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Transformative Mimicry:
Composition as Embodied Practice in Recent Works

Cassandra Linnet Miller

September 2018

A portfolio of compositions and commentary submitted to the University of Huddersfield
in partial fulfilment of the requirements for the degree of Doctor of Philosophy

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List of Portfolio Compositions

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Composition	Documentation
<p><i>About Bach (2015)</i> Instrumentation: String Quartet Duration: 24'30" Performances:</p> <ul style="list-style-type: none"> • 2015 Quatuor Bozzini, Angelica Festival, Bologna • 2016 Quatuor Bozzini, Cluster New Music and Integrated Arts Festival, Winnipeg • 2017 Quatuor Bozzini, Regina • 2017 Quatuor Bozzini, Victoria • 2017 Quatuor Bozzini, Montreal • 2017 Quatuor Bozzini, Toronto • 2018 Quatuor Bozzini, Jakarta • 2018 Quatuor Bozzini, Time:Spans Festival, New York City • 2018 Quatuor Bozzini, Klangspuren Schwaz, Innsbruck 	<p>Score submitted: Yes Media: Audio Performers: Quatuor Bozzini Recording date: 2018 Credits: recording produced by tonmeister Stephan Schmidt Provenance: from the disc 'Just So' (at129), a joint release of the labels <i>collection qb</i> and <i>Another Timbre</i> Permission: Another Timbre</p>
<p><i>Duet for Cello and Orchestra (2015)</i> Instrumentation: Full Orchestra (3333 / 4331 / perc (3) / strings) and Solo Cello Duration: 30' Commissioned by: Charles Curtis with the support of the Canada Council for the Arts Performances:</p> <ul style="list-style-type: none"> • 2015 Charles Curtis, Cello, BBC Scottish Symphony Orchestra, Tectonics Festival Glasgow • 2015 Charles Curtis, Cello, Orchestra of the Opera House, Angelica Festival Bologna • 2017 Charles Curtis, Cello, Winnipeg Symphony Orchestra, Winnipeg New Music Festival 	<p>Score submitted: Yes Media: Video Performers: Charles Curtis, Cello, and the BBC Scottish Symphony Orchestra, Ilan Volkov conducting Recording date: 2015 Provenance: Live concert recording owned by the BBC Permission: BBC</p>

Composition

Documentation

Round (2016)

Instrumentation: Orchestra (2222 / 4431 / perc (1) / single strings: 86553)

Duration: 12'

Commissioned by: Toronto Symphony Orchestra

Performances:

- 2016 Toronto Symphony Orchestra, Toronto New Music Festival
- 2017 BBC Scottish Symphony Orchestra, Glasgow
- 2017 BBC Scottish Symphony Orchestra, Birmingham
- 2018 Winnipeg Symphony Orchestra, Winnipeg New Music Festival,
- 2018 University of Victoria Symphony, Victoria

Score submitted: Yes

Media: Audio

Performers: BBC Scottish Symphony Orchestra with Ilan Volkov conducting

Recording date: 2016

Provenance: Live concert recording owned by the BBC

Permission: BBC

Undone (2015)

Instrumentation: Meditating Performer, Tape

Duration: 7'

Performances:

- 2016 Jennifer Thiessen, Cluster New Music and Integrated Arts Festival, Winnipeg

Score submitted: No

Media: Audio

Performer: Jennifer Thiessen

Recording date: 2016

Provenance: Home recording (archival stereo version)

Permission: Jennifer Thiessen (consent form in Appendix 1)

So Close #1 (2016)

Instrumentation: Violin, Tape

Duration: 16'

Performances: none

Score submitted: No

Media: Audio

Performer: Silvia Tarozzi (with voice of Cassandra Miller on tape)

Recording date: 2016

Provenance: Home recording (archival stereo version)

Permission: Silvia Tarozzi (consent form in Appendix 1)

Composition

Documentation

Tracery : Lazy, Rocking (2016)

Instrumentation: Voice, Tape

Duration: 12'

Performances:

- 2018 Juliet Fraser, Bastard Assignments, Asylum, London

Score submitted: No

Media: Video

Performer: Juliet Fraser

Recording date: April 3, 2018

Credits: filmed, edited, and produced by Angela Guyton, audio recorded and mixed by Christopher McDonnell

Provenance: filmed / recorded in Phipps Hall, University of Huddersfield

Permission: Juliet Fraser (consent form in Appendix 1), Angela Guyton

Tracery : Hardanger (2017)

Instrumentation: Voice, Tape

Duration: 17'

Performances:

- 2017 Juliet Fraser, Kammer Klang, Cafe OTO, London
- 2017 Juliet Fraser, St Paul's Hall, Huddersfield
- 2017 Juliet Fraser, Outer Ear series at Experimental Sound Studio, Chicago
- 2017 Juliet Fraser, The Exchange, Penzance
- 2017 Juliet Fraser, The Chapel, Oxford House in Bethnal Green
- 2017 Juliet Fraser, Klangspuren Schwaz, Austria

Score submitted: No

Media: Video

Performer: Juliet Fraser

Recording date: February 7, 2017

Provenance: Concert performance, Kammer Klang Concert Series, Café OTO, London

Permission: Juliet Fraser (consent form in Appendix 1)

Tracery : The Slits (2017)

Instrumentation: Voice, Tape

Duration: 11'

Performances:

- 2017 Juliet Fraser, Outer Ear series at Experimental Sound Studio, Chicago
- 2017 Juliet Fraser, The Chapel, Oxford House in Bethnal Green

Score submitted: No

Media: Video

Performer: Juliet Fraser

Recording date: April 3, 2018

Credits: filmed, edited, and produced by Angela Guyton, audio recorded and mixed by Christopher McDonnell

Provenance: filmed / recorded in Phipps Hall, University of Huddersfield

Permission: Juliet Fraser (consent form in Appendix 1), Angela Guyton

Composition

Documentation

So Close #2 (2018)

Instrumentation: Violin, Voice, Tape

Duration: 20'

Performances:

- 2018 Silvia Tarozzi, Cassandra Miller, University of Huddersfield

Score submitted: No

Media: Video (live concert recording)

Performers: Silvia Tarozzi, Violin, and Cassandra Miller, Voice

Recording date: March 7, 2018

Credits: filmed by Sam Gillies, audio recorded and mixed by Christopher McDonnell

Provenance: Concert performance, Phipps Hall, University of Huddersfield

Permission: Silvia Tarozzi (consent form in Appendix 1)

Tracery : Attending to a task (2018)

Instrumentation: Voice, Tape

Duration: 15'

Performances:

- 2018 Juliet Fraser, Bastard Assignments, Asylum, London

Score submitted: No

Media: Video

Performer: Juliet Fraser

Recording date: April 2018

Credits: filmed by Nicola Cavalazzi

Provenance: Live concert presented by Bastard Assignments at Asylum, London

Permission: Juliet Fraser (consent form in Appendix 1)

Traveller Song (2017)

Instrumentation: Bb Clarinet, Electric Guitar, Piano Four-Hands (one player doubling Accordion), Violin, Cello, Tape

Duration: 22'30"

Commissioned by: Ensemble Plus Minus, with the support of the Canada Council for the Arts

Performances:

- 2017 Ensemble Plus Minus, Kammer Klang Concert Series, Café OTO, London

Score submitted: Yes

Media: Audio

Performers: Ensemble Plus Minus

Recording date: February 7, 2017

Provenance: Concert performance, Kammer Klang Concert Series, Café OTO, London

Permission: Ensemble Plus Minus

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List of Audio Examples

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Permissions

The BBC gives permission for the use of the recordings of *Round* and the *Duet for Cello and Orchestra*.

Another Timbre gives permission for use of the recording of *About Bach*.

Angela Guyton gives permission for the video documentation of *Tracery : Lazy, Rocking* and *Tracery : The Slits*, as well as the documentary of the making of *Tracery : Attending to a task*.

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Abstract

This commentary accompanies a portfolio of compositions created between 2014 and 2018, and describes two methods of transformative mimicry: transcription (used in the notated compositions) and automatic singing (non-notated embodied research). Transformative mimicry refers to an act of imitating, translating, or tracing that is both transformative and generative. In the first method, transcription, recordings of live musical performances are used as borrowed source material, and the notate-able details of their vocalicity are translated (i.e., transformed through imprecise imitation) through the technology of notation. The second method, automatic singing, involves variations of vocalising-while-listening-while-meditating (i.e., imprecise vocal mimicry), in an iterative process that generates a resonance between melodic sound and interoceptive experience. This commentary is organised around a close analysis of three sets of work. In the first set of compositions, referred to collectively as Research Phase 1, my role is that of a composer behind a desk. The making of the next set of work, in Research Phase 2, involves myself as an untrained singer on stage, or myself as an uncomposerly director creating music together with a performer–collaborator. I combine these two areas of practice in a short Research Phase 3, which opens the door to future explorations.

This commentary details not only my own practice as a composer but also its associated technique and knowledge, with the aim of addressing the following Guiding Questions: *What knowledge structures my practice of notating? When notating is cast aside, which areas of technique replace it? How can one describe the knowledge that structures my non-notated or post-notated compositional practice?* On this methodological foundation, I provide a detailed commentary on the processes involved in the making of each piece. I then compare and contrast the making-processes through an exploration of three musical tools common to each piece: the relationship between melody and repetition; the distillation of musical material and meditative focussing-in; and types of unison and togetherness (accord and attunement). The dissertation concludes by reflecting on the Guiding Questions, and by proposing areas for future development.

Introduction

Research Narrative: a Grand Shift in Practice

This commentary serves to illuminate the accompanying portfolio of compositions. The portfolio works are grouped into three sets, representing three Research Phases: notated work (for string quartet and for orchestra), non-notated work (in collaboration with soloists), and crossover work (for my own recorded singing voice and ensemble).

These Research Phases narrate a grand shift in my composition practice over the course of the doctoral studies. In the first phase, I deepened and refined my decade-long investigation of transcription. In the second, I set notation aside and devised the automatic singing method—an explicitly transformative embodied research. This sea change originated on one hand, from a dissatisfaction with my notation practice, and on the other from a continued pursuit of many of the same concerns as the transcription work, such as mimicry, vocality, and repetition. The short Research Phase 3 offered, as a new beginning, a reconciliation of the two practices.

Guiding Questions: a Focus on Technique

The submitted portfolio invites many possible roads of inquiry—for example, questions of voice & vocality, repetition & duration, melody & canon—but above these, I have chosen an investigation of technique & method to function as the backbone of this dissertation. This focus enables a meaningful exploration of the change in practice which took place, and a meaningful discussion of the decisions at which I arrived. To this end, the Guiding Questions of this dissertation are about technique: *What knowledge structures my practice of notating? When notating is cast aside, which areas of technique replace it? How can one describe the knowledge that structures my non-notated or post-notated compositional practice?*

This commentary examines my composition practices through the lens of embodiment and embodied knowledge, within the context of an epistemology of technique (technique as knowledge) as articulated by Ben Spatz (2015). The embodied actions at the centre of my making-processes, both of the notated work and the non-notated work, have a common essence: they are each a form of mimicking that transforms musical material from one thing into another (transformative mimicry).

An elucidation of the embodied technique (knowledge) that structures these transformative actions brings to light, in a simple yet discerning way, the nature and personal, social, and political significance of the shift in practice.

Summary of Chapters

The format of this dissertation is meant to highlight the discussion around technique and method. I begin by giving a background of terminology and context (Section 1.0), followed by an explanation of the two methods that emerged from the compositional explorations: transcription and automatic singing (Sections 1.1 and 1.2).

On this foundation, I discuss each submitted work individually (Chapter 2), in particular for its contributions to the development of the emergent methods, and for the embodiment of technique which structures its making-processes.

The conclusion serves to further explain my shift in practice. First (Section 3.1), I compare and contrast the notated and non-notated compositions through elements of their musical language: repetition as a ground for exploration, and two topics I coin ‘focussing-in’, relating to distillation of material, and ‘accord & attunement’, relating to types of unison. I then return

to the Guiding Questions, delving into the broader significance of the changes to my practice (Section 3.2), and revealing this research project to be an invitation to further explorative quests.

Chapter 1: Methods

In this first chapter, I contextualise and outline the two practical methods used in the making of the portfolio works: transcription and automatic singing, which are both forms of transformative mimicry. I first define terms (Section 1.0), and in so doing, I introduce the basic nature and template of transformative mimicry. I then discuss the two methods individually (Sections 1.1 and 1.2), elucidating their context, detailing their structure, and briefly summarising the progression of their development.

1.0 Transformative Mimicry

The title of this dissertation, ‘Transformative Mimicry’, refers to the nature of the activity common to the two composition methods I used in making the submitted compositions. Each method takes a source recording and mimics it in some way, incompletely or imprecisely, and in so doing transforms it. Before examining this concept further, it will be useful to first summarise the transforming/mimicking activities of the two methods, and the knowledge that structures those activities:

1. The ‘transcription’ method translates musical material from an audio recording into a notated score. The translator here is the act of notating, a practice which is structured by embodied knowledge of rhythm and of performance practice, and which also uses computer-

listening as a crude tracing (transforming) technology. Through this translation, this coarse-grained mimicking, one melody is transformed into another.

