola, cello, and contrabass entitled *viscera* and written in 2009. Unlike *flesh|veil*, it incorporates architecture as a crucial compositional parameter. Thus, the modules' arrangement on the timeline has to be conceived with the additional dimension of space in mind.

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33. For its superimposition of independent horizontal strands, Cage's *Imaginary Landscape No.4* (1951) for 12 radios, while not strictly modular, also deserves mention.

34. James Saunders has also released a two-CD version of *[unassigned]*. One CD contains solo cello modules and the other solo clarinet modules, both fairly quiet throughout. In the liner notes, listeners are encouraged to play the CDs simultaneously on shuffle mode using two CD players, which randomly combines the short modules into a composition.

V. *Alam* (2011) and the Concert Installation

Alam is a concert installation composed for the 2011 Berlin Poetry Festival.[35] This event, a co-production of LiteraturWerkstatt Berlin and the Berlin Academy of the Arts, involved collaborations between living poets and composers and took the form of a *Wanderkonzert* (a concert during which the audience changes location between pieces) that explored various parts of the Berlin Academy of the Arts' main building, located at Pariser Platz 4 in central Berlin. This building was constructed in 2004 by German architect Günter Behnisch, famous for co-creating the Olympiastadion for the 1972 Summer Olympics in Munich, and overlooks two of the capital's most recognizable symbols, the Brandenburg Gate and the Reichstag (German Parliament). The concert took place in the capacious and architecturally daring foyer, with its giant sloping walls of glass and concrete and multiple stairways jutting at irregular angles reminiscent of Escher. The audience began on the ground level of the foyer for the concert's first half, which lasted some 45 minutes. Afterwards, the audience migrated to the second and third floors for the second half of the concert, on which my composition *Alam* was performed by Kammerensemble Neue Musik Berlin.

Alam is scored for independent chamber groups playing simultaneously in multiple spaces. Both the instrumentation and the duration are flexible depending on the available forces and concert situation. Each new performance space requires a new spatial distribution of sound sources (musicians, loudspeakers, mobile phones). Indeed, drastically new versions with different instrumental forces and considerably longer total durations are conceivable. For the version for the Berlin Academy of the Arts, the duration was about 12 minutes and it was scored for an ensemble of eight musicians and electronics.[36] In lieu of a traditional vertical score, a timeline on A3 paper shows the start and end times of the gestures for each part (see portfolio, p. 331 for fold-out A3 sheet).

I chose to set a poem by Zakaria Mohammed, a Palestinian poet living under Israeli occupation in Ramallah. I learned of his concise, beautiful, and brutal poems through the

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35. The emerging genre of concert installation is typified by the inclusion of architecture and space as compositional parameters, a mobile audience (one that is free to move about the space during the performance), and a prominent live performance element. This latter element distinguishes concert installations from sound installations that lack live performers.

36. Full instrumentation: clarinet in A (& clarinet in B-flat), contrabass clarinet, soprano saxophone (can be played by contrabass clarinettist if possible), tuba, percussion (bass drum, tom, snare drum, small drawer, large drawer, bongos), violin, viola, cello, double bass, five cellphones or dictaphones (played by five of the above musicians), and preprocessed electronic sound (at least four speakers).

database lyrikline.org, which is run by LiteraturWerkstatt Berlin. We communicated a few times via email and I considered using several of his texts, ultimately deciding on ألم, which is transliterated as 'Alam' and means 'pain'. This is the entire text of the poem (with my own English translation, which is based on the German translation of the Arabic original):

Pain	ألم
My pain is a pitcher	ألمي إبريق
on the table.	على طاولة.
I have no stick	و ياعصا ليست معي
to smash it.	لأهشمه.
2001	٢٠٠١

—Zakaria Mohammed

The musical work begins with a studio recording of Mohammed reading his poem in Arabic accompanied only by a quiet high contrabass split-tone multiphonic comprised of adjacent partials located less than a second apart (ca. 24th and 25th partials on the E-string). This is followed by two brief field recordings I made in Berlin of other native Arabic speakers reading the same poem in Arabic, each with slightly different intonation and pacing. Working under the assumption that almost no listeners at the Berlin Academy of the Arts would understand Arabic, this decision was primarily musical in nature. I wanted to focus attention, if just for a brief moment, on the human voice's expressive capacity absent language, to communicate *expressivity* rather than expression.[37] This is the only appearance of the poem in the musical work. Aside from the soft contrabass multiphonic, text and music are independent and merely juxtaposed in the most literal sense: placed side by side. Juxtaposition is, however, a concrete relationship in that two things are clearly and indisputably brought into the same space, in this case a shared temporal, physical, and acoustic space. I wanted the precise details of this relationship to remain unclear and as far from didactic as possible, with the music serving as an abstract commentary on the expressive space the poem opens up. The resultant meaning of this relationship would, so was my hope, be as personal and individual to each listener as the meaning I derive from Mohammed's poem is to me.

»*My collaboration here was with a man I've never met from a country I've never visited. We never spoke and I know his voice from recordings only. I know his words through translation only. Yet despite numerous barriers (language, nationality, generation, discipline, geography), there was an*

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37. A German translation was provided in the concert program for comprehension, though each listener was, of course, free to decide when and if they consulted it.

undeniable, simple power in what was communicated across these boundaries. In retrospect, much of this experience is refracted in the 'total musical fact' that resulted: The poet was physically absent; his voice was disembodied/recorded; the language was unapologetically inaccessible—yet the focus was on evoking a simple truth: all humans express *and we effortlessly recognize expression in others across seemingly forbidding boundaries.«*

Hybrid Form, Mobile Audiences

The concept of hybridity functions on several levels in *Alam*. As previously mentioned, it is a modular composition designed to be adaptable to different spaces with potentially radical changes to instrumentation, form, duration, and site-specific spatialization. In allowing this flexibility, such an approach destabilizes the notion of 'the work' or, returning to Nattiez, of this particular work's 'total musical fact'. Changes to space fuel changes to form. On a formal level, 'the work' is never fully present; each performance is but one manifestation of the piece among a theoretically unlimited number of options.[38]

Unfortunately my request to allow the audience to walk around during the performance was denied by the festival administration, principally due to fire safety but also out of programming convenience, as all other pieces were conceived for a seated audience. I am very much hoping to give future performances of newly composed versions of the work in spaces that can accommodate this form of increased audience agency. I find the compositional challenges that arise when working with a mobile, autonomous audience that is free to explore an environment on their own to be formidable, exciting, and insufficiently researched in existing repertoire—especially if one avoids the temptation to compose around a 'sweet spot' from which the work can be heard best, instead composing toward multiple, meaningfully distinct listening perspectives. The challenge is that the compositional decisions governing structure, material, and form must be fundamentally reconsidered due to the fact that the audience can never experience the work as a whole.[39] It also enables effects and materials that are impossible in concert halls such as extreme

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38. One could make the same claim of any piece of music but the range of options (the degree of variation) is categorically broader in the case of site-specific modular concert installations than it is for traditional concert works.

39. This echoes one of Mathias Spahlinger's most frequently used definitions of new music, which I paraphrase here from notes I took at one of his seminars in Freiburg: "Die Neue Musik ist dadurch neu, indem innermusikalisch das Verhältnis der Teile zum Ganzen sich prinzipiell verändert hat." [Contemporary music can be said to be 'new' in that the relationship of the parts to the whole within the music itself has been fundamentally altered.]

dynamics that approach perceptual thresholds (so quiet as to be scarcely audible, so loud as to be unbearably painful), the complete acoustic separation of chamber groups, extreme proximity to performers, and durations that far exceed a standard concert length of 90–120 minutes, as well as the altered perceptual states (aural hallucinations, severe distortion of the time sense, etc.) that can result therefrom. At the Berlin premiere, all listeners heard the entire piece, albeit from different listening perspectives depending on the location of their seat. I created shifts in the sonic space by moving musicians in space and activating different speakers during the performance, though working in this alternative concert setting was, with regard to the perception level of the musical work, not radically different from a traditional concert setting.

Working within these restrictions, I found other solutions to heterogenize the perceptual possibilities and diversify listeners' experiences. The audience sat in various areas, including on the stairs, with the performers surrounding them. Most musicians changed position at least once (including the use of an elevator that opened up in what had theretofore been a musical 'dead zone' to reveal a quiet, microtonal violin and viola duo composed primarily of low natural harmonics). At one point, the percussionist was completely hidden from 90% of the audience and his sounds mimicked the electronic sound closely such that some listeners perceived his sounds as electronic. Speaker placement was designed to incorporate the subtle electronic sounds (instrumental samples processed with Spear, sine tone glissandi created with SuperCollider, multichannel diffusion using ProTools) as seamlessly as possible with the acoustic sound, stretching sound through space in a manner conceived to fool the ear physiologically (e.g., through the use of low sine tones, the source of which the human ear struggles to locate accurately in space).

Compositional Considerations of the Performance Installation
Performance installations constitute a distinct category of installation art that combines live performance of any discipline (theater, music, performance art, dance, etc.) with a site-specific approach to space (i.e., the work is tailored to engage with certain architectural or environmental features). The umbrella term 'performance installation' includes such subcategories as theater installations, dance installations, and concert installations. Though of there is no broad consensus on terminology, 'sound installation' tends to be used to describe works that do not entail live performers. Often large in scale or duration, works in

this relatively nascent genre tend to involve a high degree of audience agency. Usually, audiences are free to explore the installation at their own pace and on their own terms.

When composing a concert installation work such as *Alam*, I consider it my duty to offer listeners meaningful choices, rather than to convey a unilateral compositional intention or, worse yet, a set of largely ineffectual choices that those that do not result in significantly different listening experiences. By creating acoustic separations between multiple sites of 'performance' and 'non-performance' and by rejecting the notion of centrality, my concert installation work proposes an unconventional approach to performative and perceptual space, one that gives listeners agency to make personal choices from a set of options curated by the composer. Given the impossibility of hearing all aspects of the work, part of the audience's role, then, is to articulate through their actions what it is to be present and what it is to be absent, in terms of Nattiez's "total musical fact". It is, for instance, conceivable that audience members leave the 'central' space *»that which houses the passive body«* without invalidating the integrity of their perception of the piece as a whole.[40]

VI. Conclusion

Let us return to this question: How can notational strategies meaningfully engage with musicians' physical bodies? As it relates to the works discussed in this chapter, the question can be further specified: How does embodied motion—real or imagined—manifest itself in a text?

First, masking effects are present in much of the piece, such as in piccolo duo I's soft echoes of cello duo I, though it is most prominent in the violin II solo. Visually, the violinist is in near-constant, albeit slow, motion—unchanging, even as the rest of the ensemble increases in speed, intensity, or volume. Thus the *physicality* of this part alone conveys a sense of 'otherness', of temporal and affectual independence, which is then underscored and complemented by the dynamic masking. When masked, the violin II's motion is visually real, but the sounds are necessarily imagined by the listener; during gaps when it becomes audible, we hear that the sound has been engaged in unheard processes. In other words, we have the chance to gauge the accuracy of what we had imagined and to form new expectations. Masking nourishes imagination; unmasking/unveiling forces an encounter between the real and the imagined.

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[40] Clearly, this approach also interrogates the meaning of "perceiving a work as a whole".

Second, the *quasi unisono* writing (in, principally, *Flesh* and *Veil*) also meaningfully engages the physical. By capitalizing on the body's natural tendency to imitate what is heard, this notational strategy, while precise on the page, invites error and imprecision as the players negotiate the conflict between their muscles and their ears. In *Flesh,* this 'shattered unison' approach to the layering of material is also mirrored in the pitch material itself, which circles obsessively around D5. This schizoid approach blurs the lines between the two bodies performing in a duo, both for the audience and for the performers themselves. The audience often cannot identify the precise source of each sound and, to some extent, the performers lose track of themselves in the each other's sound. Notation is used to control the degree of this confusion. If the notation is wholly different, there is little confusion. If it is exactly the same, there is also little confusion, though it may be difficult to coordinate. On the spectrum of similarity and difference, the 'sweet spot' of maximum confusion lies at an undefined point just shy of total similarity—hence, *quasi unisono.* It is the aim of this compositional strategy to locate (and re-locate), in changing musical contexts, this vanishing point.