2. The ‘automatic singing’ method involves singing along to an audio recording and mimicking it imprecisely. Here the translator is the act of voicing-while-listening, a practice which is structured by embodied knowledge of meditating, sensing, and expressing. Through a repeated process of tracing a melodic line—infusing it with the uniqueness of the performer’s voice—one melody is, as before, transformed into another.

This chapter clarifies the key terms, basic template, and explanatory charts used in this document. The terms discussed below have been chosen carefully in order to denote the central process of the compositional methods and to carry significant connotations. They introduce the foundational concepts behind this dissertation and behind the compositional methods. They illuminate my values and perspectives on musicking and composing. Above all, they locate the research.

1.0.1 Terms: Transformative & Mimicry

Transforming vs Reconstructing vs Participating

I use the word ‘transformative’ for the important connotations it carries. Not only is it useful in describing the basic mechanism of the compositional acts to be discussed here, it also reveals a fundamental attitude towards the act of composing and towards my role as a composer. I am neither builder nor destroyer, but merely a body participating in real-time with acts of musicking, and a feature of this participating is a transformation: a song is transformed when sung.

I use the word 'transformative' to avoid a building analogy. If I had wanted to imply that my power as a composer comes from building something from the ground up, brick after brick, I could have chosen the term 'reconstructive mimicry' or even 'renovating' or 'renewing mimicry'. Alternatively, if I had wanted to imply that my power comes from the ability to raze a building to the ground, to take apart the importance of a cultural artefact, I would have chosen 'destructive mimicry' or 'corruptive mimicry'. Even the words 'altering mimicry' or 'refining mimicry' imply a material solidity or a physical substance, an objecthood of music, which detracts from the real-time experience that I wish to investigate.

One might instead consider the term 'participatory mimicry' to be an accurate description of the activity. However, I have decided against this phrase because I prefer to draw attention to the transformative nature of participation. The terms 'transformative', 'generative', and 'reflexive' are described further within the field of algorithmic composition. (Holland *et al.*, 2013)

Rather than referencing the narrative fictions (i.e., analogies) of music as a physical object to be 'built' or 'reconstructed', I choose language which instead points to time-based participation. Taking inspiration from Christopher Small, who redefines and expands the term 'music' as 'musicking' (1998), a simple rephrasing of object-nouns as experience-verbs is useful to my explorations of technique. The 'source material' is not a solid object, it is rather the experience of its patterns, passed over in real-time as one listens—this act of listening being the participating of our bodies (in the experience of those patterns) with their own sympathetic reactions. This listening-participating can be enacted or re-enacted in the time-based activities of notating or of singing, which then, using the technologies of notation or of recording software, allow other time-based acts of performing or listening. The meaning of

each of these action steps is generated through the participation of bodies in time. The result is not a transformed musical object, it is a musicking-transforming.

While for the sake of simplicity I use terms such as ‘source material’ and ‘headphone audio’ as nouns, I focus here solely on the processes of participation. The differentiation between process and data is discussed further below.

Mimicking vs Copying vs Translating

My use of the term ‘mimicry’ is best explained by comparing it to similar terms. Instead of ‘mimicking’, I could use ‘imitating’, ‘copying’, ‘translating’, ‘rendering’, or ‘tracing’. ‘Imitating’ is perhaps the most accurate word for my process, though I tend not to use it to avoid confusion with the counterpoint-related term ‘imitation’ (as in the repetition of a phrase by a second voice in a polyphonic texture). The term ‘copying’ is incomplete for my purposes, since even though I take existing music as a starting point I make neither copy nor quotation. I avoid ‘adapting’ and ‘arranging’ for similar reasons.

On the other hand, ‘translating’, ‘rendering’, and ‘tracing’ are valuable terms. ‘Translating’ is an apt analogy; the translation of text from one language to another is also an incomplete or imprecise mimicry. ‘Rendering’ carries the notion of a ‘rendition’, in the sense of a personal interpretation of a folk song, an interesting association when talking about the singing-along process. ‘Tracing’ is useful in discussing how computer-listening software traces the outline of a sound, and is a poetic image for how a voice, singing along, traces the contour of a melody. I therefore use ‘translation’, ‘rendering’, and ‘tracing’ to denote occurrences of mimicking, according to context.

I choose 'transformative mimicry' as the simplest shorthand term for the activity at the core of the composition practices, but I could have as accurately chosen 'generative-transformative-reflexive tracing' or 'participatory imitation'. As it travels through this document, the term 'transformative mimicry' carries all of the implications discussed above.

1.0.2 Terms: Embodied Knowledge, Technique, Practice, Listening

Embodiment and Embodied

As Spatz notes,

... "embodiment" absolutely does not refer to a distinction between mind and body.... My assumption here is that mind and body are holistically intertwined—or rather, following current trends in cognitive studies, that mind is an emergent property of body, just as body is the material basis for mind. (Spatz, 2015)

The concept of a body/mind split, while being a metaphor of use in some contexts (trauma therapy being a prime example), is, as Spatz comments, considered to be now anachronistic and has been replaced in contemporary discussions by a notion of the body that includes the mind and all its activities. The actions of the body produce the mind and are the mind (see Varela et al, 1991). A discussion of embodiment, then, is related to what the body, including the mind, can do.

The word 'embodiment'—as a noun—has multiple definitions according to context, some vague and others contradictory. As a result, in this document I tend to favour 'embodied' over the noun 'embodiment'. As an adjective, 'embodied' is associated with several key concepts: embodied knowledge, embodied technique, embodied practice, embodied research.

Knowledge and Technique

While a comparative epistemology of embodied technique is outside the scope of this dissertation, I adopt several terms as employed by Ben Spatz in his book *What a Body Can Do: Technique as knowledge, practice as research* (2015). Spatz equates embodied knowledge with technique in a nuanced and global look at technique as the knowledge that structures our conscious practical actions, our unconscious reactions, and our identities. Wherever the words ‘a way of...’ appear, they signify technique. Technique can be, for example, a way of listening, a way of singing, a way of empathising, or a way of performing. It can be either a way of doing or a way of being.

Technique vs Practice

Using Spatz's terminology, a moment of practice is an action which is associated with a specific time. For example, if I sing while meditating at 7.30 am on 9 May 2018, this action is a moment of practice. By contrast, technique is a way of doing something. Technique is a transmissible or repeatable piece of knowledge that connects practices one to another. A particular way of dancing can connect the moment of dancing on Tuesday to another moment of dancing on Friday, in the same room or in a different country, by the same person or by a different person.

Sedimented Technique

Looking ahead, a further elaboration of the definition of technique, automaticity (to be discussed in more detail in Section 1.2.1) is critical to this dissertation. In summary, technique-as-knowledge includes not only ways-of-doing that one calls upon with conscious intention, but also areas of technique that structure one's practice or one's identity, without one's attention. Spatz refers to such unconscious or embedded knowledge as ‘sedimented technique’ (2015, pp. 50–56), and he explores the relationship between the realms of

conscious and sedimented technique. As will be discussed further, this relationship is connected to agency, is significant to my understanding of automaticity, and points to the transformative potential of automatic singing.

Embodied (Empathetic) Listening

When I use the term ‘embodied listening’ I am referring to the full-body experience of listening. Included in this concept is empathy, and I often refer to ‘embodied listening’ and ‘empathetic listening’. In relation to psychological theory of listening as related to social cognition, empathy is an expansion of the concept of contagion. Whereas ‘contagion’ refers to the influence on the listener of the responses of another in the environment, with or without the will of the listener, ‘empathy’ refers to a wilful integration of the emotional responses of both the listener and the other party. In recent studies it has been shown that, not only will the sound generated by another cause empathetic physical responses in a willing listener, but also that the intention behind the act of the other (rather than simply the acts themselves) are what invoke the empathetic response (see Miu & Vuoskoski, 2015).

Therefore, I use the term embodied listening to describe my own response to the physical movements of a performer, to account for my corporeal response to those movements through listening to the sound generated by them, and to describe the empathy I feel with the intentions (or intentionality) of the movements of that performer.

In the detailing of the elements of the methods, I abstain from detailing the experiences and actions of the audience members and their paramount role in creating meaning in an artwork. The notion that meaning is produced by the listener is put forward by Jean-Luc Nancy in *Listening* (2007). Furthermore, the meaning of a musical act is defined by Christopher Small in *Musicking* (1998) to be the relationships it creates, including

relationships with, and between, audience members. This audience role, while of great importance, is outside the scope of this commentary, and I focus instead primarily on the actions and relationship of composer and performer. Therefore, when the ‘endpoint’ symbol, an oval, is shown in the flowcharts in Sections 1.1.3 and 1.2.3 below, containing the words ‘to a live audience, microphone, and/or video camera’, it should be noted that this ending is no ending at all, but stands for the beginning, and for the invitation to new relationships and to meaning.

1.0.3 Terms: Voice & Vocality

‘An unsounding human body is a rupture in the sensuousness of existence.’

(Middleton 1990, 262)

Notions of ‘voice’ and ‘vocality’ permeate the whole of this document and connect the concepts of empathetic listening to embodied technique and performance practice.

I owe the use of the term vocality to discussions with researcher and flautist Kristine Healy, who deconstructed the concept of vocality from a performer’s perspective in her doctoral research at the University of Huddersfield (2018)¹. I borrow from her not only the term itself, but also the notion that it can refer to a large web of concepts lying between physical production of sound, the performance or presentation of identity, and personal or political agency. I understand also through discussions with her that, through engaging in this line of research, I am participating in the glorification of vocality as a model for the ‘musical’, a

¹ The influences of both Healy and Spatz on this research are significant. It is no accident that these researchers were based at the University of Huddersfield at the time of writing. The nature of my research is to share space, and in this context, in-person discussion is the location of knowledge creation. Thus, my references favour colleagues in England, Canada, and those I have met personally in other locations.

notion which is not an objective fact, but rather a choice with its own web of contexts and histories.

Performance Practice as Epistemic Object

The term 'performance practice' in this document does not refer to a 'moment of practice', in the use of the term 'practice' described above, but rather refers to technique (to knowledge) of a way of playing, a language of interpretation or expression. Performance practice can involve, in the common use of the word, a particular performer's sense of stretching of pulse, melisma, embellishment, dynamic gesture, and other parameters. I expand this use to include other orally transmitted traditions of musical gesture, such as the particular way to sing a folk song which is vernacular to a particular region or lineage.

Ben Spatz considers a 'song' as an epistemic object (see Spatz, 2016); that is, as a carrier of knowledge. The knowledge he refers to here is embodied technique, the embodied technique of singing a particular set of intervallic gestures and words, in a particular way, as passed from one person to another to another in a long succession of transmissions of this embodied technique. I take this concept further and posit that performance practice is, in the same way, an epistemic object, carrying with it a cultural history of embodied technique. This cultural history can be heard through the enactment of the music, and the cultural history is enacted by the musicking. In this way, when using the term 'performance practice', I am speaking about cultural knowledge, perhaps even performative cultural identity, as transmissible embodied technique.

Performance Practice as Voice / Vocality

Furthermore, this particular use of the term 'performance practice' can relate to 'voice'. The learned qualities of my own voice, with its ability to perform cultural norms, complete with

gendered inflections and tensions, constitute embodied knowledge, learned through very long lines of transmissions of technique. In this way, I relate to my own voice as performance practice. Elements of such performance practice, or voice, may be sedimented or learned in infancy (such as crying, moaning, or sighing), whereas others may be made through conscious intention and attention. Since performance practice, in a colloquial sense, is often referred to as ‘musicality’, I use the term ‘vocality’ to invoke this ‘performance practice’-based notion of voice.

1.0.4 Terms: Method & Process

Method vs Research Phase vs Area of Practice

When the word ‘method’ is used in this document, it refers exclusively to one of the two methods: ‘translation’ and ‘automatic singing’. This dedicated use differentiates technique, as discussed above, from method. To avoid confusion, this document consistently uses the term ‘technique’ to mean knowledge and the term ‘method’ to denote a working process with various steps, similar to a recipe or sewing pattern.

Each of the terms ‘method’, ‘research phase’, and ‘area of practice’ is used to distinguish notated work from non-notated work, and each is fixed with a specific function throughout this document for reasons of clarity. Research Phase 1 involves transcription (Method 1), and Research Phase 2 involves automatic singing (Method 2). The two ‘method’ templates detail, after the fact, ‘areas of practice’. In other words, the artistic explorations (areas of practice) occurred first, as their own needs and processes allowed, and only afterwards did I create and title the descriptions of their making (Methods 1 and 2) and group the creative inquiries into a research narrative (Research Phases 1 and 2). Research Phase 3, which

follows, is then an exploration that combines the two ‘areas of practice’ by using both Methods 1 and 2.

Process vs Data

The elements of these methods can be either ‘processes’ or ‘data’, and it is useful to note the distinction between the two.

In this document, the word ‘process’ always denotes a ‘making process’ (in the sense of an action or series of actions taken in order to achieve a particular end). A ‘process’ is a step within a ‘method’. It designates an experience-in-time of a person engaged in activity, and is often referred to as a ‘moment of practice’. To avoid confusion, I refrain from using the term to denote ‘musical processes’ in the sense of audible patterns or developments, such as described by Steve Reich in his essay ‘Music as a Gradual Process’ (1968/2004).