Finally, and in relation to both of these topics, there is the topic of heterogeneity of material and of listening experience. Both works are modular compositions that use a timeline instead of a score to show how temporally independent horizontal strands of material are collaged together. This temporally heterogeneous approach, in which multiple tempi and meters occur simultaneously in different modules, suggests at least the possibility of heterogeneous listening experiences. In other words, these compositions do not always clearly focus the listening on a particular aspect. In this respect, *Alam* has the added benefits of spatialized sound sources and the site-specific incorporation of architecture as a compositional parameter: A heterogeneous treatment of space will result, perforce, in heterogeneous listening perspectives. In *flesh|veil*, however, the challenge is to foster heterogeneous listening experiences *despite* the homogenizing tendency of the concert hall. This is attempted principally through the aforementioned masking effects, designed to stimulate listeners' imagination (their 'inner ear') and force an encounter between its products and the reality of unveiled processes (in violin II mostly, but also elsewhere, as previously discussed). Density is another strategy to enable heterogeneous listening experiences, as individual temporal layers assert themselves simultaneously. Such heterogeneity, when successful, opens a space in which the individual listening bodies can, effectively, assert their identity. They are offered the opportunity to make meaningful

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choices, and, in making them, they express—and *demarcate*—their identity as a listener. It is a strategy for engendering a sense of agency.

CHAPTER 3

CONCEPTUAL WORKS

This chapter will examine two small conceptual works from 2012 and a subsequent larger work that grew out of them. Arguably more 'American' than my standard concert works, these pieces clearly reference the work of American experimentalists John Cage and James Tenney, particularly the latter's *Postal Pieces*. Without exception, the musical text of each piece fits onto a single A4 page. They are based on simple sonic or physical processes that produce complex results.

I. *machine* and *two masks* (2011)

These works for open instrumentation were composed for a call for conceptual scores at the 2012 Darmstadt Summer Courses as part of the focus on the John Cage centennial. In 1955 in an article entitled "Experimental Music: A Doctrine", Cage proposed that experimental music be defined as "an act the outcome of which is unknown".[41] These conceptual pieces conform to that definition to varying degrees. They are designed for rehearsal in workshop settings with a sizeable number of performers in which all participants craft the works collectively, thus mitigating the primacy and authority of the composer.

A tongue-in-cheek homage to Cage's innovative use of technology, which he often described in scores using language that today seems antiquated, *machine* asks musicians to "use modern technology" to imitate as faithfully as possible the sound of a machine of their choosing using only acoustic instruments. The machine itself should be quite loud (*forte* in the score), amplified if necessary, and the resultant acoustic imitation incredibly soft (*ppppp* in the score), with absolutely no amplification. While the bluntness of this juxtaposition is designed to be playful, even humorous, it is not difficult to imagine versions of this work that are viscerally quite beautiful if the initial sound chosen is rich and complex and its acoustic echo a compelling, if flawed, simulacrum. Indeed, the beauty of an interpretation of this work for me would be located in its necessary failure: no matter how good the imitation, it will clearly never fool the ear completely. It is precisely in this gap, in which man fails to faithfully imitate machine, that the 'hopeful exertion' discussed in Chapter 1 resides, engendering an 'expressive failure' mediated through the bodies of the performers and audience. Here, failure executes a double movement, casting a machine into relief through

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41. Cage, *Silence*, 13.

the body and the body into relief through a machine; through an imperfect union of identity, the identity of each is consolidated and entrenched.

The musical text of *machine* could be said to be experimental in the above sense, since it describes acts without determining the precise outcomes. However, the rehearsal process would result in a series of concrete, replicable sonic events; adapting Cage's definition, any performance would thus entail acts the outcomes of which are *known*. For this reason, I consider this a conceptual rather than an experimental work. As it has not yet been performed, no recording of this has been included with the thesis.

two masks ties into my interest in masking/veiling as described in *flesh|veil*. It consists of two movements that contrast approaches to the concept of masking: one very loud, one very soft. According to the score indication, in each piece "the identity of individual sounds is 'masked' throughout, either because the means of sound production are unfamiliar (i.e., the audience doesn't know how the sound is made) or because sound blends into sound mass". Qualitatively these two forms of masking differ in density, texture, and volume, though they both thwart the ear's attempt to link sounds unambiguously to their means of production. The score also defines dynamics, duration, as well as the number of sounds per player (the types of sounds available) and sound events per player (how many times they make sound). Textual descriptions of timbre and sketches of the desired sound mass are also given.

At the Darmstadt Summer Courses in 2012, I had the opportunity to workshop and perform *two masks* with a large group of percussionists. This experience was categorically different from working with an ensemble on a fixed notation score. I began by explaining the concept and then retreating as much as possible from a position of authority, encouraging suggestions from the musicians regarding timbre, staging, coordination, and overall texture. Since the score for the loud mask (*Mask II*) specifically asks for a homogenous sound mass, we experimented with a variety of loud, homogeneous sounds (skins, woods, metals), ultimately deciding as a group that metal objects that produce complex timbres when bowed resulted in the most satisfactory texture. These sounds have a natural instability, with clear overtones emerging from thick multiphonics in a quasi-involuntary manner, which fit perfectly with the score indications "each sound is long and sustained" and "each sound contains inner instabilities/fluctuations". Furthermore, we decided that the more similar the metal objects were to each other, the better, since the identity of each instrument could be more easily masked given the similar overtone spectrum. Given the ensemble's large size

(roughly fifteen percussionists), we settled on bowing metal music stands, which produce a complex timbre when bowed that is similar to a tamtam.

Whereas *Mask II* achieves masking through timbral homogeneity, the quiet movement, *Mask I*, achieves the masking effect *acousmatically,* that is, by producing sounds without revealing their means of production. We experimented with a wide range of very quiet sounds and challenged each other to identify the instrument. This playful process resulting in a sort of creative one-upmanship: who could find the most beautiful, mysterious sound? Drawing on the score indication, "for any number of instruments or objects or machines", we incorporated everyday objects as musical instruments as well as standard instruments played in non-traditional ways, which, in a sense, treats them as mere objects with a shape, a weight, a texture—divorcing them from musical intention and tradition.

For the performance, we chose to reverse the order and adjust the duration to a total of seven minutes. Christian Dierstein, one of two faculty percussion instructors at the Darmstadt Summer Courses that year, had the idea to position the musicians in a straight line at the front of the stage to bow the music stands for *Mask II*—a strong image that conveyed a forceful presence suitable to the material without impinging on the homogeneity of the sound mass. After a three-minute version of *Mask II*, which we collectively agreed was a better duration for this concert setting than the five-minute duration indicated in the score, the musicians set down their bows, maintaining their performance posture so that the audience knew not to applaud, then moved closer to the audience and sat facing each other in a circle surrounded on three sides by the audience. They then played a version of *Mask I* consisting of acousmatic sounds played primarily on small handheld objects at a barely audible dynamic using the minutest of physical motions. Staging *Mask I* as a circle with performers sitting down was a solution proposed by the musicians while workshopping the piece. It had practical motivations (the objects to be played could be placed on the floor in advance) as well as theatrical power (musicians sat facing each other, meaning that many of them were facing away from audience, gently underscoring the audience's placement 'outside' of the collective sound mass and invoking a voyeur situation that enhanced the intimacy of the ensemble). Surprisingly this circle of performers so near the audience lent a sense of mystery to the listening experience, since it was genuinely difficult to identify the means by which the musicians were producing sound despite their physical proximity. This was partly because the instruments were too small to

see, especially given performers' seated positions (they could hide instruments in their lap or hunch over them slightly), but even when one could see the objects, it was not clear when exactly they were sounding and what sound exactly they would produce. Albeit quiet, the sounds in *Mask I* are more heterogeneous than in *Mask II*, and it is their acousmatic nature that creates the masking effect. Because of this, the musical texture could afford to be less dense without disturbing the identity loss upon which masking relies.

In terms of my research, then, *two masks* operates on the level of perceptive and performing bodies. Rather than exploring virtuosic or, as in *die Haut Anderer*, exertion- or failure-based performance modes, they exploit simpler means of achieving perceptual heterogeneity. The contrasting sound masses in each movement, or 'mask', are metastatic textures. They establish and remain within rigid boundaries, in that the dynamic and instrumentation are constant throughout (always loud bowed metal in *Mask I* and quiet strange objects in *Mask II*), yet there is a level of detail that is in constant flux. Successful interpretations hinge on the degree to which the masking effect succeeds. Listeners must not be able to identify individual lines (i.e., instruments, performers) clearly in the sound mass. As such, these musical texts *prescribe specific perceptual states*, leaving the precise means of achieving these states open.

II. *five monoliths* (2014)

On an afternoon in the summer of 2013, swarms of stridulating crickets rose in volume to a dizzying intensity as I pulled my car into the driveway of my then-partner's relatives in rural Pennsylvania. Luckily I had decent field recording equipment with me and was able to capture a fragment of their brief, febrile chorus. This striking experience served as both the basis for the electronic sound for the second movement of *five monoliths* (*Monolith II*) as well as an acoustic model taken from the natural world of metastatic density. When listening through such a texture, what emerges—I hope—is a phenomenological friction between perceived stasis and perceived flux. »*Again, an oblique form of cognitive dissonance*.« *five monoliths* is closely related to *two masks*, in that it centers around contrasting metastatic textures and, to a lesser extent, to *machine* for the concepts of imitation (*Monolith II* and *V*) and the use of amplification (*Monolith I* and *II*) and electronics (*Monolith II-V*). In contrast to these earlier conceptual works, it employs a more rigid approach to form and material, for reasons outlined below.

Radio France commissioned the work for its unique *alla breve* radio series. This

project had by far the strictest guidelines of any I had yet encountered. The composition was to have five movements, each of which was to last two minutes. The reason: Twice a day from Monday through Friday, the *alla breve* series is given a five-minute gap between other programming to infuse a small dose of contemporary music into standard classical music radio. In this five-minute gap, a complete movement is played along with about three minutes of explanation by France Musique commentator Anne Montaron, including portions of a previously recorded interview with the composer. Movement I is played twice on Monday, Movement II twice on Tuesday, and so on; Saturday, the complete 10-minute work is broadcast including the full interview. As a whole, the series neatly packages a new composition, a composer portrait, and significant broadcasting exposure in a meet-the-composer style format. Fortuitously, the timing of this commission coincided with the 2014 Présences Festival hosted at Radio France in Paris, the theme of which was to compare and contrast the contemporary music scenes of Paris and Berlin. Thus, unlike the standard *alla breve* commission, *five monoliths* was also given a live premiere at Maison de Radio France in Paris on February 23, 2014 by Kammerensemble Neue Musik Berlin.

Composing five movements of equal length is not a choice I would likely make of my own volition, yet this feature was a large part of what attracted me to the project. I challenged myself to restrict the length of each movement to exactly 120 seconds, an intention facilitated by the use of stopwatches and preprocessed electronics. This formal homogeneity fit well with the monolithic textures I was envisioning and I decided that each movement would do essentially the same thing, formally speaking: introduce a metastatic texture with minimal, if any, development, almost as if it were a found object. Yet, given this sameness, I designed each movement to explore metastasis from a different angle. Broadly speaking, two forms of metastasis appear: either dense sound masses (*Monoliths I-III*) or clear sonic processes (*Monoliths IV* and *V)*. Both are static on the macrolevel (in that they lack large-scale morphological and formal development) yet dynamic and unpredictable on the microlevel (rhythm, timbre, instrumentation, small-scale morphological development). The movements may be performed together or separately. Amplification is used in *Monoliths I* and *II* and live electronics in *Monoliths II-V*. When played together, the total duration is almost exactly 10 minutes with no breaks between movements. Like *two masks,* the score describes a sound concept for open instrumentation (though one bass drum is necessary) that functions as a template: for each performance, a detailed arrangement for the given

instruments that accords with the concept described is required (except for *Monoliths I* and *II*, which require no arranging). In the submitted score, the "Ensemble Parts" contain the arrangements used for the premiere (portfolio, 11–17).

Monolith I is essentially equivalent to the Darmstadt performance of *Mask II*, the only differences being the fixed duration of two minutes and the use of heavy amplification.[42] *Monolith II* has three sections of precisely 40 seconds each in A, B, A+B form: first, quietly bowed Styrofoam (A); then comes the loud field recording of the stridulating crickets (B); and finally, both simultaneously (A+B) with a crescendo on the bowed Styrofoam to match the volume of the field recording. In *Monolith III,* the musicians play a quiet, liquid, subtly pulsating microtonal cluster that spans a major second (G3–A3) over a constant, two-minute sine tone dyad consisting of these outer tones layered with gentle, quasi-organic beatings. *Monolith IV* contains three elements: (1) a microtonal cluster played by the ensemble with identical composite pitches but changed instrumentation each time;[43] (2) a starkly repetitive percussion part consisting of *piano* deadstrokes on the muted bass drum, durationally misaligned with the ensemble;[44] and (3) a field recording of a jackhammer, processed to sound similar to the bass drum, to which it is also durationally misaligned. *Monolith V* is based around an ostinato figure in all parts, combined with a crescendo and subtle pitch distortions; it closes with loud, high, piercing sine tones (ca. 15 kHz) that originate on stage from musicians' mobile telephones before seamlessly transferring to the electronics played in the hall over the loudspeakers.[45]

To some, the word 'monolith' implies utter uniformity, yet, in truth, monolithic rock formations are actually perfect examples of metastasis as I have described it. They are cohesive units with clearly delineated boundaries; they will not melt, evaporate, swell,

42. Though *Monolith I* and *Mask II* are not themselves equivalent. The former slightly adapts one version of the latter, while the latter can be performed in many other ways.

43. In keeping with the rigid, monolithic nature of this piece and in contrast to appearances in other works (*Tenebræ, — caul —, Nocturne*), the incarnation of the 'metastatic cluster' (same pitch composite, varied pitch details) in *five monoliths* never varies the durations of sustained tones or rests. Each attack is precisely seven seconds and each rest precisely three seconds.

44. With one exception, the percussionist plays this attack at an interval of seven or eight seconds. The precise alignment can be seen in the "Ensemble Part" of *Monolith IV*.

45. Originally, a field recording of an air compression machine I made at a construction site in Berlin was played during *Monolith V*. I found the use of the field recording too literal and discarded it, though the spectral analysis of this field recording yielded the harmony in the acoustic parts. Beyond this, its imprint is evoked through the machine-like rhythm of the ostinato and the unequivocally electronic sounds of the closing sine tones.

distend, or otherwise transform dramatically. On the level of detail, however, they are of labyrinthine complexity in terms of plant growth, patterns etched by erosion, subtle or even stark differences in color and texture, etc. My research here attempts to focus the ear on this level of ever-changing detail, while not "losing sight" (aurally, that is) of the general stasis, activating perceiving bodies through the sonic processes and notational strategies discussed above. Evaluating this work, I find that it is far from exhausted.[46] What is more, these conceptual pieces allow me to target perceptual phenomena that fascinate me using simpler and possibly more direct means than my standard concert works. That said, I am far from abandoning fully notated scores, though I value both approaches and consider them to be of mutual benefit to my overall compositional project.

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46. In fact, I am presently continuing the *Monoliths* series, expanding it with orchestral arrangements of *five monoliths* and adding one or two new monoliths.

CHAPTER 4
SPECIES OF METASTASIS, IMPOSSIBLE BODIES

I. Invoking Aural Hallucination: Maskings and (Un)veilings in — *caul* — (2011–12)

Commissioned by West German Broadcasting Cologne (WDR) for the Witten Days for New Chamber Music, — *caul* — is an extended work for eleven musicians that the Swiss ensemble Collegium Novum Zürich premiered on April 29, 2012, conducted by Titus Engel. With a duration of 23 minutes and a 103-page score, it is the longest work I have composed during my doctoral studies. As will be immediately obvious from a glance at the score, — *caul* — is not concerned with virtuosity in the same way as *Alam* and *flesh|veil*, but rather with a wholly different threshold experience, namely the perceptual dynamics of prolonged exposure to quasi-static phenomena.

The primary material in — *caul* — is a microtonal cluster composed of natural string harmonics that is obsessively repeated at irregular intervals and increases in pitch at a rate so gradual as to be scarcely detectable (one quartertone higher per minute); simultaneously a pulsed figure in 16th-notes with irregular units of length and rests accompanies the strings in the background and is played predominantly by the percussion and piano. This idea originated in the following passage from an earlier work for four modern and four Baroque instruments written in 2011 for Ensemble Recherche and members of the Freiburg Baroque Orchestra entitled *Tenebræ*. There are three layers in the example in Figure 14: (1) harmonic cluster (strings: violin, Baroque viola, cello, Baroque contrabass), (2) irregular pulse (percussion and Baroque organ), and (3) quiet, atmospheric sustained pitches (clarinet and Baroque horn).

In terms of pitch, the first layer of this passage in *Tenebræ* always contains the pitches F#5, G5, G#5, and A5 or microtonal inflections thereof roughly a quartertone higher or lower, and is voiced differently each time. Thus, the chord repetitions are near-unison rather than true-unison in nature—i.e., the composite pitches are *nearly identical*—while the dynamics and durations of the cluster are actually identical. Difference, then, arises in three ways: (a) notated subtle pitch differences, (b) individual weight and character that results from different voicings (owing principally to the contrasting instrumental timbre of the various registers, especially for the contrabass, but also of the Baroque instruments' gut strings in general), and (c) subtle difference that are not notated that result from human error

(dynamic imbalances, early attacks or late releases, intonation).[47] The accompanying percussive pulse in the second layer, always in 16th-notes, is played softly at the absolute center of the tamtam, precisely where a trained percussion would never strike the instrument. At a soft dynamic, striking this 'wrong' spot on the tamtam produces a sound uncharacteristic for the instrument: hollow and dry, as if damped, with some unpredictability in terms of the overtones that speak. Essentially, it is a fragile sound with involuntary, subtle fluctuations. The percussionist supports this with gently bowed sounds on a brick and a clay flowerpot base. The third layer is *lontano*—distant, atmospheric, quasi-independent. In *Tenebræ*, this gesture lasts exactly one minute; the string cluster does not change in pitch. Compositionally, it would not be fair to say that this passage *invites* human error, as it lacks formidable technical difficulties or other obstacles that might obstruct clean execution, yet its exposed and bluntly repetitive nature focuses the ear onto a level on which even minute deviations from utter perfection are magnified and more likely to be heard. Generally speaking, a reduction of material (Mozart, Feldman) or a clearly audible process (*Piano Phase* or *Clapping Music* by Reich) tends to make errors glaring, whereas surfeit material (Rachmaninov, Ferneyhough) tends to elide or envelop them.

Tenebræ is composed as a sequence contrasting gestures/textures, of which this is just one. However, it is *the* gesture in the piece that most clearly exemplifies my research questions, which is why I focus on it alone rather than a full analysis of the work. Moreover, it is the origin of an idea that I explore from different directions in at least three other works (*Nocturne, five monoliths,* and — *caul* —), namely, a 'metastatic cluster' whose composite pitches are identical or nearly identical yet with constantly changing voicing. This initial exploration in *Tenebræ* was unsatisfying, in that it opened up a vast landscape and explored so little of it. It is too brief to really focus the listener's attention on the requisite level of detail. The subtler the difference, the greater the attention required to appreciate it. This dissatisfaction had the benefit of pointing me in a clear direction: to work through this musical texture of a metastatic cluster and accompanying gentle irregular pulse in a more radical and consequent manner, which is precisely what I undertook in my next composition, — *caul* —.

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47. The bodies and nature of the instruments themselves play a crucial role in inviting error. Harmonics speak differently on each instrument, virtually guaranteeing that the attacks will not be entirely coordinated, especially in the contrabass. Additionally, each instrument plays with scordatura, which is more prone to detune itself over the course of a piece than standard turning.

Fig. 14a, *Tenebræ* (2011) for 4 modern and 4 Baroque instruments, mm. 62–66

Fig. 14b, *Tenebræ* (2011) for 4 modern and 4 Baroque instruments, mm. 67–71

The title — *caul* — refers to the amniotic membrane that surrounds a fetus, sometimes present over the face during childbirth. The em-dashes and spaces in the title serve as boundaries, isolating and insulating the title from its surroundings. *»Boundary, threshold, transgression. The body passes through and it is changed.«* All three layers in the *Tenebræ* excerpt above are present and much more developed in — *caul* —: (1) the metastatic harmonic cluster, (2) the irregular pulse, and (3) the atmospheric sounds.

Extending a relatively similar texture over such a prolonged period of time in this way is a focused experiment on embodied perception, more specifically on a physiological principle of perceived difference. It attempts to present movement at so glacial a pace that the ear perceives stasis in the local moment, but this consciousness is shattered by a sudden realization that motion has somehow occurred 'under the radar'—which is to say, a process of metastasis extended through time. This friction of stasis and change is mirrored in both the pitch content of the cluster, as described above, and in the percussion part, which weaves the irregular 16th-note pulse through a reduced palette of similar instruments, gently shading the resonance with slightly contrasting resonances (tamtam, thundersheet, bell plates, and cymbals being the principal instruments, though gong, spring drum, and extremely heavily muted cowbell also appear). Unlike in *Tenebræ*, the pulse layer, though anchored in the percussion and piano parts, travels through the other instruments, ultimately subverting the more foreground cluster layer at points (e.g., m. 223, in which all musicians make the same breath sound).

— *caul* — also dilutes the layers' identity, blurring the lines somewhat between what are initially established as firm categories. Though what occurs is not at all a transformation of one layer into another; at most, the piece gestures towards potential transformation. This is achieved by establishing then audibly destabilizing boundaries rather than melting them into one another altogether or constructing a epiphany in which material is wholly transfigured. The primary characteristics of the pulse layer are that it is backgrounded, in 16th-notes throughout, and situated in the percussion and piano parts. The primary characteristics of the cluster layer are that it is foregrounded, comprised of sustained attacks lasting one to four seconds (quarter to double-dotted half note), always with a small crescendo, and situated in the strings. Deviations from these established patterns blur a given layer's identity, often moving it closer to the identity of another layer. *»De- & reterritorializations.«*

Though situated in a traditional listening environment designed to homogenize sonic space, the work seeks to enable perceptual heterogeneity: This realization will naturally arise at different moments for each listener over the work's duration.[48] As such, — *caul* — addresses the main lines of inquiry mentioned above.[49] It investigates the audible effects of choreographed physical sensations, concentrating on two instances in which body-based considerations guide compositional decisions: (1) predominant use of upbows in the recurring string cluster and (2) prolonged use of tense embouchure to invoke physical thresholds' instability in the relentlessly high, quiet bassoon part. This piece also attempts to explore phenomenological terrain within the confines of the concert hall that might properly belong outside of it.[50]

II. Victimization and Paradox: *a tearing of vision* (2012)

Given the tremendous opportunity to write for Ensemble Intercontemporain, I felt I could write virtuosic ensemble parts without technical restraints and chose to create a work with multiple simultaneous strands of individuated trajectories, pushing density towards the point of total saturation. As a compositional challenge and counterweight to much of the other work in my portfolio focused on fragile sounds and unpredictable playing techniques, the writing here focuses mostly on rather conservative materials, with clearly and conventionally notated pitches and rhythms virtually throughout. The resultant work, entitled *a tearing of vision*, was composed in 2012 and premiered on January 12, 2013 by Ensemble Intercontemporain at the Cité de la musique in Paris under the baton of Austrian conductor Cornelius Meister.

Soloistic and *fortissimo*, the piano line runs with virtually no development throughout most of the piece. The material played on the keyboard is restricted to the highest eight notes on the piano and executed exclusively by the right hand, with the left hand performing muting and plucking actions inside the piano. Each downbeat is heavily accented at irregular intervals (which gives rise to the constantly changing metric scheme)

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48. This intentionally in-written diversification of the listening experience, links this project to the emancipatory queer aesthetics described in Chapter 1.

49. These main lines of inquiry refer to the four main topics of my research: (1) notational strategies, (2) physical thresholds, (3) transmission of composer's embodied experience, and (4) listening environment.

50. Aural hallucination and the fragility of memory are central to the work; for obvious reasons, these can be more readily investigated in alternate listening environments using much larger timescales.

and is usually followed by a short burst of fast attacks, like an aftershock. Subtle differences between these fast rhythms (six different rhythmic values on the first page) are designed both to invoke dissonance between identifiability and identity as well as to introduce a sense of variation and perhaps organic imprecision in the solo line that can render it more susceptible to 'blurring' by other instruments. Similar to the 'encoding errors' in the cello duo I of *flesh|veil*, the piano line is imperfectly replicated (1) by the harp; (2) by the piano left hand, which uses a thick plastic plectrum to pluck the short portion of the piano strings between the nut and end pin, producing, as a refraction of the right hand's material, irregular microtonal pitches in roughly the same range as the notes struck on the keyboard; and finally (3) by percussion (woodblocks, drums, and pitched instruments like xylophone, glockenspiel, and crotales). Strings, melodicas, and bassoon sustain individual pitches in this extreme high register (the bassoon uses a special technique with teeth on a plastic reed to produce an extremely high G8 pitch), further 'blurring' the solo line by stretching select constituent parts. The violent character of the incessant bursts, accents, and pedal stomps of the piano writing seem to infect many other instrumental parts, principally strings (from m. 67) and flutes (from m. 77), though nearly all instruments have violent outbursts at some point (brass mm. 91 & 94, oboes mm. 135 & 147, clarinets m. 96, etc.). While the nature of the piano writing is metastatic (by m. 20 at the latest, all of the piano line's materials have been introduced; though their sequencing is ever-changing and irregular, the material's components remain static), the surrounding context and the degree to which other instruments relate to the piano changes considerably. These shifts in orchestral density and texture are designed to cast the piano line in such as light that listeners perceive it to be in flux on the broad scale, even if they know, rationally, that this is not the case.