Data is the input or output of a process. In my making-methods, data is an audio recording, a notation file, sketch or score—it is the latent potential (stored using the technology of recording software, or of ink and paper) for an experience of musicking, of passing-over-patterns in real time.

I came to this distinction between process and data through a need to depict methods with legible flowchart symbols, and from there it grew in importance. Using these symbols led me to understand that the key elements of my methods were not materials but activities. For example, my perspective changed from viewing ‘source material’ as a starting point to looking at the process of ‘choosing source material’ as the starting activity. These processes are moments of practice.

In the next sections, I use flowcharts to depict the various steps involved in the methods. Key to reading the flowcharts are the symbols denoting processes and data: rectangles and parallelograms. A simplified relationship between process and data, using this standardised flowchart symbology, is shown in Figure 1.

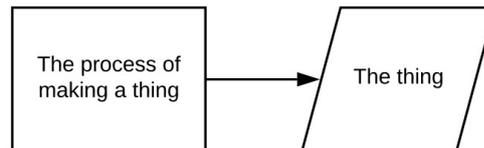


Figure 1: Flowchart symbols: ‘process’ and ‘data’ (simplified relationship)

1.0.5 Transformative Mimicry Template

The basic transformative mimicry template can be described concisely as *input; transforming action; output*. I show this structure here in the form of a modest flowchart, which serves as a template for the more complex flowcharts that follow. This simple diagram depicts the core anatomy common to both methods (Figure 2).



Figure 2: Transformative mimicry, basic flowchart

‘Resonant loops’ enrich this basic model, and are an important feature of the automatic singing method. They occur when an output is fed back into the same transforming process

that had rendered it (more is said about resonant loops in Section 1.2). Such loops appear in flowcharts in the manner shown in Figure 3.

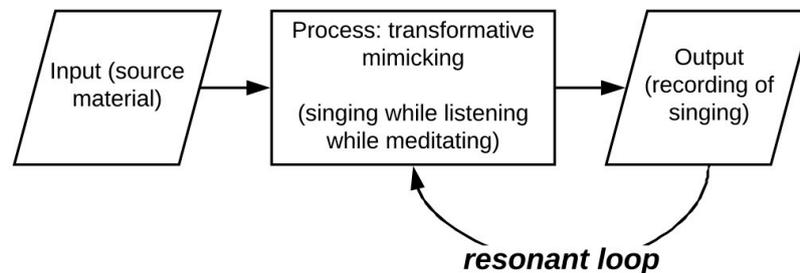


Figure 3: Resonant loop, basic flowchart

Here ends the introduction of terminology and template, laying the foundation for Sections 1.1 and 1.2 below, which explore the two methods individually.

1.1 Method 1: Transcription

Background: Established Work (2010–2014)

Many of my previous compositions have involved some form of transcription. This trend began in 2010 with *Bel Canto* (written for Ensemble Kore)—based on a transcription of the vibrato of Maria Callas as she sings *Vissi d'arte* from the opera Puccini's *Tosca*—and continued in 2011 with *Warblework* (for the Quatuor Bozzini), a string quartet based on the transcription of bird songs. In both of these works I simply used my ear to transcribe the source material, often slowing down the audio file to hear detail.

In 2012, I wrote *Philip the Wanderer* (for Philip Thomas), which was my first large-scale piece that used a computer to help with the transcription process (using Melodyne software to convert audio to MIDI). This work began a phase of output where almost every piece used

this computer-based method, including *for mira* in 2013 and numerous other chamber music pieces. *Guide* (2013, for EXAUDI) is an exception: for this piece I used computer-listening to create a type of neumatic notation. Regardless of method, the impetus behind these pieces, and their difficulties and artistic concerns, remain much the same.

Transcription as Transformative Mimicry

The verb 'to transcribe' refers to the activity of transferring (or translating) semantic information, received by listening to verbal soundings, into the technology of the written word — a technology of storing text data, holding the potential for further readings and soundings.

Many composers have used transcribing as a composition method. To explain the influence of these composers on my work, I separate the practice of transcribing into two camps or areas of focus. The first area includes work which emphasises the mimicking, imitating, or copying aspect of transcribing, and the second includes work which emphasises the transformative, reflexive, or generative aspect.

This distinction between these two camps is blurry, as many composers, including myself, use transcription for more than one reason in different pieces, or combined in the same piece, and to varying extents. If, when listening, my attention is engaged with the play of recognisability of material (a play both with and against my expectations, deriving from a memory of a musical experience imbued with cultural significance), then I consider the work to be in the first camp, the imitative transcribing process being used as a means of quasi-quotation. If, on the other hand, my attention is engaged with a feature of the transformation itself (for example, with the composer's persona as heard through the making-processes, or with questions of how the source material, through a transformation, has generated an experience beyond itself), I then consider the work to be in the second camp.

The transcribing method, as I use it, is influenced by both camps, to a different extent for each piece. *About Bach* drastically transforms its material through (intentionally) inaccurate mimicry; the *Duet for Cello and Orchestra* is (somewhat) accurate in its mimicking, though an exact recognition of the source is not important; *Round* relies on an (attempted) accuracy of mimicking and plays with the use of recognisable material. Each piece mimics, and each is transformative, to a greater or lesser degree, in its transfer of musical experience from one medium or context to another.

1.1.1 Context: Transcribing as Mimicking

A discussion of transcribed music in the first camp is further enriched by examining the reasons behind the mimicry. Two composers who play with recognisability and voice, in very different ways, are Peter Ablinger and Henry Flynt. Ablinger's use of grids, which turn the qualities of a recorded voice into quantifiable data, is not unlike the computer-listening tracing-transformation I employ. Flynt's deep engagement with the specificity of gestural vocality, acknowledging the history of transmission of performance practice (and the knowledge it carries²), is precisely aligned with the motivation behind my acts of mimicry.

Peter Ablinger's series of 'speaking piano' pieces, *Quadraturen III* (2006), involves translation of recorded voice from one medium to another. Though the source material is indeed transformed through Ablinger's translating processes, the play of recognisability of material, rather than a generative or reflexive quality of transformation, is the primary aspect of the work. Ablinger describes the making-activity of the works in his *Quadraturen* series as 'reproduction' (i.e., mimicking) of a source recording:

² I refer here to the concept of a 'song as epistemic object', which is discussed further in Section 1.0.2.

- (1) The first step is always an acoustic photograph ("phonograph"). This can be a recording of anything: speech, street noise, music.
- (2) Time and frequency of the chosen "phonograph" are dissolved into a grid of small "squares" whose format may, for example, be 1 second (time) to 1 second (interval).
- (3) The resulting grid is the score, which is then to be reproduced in different media: on traditional instruments, computer controlled piano, or in white noise.

The reproduction of "phonographs" by instruments can be compared to photo-realist painting [...] the result of the transformation is not so much a reproduction of the original but an approach to or a *situation of comparison* between instrumental sounds and the original sound source. [...] the original source approaches the *border of recognition* within the reproduction. [...]

Actually however, my main concern is not the literal reproduction itself but precisely this *border-zone* between abstract musical structure and *the sudden shift into recognition* [...] [emphasis added] (Ablinger, 2006, paragraphs 1–4)

This 'border-zone', the play of recognition, is a prominent feature of this series of works. One hears that a transformation, a translation, has taken place, but the attention is drawn first and foremost to one's experience of recognising (and/or not recognising), a recognising which fluctuates constantly throughout the piece. On the other hand, the mode of transformation, while essential to the piece, is static throughout. In my work *Round*, the mode of transformation is likewise static, and the recognisability of source is more prominent in the listening experience.

The works in Henry Flynt's album *Hillbilly Tape Music* (2003), though not notated, have been of great influence to my understanding of performance practice. These works reference entire and specific worlds of American performance practice as a type of source material, mimicking them with remarkable precision.

I consider these works to be in the first camp (emphasising copying), but for a different reason than the speaking piano pieces of Ablinger. For Ablinger, the reason for capturing a voice is the play of recognisability; for Flynt, the reason for capturing this performance practice is to participate in its vocality. His work pulls my ear and body with an empathetic listening experience (more has been said about the terms ‘vocality’ and ‘empathetic listening’ in Section 1.0.2).

This felt-presence of the physical body is a feature of performance practice, traditionally outside of the pitch–rhythm lattice of notation. Flynt describes such elements of performance practice as ‘incommensurate’ with this lattice, and with the context of its use:

[...] I assert that the objective sound elements of blues and country music are demonstrably incommensurate with the categorization of sound in European musicology—as for example in the use of an unaccented glissando on the beat as a “note”—and in non-arithmetical division of the beat. (Flynt, 1980/2002, paragraph 20)

He goes further to describe ‘academic tone-play’ as ‘abominably impoverished and dehumanized’. (Flynt, 1980/2002, paragraph 39). From these quotations, and more importantly from his music, I understand that his topic of study (or topic of participation) is the humanity of a musical experience. The ‘unaccented glissando on the beat’ is, for Flynt, the opposite of ‘impoverished and dehumanized’—this gesture of performance practice (this epistemic object, carrying a long history of transmitted embodied knowledge) is a richness, a humanisation.

Flynt did later experiment with notating this music, explaining that he ‘modified European notation extensively to make it applicable’ (Flynt, 1980/2002). This need for modification implies an order in the creating-process, one that provides a simple definition of transcribing:

to start from listening-based activities (for example, to listen to recordings of live musicians for their *qualities*), and to move, only afterwards, to staff-based activities (for example, to work with independent parameters separately for their *quantities*). This order not only defines transcription, but also shows that the process of transcribing can arise naturally from a ‘participating’ attitude towards composition (as opposed to a ‘building’ attitude, as discussed above in Section 1.0.1), a participation in a ‘humanisation’, a voice, or vocality.

The music of Henry Flynt has also been of great significance to me for its use of repetition, and, specifically, in the relationship of repetition to vocality and melody. I return to a discussion of this relationship in Section 2.1.

1.1.2 Context: Transcribing as Transforming

In the second camp (works which emphasise the nature of the transformation), the reasons to draw attention to transformation are likewise varied. Three works of G. Douglas Barrett exemplify three different motivations: foregrounding the act of listening, drawing attention to the act of transporting of sounds between contexts, and featuring the transformation of character and identity. Meanwhile, the work of Michael Finnissy calls attention to his imagination and craft, as a portrait artist might call attention to the act of painting. My work *About Bach*, for example, calls attention to my imagination and craft, revealing more about my choices regarding the transformation of material than about the source itself.

A Few Silence (location, date, time of performance) by G. Douglas Barrett (2008), in which participants transcribe environmental sounds they hear in the room and then perform from their own transcriptions, draws attention to the personal-social act of listening and of transcribing itself, in a way in which the recognisability of material is not necessarily

paramount. Likewise, his untitled composition for the orchestral workshop at Ostrava Days 2009 serves to highlight personal–political aspects of transcribing. For this work, he notated for orchestra the environmental sounds of several American city street corners, bringing attention not necessarily to the recognisability of particular cars or other sounds, but primarily to the nature of translation from one context to another, to the social-political act of re-resonating quotidian material of the street through expensive European instruments.

Barrett's work *A Few Marlenes* (2010) involves three performers who, in turn, silently mimic film stills of a singing Marlene Dietrich. While watching, my attention is drawn to performance character, to gendered caricature, and to the austerity and intentionality of the highly repetitive act. The transformation (caused by the inaccurate mimicry) generates an ever-changing mix of identities, an uncanny combination of Dietrich and the performers. This border-zone is intriguing, not for a recognition of Dietrich, but for the hybrid personas that emerge.

The work of Michael Finnissy provides a clear example of transcription which is neither copying nor quoting. The recognisability of his material can be interesting, often not for the play of recognition but for the enigmatic relationship of that material to Finnissy's imaginative writing-through and writing-away from it. Finnissy's ideas and music form the central influence to my transcription practice, as it has developed in earlier works and in the works submitted here (some of my earlier transcription works are discussed in Section 1.1.4).

Ian Pace, in the lengthy notes to his recent recording of Finnissy's *The History of Photography of Sound*, summarises the work's relationship to the notion of quotation:

'But it is perhaps most important to stress the difference between the *History* and a postmodernist kaleidoscope, such as one might find in the music of some others who

I would characterise as musical tourists or consumers. Finnissy is not happy with simple pluralism, diversity and exoticism for their own sake, but in Joycean fashion searches for axes of similarity as a means of making sense of the otherwise bewildering diversity of the world around him. In the end, whilst the range of material and the means used to transform it are of huge interest in terms of the study of compositional technique, the meanings engendered by the piece are more a result of the broad categories of material he thus obtains. This provides a framework within which to explore his subjective preoccupations, a form of subjectivity which is neither oblivious of history nor wholly subservient towards it.' (Pace, 2013, p. 43)

Furthermore, to describe his own role as a composer, Michael Finnissy refers often to the portrait works of painter David Hockney. This analogy stands in contrast to the similar photography analogy used by Ablinger ('phonography', above). Though the distinction is not clear cut, the photographer (or photo-realist) invoked by Ablinger serves to capture an image, where the portrait artist (Hockney) invoked by Finnissy brings attention to the act of painting. In an interview I conducted in 2017 and published in the *CeReNeM Journal* (Miller, 2017), Finnissy describes his transcription practice in the light of Hockney's work.

[...] I wasn't going to do just a kind of 'decoration' of the original. I set my mind to actually composing with the material, pretty much as if it were my own, because by the time I'd made the choice of what to do, it becomes like the subject of a (well, here we go with our analogies, we're treading on thin ice here) portrait. Let's say I decide to make a portrait of you—as a photographer or as a painter—then, of course, you are the subject, and I'm not simply reproducing you if I take a photograph of you: I choose lighting, I choose an angle to photograph you from, because my view of you is not your view. [...] You can read any number of quotations from Hockney about this aspect of portraiture, and how the amount of work that you have to do, as a portraitist—the hours of sitting, the hours of looking at somebody's face—is very different from photography, not that it's any less or any more, but it's just different. (Finnissy, quoted in Miller, 2017, p. 58–59)

Later in the interview, he explains further:

The thing about the Hockney print up there [on the wall] is the extent to which you're not seeing what is depicted, because if you say "it's a road with trees alongside it, end of story", that is about 0.001 percent of the content of that painting. It's actually about painting. If I tell you that something is called Alkan-Paganini, it's about 0.0001 percent about Alkan and Paganini. Even though the amount to which I'm quoting Alkan and Paganini in the same way that Hockney is 'quoting' a tree—that's certainly there. But any sense that it was actually 'by' Paganini or Alkan [is] long gone. That's not the point; that's not what I'm doing. I'm not transcribing in order to reveal what's there already. (Finnissy, as quoted in Miller, p. 62)

In the programme notes for his *Verdi Transcriptions* (Pace, 2013), Finnissy lists several artworks that are based on others, including Picasso's *347 Gravures*. He describes the *Gravures* as, "derived from"—fantasised out of and away from—Velasquez' *Las Meninas*, and forming an erotic circus where you watch the artist watching his model.' Listening to Finnissy's music, I witness the flight of his imagination as it relates to his source material, as it derives from it. In this poetic sense, in my own transcription work I also expose the relationship of my imagination to the source material, as if I am inviting an audience to watch me as I watch my model.

In summary, as an illustration of the importance of both the mimicking and the transforming features of my transcription method, I give an excerpt of a conversation had during a composition lesson with Finnissy in 2012, while I was working on the piano work *Philip the Wanderer*. I was struggling with the very complex rhythms that computer-listening had generated from a source audio file, attempting to simplify the rhythms so as to render them idiomatically playable. Finnissy pointed at my complex rhythms, saying simply, 'now, those I find interesting...'. This comment sent me down a path toward the complex rhythmic notation

used in that piece. These transcribed rhythms not only mimicked the source material, with fetishistic accuracy, but also—due to their new existence in the medium of notation—served as a permutable parameter with a rich potential for compositional transformation.

1.1.3 Transcription Template

Before discussing the submitted pieces individually, a summary of my transcription method is useful. Each of the notated pieces in the portfolio was made using these steps. Moreover, detailing the steps of this method provides important points of comparison and contrast between transcribing and automatic singing, which are explored further in Section 3.1.

The steps at the core of my transcription method (Figure 4) can be simplified as *input (source recording)*; *transformative mimicking (notating)*; *output (transcribed melody)*.

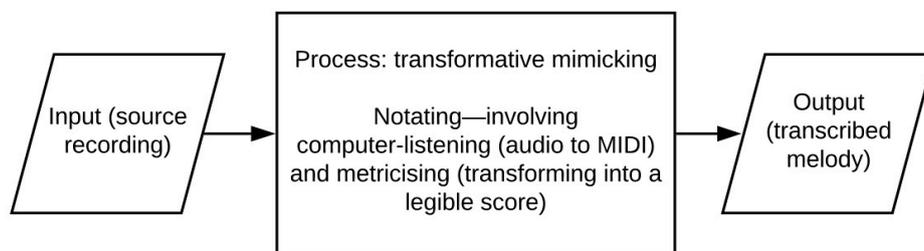


Figure 4: Transcription, simplified depiction of core process

This basic transcription template outlines the transforming-mimicking action. However, this actions is only the first stage of the making the notated works. In a second stage—which I call ‘com-position’—I work further with the material resulting from the transcription process, engaging with musical tools such as repetition, focussing-in, and accord (each of these tools is discussed further in Section 3.1). I hyphenate the term com-position to invoke its Latin etymology (from *componere*, to ‘put together’), distinguishing this stage from the previous

mimicry stage. A more accurate depiction of the transcription method involves both phases, as in Figure 5.

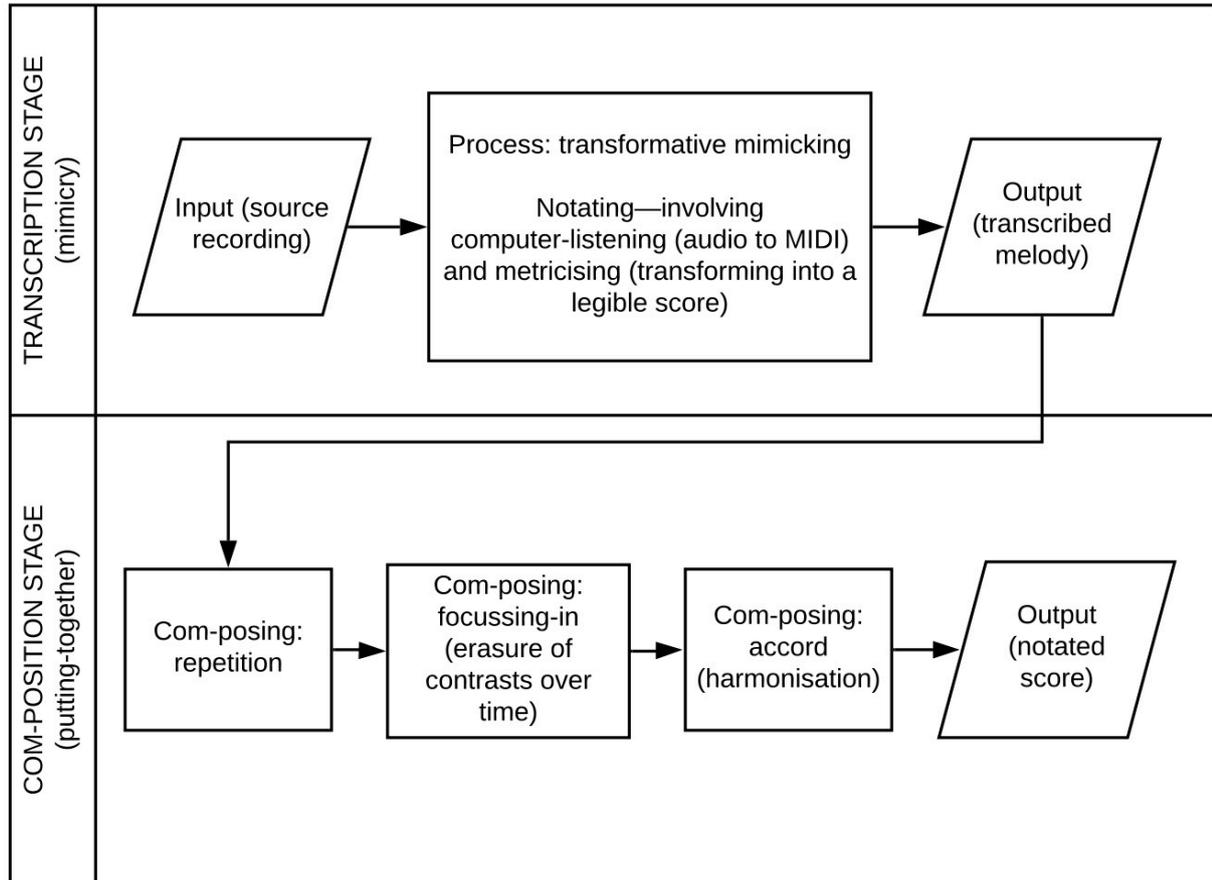


Figure 5: Transcription, full method template

1.2 Method 2: Automatic Singing

I coin the term ‘automatic singing’ to refer to the activity of listening (in headphones) to a recording while attempting to sing-along to that recording in real time, often while distracted

by a mental task such as a body-scan meditation. The resulting audio is then recorded, holding the potential for further soundings and listenings.

Section 1.2.1 serves to contextualise my use of singing-along, automaticity, and meditation, and introduces a particular definition of agency. Section 1.2.2 further contextualises automatic singing by discussing process-led work and post-notation practice. The method's template is shown in Section 1.2.3, followed by a brief overview of the method's development through the portfolio works.

1.2.1 Context: Singing-Along & Automaticity

Singing-Along

I use the term 'singing' as shorthand to stand in for all kinds of vocalising: sighing, moaning, crying, uttering, sputtering, and so on. I have chosen to use the term 'singing' instead of the more accurate choices of 'voicing' or 'vocalising', for two reasons: first, to avoid confusion ('to voice' can imply the adding of pitch to a fricative; 'vocalise' can bring to mind a Romantic era 'Vocalise'), and second, to signify that this method concerns itself with melody, and with the melodic potential of all types of utterance.

The '-along' part of this term implies both mimicking and transformation. To sing 'along' is to attempt to mimic in real-time, and this real-time aspect means that one can never accurately replicate what is heard. The transformation also takes place as a result of the properties of the voice of the mimicker, always differing from the recorded source. In cases where I sing-along to a recording of my own voice, or when I execute a singing-along exercise multiple times in a row, even in these situations I am different in each moment of singing. I am making an utterance that is unique to myself on that day at that time, and with the new knowledge learned in each previous iteration. To sing 'along' does not imply copying,

quoting, or stealing, but instead implies a togetherness, an accord, an attunement; a listening, an empathetic physical response, and—originating from that response—a participating, an expressing alongside.

The sing-along to audio in headphones, as the basis for performance, is not my invention. Several composers have directly influenced my automatic singing work, including Louis d'Heudières (his *Laughter Studies* (2016) involve both imitating and describing what is heard in headphones), Jeremiah Runnel's *Diplomatic Immunity* for orchestra (2011) involves not singing-along but playing-along to headphone audio), Sasha Zamler-Carhart (in whose cantata *Sponsus* (2012) singers memorise and mimic precisely a recording of the composer's voice, without headphones), and Tim Parkinson (sections of his opera *Time with People* (2013) involve singing-along, playing-along, describing, and other reactions to headphone audio). I consider myself to be working in the same field as, and participating in a conversation with, this community of practitioners.

The composer performer Ghédalia Tazartes provides a significant point of influence for me. He coined the term 'impromuz' (Kumpf, 2017) to refer to his studio practice of composing, in which he works with loops and collages of recordings of improvised vocal reactions. He has expanded this practice to include on-stage performances, involving pre-recorded audio played loudly through speakers to which he reacts in real time with a unique style of improvisatory singing. Similarly, my studio practice of composing with recordings of my own vocal reactions (as in *So Close #1* and *Traveller Song*) led to on-stage vocal reactions and contextual improvisations (as in *So Close #2*).

Automaticity

In general parlance, the word 'automatic' describes an object or action which runs (performs) on its own (unattended), with little or no intervention or control. I use it to denote a practice which follows from technique that is unattended. Similar words alternatively could describe such a practice, for example, 'reflex', 'impulse', 'reaction', 'unconscious', 'uncontrolled' or 'distracted'.

In my practice, the mechanism by which singing can become automatic involves listening to headphone audio and conducting a body-scan meditation. The headphone audio is listened to in closed headphones, at a volume at which I cannot hear my own voice. As a result, my attention cannot alight on any conscious choice to sing-along in a particular way, such as any prescribed or inherited definition of 'singing well'. My voice, from my perspective in the moment of singing, is the sensation of voicing rather than the sounding result.

At the same time as this singing-while-listening, the performer executes a body-scan meditation. A body-scan meditation is a common exercise within the practice of Mindfulness Meditation, in which the performer brings her attention to the interoceptive sense, giving her attention to each part of her body in turn. This task requires intense focus, as well as a constant re-focussing. This type of meditation is designed to disable (or lessen) one's attempts at control or intervention, to instead allow acceptance of sensation and an awareness of corporeal presence. Distraction combines with a lessening-of-intervention to create an 'automatic' experience of voicing.

Two works in particular of Robert Ashley and Pauline Oliveros were of particular influence to me in my interest in automaticity. In his work *Automatic Writing* (1979) Robert Ashley recorded the unconscious mumblings arising from his own Tourette's Syndrome. Ashley

described the recording as incredibly difficult to make—when he would turn on the microphone, his attention would shift toward his own mumbblings, which would then no longer arise. The work took several years to record.

In her solo performances of *Rose Mountain*, *Slow Runner* (as filmed in Ashley, 1975–6), Pauline Oliveros makes musical decisions in real time from a place of meditation rather than of conscious choice. As Oliveros explains in interview with Robert Ashley (in *Music with Roots in the Aether*, 1975–6), this type of meditation differs from improvisation in the degree of conscious intervention.