The title alludes to a distortion of perception, though the word 'tearing' is used with deliberate ambiguity: Pronounced [teərɪŋ] such that it rhymes with daring, it conjures a violent image of the faculty of vision being violated, ripped away or somehow torn into, torn apart. *»A blinding. Sudden or gradual? Do we hear it happen or has it already happened?«* Pronounced [tɪərɪŋ] such that it rhymes with earring, 'tearing' references vision blurred by watering eyes, either from lachrymose emotion or as a purely anatomical, unemotional response to certain behaviors or external stimuli such as wind, sun, or fatigue. To emphasize this semantic multivalence, the program note for the piece, excerpted in Figure 15, includes the complete *Oxford English Dictionary* entry for the word 'tear', implying that the broadest range of connotations should be considered in relation to the composition.

tear, v.1 /tɛə(r)/ inflections: pa. tense tore /tɔə(r)/, (arch. and dial.) tare /tɛə(r)/ ; pa. pple. torn /tɔːn/. forms: illustration of forms. 1. inf. and pres. stem. oe teran (teoran, tearan) (3 pers. sing. tirð, tyrþ), me teren, me teoren, me–15 tere, me teere, me teer, 15– sc. teir, 15–16 teare, 15– tear. dial. 16– tare, 18 teer, teear /tiːr/ /tɪər/. etymology: old english ter-an, past tense tær, plural taéron, past participle toren, = old low german *teran (middle dutch, middle low german teren, dutch teren, old high german zeran (middle high german zeren, zern, german zehren) to destroy, consume, gothic gatairan to destroy. old germanic *teran (tar, ˈtāron, ˈtoran-) was cognate with greek δέρειν to flay, old church slavonic derą to tear asunder, sanskrit dar-to burst. the old english past tense tær (< tar) survived as tare to 17th cent., when it gave place in standard english to tore, with o from past participle toren, torn: compare bore, swore. a weak past tense and participle terede, tered, found in 15th cent., are still dialectal, along with a mixed form tored, tord. i. 1. a. trans. to pull asunder by force (a body or substance, now esp. one of thin and flexible consistence, as cloth or paper), usually so as to leave ragged or irregular edges; to rend. (expressing either partial or complete separation of parts; in the latter case usually with adv. or adv. phr., as to tear up, to tear in (or to) pieces, etc.). b. transf. to make (a hole, etc.) by tearing. c. to break (a hard solid body) by force or violent impact; to shatter, split, rive. now dial. †d. phr. to tear a (the) cat : to play the part of a roistering hero; to rant and bluster: cf. tear-cat adj. and n. at tear-comb. form 2.obs. to wound or injure by rending; to lacerate. 3. a. in various fig. applications; esp., in later use, to split into parties or factions. †b. to tear (the name of) god, to tear the body of christ, etc.: to blaspheme; esp. to swear profanely by christ's limbs, etc. obs. c. used of the effect of sounds, esp. loud or 'piercing' noises, on the air, etc.: = rend v. 5e. d. to harrow, wound, 'rend' (the heart, soul, feelings, etc.). also with apart, up: to render distraught, upset (a person). in pass. with up (dial. out): to be distressed, upset. n. amer. colloq. e. to be torn between : to be distracted by (two equal but conflicting desires, emotions, or loyalties). f. colloq. phr. (chiefly in pa. tense and perfect) to tear it : to spoil one's chances; to put an end to one's hopes, plans, etc. g. in phrases with up and indefinite obj., descriptive of unrestrained excitement; esp. in jazz. u.s. slang. h. to tear down : to punish; to criticize severely. u.s. colloq. i. to tear apart, (a) to subject to criticism; (b) to search (a place) thoroughly. 4. to tear (out) the hair in a frenzy of grief or anger: now a hyperbolical expression. 5.a. to pull, wrench, or drag by main force from its attachment or fixed place. (with various advs. or preps. according to sense.) b. fig. to take away or remove by force or violence; to force; refl. to force oneself away. c. phrases. to tear off a strip, tear a strip off: see strip n. 1h; to tear off a bit, to tear off a piece slang (orig. austral.): to copulate with a woman. 6. intr. to perform the art of tearing; to make a tear or rent. to tear at, to continue to pull at in order to rend or lacerate. 7. intr. (for refl. and pass.) to become torn or rent; dial. to burst asunder, split, snap, break. ii. 8. intr. †to rant and bluster as a roisterer (obs.); †to vociferate (obs.); to 'go on' violently, to rave in anger or excitement, to rage (dial.). 9. a. intr. to move with violence or impetuosity; to rush or 'burst' impetuously or violently. colloq. sometimes with the notion of a force that would tear its way through obstacles. b. to make one's way violently or impetuously. c. to tear into : (a) to make a vigorous start on (an activity, performance, or the like); (b) to attack vituperatively, reprimand. tear, v.2 /tɪə(r)/ now rare. †1. a. intr. to shed tears, to weep. obs. or dial. †b. trans. to pass (time) in weeping. obs. c. of the eyes: to shed or emit tears. now chiefly n. amer. 2. trans. to fill or sprinkle with or as with tears. tear-, comb. form the stem of tear v. in comb. 1. with adv., forming ns. or adjs. tear-away adj. and n. (a) adj. characterized by impetuous speed, tearing (cf. tear v. 9); (b) n. one who or that which 'tears' or rushes away, or acts with great impetuosity; now usu. (written tearaway), an unruly young person, a hooligan, ruffian, or petty criminal (formerly applied spec. to a kind of thief: see quot. 1938). tear-down n. the complete dismantling of a piece of machinery. tear-off adj. and n. (a) adj. adapted to be torn off; (b) n. a sheet or slip of paper so attached as to be easily torn off. tear-out n. the action of pulling out the fitments, décor, etc., of a room. tear-up n. an uprooting; a violent removal (cent. dict. 1891); also (slang), the action or an instance of tearing up; a spell of wild, destructive behaviour; a mêlée; in jazz, a lively, rousing performance (cf. tear v. 3g). 2. with n. in objective relation, forming ns. or adjs. tear-arse n. slang a very active busy person. tear-arse v. (also u.s. tear-ass) (intr.) to drive recklessly, rush around wildly and rowdily. ˈtear-brain n. obs. see quot. tear-brass adj. rowdy, prodigal. tear-bridge adj. that tears or destroys bridges: used as epithet of a river. tear-cat adj. and n. (a) adj. swaggering, ranting, bombastic (see tear v. 1d); (b) n. a bully, swaggerer, 'fire-eater'. tear-mouth n. obs. an epithet applied to a ranting actor. tear-placket n. obs. ? a cutpurse. tear -rogue n. obs. ? a roistering disreputable fellow. tear-sheet n. chiefly u.s. a sheet torn from a publication (or, later, separately printed and unbound) to be sent to an advertiser whose advertisement appears on it as proof of insertion; also one containing an article; more generally, a tear-off sheet from a teleprinter or calendar. tear-throat adj. and n. obs. (a) adj. that 'tears' or irritates the throat; (b) n. a ranting actor. tear-thumb n. two species of polygonum native to north america (and asia), the halberd-leaved tear-thumb, p. arifolium, and the arrow-leaved, p. sagittatum; so called from the hooked prickles on the petioles and angles of the stems. tear-down n. n. amer. colloq. a house bought for the express purpose of demolishing it and building a larger one on the same plot; a purchase of this type. tearing, n.1 /ˈtɛərɪŋ/ 1. the action of tear v., in various senses. 2. the result of this action: a. a wound made by tearing. b. a fragment torn off. compounds attrib. tearing-machine n. see quot. 1877. ˈtearing, adj.1that tears, in various senses of the verb. 1. generally (chiefly in fig. applications); esp. that wounds the feelings; severely distressing, harrowing; also, causing a sensation as of rending. 2. of a wind or storm: so violent as to tear things up or in pieces; raging. 3. moving with impetuous speed; rushing. 4. a. violent or reckless in action or behaviour; full of excitement; headstrong, passionate; ranting, roistering; boisterous, rollicking, exuberant. colloq. or slang. (now rare.) b. impressive, splendid, grand; 'ripping', 'rattling', 'stunning'. colloq. or slang. (now rare.) 5. quasi-adv. furiously. (cf. raving mad at raving adv.) ˈtearing, adj.2 and n.2 now rare. a. adj. that sheds tears; tearful. b. n. the action of tear v. 1879 st. george's hosp. rep. 9 778 a white spot formed on the cornea, along with much 'tearing' and 'fear of light'. tear, n.1 /tɪə(r)/ 1. a. a drop of the limpid fluid secreted by the lachrymal gland appearing in or flowing from the eye; chiefly as the result of emotion, esp. grief, but also of physical irritation or nervous stimulus: usually in pl. b. as the visible feature of weeping: hence, put for this, or as the expression of grief or sorrow. in tears, weeping, in sorrow or commiseration. c. in colloq. phr. without tears, without difficulty or distress (freq. used to describe a method whereby some discipline is easily mastered). also without—tears attrib. phr. 2. transf. and fig. a. a drop of any liquid; spec. a drop or bead of liquid spontaneously exuding. (sometimes with allusion to grief or lamentation: cf. 1b.) b. pl. the italian sweet wine known as lachryma christi n. obs. rare . 3. spec. applied to various gums that exude from plants in tear-shaped or globular beads, which then become solid or resinous. 4. anything resembling or suggesting a tear: see quots.; e.g. (a) a defect in glass caused by a small particle of vitrified clay: see quot. 1832 ; (b) a detonating bulb, or prince rupert's drop. 5. with defining words, in special senses: as glass tear [french larme de verre], (a) a detonating bulb (see detonating adj.); (b) a pear-shaped glass-drop used for ornament (cent. dict. 1891); st. lawrence's tears, a popular name for the perseids, the meteors occurring about st. lawrence's day, aug. 10; tears of st. peter, a west indian plant, anthacanthus microphyllus (treasury bot.); tears of strong wine, drops of liquid forming on the inner sides of a glass partly filled with strong wine. also crocodile tears n., job's tears n., juno's tears n. compounds general attrib. c1. attributive. a. tear-bath n. tear-dripping n. tear-flood n. tear-fount n. tear-spring n. b. tear-tap n. tear-track n. c2. objective and obj. gen. a. tear-compeller n. b. tear-compelling adj. tear-creative adj. tear-distilling adj. tear-falling adj. fall v. 49. tear-shedding adj. tear-wiping adj. c3. instrumental. a. tear-baptized adj. tear-bedabbled adj. tear-bedewed adj. tear-besprinkled adj. tear-blinded adj. tear-bound adj. tear-commixed adj. tear-composed adj. tear-dabbled adj. tear-dewed adj. tear-dimmed adj. tear-distained adj. tear-dropped adj. tear-drowned adj. tear-filled adj. tear-fraught adj. tear-freshened adj. tear-glistening adj. tear-logged adj. tear-shot adj. (cf. bloodshot adj.) tear-stained adj. tear-streaked adj. tear-strewn adj. tear-stubbed adj. tear-stuffed adj. tear-swollen adj. tear-tricked adj. tear-washed adj. tear-wet adj. tear-worn adj. tear-wrung adj. b. tear-nourish v. c4. of other kinds. tear-bright adj. tear-like adj. tear-shaped adj. tear-thirsty adj. (cf. bloodthirsty adj.) tear-tight adj. tear-trembling adj. c5. special combs.: see also tear-bottle n. tear-bag n. (a) = tear-pit n.; (b) = tear-gland n. tear bomb n. a bomb containing tear gas. tear-drop n. (a) = sense 1; (b) transf. freq. attrib., denoting something resembling a tear-drop in shape as: (i) an air cavity in glassware; (ii) a tear-shaped run in paintwork or ceramic glaze; (iii) a streamlined body or component of a vehicle, boat, etc.; (iv) surfing = pig-board n. at pig n. compounds 2a; (v) a bead or jewel of tear-drop shape. tear-duct n. (a) the lachrymal or nasal duct, which carries off tears from the eye to the nose; (b) the lachrymal canal, which supplies tears to the eyes. tear-gas n. a lachrymatory gas used in warfare or riot control to disable opponents or make crowds disperse; hence as v. trans., to attack with tear gas, to drive out of a place with tear gas. tear-gland n. the lachrymal gland. tear-jug n. rare = tear-bottle n. tear-passage n. = tear-duct n. tear-pit n. the lachrymal or sub-orbital sinus found in many species of deer, a fold or cavity beneath the inner corner of the eye, containing a thin waxy secretion; = larmier n. 2. tear-pump n. [compare pump n. 1d and pump v. 6a] (slang) the source of tears shed effusively or in feigned emotion. tear-punctum n. see punctum n. 2b. tear-sac n. = tear-pit n. tear-shell n. a shell (shell n. 21) containing tear-gas. tear-smoke n. = tear-gas n. above. a decorative air cavity in glassware; = tear-drop n. at compounds 5. to tears: to the point of crying, esp. in to move (a person) to tears. also hyperbolically, usu. in to bore (a person) to tears; cf. to death at death n. 11. tear, n.2 /tɛə(r)/ 1. an act of tearing or rending; the action of tearing; hence, damage caused by tearing (or similar violent action); usually in phr. tear and wear, wear and tear, including damage due both to accident and to ordinary wear: see wear n.; also used fig. in reference to body or mind. 2. concr. a. a torn part or place; a rent or fissure. b. the line along which a piece of cloth or the like naturally tears. 3. an act of tearing, in senses 8 and 9 of the verb. a. a rushing gallop or pace; esp. in adv. phr. full tear, full tilt, headlong. b. a spree (u.s. slang). c. a rage or passion; a violent flurry. d. here may belong the irish interjectional phr. tear and ages (? aches), tear and wounds, expressing astonishment. 4. special comb.: tear-fault n. geol. = strike-slip fault at strike n. compounds 2. a spree; in sport, a successful run, a winning streak; esp. in phr. on a tear. u.s. slang. tear, adj. and n.3 /tɛə(r)/ now techn. †a. adj. fine, delicate; of the best quality. (said esp. of flour and hemp.) obs. b. n. (the adj. used absol.) something of the finest or best quality: †a. the finest wheaten flour. obs. b. the finest fibre of flax or hemp.

Fig. 15, program note excerpt for *a tearing of vision* (2012). *Source: OED Online,* 2011.

These allusions to involuntary physical response, distorted perception, violence, and poignant emotional states coalesce around the concept of seeing. If, as the title implies, the work documents a deterioration or impairment of perception, then the 'visual object' in this piece would be the piano solo. Clearly in focus at the beginning, it gradually becomes blurred and subsumed by the other instruments. Given that it does not change or develop substantially over the piece, it is another example of a metastatic musical idea, one that is static on one level and constantly changing on another. Its insistent, obsessive repetition of violent outbursts that vary within a restricted range of minutely differentiated rhythmic values, pitches, and playing techniques could also be interpreted as the force responsible for the tearing, rather than the visual object. »*Or it is both at once? Inhabiting an abstract, paradoxical space as a sound–image, a signifier gesturing simultaneously to mutually exclusive signifieds.*«

This piece relates to my research questions in several ways. Foremost, it is concerned with the perception of change. What actually blurs the piano writing: the ensemble or our perception? Can a listener confidently locate all perceived changes in the musical text or might some be the result of altered cognition of metastatic, substantially *unchanged* textures? »*Phantoms.*« More directly, does the music change or do we? In this way, *a tearing of vision* focuses its experimentation in a similar way, though with strongly contrasting material, to — *caul* —. In both cases, a metastatic musical idea persists without readily perceptible development. Whereas the quiet microtonal cluster in — *caul* — unquestionably undergoes changes to its identity in the form of gradually rising pitches, its identifiability as such is made difficult, if not outright thwarted, by the glacial pace of this development. In contrast, once its constituent elements have been exposed (again, m. 20 at the latest), the right hand piano line in *a tearing of vision* remains essentially unchanged, exploring the same material in essentially the same way—albeit in irregular patterns whose precise details are unpredictable and without teleology, while the orchestral context shifts around it.

Broadly speaking, the orchestral density increases from the beginning, building gradually—yet occasionally punctured with brief 'windows' of near-silences such as m. 98—to a small climax around mm. 97–102. A calm section begins in m. 103, which thickens and becomes more agitated around m. 124. Again, the musical texture becomes denser and more intense, continually adding numerous layers of quasi-independent strands of material. Here, a simulacrum of the genuine temporal independence of *flesh|veil* and *Alam* is rendered

in a vertical score with a common meter and tempo; indeed, the febrile, 'shattered unison' string writing is closely related to the cello duo, *Flesh* (cf. m. 67, violas or m. 157 all strings). The occasional punctures of near-silence are also increasingly frequent, almost thematized, in this build-up (mm. 144, 147, 151, 154, 156).[51] By this point in the piece, a sort of saturation point in terms of textural density and level of individual instrumental activity has been reached. Rather than forcing this distended texture to expand further by, for instance, accelerating the tempo, adding even more individual activity *ad absurdum*, or changing the entire soundscape through, say, the sudden use of amplification, I wanted instead to make the *weight* of the texture more palpable. This takes the form of an implosion of sorts: an extreme *molto ritardando e crescendo poco a poco* from ♩ = 60 to ♪ = 48 (which is more than eight times slower). This progression lasts about 90 seconds and gradually comes to be dominated by the wind and brass sections. Throughout this process, the notated density of the strings remains the same; as the tempo decreases, the 'viscosity' of their material increases naturally, zooming in microscopically to pry apart these gestures, progressively deteriorating the *Gestalt* of the polyrhythms as musicians' bodies struggle to feel them against the ever-slowing tempo.[52] Also, the strings and harp are gradually swallowed by the winds and brass, masking them dynamically and rendering their physical exertion as primarily a visual effect, much like violin II solo of *flesh|veil*. Piano and percussion too are ultimately swallowed, though some attacks are still heard through the sound wall given their extreme force or register; this includes most of the piano's right hand notes as well as woodblocks and bowed metal music stands in the percussion. In terms of notation, the density of the wind and brass writing actually increases, counterbalancing somewhat the *ritardando*. Returning to the form, while actual density as measured in sound events per second has been far greater, the end of this process (mm. 166–167) reaches a point of maximum notated density and afford the greatest feeling of temporal independence yet in the piece. It is a loud, viscous, heavy deployment of the material aimed to evoke a perceptual experience of density that, despite the implosive nature of the extreme tempo reduction,

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51. Formally, this approach recalls the ending of *Chamber*, in which an increasing actively musical texture is punctuated by actual silences of various lengths.

52. That is to say, there will be a point, different for each musician, at which they lose a sense of the larger beats and will play polyrhythms as individual durations rather than cohesive units in reference to metric proportions. At the latest, this will occur by m. 166, in which a quarter note lasts eight seconds, since bodies cannot accurately gauge relative durations beyond about seven to eight seconds (cf. *Monolith IV*).

feels like a gathering of density with a weight not yet visited upon listeners in the piece. This sensation is effected through the corporeal means of masking physical exertion (as in *flesh*|veil), distorting rhythmic material's relation to embodied ictus (as in *puls*), and also the outright display of physical force. The work ends with a sound that unifies, aurally and physically, nearly the entire ensemble into a single body: each player (except trumpets, viola, and bass) pulls a slightly crumpled piece of extra-thick aluminum foil apart. As they smooth out the foil's literally compacted (or 'imploded') form—itself a theatrical action that, perhaps, one might relate to an act of nurturing or hope—very high, soft, clear pitches should be audible, which sounds entirely different to crumpling foil together with the hands.[53] »*Open, sepals.*«

III. *witness.* (2012)

Written for Ensemble Nikel's instrumentation of electric guitar, saxophone, piano, and percussion (as well as amplification and live electronics), which seems perhaps better suited to play noise or rock music than contemporary classical music, *witness.* (the period is part of the title) premiered at the Donaueschingen Festival on October 20, 2012. Ensemble Nikel is known for their high-energy performances of fairly aggressive music, a trend *witness.* actively opposes. Following a loud, aggressive opening two minutes, the remaining 13 minutes are fairly quiet. This lop-sized form flagrantly breaks dramaturgical conventions: listening, one expects a return to the aggressive material of the beginning that never arrives. There is no climax. Instead, the piece simply continues to move forward, with a few rare outcries being the only indication of the past violence, or, perhaps, indicating a violence latent beneath the otherwise calm material.

By disappointing formal expectations of return and proportion, *witness.* forces the listener to make a choice: (1) dismiss the form as flawed, resulting perhaps from a compositional oversight or inadequacy (essentially, to give up on the piece and stop listening) or (2) to accept the form as intentional and to listen to what is actually there instead of what might be expected. As such, one has to 'listen backwards' during the piece to make sense of the opening aggression. Where did it go? Why is it not returning? What has it destroyed or what has destroyed it? On this level, the work addresses its central theme: alert awareness, or, the imperative *to choose* to focus your attention on others, despite any

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53. The recording is unfortunately not wholly representative of this sound, as only about half of the musicians executed the sound properly.

obstructive forces (boredom, lack of compassion or confidence in their abilities). Without explicitly answering these questions, the form suggests a banality to this aggression: It arises from nothing and never really returns, leaving in its wake something odd and unrelated. At most, there are isolated moments of aggression (mm. 147–48) and energetic, forceful gestures that are fairly quiet (saxophone and percussion in mm. 66–83 or 'shivers' in piano mm. 73–76). Though far from being programmatic, it is as if the opening of the work has destroyed something, and the rest of the piece sorts through the rubble and tries to make sense of the carnage. Yet every attempt at sense the piece seems to make (e.g., the rhythmic unison of mm. 92–103) also appears to be in vain. Formally, then, *witness.* is designed to be a tough listen. It frustrates expectations again and again, just as soon as one thinks one has a firm grasp on development or 'meaning' (i.e., just when formal expectations are being met on a reliable basis) *witness.* breaks them. In the end, this calculated, recurrent process of frustration poses the same challenge to the listener: Open your ears. Be here now. **Witness.** The challenge compositionally was to ensure that this effort would be rewarded with rich, layered textures that, upon close listening, reveal a wealth of detail.

This theme of witnessing, of alert awareness to the present, is underscored in the work's dedication to Günter Grass, whose editorial poem *Was gesagt werden muss* [*What Must Be Said*], published widely in major Western newspapers (*The New York Times*, *Süddeutsche Zeitung, El País, La Repubblica*), created considerable controversy in Germany while I was composing the work in the spring of 2012. Grass's poem criticizes Germany's sale of nuclear-capable submarines to the state of Israel, a country he claims threatens world peace. Predictably, this publication resulted in Grass being branded an anti-Semite across mainstream Western media.[54] The dedication to Grass is not meant to voice full-throated agreement with his every position, but as a call to witness his branding, collectively, and to observe its nature and substance with our maximum awareness and intellectual acuity.

Musically speaking, the act of witnessing is also integral to the mechanics of this work. While close listening is clearly necessary to play any chamber work well, the *physical integration* of musicians is incorporated here as a structural component: three of the four musicians play on a single instrument for most of the piece. The percussionist and

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54. Indeed, Grass's poem clearly states that the "punishment" for criticizing Israel openly is the "verdict" of anti-Semitism. Günter Grass, "Was gesagt werden muss," *Süddeutsche Zeitung*, April 10, 2012, http://www.sueddeutsche.de/kultur/gedicht-zum-konflikt-zwischen-israel-und-iran-was-gesagt-werden-muss-1.1325809.

saxophonist play inside the piano using their hands and various objects; they stand at the far end facing the pianist, who operates the keys and pedals, as well as a small MIDI keyboard placed inside the piano. This 'impossible body' with its six hands and three heads is capable of closely coordinated, three-part composite physical actions a single pianist could never execute. As shown in Figure 16, in the first second of the piece, the lowest eight strings on the piano are muted with both hands by the saxophonist, scraped in a single motion with glass from above by the percussionist, and struck by the hammers from below by the pianist.
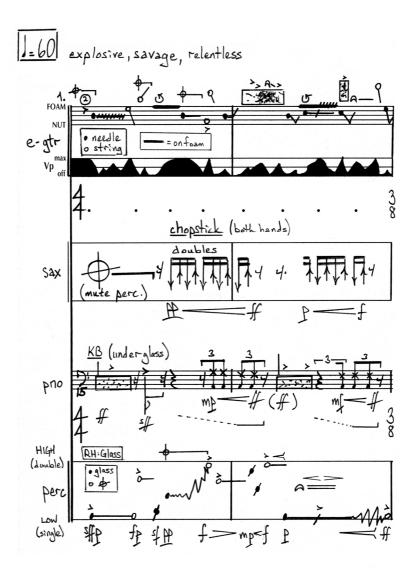

Fig. 16, *witness.* (2012), for quartet, mm. 1–2

The pianist then executes a pedal stomp while the saxophonist continues muting and the percussionist slaps and glisses along higher strings with the palm of the hand. Percussion

then plays a short *sforzando* attack with the glass (notated as a black dot with a slash through it); at the same instant, the saxophonist stops muting and the pedal is lifted, resettling the dampers on the strings, thereby muffling the glass scrape somewhat. Yet, due to the gesture's force, it will be clearly audible and may even resonate enough for a trace to be picked up on beat 3 of m. 1 as the pianist gradually depresses the sustain pedal, which increasingly captures the saxophonist's dry, violent-sounding chromatic cluster, produced by scraping a wooden chopstick along the low wound double strings in a repetitive rhythm. During this chopstick cluster, the pianist reaches inside to mute the lowest string while playing a slower repeated figure on the keyboard while the percussionist plays more vigorous gestures with the glass, this time muting the strings himself with the other hand.