I was involved in improvisatory works [...] I found myself making intentional sounds. I was intended to make a certain kind of music. However, I gradually became more and more interested in the process of listening, and there came a time when I was no longer improvising, but I was attending to the task. I call it meditation because I was dwelling and staying with a particular thing, and, as I say, trying to lose my intentions in order to find a different mode.

Meditation

Meditation as attending to a task can take many forms. When beginning working with the automatic singing method I used body-scan meditations which engage with the interoceptive sense in an attentive focus on the sensations from the inside of each part of the body in turn.

Automaticity and Agency

An understanding of the notion of sedimented technique will prove important to my discussion of automaticity above (Section 1.2.1). It forms the crux of this dissertation, as it was pivotal to my comprehension of the personal transformations that arose from the work in Research Phase 2.

This definition of technique-as-knowledge includes not only technique that one calls upon with conscious intention, but also areas of embodied knowledge that one carries even when not attending to them. Spatz refers to such knowledge as ‘sedimented technique’ (2015, pp. 50–56). For example, survival technique can be sedimented in infancy, such as knowledge of how to recognise hunger, knowledge of how to cry out for a parent’s help, or knowledge of how to perform one’s gender. These areas of technique can make up the elements of one’s identity, and can determine how one interacts with the environment. It can be possible to effect such ingrained embodied knowledge through conscious practice, and there can be a back-and-forth, a surfacing-and-sedimenting, between conscious and unconscious technique.

Spatz’s concept of unconscious (sedimented) technique is similar, though not identical to, Judith Butler’s ‘performativity’ and to Pierre Bourdieu’s ‘habitus’ (2015, p. 51). Spatz agrees with their descriptions of unconscious technique, but shifts the emphasis away from any divide between conscious and unconscious technique and towards the commonality between them. Each, according to Spatz, are forms of technique, located on a spectrum (rather than a divide) between consciousness and unconsciousness.

‘...epistemic practice involves a continuous and mutually constituting transformation, back and forth, between the two categories of conscious and unconscious knowledge, or what one has (knowledge) and what one is (identity)’ (Spatz, 2015, p. 51)

He also refutes the implication that one’s agency lies only in conscious technique, and that unconscious technique constitutes a lack of agency. Agency, he claims, can emerge from the interplay between conscious and unconscious technique. I posit here that my use of automatic singing is a way to attend to sedimented technique, to enable this interaction

between what is sedimented and what is not, and that this action is important to personal agency. As Karen Barad writes,

Agency is not an attribute whatsoever—it is “doing”/“being” in its intra-activity. Agency is the enactment of iterative changes to particular practices through the dynamics of intra-activity. (Barad, 2003, pp. 826–827).

1.2.2 Context: Process-Led Work & Post-Notation Practice

I use the term ‘process-led work’ to refer to work carried out in a way that values and prioritises the experience-of-making over the object made. In other words, the reasons for something to be made—and the process which makes it—are governed by the needs and desires emergent from the experience-of-making, rather than by a vision for a fixed end product. Each step of the process generates the need for the next step, and only eventually does it become evident that an artefact of this process can be shared with others in the form of a concert performance, a shared recording, a video, a text, or a score. When methods emerge in process-led work, unpredictability of outcome is built into these methods. It is an experimental model; the ‘piece’ derives from the ‘experiment’ of an unpredictable process. Most experimental music is process-led, even when not labelled as such, and this term is not one with strict boundaries. Rather, it denotes an interest, a direction, and for me in recent years, a magnetic pull.

When I engage in process-led work, I am working in the same field as Éliane Radigue and Pascale Criton, two composers who work with performers over long periods of time (from months to years) to create a musical work, usually without musical score (Nickel, 2016). These two composers retain the composer role in the sense that they give instruction. However, the instructions grow out of the interaction with the performers, and out of the

needs of both performer and composer. In my work with Silvia Tarozzi and Juliet Fraser, I use the word 'collaboration' to denote this fertile sharing of needs, discovered moment-by-moment through the making-process.

The primary influence on my path toward process-led work is that of visual artist Angela Guyton. Her essay entitled *5 Spheres* (2011) discusses her practice of making improvisatory paintings in live concert settings. In the essay, Guyton explores the multiple overlapping ways in which these paintings exist, considering the experiences of the performer (Sphere 2) and of the audience (Sphere 3) during a performance, and the ways in which the painting becomes an object (Sphere 4), which include the experiences of an audience aware of the performance, and an audience not having attended the performance. The other spheres relate, in ways too intricate to be summarised here, to an infinite outward non-interaction or non-influence (Sphere 5) and to an infinite, fractal-like personal-social interaction and transformation (Sphere 1).

Guyton's improvisational painting practice has influenced my understanding that an artwork is the confluence of many experiences. This understanding opened the door to my interest in process-led work, not as an academic category but as a rich web of almost mysterious connections between spheres of an artwork's existence. I sought to find the connection between the experience of making music (in my role as composer), the experience of the performer (in making, and in performing), and the experience of the audience (both those aware of the process of making, and those unaware). This searching created the process-led pieces in this portfolio, and continues today as many of these connections remain, to me, mysterious.

Post-notation composition practice

The process-led work touched on above by Radigue, Criton, and d’Heudières, needs no notated score. The absence of score, however, implies more than simply a lack of practical need. In each of these cases, the composer retains her or his role of the one-giving-instructions-or-directions, and the work retains a mark of composerly identity. These compositions are not improvisations, in the free sense, and the composer is very much present in the process as creator or co-creator.

For these reasons, I consider this type of work to be best described as a post-notation practice rather than simply a non-notated practice. The performances tend to exist within the functional economy of music festival and chamber music concert—a field developed over centuries through the existence of notation. The post-notation works I mention, while existing within this field, challenge the dynamics of authorship and product-hood (and by association, power and control) inherent in that composer–performer economy. The knowledge which structures the practice is co-created, transmitted from one body to another through direct real-time experience.

Project vs Artefact

The post-notation practice involves ‘projects’ which produce ‘artefacts’. This nomenclature is, in referring to the work, more accurate than the term ‘composition’. The term ‘composition’ is a noun, and carries the implication that the creative process is complete. The process-led projects discussed in this document are continuing projects, and the submitted documentation (audio, video) are artefacts or offshoots of the primary stem, as are all performances. For simplicity, I often refer to these artefacts as ‘pieces’, however, the primary focus is the project. The ‘work’ is the process and is the collaborative relationship.

It is important to note that the collaborative process in this regard involves more than my relationship with the performer. The creation of the submitted artefacts often involves a documenter, a third collaborator in the project. Filmmaker Angela Guyton created the video documentation for *Tracery : Lazy, Rocking, Tracery : The Slits*, and the documentary of the making of *Tracery : Attending to a task*. As an artist, her views informed the work immensely, and her role cannot be understated.

1.2.3 Automatic Singing Template

In summary, following from the deliberation above on the words ‘automatic’ and ‘singing-along’, the most accurate description of this process might be ‘immersive headphone listening / interoception-focussed meditating / distracted lessened-control vocal tracing’. However for ease and simplicity, the shortened phrase ‘automatic singing’ is intended to carry these detailed connotations throughout this document.

‘Automatic singing’ stands for one of two things: either a single moment of singing-while-listening-while-meditating (as in the ‘core process’ template, Figure 6), or, more often, for the entire making-process (as in the ‘full method’ template, Figure 7).

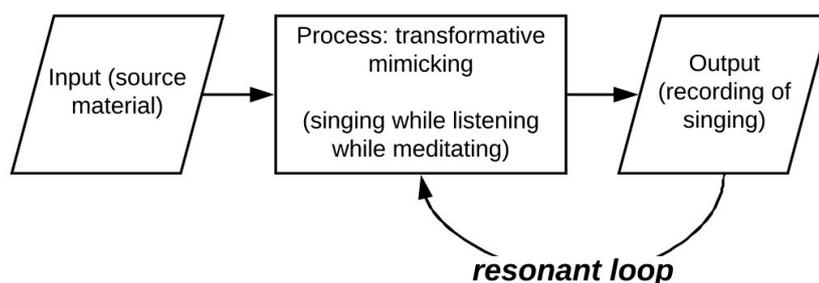


Figure 6: Automatic singing, simplified depiction of core process

The full method includes the preparation of headphone audio for the aforementioned moment of singing-while-listening-while-meditating, the moment itself, the recorded output of that moment, the layering of that output into a canon, the use of that canon as input for another moment of singing-while-listening-while-meditating, and the resonant loop that results from multiple iterations of these steps. It can also include the compositional preparations for a concert performance, the performance itself, the documenting of that performance, and the evolution of the method between working sessions and performances.

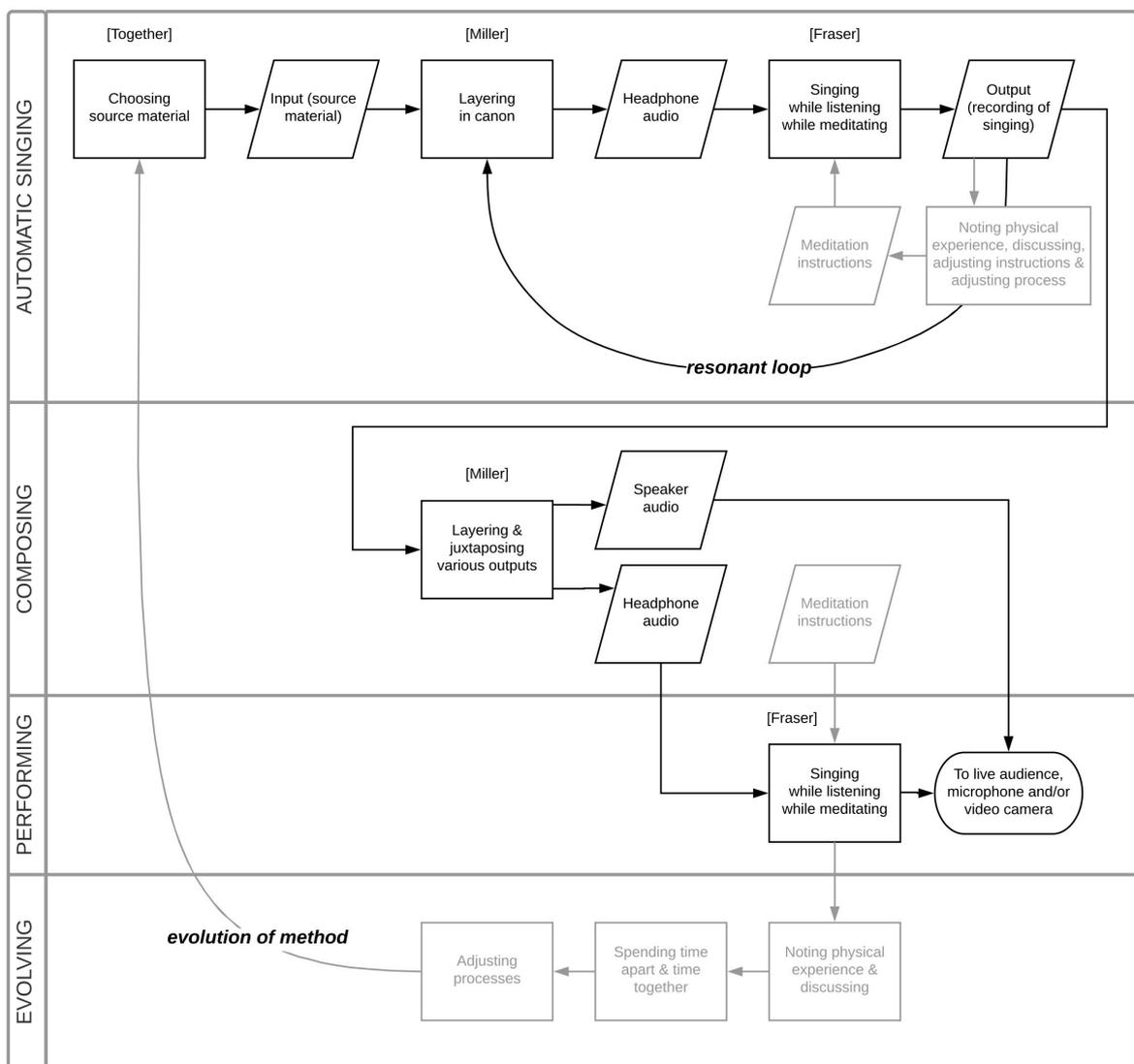


Figure 7: Automatic singing, full method template

Chapter 2: Commentary

The commentary which follows narrates the development of the methods, discussing the significant contributions or changes that each piece makes to the two methods, or to the musical language topics discussed above, rather than giving a step-by-step accounting of the making of each piece. As a result, some of the sections below are lengthy, others short.

The goal of this commentary chapter is to prepare the reader for the conclusion chapter that follows, which looks at responses to the Guiding Questions: *What knowledge structures my practice of notating? When notating is cast aside, which areas of technique replace it? How can one describe the knowledge that structures my non-notated or post-notated compositional practice?*

2.1 Research Phase 1: Notated Work (Transcription)

Section 2.1 examines the contributions of the notated works (*About Bach*, the *Duet for Cello and Orchestra*, and *Round*) to the evolution of the transcription method. Attention is given to the embodied technique that structures the action of notating, to the investigations each piece makes into the relationship of repetition to melody, and to the tools of ‘focussing-in’ and ‘accord’.

2.1.1 About Bach (2014)

String quartet: 24’30”

About Bach is a notated string quartet, 24 minutes in duration. It grew out of a composition for solo viola, of the same name, commissioned for the violist Pemi Paull. For the purposes

of this commentary, the version for solo viola is considered a preliminary version of the finished composition. I refer to this earlier version as *About Bach for Solo Viola*, and to the string quartet version simply as *About Bach*.

See digital file 'Portfolio_*About Bach*'

Portfolio: About Bach. Quatuor Bozzini. Recording produced in 2018 by tonmeister Stephan Schmidt, for the disc 'Just So' (at129), a joint release of the labels *collection qb* and *Another Timbre*.

Summary of Research Intentions & Outcomes

About Bach explores the metricising process, developing a refined approach to meter and gesture. A detailed description of the metricising process is included in order to bring attention to the embodied knowledge that structures the practice of notating. The transcribed material is subject to a procedure of subtraction which is designed to retain the melodic grammar of the original transcription. This procedure is described below in order to show the richness of permutation possibilities arising from transcribed material. As these two topics are significant to the overarching discussions of technique-as-knowledge and of repetition-to-vocality, *About Bach* warrants a lengthier commentary section than others.

The transcription method used in *About Bach* follows the model found above in Figure 4 of Section 1.1.3. Of the various steps shown in that flowchart, the Transcribing (metricising) and Composing (repetition, accord, and focussing-in) processes will be described here.

Transcribing

The source audio for the transcription process is a short excerpt, a slow and simple chorale, of a recording of the Chaconne from Partita No. 2 of J. S. Bach, as performed live in 2009 by Pemi Paull (2009), the violist for whom *About Bach for Solo Viola* was written.

Choosing Source Material

I chose this excerpt for the voice-like phrasing and resonance which Paull brings, and for its pacing, which is full of pushes and pulls. The performed durations bear little resemblance to Bach's written rhythms (Figure 8).



Figure 8: Chaconne, Partita no. 2, J. S. Bach

See digital file 'Audio Example 1_Pemi Paull'

Audio Example 1: Pemi Paull, live performance recording, Partita no. 2, Chaconne, J. S. Bach (excerpt)

Computer-Listening

The first step of translation, audio-to-MIDI, took full advantage of the idiosyncratic properties of computer-listening. I converted the recording 'Audio Example 1' (above) to a MIDI file, which allowed for the capturing of elements that my computer could hear more accurately than I. Melodyne (in its 'melodic' setting) provided a single note for each change of pitch that

the computer perceived. These changes-of-pitch included each new note played by Paull (capturing the precise durations of Paull's unique phrasing), as well as any change from fundamental to upper partial as Paull brought out the resonance of each note.

This translation step traced, as a monodic line, the various vertical (simultaneously ringing) harmonic elements of the source recording. The chorale, as notated by Bach, contains dyads and triads, which were performed by Paull either as broken chords or as simultaneous harmonies, in accordance with accepted performance practice. In addition to this type of harmonic content, the play of partials, though interpreted by our ears as single notes, constituted an evolving polyphony in the resonant reality of the performance space. Melodyne translated each of these types of harmony into single pitches by choosing the most prominent note or partial at every given moment. More often than not, the computer heard the first and occasionally second partials as more prominent than the fundamental, leaping between them.

The result of this audio-to-MIDI translation was a rhythmically active, melodically angular line with many unexpected leaps (see Audio Example 2). Quite different in appearance from the original, this MIDI translation remained consistent to and consonant with the harmony and rhythm of the source recording. This transformative step did nothing more than trace the features of the audio file, quantifying and simplifying its qualities.

See digital file 'Audio Example 2_MIDI'

Audio Example 2: MIDI file, audio-to-MIDI translation of Audio Example 1

Metricising: Embodied Knowledge of Rhythm

The file that resulted from the above process, when opened in notation software (Finale), would have been unusable as notation to a performer, principally on account of the illogical relationship of rhythmic duration to meter and bar line (see Figure 9). This second translation step, the mapping of durations, was needed to address this problem.



Figure 9: Finale file, import from MIDI file (Audio Ex. 2)

The first challenge was to find a basic unit on which to base my quantisation. Through a long trial-and-error process of many weeks, I searched for metres which encouraged a movement and emphasis—bar lines which would dance, both with and against, the phrasing of the melodic material. First, I opened the MIDI file in Finale such that I could see no metre or groupings, only strings of semihemidemisemi-quavers (128th notes), as in Figure 10. I then clumped these together to see the potential metrical mappings emerging from different basic units for quantisation: groups of three, four, five, seven, eleven, or thirteen semihemidemisemi-quavers, etc. In this process, I always retained the exact durational proportions of the MIDI file, changing only how these durations fitted into measure and metre.

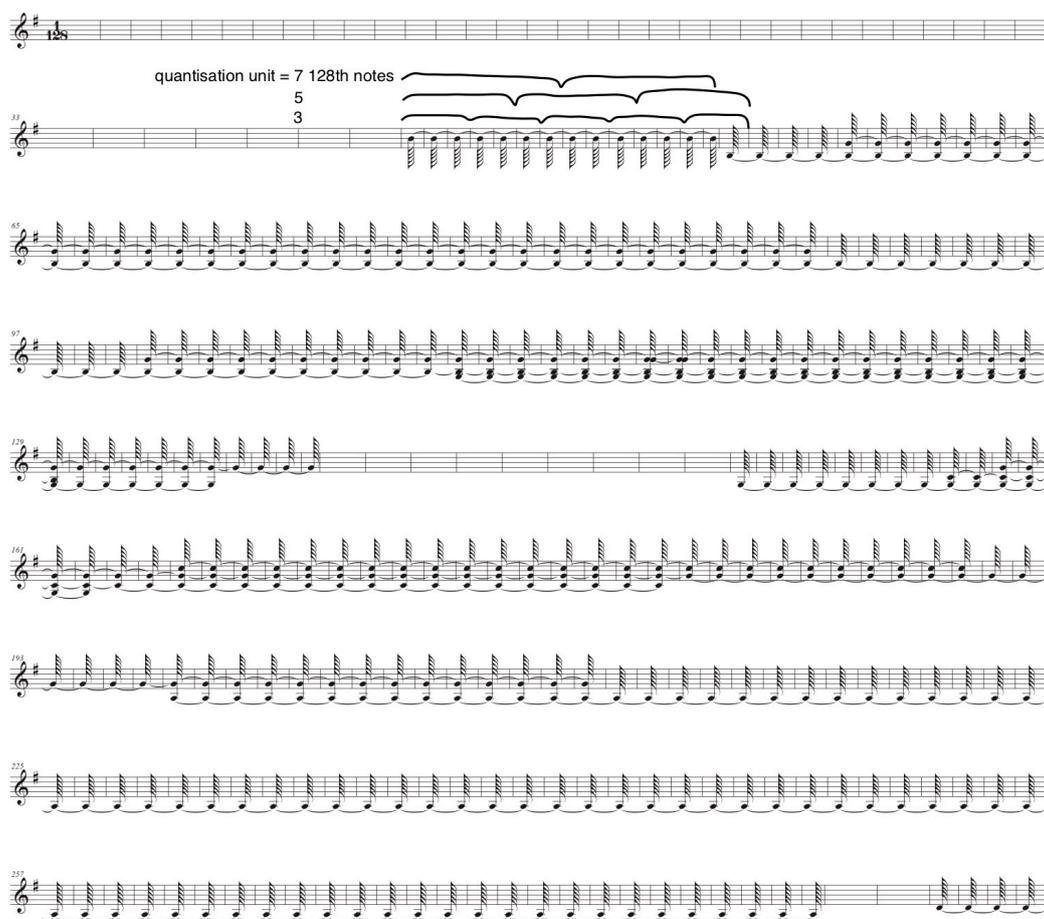


Figure 10. Finale file, import from MIDI file (Audio Ex. 2), in time signature 1 / 128

The next challenge was to build, based on a chosen quantisation unit, duration-to-metre relationships of danceable charm. I wanted the notation to invite a sense of light lifting, never heavily landing, for a melody always on its toes, so as to reflect the forward-ringing, savouring, upwards quality of Paull's performance. My rhythmic choices were made to balance lightness of movement on one hand with simplicity of reading on the other, both essential to lightness of performance.

To create lightness of movement within each phrase, I avoided placing on downbeats those events which I term 'landing' pitches, that is, longer notes on naturally emphasised mode-degrees, or pitches following a large leap. For example, the first 'landing' note of the melody (i.e., the second note of the piece) is placed just before the first bar line, lifting over it, creating a suspension-like movement (Figure 11). The subsequent measures begin with a quick lilting appoggiatura-like gesture, a short note leaping up to a longer one, as an upwards-lifting first step of a French baroque dance (Figure 12). In the opposite direction, landing pitches at the ends of phrases fall gently on a weak beat, usually the second beat of the measure (Figure 13). The last (and lowest) note of the melody falls just before the second beat, removing all possibility of a heavy landing.



Figure 11: First gesture of melody (mm. 1-2), suspension-like movement

Figure 12: Short notes on the beat leaping up, appoggiature-like gesture (mm.1-16)

Figure 13: Phrases end by landing on a weak beat (mm.1-16)

Ease of reading was an important factor in the lightness of motion that I intended. I therefore subtly simplified the look of the rhythmic notation to indicate that the energy of the line was to come from its ringing resonance, rather than a complex-looking notation indicating an intense drive forward. Only at this point did I change the precise durations provided by the computer-listening, by using triplets or grace notes to denote durations of less than a semiquaver (16th note), and avoiding any other deviations.

I have explained the full detail of this rhythmic mapping to show my notation process to be rooted in embodied knowledge, that is, knowledge of my own body's sensations of rhythm while performing from a score (previously as an instrumentalist myself), as well as the knowledge of empathetically listening while watching bodies as they play string instruments (in particular, the bodies of Paull and of the members of the Quatuor Bozzini). This embodied knowledge also structured my process of making this transcribed phrase physically playable for a solo string instrument (a process involving transposing pitches, allowing some to ring while others cutting others short, allowing double stops where appropriate, and so on).

The result of this full transcription process, the first long phrase of *About Bach*, is both stable and unstable with its suspending lightness of motion, and is both satisfyingly consonant and strangely unpredictable, lending it to a breadth of possibilities for the next compositional steps.

Com-posing

About Bach for Solo Viola uses this transcribed melody as its first statement, then develops it through repetition and focussing-in. The quartet version of the piece then builds on this

viola version by harmonising the melody with a faux bourdon homophony, and by adding the additional layer of a high repeating scale (as a cantus firmus or ground).

Repeating

In *About Bach*, an anti-developmental form is used in order to simply house the material and continue it. The full statement (transcribed melody) opens the work, and is then repeated, transformed by the process of subtraction described below, and then repeated again and again until the subtraction process has run its full course when the melody disappears, thus ending the piece. The music does not develop but simply continues. If following the process exactly, the statement would be transformed and repeated a total of ninety times, lasting roughly an hour. However, I felt that a shorter piece held my attention in a balanced suspension over its duration. After letting the process run its course, I deleted about half of the longer phrases according to my taste. The string quartet version contains forty-five repetitions (the viola version fifty-five).

Focussing-In

My intention with the process of subtraction was to recombine the elements of the transcribed melody, in essence to turn it over itself, so that the elements within it could present themselves continually afresh. I wanted to experience the charming play of the note-to-note gestures that this curious transcription could provide, in many combinations but without a sense of development, growth, emphasis or underlined direction. Though transformed, the statements needed to remain indistinct from each other, to retain a form without contrasts.

I devised a process to produce perceptually very similar material to the original statement, keeping the rhythm, phrasing, and up/down orientation of each gesture intact. I kept also the

pitch content similar from statement to statement, while very gradually subtracting it. The process held onto the rhythmic durations of the transcribed statement, while subtracting the first pitch (or first two pitches) of each statement. In other words, I shifted the pitch row back along the rhythmic row to create each successive statement.

To retain the up-down-ness of each gesture, I separated the transcribed statement into two 'voices' (see Figure 14), for an upper row and a lower row, and I performed the subtraction process on each row separately. In this way lower pitches remained in the lower voice, and upper pitches remained in the upper voice, allowing me to further keep the gestural characteristics of the original.

Specifically, the appoggiatura-like gestures of Figure 12 above are retained, the short notes on-the-beat always leap upward from the lower voice to the higher voice, even as the pitch rows shift through subtraction. Likewise, the phrases which end by landing on a weak beat (Figure 13) always land, downwards from upper voice to lower. In other words, the process made for an ever-revolving set of notes that nonetheless maintain a musicality that made sense, i.e., that maintain the melodic grammar of the original transcription.