Later in m. 40 (portfolio, 107), the pianist presses the sustain pedal with the right foot, triggers a sample on MIDI keyboard with the left hand, and plays the highest two keys on the keyboard with the right hand; at the same time, the saxophonist mutes the two highest strings (on which the pianist then plays, producing an unpitched, wooden percussive effect) and the percussionist quasi-silently rolls a mounted superball along the lowest strings, the dampers of which have been lifted by the pianist, to activate a quiet cluster that blends with the MIDI sample:
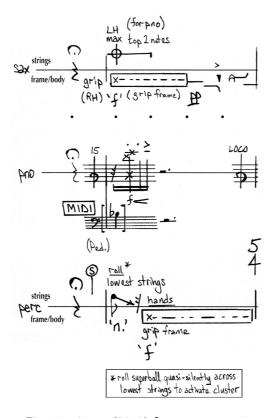

Fig. 17, *witness.* (2012), for quartet, m. 40

68

The guitar, situated as an outsider to this physical activity, is aurally linked to the other three musicians in two ways. First, its amplifier is placed beneath the piano, so in terms of spatialization, the musicians are integrated. The placement of the amplifier also serves a second purpose: Hidden behind it is a small speaker, facing up towards the piano's sound board. This speaker plays the piano samples triggered by the MIDI keyboard, such that these electronic sounds appear to emanate from the piano acoustically. Second, the guitar's material often closely imitates the material of the trio of musicians at the piano, forging an aural link, such as in the opening aggressive material. Third, the physical actions, despite the lack of proximity, are at times the same, forging a physical link that is usually also aural (e.g., plucked strings in m. 92, scraping sounds with plectrum and then threaded rod in m. 28 in imitation of scraped glass and bike tube shrieked clusters).

Mystery, in terms of acousmatic sounds, is a compositional strategy I use in this piece to offer a richness of detail to listeners who commit to witnessing each musical moment despite the in-built formal obstructions. These *trompe l'oreille* effects include (1) the electronics, which consist purely of piano samples created using a physical modeller, played, as mentioned above, through the piano's sounding board such that the sounds appear to emanate from the piano itself; (2) physically obscuring the means of sound production, e.g., the 'hidden cardboard' glissando air sounds played by the saxophonist and percussionist inside the piano (p. 10, mm. 42–46) and, in general, the use of small objects inside the piano such as superball, e-bow, and bike tube, as they are not readily visible to the audience; (3) unfamiliar techniques that produce unexpected sounds such as the hand shrieks on the outside of the piano (which create a vicious, almost alarming tearing sound), pitched sounds on the 'rockets' (m. 174, last page of score; 'rockets' are small handheld air bellows whose normal function is to remove dust from photographic lenses), or the guitarist bowing the whammy bar to produce clear pitches (mm. 56–73); and (4) aural illusions, particularly in the final section, which mixes acoustic e-bow sounds on the piano, electric e-bow sounds on the guitar, electronic piano samples, and acoustic saxophone dyads played into the piano—essentially one is often not quite certain if a sound is acoustic or electronic or even which musician produced it.

Relation to Research Questions

The impossible body explores composite physicality on a single instrument, one that relies on the perceptual and mechanic coordination of that body for accurate sound production.

Concomitantly, it explores the body of the piano itself, most evident in the hand shriek sounds on its outer surface, reducing the physical engagement to an almost primitive state of bare hands on bare body, unmediated by the instrument's traditional mechanisms of sound production (hammers, keys, strings, dampers). On the perceptual level, *witness.* both subverts conventional dramaturgical expectations and leverages the allure of acousmatic sound to underscore its core idea, or even 'challenge': to listen actively to the present, to witness the sonic and physical reality (the being-a-body-in-a-seat-ness) of the act of listening.

Chapter 5

Staging Absence—The Immaterial *im Material*

I. Forming Nothingness

In an artistic discipline as abstract as contemporary music it is hardly surprising that many composers working today focus on various forms of the imperceptible. For decades a dizzying swarm of terms related to imperceptibility has abounded in the discourse: Presence and absence. Failure (of perceiver, interpreter, instrument). *Das Unerhörte* (the never-before-heard). Invisibility. Elision, distortion. Gap between actual and virtual. Dark matter. (Mis)remembered sound. Lacunæ. Ineffability. Nostalgia. Hallucination. Trace. Echo, *Vorecho* (pre-echo). The very idea of a resonance: a disembodied sonic imprint of a past event. Everywhere in new music, it seems, one encounters species of nothingness.

But never is it mere nothingness. What appears is always a construct, an artifice. Silence itself, 20th century music's absence *non plus ultra*, was revealed to be a construct by Cage's oft-cited listening experiment in an anechoic chamber:

> [T]ry as we may to make a silence, we cannot. For certain engineering purposes, it is desirable to have as silent a situation as possible. Such a room is called an anechoic chamber, its six walls made of special material, a room without echoes. I entered one at Harvard University several years ago and heard two sounds, one high and one low. When I described them to the engineer in charge, he informed me that the high one was my nervous system in operation, the low one my blood in circulation. Until I die there will be sounds. And they will continue following my death. One need not fear about the future of music.[55]

Total silence is unattainable because *the body sounds always*. In music, absences (or, more properly, constructs thereof), are always inf(l)ected and defined/defiled by contrasting non-absent elements. Due to this tension, the essence of absence is precarious, perpetually subject to change—or, at least, resistant to fixed definition, which is tantamount to being in constant flux. Thematizing absences' imminent metousiosis is a central focus in much of my own compositional work.[56]

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55. Cage, 1961, 8.

56. *metousiosis:* Greek, a change of essence or inner energy. The nearest Latin equivalent, transubstantiation, is useful for its emphasis on *substance* though laden with potentially less useful (because too specifically Christian) bread-to-flesh and wine-to-blood resonances.

How can one present absence, make perceptible the imperceptible? In attempting to answer this question in my creative work, I make the following assumptions:

(1) Music must be experienced through the senses,

(2) Absence is by definition imperceptible; it does not exist as a possibility in purely sensory experience,[57]

(3) Music that examines a terrain of nothingness is inherently engaged with metousiosis, since nothingness has to first become somehow perceptible to be properly imperceptible. (To perceive nothing is to perceive something.)

(4) Absence in music is a construct with no pure, true, or single form. One might say that it is ultimately the closest thing of which we can conceive to a pure form of absence, our definition being a mobile one, found at the frontier of what is just beyond our grasp. Again, silence is the epitomic example.

With this in mind, this chapter will interpret aspects of two recent compositions of mine that attempt to manifest the immaterial *im Material* (the immaterial in the material). One could discuss this play of presence and absence between the material and the immaterial across all parameters with respect to various micro- and macroscopic levels, addressing any selection of listening perspectives (composer, performer, audience) or frame (work, text, performance). Moreover, this play of presence and absence can take numerous forms: alternation, gradual or rapid transition, fusion, fission. Given this vast terrain and the scope of my doctoral thesis, I will narrow this interpretation—a word I use to connote a highly individual and by no means objective perspective—to a single, if complex, absent object: namely, the body writ large.

Accompanying the overt presence of aestheticized musical material in a live concert situation are the raw physicality of sound production (rosined hair scraping strings, lips buzzing against metal, palms slapped onto skin) and the presence of human bodies of performers and listeners. In much Western art music, the physical mechanics of sound production are meant to be de-emphasized or ignored like other bothersome sonic phenomena such as coughing, creaking architectural structures, or page turning. In contrast, physicality as it appears in my music often overwhelms and subjugates the material itself, deposing the material's primacy to concentrate instead on corporeal immanence, or the

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57. An empty dinner chair is, from a sensory perspective, merely an empty dinner chair. The actual absence of the body meant to be seated in the chair is not perceptible through the senses but is rather a construct supported by some form of cognition (e.g. logical inference, memory, and/or imagination).

sheer presence of the body. Material, so obviously and readily perceptible in its 'musical capacity' at the outset, can be pushed so far aside in the course of a piece (through, for instance, extreme reduction, raw physical force, and obsessive repetition) that its perception as material alone becomes precarious. Its once brutally irrefutable materiality crests into immateriality, gesturing to something beyond itself. The dynamic proposed is an oppositional relationship, a zero-sum game between materiality and physicality in which foregrounding one perforce backgrounds the other. My research questions here are: How far can physicality push material aside? What is revealed beneath, behind, alongside, or within material that has been emptied of its material essence?

II. *Nocturne* (2013)

Nocturne is a string quartet in three movements written for the New York-based Mivos Quartet, who premiered it on November 9, 2013 at Wien Modern. The first movement, *Presto affanato,* is dominated by a driving pulse, with running 16th-notes in 4/4 time virtually throughout. It begins solo and, catalyzed by a brief episode of canonic imitation, gradually thickens, eventually locking in to a homorhythmic, metastatic texture on beat 4 of m. 27 that permutates the voicings within a chromatic cluster spanning G#3–B3 whose composite is always static (portfolio, 21). Beginning in m. 56, the lower notes of this cluster gradually disappear via articulated microtonal glissandi. The cello splits off in m. 61 and is joined by the viola in m. 73, while the two violins continue the cluster, which now spans the minor second A#3–B3. The B3 moves down a quartertone and the violins obsessively hack away at this impacted, near-unison 'cluster' (A#3 and a quartertone higher), while the cello plays a quiet multiphonic tied into the next movement, which follows *attacca*.

Texturally the second movement pits a cello solo line against the almost entirely homorhythmic trio of two violins and viola, which presents the metastatic chromatic cluster idea in yet another form. The following score indications, here cited at length, explain this movement's key elements:

> vlns+vla: forte dyads become gradually higher at the rate of 1 cent per second (= quartertone every 50 seconds). no gliss during notes, unless very long (at least 3" since the just noticeable difference for pitches in this range is ca. 3 cents). as a guideline, the number of cents above the notated chromatic or quartertone accidental is given throughout. up arrows on accidentals = eighthtone (25 cents). this "structural glissando" should be subtle and not immediately apparent. find the boundary between movement and stasis. ideally listeners will not perceive localized motion, but will at some point, different for each individual, realize that the pitches have changed "under the radar".

Cello: this solo line should be quasi-independent from and much quieter than the trio, as if from a different, distant time and place. rich, **intense**, focused. multiphonics are fragile and somewhat unpredictable. explore and keep color in constant, organically developing motion with subtle and gradual changes to bowing parameters (pressure, speed, position, angle, amount of hair).

Stasis and movement are counterposed in the trio writing in two ways: (1) constant movement in the form of voicing changes within a static composite (the repeated cluster chord spans a minor third, always including all four chromatic steps plus doublings or microtones) and (2) the rising movement of the cluster (the "structural glissando" alluded to in the above block quote), though slow enough to appear static. Figure 18 shows the second movement's first nine bars, in which these two processes are clearly illustrated.

To gauge a rate of frequency increase for the glissando that convincingly reads as static, I constructed simple simulations using sustained sine tones with the open source program puredata. The acoustic score adulterates this digital model in several ways, troubling somewhat the perception of the glissando, already difficult due to its glacial pace (1 cent/sec). Irregular durations and rests interrupt the continuity of the sustained line and constant voicing changes result in minor deviations in intonation and dynamics due to human error. Even assuming perfect tuning, the shifting dyads on each instrument create divergent beating patterns that audibly alter the composite timbre.[58] These destabilizing elements augment the perception of movement within an ostensibly static composite. They highlight difference on the level of local pitch relationships, suppressing sameness. Macroscopically, however, they suppress the perception of movement: a listener could be forgiven for mistaking the pitch content of the cluster over time as essentially static due to the interference of local microscopic changes, despite the fact that the composite cluster increases by an entire major third over the second movement's seven minutes.

With so much superficial sameness and such reduced material, the ear has to listen more deeply into the sound's details to appreciate changes of any significance. Refocusing the ear in this way gestures toward the primacy of the body, not only because it heightens the awareness of the listening apparatus but also because performer error is more

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58. Human error on the part of the listener in the form of aural hallucination is also specifically invoked: in mm. 39–40, the same voicing occurs three times in a row. Following the constant changes that precede it, the expectation of change may be strong enough to cause the perception of changes where none exist.

apparent.[59] Minute deviations resulting from the physicality of sound production that one might otherwise overlook are significantly magnified; for instance, any imprecisely synchronized bow releases or imperfectly balanced dynamics will be immediately obvious. This creates a tension that maps onto physical experience or, more specifically, onto the corporeal interface between performing and listening bodies.