Not only did the rhythm and pitch slip past each other, but also the upper and lower pitch rows slid past each other, because there were in total fewer notes in the upper pitch row than in the lower pitch row. This made for a constant variety of melodic order in the upper–lower pitch combination.

material and continuing it, allows my ear to stumble upon the charm of its details, my attention lifting then alighting on the play of the notes one to another in its own time with its own meandering in the present moment. The effect of listening to it over time is, for me, a way to discover its possibilities—to listen to the same gestures patiently, with freshness each time. In the indistinctness of each moment, there is no need to remember what has come before, and yet, recalling the quote by Margulis, ‘deliberate repetition powerfully signals intentionality, revealing to the external world the internal commitment of the participant’ (Margulis, 2016). This, then, is the essence of the listening technique transmitted (allowed) by this material: an observance of focussed intention in the memory-less moment, with renewing freshness.

The Canadian composer Martin Arnold, speaking about his works, describes the type of meandering engagement that can accompany an anti-developmental continuation form, such as in *About Bach*.

‘I am not at all interested in tracing narrative onto the movement of music and so I’m not interested in melodies that assert themselves as characters that develop. I care about continuation, not progression. I love music that continues; but, as my listening imagination moves through this continuum, it’s the detail that engages me, the specificity of how the melody meanders within the perpetual, continuing present; present because I’m not concerned with where things are going to go, what they’re going to become. And melody here isn’t just a succession of pitches; it’s texture-intentional and indeterminate-folding and unfolding. But I don’t want the detail to be declared—no quotation marks around anything, no underlining; I want to stumble on it on my sonic *dérive*.’ – Martin Arnold, liner notes to the album Martin Arnold: *Aberrare* (Quatuor Bozzini) (2011)

The duration of the piece, however, fatigues and patiently transforms the focussing of attention, and as a listener I feel the permission to leave the material and to return to it

again, without the need to attach to any particular moment. This balance of drifting and re-catching of attention changes throughout the length of the piece, and is vastly different for me each day and in each context. I observe my own ever-changing attention.

The constant continuation of self-similar (indistinct) material means that there are no contrasts throughout, save for the ending and subsequent lifting and re-beginning of each statement, which are subtly more recognisable than the rest. These gentle signposts bring my drifting attention back to the material. As a result of the subtraction process, these signposts occur more and more frequently, gradually from sixteen measures apart at the beginning, to two measures apart at the end.

The end of the piece is therefore a gradual freshening and refocussing, bringing attention to the warm detail of sound, and to the intentionality of the performers. It is neither about disappearance nor destruction nor decay, but rather it holds the generative potential to awaken to observation, to attend to the task of empathetic listening.

2.1.2 Duet for Cello and Orchestra (2015)

Full Orchestra (2+1-2+1-2+1-2+1, 4-3-3-1, 3, strings) and Solo Cello, 30 minutes

See digital file 'Portfolio_Duet'

Portfolio: Duet for Cello and Orchestra. Charles Curtis, Cello, with the BBC Scottish Symphony Orchestra with Ilan Volkov conducting. This audio recording is owned by the BBC and is used here by permission.

Summary of Research Intentions & Outcomes

This commentary section focusses on listening experiments, with a brief note on transcription. In the making of the *Duet for Cello and Orchestra* I create a set of listening experiments, laying the foundation for further inquiry into the relationship of repetition to melody. The transcription used in the *Duet* explores a relationship of the voice of an Italian folk singer to the sound world of an orchestra. This relationship allows for transcribed material which retains (through a procedure of addition) a sense of the vocality throughout its gradual variation.

Repetition Experiments

My initial line of enquiry began with the question, ‘what kind of material stands up to repetition in an orchestral context?’ I felt I had adequate experience to have a sense of what kind of material stands up to repetition in a chamber music context – for example, that minimal material can allow the listener a deeper focus – but I find in my own listening that focus is a very different thing in an orchestral setting. Minimal material seems to lie flat, without power, and there are too many distractions in that setting for the austerity that makes repetition in chamber music engaging. I hypothesised that an immersive, saturated sound world might instead allow for the engagement I desired, but I was unsure of how repetition would feel within this saturation.

The question of how orchestral material stands up to repetition then became the primary question of this piece. I set out by making numerous mock-ups, layering a ‘found’ orchestral excerpt on top of itself many times, sometimes slowing it down or speeding it up, and listening to the result. In my listening, I was searching for a sensory experience that would become deeper and more engaging across an extended period of time.

There follow some examples of the more successful of these experiments:

See digital file 'Audio Example 3_Webern'

Audio Example 3: Repetition experiment on Webern, Opus 21

This was perhaps too clear to be deeply mesmerising, and to my ear sounded too Feldman-esque.

See digital file 'Audio Example 4_Tchaikovsky'

Audio Example 4: Repetition experiment on Tchaikovsky, Valse Sentimental

I found this to be wonderfully mesmerising, but too referential.

See digital file 'Audio Example 5_Rachmaninoff'

Audio Example 5: Repetition experiment on Rachmaninoff, Symphony No 1 mov't IV

This example had a good level of energy, and this inspired me to focus on the trumpets in the Duet.

See digital file 'Audio Example 6_Miller'

Audio Example 6: Repetition experiment on Miller, Harvest

This audio was from a work of mine from 2001. Whilst also quite mesmerising, the material was a bit too dark to be flexible—I wanted brighter colours for a piece of this length.

From these experiments I learned some very specific things about how repetition works in an orchestral context (in terms of my own listening-engagement). Specifically, I was made aware of the importance of melody, of an overwhelming sonic saturation (as opposed to a chamber-like austerity), of a charming melodic line, and of a graspable or simple harmonic

repetition. I also became aware of the unimportance of speed changes (these were distracting), and the necessity of excluding recognisable melodies or overtly caricatured sound worlds.

In my experiments, the most successful in terms of engagement were either on one hand too recognisable/characterisable, or on the other hand did not have a melody that was as clearly defined as needed. I realised I had to look elsewhere from existing orchestral repertoire. I decided to focus on melody, looking for a source where the melodic contour could infuse the repetition experience with its properties.

It was then that I found the Maria Carta song, *Trallallera*. I discovered that the music could be layered on itself almost infinitely and the striving-to-the-top-of-the-phrase remained powerful even in a saturated context. I experimented with layering the material in different keys, so as to saturate the sound field chromatically, and this became the template from which I began to compose the piece. This chromatic saturation was inspired by Aldo Clementi's *Cent Sopris* (Clementi, 1999).

See digital file 'Audio Example 7_Trallallera rep'

Audio Example 7: Repetition experiment on Maria Carta, Trallallera (polytonal)

Transcribing

The process of transcribing the *Trallallera* is, in comparison to the transcription process in *About Bach*, quite simple. In translating the *Trallallera* to be re-embodied by orchestral instrumentalists, my aim was to capture the (freeing/flying) feeling of the effortless striving (soaring) to the top of each musical phrase, as combined the slight roughness of the singing style. The metricising and instrumenting processes relied on embodied knowledge of rhythm,

breath, voice, and instrument. One of my intentions in choosing this source material was to make an orchestral sound world related to the history and idiom of the orchestra itself. To this end, the Italian folk song makes for surprisingly fitting source material, seeming to make a cultural reference to the sound world of Italian opera (such as in the arias of Vincenzo Bellini with its links to Italian folk idioms), a reference I reinforce with my Banda-like use of brass (recalling Giuseppe Verdi's use of a Banda in many of his operas. This tradition-inspired idiomatic use of the orchestra allows for the instruments to resonate with full voice, in keeping with their most ingrained performance practice.

Addition Procedure

Similar to *About Bach*, the *Duet* employs a procedure for varying the transcribed material while retaining an element of its melodic grammar. I devised a repetition pattern that could expand the melody without it losing its energy and retaining its arc shape, as shown in Figure 15. With each iteration of the melody, I took the previous iteration and performed the repetition pattern again, creating self-similar phrases that approximately double in length with each iteration.

The transcribed melody, as groups of 2, 3, or 4 semiquavers (labelled A–H), is combined with the same groups in the reverse order, as follows:

A B C D E F G H
 G F E D C B A

Resulting phrase:

A G B F C E D D E C F B G A H

Figure 15: Melodic-cell addition procedure, Duet for Cello and Orchestra

2.1.3 Round (2016)

Orchestra (2222 / 4431 / perc (1) / single strings: 86553), 12'00"

Round is a notated work for a small standard-sized orchestra, with the string performers reading one-to-a-part. It was written for the Toronto Symphony Orchestra in 2016, and was subsequently performed in 2017 by the BBC Scottish Symphony Orchestra in Glasgow and Birmingham, and in 2018 by the Winnipeg Symphony Orchestra and the University of Victoria Symphony.

See digital file 'Portfolio_Round'

Portfolio: Round. BBC Scottish Symphony Orchestra with Ilan Volkov conducting. This audio recording is owned by the BBC and is used here by permission.

Summary of Research Intentions & Outcomes

The transcription in *Round* is the simplest of all transcription processes in the submitted portfolio, serving to decouple duration from meter in the transcribed result. This transcription and decoupling is discussed here briefly.

Transcribing

Round comes directly out of my work on the *Duet for Cello and Orchestra*. It is very simply a transcription of a repetition exercise used in the exploration phase of composing the *Duet*, Audio Example 4 found in Section 2.1.2. That repetition exercise layered and looped a recording of Catalonian cellist Gaspar Cassadó's interpretation of Tchaikovsky's *Valse Sentimentale* (version for cello and piano).

My goal was to reproduce Cassadó's soloistic vocality (mimicking the portamento and other aspects of vocally-inspired performance practice, relating to the singing of repertoire from the Romantic era), and his entrancingly idiosyncratic pushing-and-pulling of tempo and phrase.

In the transcription step—computer-listening—I was interested to only capture the durations of the rubato melody. I was not interested in the leaping artefacts of computer-listening to pitch and partial, for two reasons. First, I wanted the orchestral musicians to be able to relate to the resulting melody as soloists would to an idiomatic (Romantic) melody. Second, I wanted the sounding result of the composition to have a flow which matched that of the repetition experiment, which does not call for an addition of contrasts, complexity, or destabilisation. I was able to produce such a transcription (capturing rubato, and without computer-listening artefacts) by combining the use of the computer-listening output with the score of the original Tchaikovsky composition.

The task of mapping this transcription to meter was simple in comparison to other works discussed here. Although the source material is a waltz, the transcription here is mapped onto a 4/4 meter. A continuous regularity of metre was to become useful when I turned to making a canon from the material, as the canonic entries were each to be one bar apart (i.e., in regular two-second intervals). The regular length of each measure was therefore more important than any relationship of melody to bar line.

Therefore, measure in *Round* is duration, and meter, rather than determining pulse, is simply the result of pasting the melody onto the measures, onto these blocks of identical duration. In a more traditional context, metre would coordinate pulse as performers would move with synchronised intent under the baton. However, in *Round*, the pulse of each performer is

instead determined by note durations in her individual part, by phrasings and other markings, by her own embodied knowledge of performance practice, and by mimicking the performance practice of those around her.

2.2 Research Phase 2: Non-Notated Work (Automatic Singing)

This section looks at the devising, establishing, and developing of the automatic singing method (exploratory stage, *Undone*, *So Close #1*, the first three *Tracery* modules), followed by two works which come from the method, but depart from it (*So Close #2*, *Tracery : Attending to a task*).

2.2.0 Non-Notated Work: Exploratory Stage

The great shift in practice, from transcription to automatic singing, necessitated an exploratory stage of several months in which I searched for a new way to relate to composition. Through trial and error, this stage allowed for a first understanding of a process-led and collaborative way of working. Within this context, I made my first efforts with the process that I came to call 'singing-along'.

Summary of Research Intentions & Outcomes

The lasting outcomes of this exploratory phase were as follows:

- a. Creative conversations including instructions and responses, laying the foundation for process-led ways of working.

- b. The collaborative relationship built with violinist Silvia Tarozzi provided a prototype for the collaborative relationships to be formed with Jennifer Thiessen and Juliet Fraser in the following year.

- c. The first explorations of singing-while-listening-while-meditating provided the basis of the automatic singing method (as yet without canons), and the sensory knowledge of that experience structured the embodied research in the subsequent years.

Process-Led Experimenting, Collaborative Relating

When violinist Silvia Tarozzi proposed that we work together, I had recently finished the *Duet for Cello and Orchestra*, and was eager to pursue my grand shift in practice for the reasons discussed in Section 2.2.0 (Non-Notated Work: Exploratory Stage). I communicated my interest in developing, for the first time, a process-led way of working that would mature over several years, and Tarozzi responded positively to this idea. Tarozzi is an improviser and brings experience working closely with the collaborative post-notation composers Éliane Radigue, Pascale Criton and Pauline Oliveros (Tarozzi, 2014)

As Tarozzi was based in Vignola, Italy, and I in Huddersfield, our work took place over several multi-day meetings: October 2015 in Vignola, November 2015 in Huddersfield, and April 2016 in Vignola. To make a short summary of a large quantity of explorations: during these meetings we shared ideas and music, each talking about a lifetime of interest in voice, and between meetings we developed a communication of instructions for creative explorations. These instructions were sent to each other by email, resulting in responses to each other's instructions (and indeed to each other's responses) in the form of text, audio, or video files.

One set of instructions, from myself to Tarozzi, combined my interests in transformation and in vocality:

Choose a recording of a song that you feel some connection to. The choice of recording may be different or the same with each working session. Listen for the density of information encoded in the voice, for what you can tell about the singer's attitude toward the word or phrase as (s)he transforms it into sound. Make something that responds to (or participates in) that information.