Mirroring the glissando's glacial pace of change, the cello bow maintains a very slow speed throughout the solo. Two metal alligator clips placed on specific harmonic nodes split the cello's C-string into three distinct sections. With unhurried intensity and completely unaffected by the brutal insistence of the trio's *forte* repetitions, the cello delicately explores contrasting fragile sounds on these string segments, supplying a thread of continuity against which the trio can be heard. At times emerging into the foreground, at times feeding pitch material into or leeching it off of the trio, the cello nonetheless occupies a stoic, distanced space. This distance, despite some moments of apparent affinity with the trio is, I would propose, assured through a sort of physical theatricality. Due to the preparation and slow bow, the cello's physical actions are viscous and precarious, as slight changes to bowing parameters greatly influence the sound. On the other hand, with its chain of synchronized downbows, metric uniformity, and extremely reduced material, the trio's relation to time, duration, and pace of movement is notably more fluid and active.

The trio material sets up dialectic relationships on at least two levels: What sounds locally static is in global motion (glissando) and what sounds locally mobile is globally static (clusters' composite pitches). But, especially in the context of the cello line, what ultimately emerges as this material's primacy recedes, is a concentration on physical experience, on the aforementioned corporeal immanence. Regardless of its audibility to a listener, the glissando is an undeniable physical fact for the bodies of the performers, since they finger higher and higher notes throughout. From another angle, the physical force and insistence of the obsessively repeated *forte* dyads subsumes the material itself. Exertion trumps content. A single physical gesture points both to itself as a particular event and outside itself as one action in a much larger potential physical repertoire, one belonging to an abstract or

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59. The assumption here is that error fractures the illusion of sound-as-sound and forces a confrontation of sound-as-product-of-live-body. Performer error focuses the audience's awareness on the performing body responsible for physically generating sound (analogously, technical errors at a concert focus attention on the given technology's role in sound production). This focus on the physical body behind the sound is heightened if the performing body is drawing attention to itself in another way, such as noticeable exertion due to meeting a physical threshold.

'inferred' body, if you will. It's a question of emphasis: *One* body performing an action (the particular) vs. one *body* performing an action (the general). The deployment of this material thus aims to concentrate focus on corporeality, to enable an oblique emergence of an inferred, immaterial body behind material whose information content can seem at times so low that it recedes to the background, 'losing ground' or being pushed aside, cleaved apart.

This dynamic of physicality, direct or abstract, cleaving material away from the center of attention is even stronger in the third movement of *Nocturne*, presented in full in Figure 19. It begins *attacca* with a gesture tied over from the final bar of the second movement in which the violist vigorously blows air against the edge of the instrument's f-hole. Over the movement's brief 17 seconds, the quartet executes a reduced arsenal of rapidly alternating air and shadow sounds, *sempre leggero furioso*, while suppressing pitch as much as possible. Physicality, not material, is the clear focus.
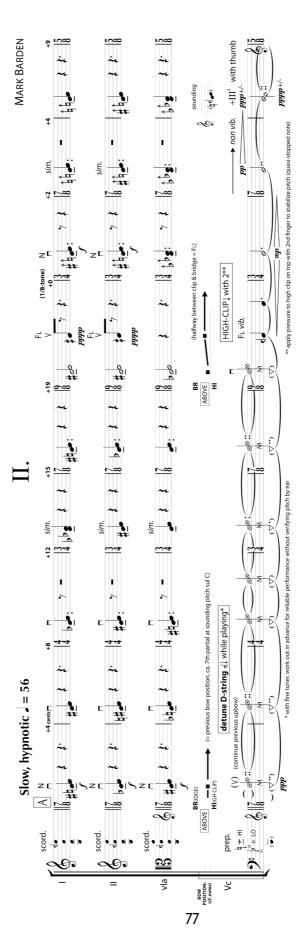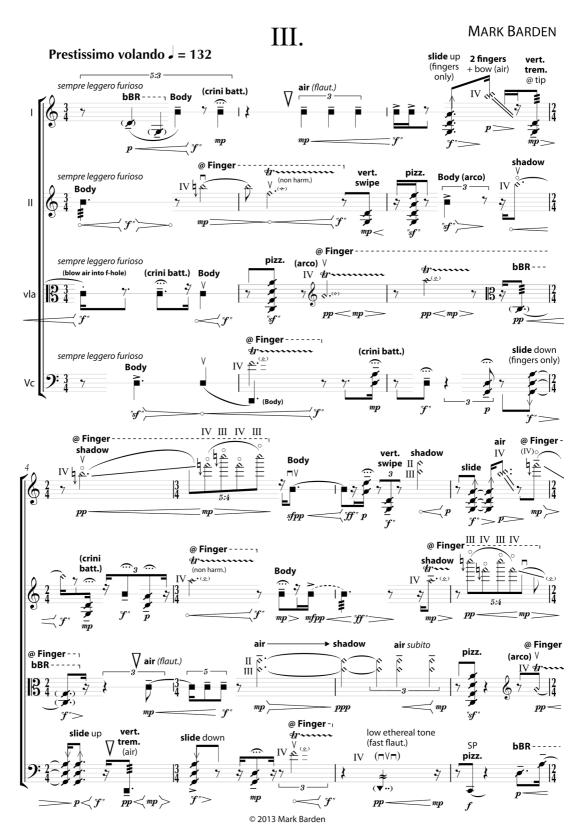
Fig. 18, *Nocturne* (2013), for string quartet, second movement, mm. 1–9

Fig. 19a, *Nocturne* (2013), for string quartet, third movement (complete), mm. 1–7
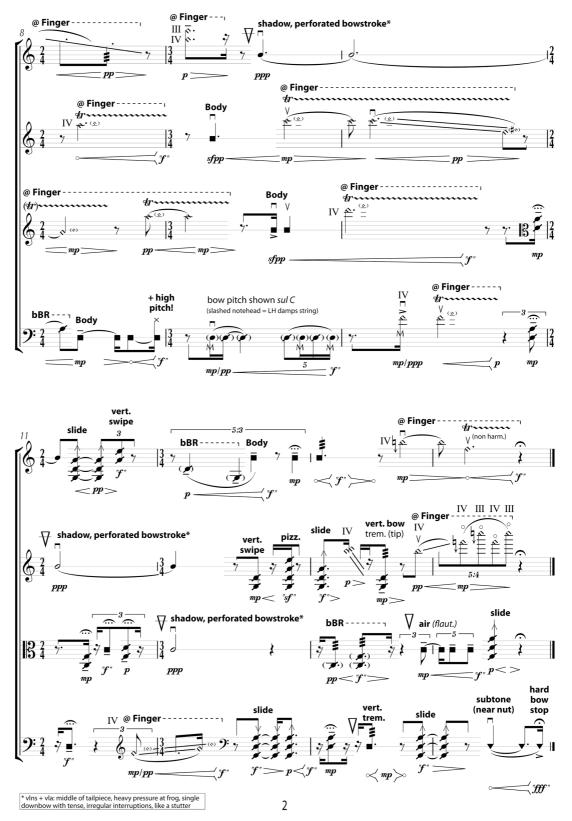
* vlns + vla: middle of tailpiece, heavy pressure at frog, single downbow with tense, irregular interruptions, like a stutter

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Fig. 19b, *Nocturne* (2013), for string quartet, third movement (complete), mm. 8–14

III. *puls* (2012)

puls is a percussion solo created in 2012. To understand its context, it is necessary to briefly explain the percussion concerto from which it originated, *anatomy*. Scored for large orchestra and solo percussion, *anatomy* was commissioned by the Hochschule für Musik Freiburg for a festival celebrating the bicentennial of Robert Schumann's birth. According to the terms of the commission, the new orchestral work was to investigate some link to the œuvre of Schumann. The passage shown in Figure 20 from Schumann's *Humoreske*, Opus 20, for solo piano served as the point of departure for my composition. As the notes in the Henle edition explain:

> Schumann provided no information on how to interpret the inner voice (M. 251–274) notated on a separate third staff. In an unpublished letter of 14 May 1883, Clara explained to Georg Henschel her feeling that the inner voice was intended to "give the pianist a support to the melody of the right hand. This must be performed in such a way that the listener senses the melody. However, the inner voice is <u>not</u> to be <u>played</u>. I believe that the composer wanted the melody to be sensed, in a shadowy manner, rather than stressed or brought to the fore. But it is just as likely that my husband here intended only that the player should hear the voice inwardly or hum it, as one often does when one's heart is full while playing."[60]

The middle voice, though silent, is 'echoed' three 16th-notes late and an octave higher. While some pianists perform this inner voice—including Sviatoslav Richter (one has to assume this is an oversight, rather than an outright refusal of Schumann's intentions)—one wonders whether there is anything that any pianist could do to convey Schumann's intent in this passage effectively. How exactly does one communicate this absence? It does not seem unreasonable to believe that Schumann thought this inner singing would have some sort of perceptually distinct result, if only for experience of the performer. (Whether the audience would have any idea of the absent line is a more complicated matter.)

In any case, this was the link to Schumann's work I chose to investigate. Thus the central challenge of *anatomy* was to present absence through a form of embodiment to which the audience had no overt aural access. This functions on two levels: (1) the literal presence or absence of the entire solo line (described in the following paragraph) and (2) the harmonic structure of the piece, which is built around the eight pitches of this silent inner voice from the *Humoreske*. (As these harmonic structures are not particularly relevant to the discussion at hand, I will not discuss them further.)

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60. Original emphasis. Ernst Herttrich, preface to *Humoreske, Op. 20*, by Robert Schumann (G. Henle Verlag: Munich, 2009), v.

Fig. 20, inner voice, Schumann's *Humoreske*, Op. 20 (1839). *Source*: Schumann, 1887, 8.

81

Initially there were two versions of this orchestra piece: *anatomy I* and *anatomy II*. In the former, the percussion soloist played a virtuosic solo that aligned with and complemented the orchestral music at numerous specific points; in the latter, this virtuosic solo was wholly absent, with the soloist instead playing an additional (non-solo) orchestral part. These versions were played back-to-back (first with percussion solo then without, i.e., present–absent) on the first evening, and again back-to-back but in reverse order (first without solo then with, i.e., absent–present) on the second evening. I had hoped that, eviscerated of a crucial component, the version without the solo would evoke an absence in a way that would be musically exciting. In reality, the version without the solo sounded merely incomplete in an uninteresting way and has since been withdrawn. This failure aside, the idea of presenting absence continues to fascinate me as a formidable aesthetic challenge and *puls* continues this exploration.

Absence in *puls*

Adapting the percussion material from this concerto, I composed *puls* as a stand-alone solo concert work that also addressed this theme of presenting absence, but with an explicit focus on the body of the soloist. Absence in *puls* is located principally in the disparity between the embodied experiences of the performer versus that of the audience. Like the Schumann example above, I wanted to engender phenomena in the body of the performer that, though silent, would affect the resultant sound in audible, if subtle, ways. These phenomena, described in detail below, relate to perceptions of rhythm and temporal relationships as well as to the breath.

As pure physicality cannot be conveyed without a medium, I want the material in *puls* to be a surface upon which the soloist's embodied experience is refracted. How exactly this affects the sound is difficult to describe or substantiate. That physicality can map onto communication in subtle but palpable ways is a truism: a conversation between two people making eye contact is full of enormously complex and subtle physical and aural clues that amalgamate into mostly subconscious perceptions of emotions, forces, and intentions (the feeling that one's partner is honest/dishonest, distracted/engaged, near/distant, for instance). In daily life we gauge authenticity and intent from such subtle cues, from the smallest nuances that make the biggest difference. Filtering immanent physicality through material is not a dissimilar venture.

Bass, tom, and snare drums are very heavily muted at the start, suppressing their natural resonances to an almost cruel extent, accentuating the 'body' of instruments and perhaps inviting metaphors of asphyxiation or oppression. Sudden *sforzandi* and deadstrokes on these instruments intensify this atmosphere of violence. Over the course of the work the palette of instruments expands from muted drums to include three wooden drawers, two of which should snap alarmingly when struck, and, later, bongos. Over its six-and-a-half minutes, there is a clear timbral development from predominantly air or white noise sounds produced with the hands to predominantly short attacks, produced first with snare sticks then with the hands. Intermittently over the final 49 bars, the performer is repeatedly asked to create a "subtle, non-theatrical, *sempre pp*" unpitched air sound by inhaling on 'ah' (like English f<u>a</u>ther), "begin[ning] quiet enough that many listeners initially don't notice". This soft, unchanging gesture focuses attention on the simple fact of the body's existence, evoking again an inferred body that, with an unhurried energy similar to the cello solo in *Nocturne* above, calmly inhabits a space beneath more foregrounded, active material.

Rhythmically the solo's material is extremely reduced, using almost exclusively just three rhythmic ratios: 5:3 ♩, 11:8 ♪, and 7:6 ♪. Muscle memory, ideally, can recall these three ratios as physical speeds or tempi such that the body of the performer jumps discretely between them like a vehicle changing gears. They are united by an ictus that is never clearly articulated, housed instead as a mute pulse in the body of the performer. Its embodied presence for the performer is for listeners an absence, an immaterial force present in sound only through the subtle effects it may have on the performer's physicality. Where the ictus does arise, it is so brief that it reads as more of a stutter or hiccough that disturbs the flow of the surrounding tuplets. This inverted dynamic whereby the underlying ictus, that which governs time, seems "out of time" when it does appear highlights the divergent embodied experiences of performer and audience.

Identity and Identifiability

During a long stretch of thirty bars, a single rhythmic ratio, 11:8 ♪, predominates (mm. 38–68). This passage, which appears in Figure 21, reveals nothing essential about that rhythmic relationship per se, but instead about a *morphology of identity*. I use the word 'identity' here to refer to the specific structure of the tuplet. This particular tuplet's strongest identity, its purest form, would have eleven equally spaced notes with no rests, whereas a tuplet having

a single note and otherwise only rests would have a weak identity. If these two poles form a spectrum of identity from strong to weak, the following passage traces not merely a morphology of density but a morphology of this tuplet's identity along that spectrum. Grace notes, dotted rhythms, and stuttering emergences of the underlying ictus (e.g., final 8th rest in mm. 42 or 47, the last three attacks in mm. 45, 51, 52, etc.) are destabilizing elements that weaken identity.[61]

Fig. 21, *puls* (2012), for solo percussion, mm. 37–68

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61. Grace notes are helpful to clarify the distinction between density and identity. The densest feasibly playable tuplet would have multiple grace notes, which would actually *weaken* the tuplet's identity.

This distinction of identity rather than density has a direct relationship to physicality. I am assuming (and have confirmed with at least one percussionist who has performed the work) that at this tempo, a tuplet with just a single note will not be *felt* as a tuplet; instead the performer will place the note slightly before or after a beat in the underlying ictus. Tuplets with strong identities literally *create different sensations in the performer's body* that map onto the sound. In other words, the material as performed bears an immaterial imprint of physicality, of the physical responses triggered by a shifting morphology of identity. Relating back to the concept of speeds stored in muscle memory, there will be some form of sonic effect as the body shifts, with varying degrees of assuredness, through corporeally sedimented tempi.

Whether or not these shifts in identity are audible as such is a question of what I term 'identifiability'. If one can reasonably assume them to be audible, then there is agreement (or 'perceptual consonance') between identity and identifiability; if one cannot reasonably assume them to be audible, there is disagreement (or 'perceptual dissonance') between them. By using this vocabulary, I am inviting comparison to the psychological concept of cognitive dissonance, which is indeed relevant here. In principle, any notated sound that one can reasonably assume will be heard differently from its notation would constitute perceptual dissonance: the performer(s) know something that the audience does not. Typically, this gap is then exposed and the 'true identity' revealed. This revelation (momentarily) generates classic cognitive dissonance for the listener: as the 'true identity' conflicts with their previous assessment, they are forced to re-evaluate one of them to re-establish consonance. To be clear, perceptual consonance and dissonance as I have described them are predicated on comparing the embodied responses of *two bodies*, listeners vis-à-vis performers, whereas the concept of cognitive dissonance in psychology refers to an experience of a *single body*. At first glance these concepts seem unrelated, yet, the moment that perceptual dissonance between two bodies is revealed, the listener experiences cognitive dissonance within a single body, since their belief or expectation conflicts with present experience. Thus, cognitive dissonance in the traditional sense is latent within perceptual dissonance as I use the term.

According to cognitive dissonance theory, humans strive to maintain consonance between their beliefs and their perceived reality and will make radical modifications to re-

establish consonance once it is lost. These modifications take three forms: (1) change perception to justify belief, (2) change belief to justify perception, or (3) deny reality. These responses map onto musical listening. We perceive present sounds and predict (or 'believe in') future ones and then we verify. If there is dissonance, we (1) change predictions/beliefs to match perceptions, (2) change perceptions to match predictions/beliefs, or (3) deny reality, which would mean to ignore or even to disengage totally. This is listening—flux and flex. We assess, categorize, and predict, evaluating and re-evaluating constantly.

Simple examples of perceptual dissonance in tonal music are harmonic and metric modulations: enharmonically equivalent pitches indicate harmonic modulations to the performer before they are clearly audible to a listener and, analogously, rhythmic values that are written differently yet sound the same indicate metric modulations to the performer before they are clearly audible to a listener. In both cases there is a moment of perceptual dissonance, when the gap in the expected continuity has not yet been revealed. A specific example would be a dominant seventh chord over G, which would normally resolve to C Major, that is re-written as an augmented sixth chord such that it should resolve to F# Major. The moment that the F-natural changes to its enharmonic equivalent, E#, is the moment of perceptual dissonance (the performer is privy to information to which a listener does not have access) and perceptual consonance is re-established when the gap is revealed—in this case, when the F# Major chord appears. Traditional and contemporary classical repertoire is rife with longer passages that exploit this gap between identity and identifiability. To name just one, the first chord of Beethoven's First Symphony in C Major is a dominant seventh chord on C that resolves to F Major. Unless listeners have perfect pitch, this will likely be heard as a cadence in the tonic rather than in the subdominant. At the latest, the revelation of the true tonic in root position in bar 8 unmasks the mis-identified initial cadence, alleviating both perceptual and cognitive dissonance.

Returning to *puls*, the 11:8 ♪ tuplets may well be audible and identifiable as groups of eleven and the deviations that weaken its identity will be identifiable as deviations from *something*, but the underlying rhythmic ratio of 11:8 is likely not identifiable. Using these terms, the emergence of the underlying ictus discussed above is a dissonance—and it is identifiable as such. This is why it seems 'out of time' to listeners, even though its identity and identifiability are clear to the performer.

As with the string quartet, the material is tightly reduced and obsessively insistent. Again and again, there is the violence—suddenly, gradually, exclusively. Then, a strange thing happens: Following a transition from hands to stick on swirling air sounds (mm. 69–73) and a brief fragment of previous material (mm. 74–75), there is a ritual-esque circling of fingernails on the bass drum and large wooden drawer, punctuated by rests. Shown in Figure 22, this odd passage of somewhat long pauses and suddenly rigid air sounds constitutes the only time the underlying ictus is articulated.
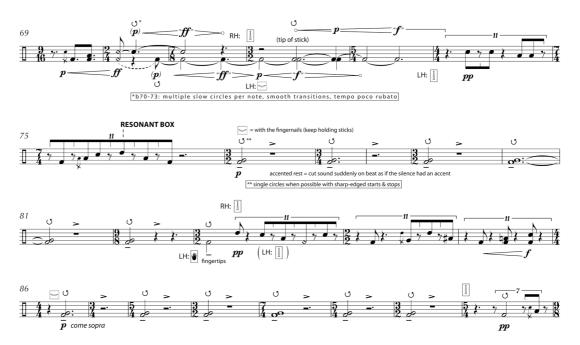

Fig. 22, *puls* (2012), for solo percussion, mm. 69–85

This revelation of the underlying ictus gestures to an imperceptible force that has been present all along—fittingly, this also an allusion to a section of *anatomy* in which the entire orchestra plays this ritualistic gesture—and also provide a timbral link to the inhaled air sound to come, notated as black square noteheads with dotted lines above the staff, *sempre pp*, in Figure 23.

IV. Conclusion

With so many arrows pointing away from the material, what role does the material itself actually play? Is it arbitrary, dispensable, interchangeable? What does the retention of material have to do with the amount of attention directed away from it?

In the works discussed above, material is pushed by immaterial physicality so far aside that its perception as material is cast into doubt. It is a vehicle for the immaterial;

moreover, its materiality prescribes and proscribes certain forms of immateriality. Material itself is the sole means by which the immaterial can be communicated and this communication is necessarily oblique, refracted, and hyper-individualized. It is filtered through somatic experience at every turn—bodies being the core planes whereupon metousiosis is played out, whereupon constructs of absence and presence are negotiated. To focus attention towards metousiosis operating upon and across thresholds leading to absent bodies is to change the essence of material, is to make the material immaterial. This amounts to saying that what is sounding is not present—a patently absurd statement, though perhaps justified if we understand presence as grounded in perception. Taken to the extreme, one could say that making the imperceptible perceptible makes the perceptible imperceptible. That is, in essence, what I believe happens for me when I listen to these works.

Fig. 23, *puls* (2012), for solo percussion, mm. 189–212

Chapter 6

Conclusions

There are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says, "Morning, boys, how's the water?" And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes, "What the hell is water?"

If at this moment, you're worried that I plan to present myself here as the wise old fish explaining what water is to you younger fish, please don't be. I am not the wise old fish. The immediate point of the fish story is that the most obvious, ubiquitous, important realities are often the ones that are the hardest to see and talk about. […] It is about simple awareness — awareness of what is so real and essential, so hidden in plain sight all around us, that we have to keep reminding ourselves, over and over: "This is water, this is water."[62]

— David Foster Wallace

Composing, listening, and performing are visceral acts. To be drawn to certain sounds, to sculpt noises into form, or to interpret a text is to filter through the body, always. Cultivating an awareness of this banal omnipresence is a lifelong project with no specific goal or endpoint. The works discussed here solve nothing; they probe and seek and unveil and mask, composing with and through an awareness of the body's inseparability from any total musical fact, "so hidden in plain sight all around us."

If body-ness is the water in which all music subsists, how to maintain awareness of it? In his masterwork *Corpus,* Jean-Luc Nancy highlights one useful, identity-constructing action among the many that bodies perform:

[S]kimming, grazing, squeezing, thrusting, pressing, smoothing, scraping, rubbing, caressing, palpating, fingering, kneading, massaging, entwining, hugging, striking, pinching, biting, sucking, moistening, taking, releasing, licking, jerking off, looking, listening, smelling, tasting, ducking, fucking, rocking, balancing, carrying, weighing…
Even without a synthesis, everything ends up communicating with weighing. A body always weighs or lets itself be weighed, poised. A body doesn't have a weight: even in medicine, it *is* a weight.[63]

This concept of bodies not having a weight, but *being a weight* is one strategy I have of forcing myself, again and again, to feel Wallace's water. One's own body's weight becomes immediately palpable the moment one thinks about it. Not inconsequentially, descriptions of weight arise frequently, one it tempted to say naturally, in music to describe tone quality,

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62. David Foster Wallace, *This Is Water* (New York: Little, Brown, 2009).

63. Nancy, *Corpus*, 93 (original emphasis).

89

physical gesture, affect, and even genres (heavy metal, light opera). That bodies weigh means of course that they experience gravity, but, like all physical bodies, they also *exert* gravity, pulling ever so slightly on all other physical bodies, with a force directly proportional to the product of the masses and inversely proportional to the square of the distance between them.[64] Gravity is thus a present-absence, scarcely detectible when speaking of something so small as human bodies, and yet *actually there*.

In his article "Fingerprints Against the Avalanche", Canadian composer and tubist Max Murray calls for interpreters to seek out and strive to communicate these present-absences (or absent-presences) when performing particularly physical contemporary music and to "reject the flat self-satisfaction of 'a compelling performance of a work greatly concerned with matters of physicality.'" Murray posits that physicality, if insufficiently interpreted, can all too easily eclipse the uniqueness and specificity of a piece or of a particular compositional approach, de-individuating and homogenizing works through a vague, ultimately misplaced emphasis on the physical surface, regardless of how dazzling or even 'musical' it may be:

> Perhaps never so obviously has merely realizing the prescribed demands of the score been such a staggeringly insufficient navigation of what is conceptually at stake in a work. One must actively search for and insist upon the composer's fingerprint amidst the avalanche, be it thunderous or whispered, of imminent physicality.[65]

The interpretive project for which Murray argues is as uncompromising as it is admirable: to seek and make audible the composer's *precise engagement with the body in a specific work*, located, as he puts it, "in the upper compositional registers".[66] This endeavor "to reach *that* which is inscribed into the work's centre" may well prove to contain "impossibilities and irreconcilabilities of interpretation"—which by no means justifies shying away from such challenges.[67] This interpretative approach aligns perfectly with the discussions of hopeful exertion and expressive failure in Chapter 1. Furthermore, Murray's argument implies a near-

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64. *Encyclopædia Britannica Online*, s. v. "Newton's law of gravitation", last modified December 26, 2013, http://www.britannica.com/EBchecked/topic/413298/Newtons-law-of-gravitation.

65 . Max Murray, "Fingerprints Against The Avalanche," *FOCI Arts*, March 12, 2014, http://fociarts.com/fingerprints-against-the-avalanche-max-murray.

66. Ibid.

67. Ibid.

infinite number of ways in which a composer could engage the body through the musical text, prioritizing physicality "along particular imagined planes and conceptual axes".[68]

Analogously, my task as a composer is to understand and articulate as effectively as possible, despite any impossibilities I may encounter, the specific nature of how exactly each musical text I write negotiates the bodies present throughout the total musical fact. I compose to and toward their individual and collective *weight*, through and beneath the gravities they exert and the gravities that operate upon them. *»This is water. This insisting.«*

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68. Ibid.

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