As a response, Tarozzi collected a handful of favourite songs from throughout her life. Working through this list, she made a short text document for each that describes what she hears in the voice of a particular song. Tarozzi then recorded several short improvisations on violin, each inspired by one of these text documents.

She titled one of these improvisations *So Close*, which then became the name of a string of explorations leading to the two submitted compositions entitled *So Close #1* and *So Close #2*. Tarozzi's short text describes the voice of Nina Simone as she sings *Black is the Colour* (Simone, 1959) and her improvisation takes her own text description as inspiration:

She caress the words, the touch lightly.

The sound is a little vibrato but just a little, soft, tender and warm. You could almost see her body singing because the voice is completely embodied.

Like a prayer or invocation.

Melodic line has a movement from the high to ground, like to glide.

Some words or notes more important for her are suspended for a long time.

Time is dilated.

In the introduction the piano fills the air with many harmonies, so when the voice enter and empties the accompaniment, the air is full of echoes of harmonies.

See digital file 'Audio Example 8_So Close init improv'

Audio Example 8: So Close, initial improvisation by Silvia Tarozzi

From these first exploratory steps, various elements remain throughout the next three years of collaborating: the responding in turn to each other's responses, the focus on voice and vocality, the translating from one medium to another, and the format of short intense periods together followed by time apart.

First Experiments of Singing-Along

My experimentation with singing-along came first as an attempted response to Tarozzi's *So Close* recorded improvisation (Audio Example 8 above). I listened to the recording in headphones, sitting at my desk at home, rocking in my chair (as it felt natural to do so), and sang into my computer while enacting a head-to-toe body-scan meditation³. I did not attempt to mimic the improvisation, but rather let myself respond automatically with whatever vocalising felt least intended.

I found the experience to be very emotional, to the point of disturbing, in particular at the point my interoceptive scan reached my diaphragm. My voice, in the recorded result, grew very loud, between keening and crying. I listened to this vocal recording, singing along again, to even louder results. The next (third) iteration involved my breaking into a full sobbing crying. Listening to this recording forcibly repels my attention. I kept the recorded result, but at the time concluded that this process would have no future functional use for me. Meeting with Tarozzi a month afterwards, I reluctantly played her the recordings. She

³ In place of discussing here the inspirations for this action, I refer the reader to Section 1.2.1 in which I contextualise 'singing-along', 'automaticity', 'process-led' and 'post-notation' practices.

agreed that listening to them was difficult, but encouraged me not to abandon the idea completely.

2.2.1 Undone (2015)

Meditating Performer, Tape, 7 minutes

The first piece to be performed which was created with the automatic singing method was *Undone*, a collaboration with Montreal-based viola d'amore performer Jennifer Thiessen. Our working process spanned the autumn of 2015, and the resulting composition entitled *Undone* was presented in a concert in Winnipeg, March 2016.

See digital file 'Portfolio_Undone'

Portfolio: Undone (archival stereo version)

Summary of Research Intentions & Outcomes

The commentary on this composition discusses the full making-process in detail, because the automatic singing method, as it is now known, was devised in the course of this project.

My intentions in the creation of *Undone* were as follows:

- initially, to explore 'singing-along' as a way to add 'vocality' to a melody
- eventually, to explore the musical results of a lack of conscious control of the singing voice

The research outcomes of this project were as follows:

- the process-led exploration bares fruit publicly for the first time: a public performance

- the automatic singing method, as it is now known, was devised, including the following essential elements:

singing while listening while meditating

layering in canon

noting physical sensation

resonant loop between singing output and meditative sensation

Automatic Singing Method: Undone

The process of creating *Undone* ended very far from where it started. I began with the intention of writing a notated work for solo viola d'amore, and ended by producing a work for meditating performer and recordings of singing and of viola d'amore which were made without notation. The automatic singing method, as it is now known, was discovered through this process.

Phase 1: Introducing an increased 'vocality' through singing

The *Undone* project began in 2015 when Thiessen asked me to write a short piece to be performed in a small casual concert in the context of the Cluster New Music and Integrated Arts Festival in Winnipeg in 2016. My first attempt at writing this piece was a draft, a short notated piece.

This notated draft was a simple dedication piece, in which I mapped the letters of a personal email from a friend to pitches: the letters 'a' through 'g' mapped onto pitches a natural through g natural of the lowest octave available to the viola d'amore, the letters 'h' through 'n' mapped onto a natural through g natural of the octave above, and so on. To add interest and repetition, several of the phrases were layered in canon to form composite melodies.

I asked Thiessen to play through the last page of the score, and to send me a recording (she was in Montreal and I in England). I was unhappy with the disjointed quality of the melody. Its angularity and mechanical quality made for a pleasing MIDI playback, but it was not pleasing for a human to play on a physical instrument. My empathetic listening to her physical actions produced in me a sense of discomfort and lack of direction, motion or flow. This last page of the draft score, and Thiessen's recorded reading of it, follow as Figure 16 and Audio Example 9.

See digital file 'Audio Example 9_Source material Undone'

Audio Example 9: Source material, Undone

Following my dissatisfaction with the reading of this score, I decided to experiment with the singing-while-listening-while-meditating technique discovered in my previous exploratory stage, this time with Thiessen's collaboration. Thiessen was open to working in a process-led way, and she had her own meditation practice as well as experience as a singer of popular song.

My intention was to transform this melody into one which resembled a sung line, with a connection to Thiessen's own vocality. I initially hoped that, though transformed, the resulting melody would form the basis of a notated piece to be played on viola d'amore. I did not foresee that the piece would eventually involve recordings of Thiessen's voice.

102 **arco**
pp
 r e m a i n u n m o v i n g

107
ppp
 w e l l j u s t s i l
 w e l l j u s t

112
 e e p n o w
 s l e e p n o w

Figure 16: Score of source material, Undone

To begin the process of melodic transformation, I sent Thiessen the following instructions:

Step 1) Record the page for me on the viola d'amore. While you are playing it, perform a body-scan meditation starting with the top of your head at the beginning of the page, and ending with your feet at the end of the page.

Step 2) Then play that recording for yourself on headphones, and sing along (you can try to imitate it in whichever octave, as you would sing along to a pop song if nobody was listening, or you can improvise along with it—in any case, simply react in the moment, allowing any result). While you are singing, perform again the body-scan from head to toe (you can be seated or lying down, or whatever you like). Move

your body in whatever way it needs or asks for. Your improvisation can react to the music you are hearing, or to the movements or sensations of your body, or both.

Step 3) Then play on headphones that recording of yourself singing (without the sound of the original viola d'amore), and sing along to that, again with the body-scan starting at the top of your head and ending with your feet.

Step 4) As 2. This becomes a game of telephone (or Chinese Whispers as they call it here in England), i.e., it will get further and further from the original.

Step 5) As 4.

Step 6) As 5.

Step 7) As 6. (If you feel it's interesting, you may keep going and make more steps than this.)

Step 8) Listen to the last vocal recording you have made on headphones, and play along with your viola d'amore, again with the body-scan, mimicking your voice as accurately as possible.

Some notes: When you are ready to play the page, I would recommend recording all the steps one after the other all in the same day. With the improvising, allow any result. It really need not be interesting. (By the way, I will not use all the material, so if something really is not going anywhere, there's no need to worry at all). If you hear something in there that you don't like, simply keep it and react to it in any honest way in the next step. The most important thing is to be present in the moment, and to be somehow nourished by the process in any way that works for you. (Miller, email)

Thiessen followed these instructions and sent me a recording of the source material (Step 1), six recordings of her singing (Steps 2-7), and a recording of an instrumental mimicking of the final singing track (Step 8). The recording of Step 1 is provided above (as Audio File 9).

Here follows the recordings of Steps 7 and 8:

See digital file 'Audio Example 10_Automatic singing *Undone*'

Audio Example 10 : Automatic singing, sixth iteration, Undone, Phase 1

See digital file 'Audio example 11_Instrumental mimicking of sixth iteration *Undone*'

Audio Example 11: Instrumental mimicking of sixth iteration, Undone, Phase 1

She responded to the process at this stage, noting the difficulties of meditating and singing at the same time:

'I tried to go with your instructions to just continue and keep meditating and keep whatever is there even though the perfectionist in me fought back! Especially with the first vocal tracks since I was trying to find the notes in a range I can sing in! So there are some wobbles for sure, and it was a struggle to really meditate through the whole thing but I kept coming back whenever I caught myself analysing, etc. So, at the very least it was a great and challenging meditation session!' (Thiessen, email)

From this note, combined with the audio results, it became clear to me that the musical transformation of the line was occurring as a result of the physical differences between singing and playing (for example, that the line would now be in her vocal range, and phrased by the breath instead of bow strokes), but also because she was distracted by the meditation. This distraction was to become a key component of the new transformation techniques.

Phase 2: Introducing layering-in-canon

In Phase 2, I introduced the use of canons to create the possibility for further transformation.

The first canon used was a simple layering of her instrumental mimicking (Step 8 of Phase 1). Thiessen used this audio file as a starting point to follow the same instructions (Steps 2–8) as in Phase 1. In addition to the original instructions, I added the following comments:

So as you sing along to it, you will naturally prioritise whatever gestures appeal to your ear of the many that are happening.

So the idea is to sing along to the track, and then to yourself, six times as before, and performing the body-scan meditation as before—and then to play along to the last one as before. Essentially, Steps 2–8 of the first phase. (Miller, email)

Thiessen's singing naturally followed the most prominent line of the several identical lines in canon, resulting in two effects: first, that the line became more repetitive in general, and second, that the lines sensed as most prominent by her ear were, in my estimation, the most satisfying to sing, and this phase thereby created an ever more physically satisfying melody.

See digital file 'Audio Example 12_Headphone audio *Undone*'

Audio Example 12: Headphone audio, Undone, Phase 2

See digital file 'Audio Example 13_Automatic singing Sixth iteration *Undone*'

Audio Example 13: Automatic singing, Sixth iteration, Undone, Phase 2

See digital file 'Audio Example 14_Instrumental mimicking of sixth iteration *Undone*'

Audio Example 14: Instrumental mimicking of sixth iteration, Undone, Phase 2

The individual singing Steps of Phase 2 were, however, not as transformative as I had hoped. In other words, the six singing versions were very similar to each other, and she seemed to continually remake the same music.

Phase 3: Further transformations

In Phase 3, I investigated further transformations with the same process. As the headphone audio for Phase 3, I used a slower (half-speed) version of the canon used in Phase 2, with the hope that this slowness would cause her singing to be in general more relaxed, settled, or focussed inward. I also asked her to increase her focus on her physical sensations. I added the following note, which proved important:

Feel free to deviate from singing along in any mimicking way, if your body finds it wants to give a different reaction as you go through the body scan. The idea is that it's translated through your body's impulses, so whatever feels natural, that's the most important thing. When I tried a similar thing myself, I kept defaulting to drones and/or crying, which was very freeing (but not so musical!)... not to say that you should do either if those things but simply do feel free with however it goes. (Miller, email)

Ok, so this one was trippy. I kind of went to town on the meditation part... inspired by your account of crying when you do it on your own....! So I really focussed on my body sensations starting from head and moving down, and let the sounds I was hearing in to sort of guide me and also interacted with them sort of instinctually. Breath played a big part, and the vibration of certain notes in certain places, and feeling more open and closed in different places... (Thiessen, email)

See digital file 'Audio Example 15_Headphone audio *Undone*'

Audio Example 15: Headphone audio, Undone, Phase 3

See digital file 'Audio Example 16_Automatic singing Sixth iteration *Undone*'

Audio Example 16: Automatic singing, Sixth iteration, Undone, Phase 3

Phase 4: Com-posing

The challenge then came to find a way to present the vocal recordings⁴. I took the sixth iteration of automatic singing of Phase 3 (above as Audio File 16), and I separated it into four parts: roughly, the singing that came from concentrating on the top fourth of her body (head), the second fourth (chest), the third fourth (core), and the last fourth (legs and feet). I then superimposed these lines, one on top of the other, as if all parts of the body were being sounded together as a whole unit. The result was full of unexpected triads, musical concurrences and conversations between parts.

I then put each line through a simple process of repetition (succession of breaths 1-2-3-4 became 1-2-1-2-3-2-3-4-3-4, etc.), to allow the listener to better enter these conversations. I then added the viola d'amore line from Phase 1 Step 8, as a foil to the singing. In performance, this instrumental track was played back through a transducer placed on the back of the viola d'amore, and the layered/repeated voice track was played back through a small speaker that Jennifer wore hanging around her neck, at diaphragm height. The two tracks then traded locations from the speaker to the transducer and vice versa.

⁴ I retroactively asked Thiessen's permission to use the recording (as well as to use all the tracks in a research setting, such as in the Audio Examples supporting this document), which she granted. However, they were originally made with this possibility explicitly excluded, as seen in my instructions: I've decided that the vocal tracks will not appear in the final mix, so you don't have to feel that those are in any way a performance. I'd still love it if you send them to me, as I'm just curious about this process – but you can feel free to let the sound be what it is, knowing that this will not be made public. (Miller, email)

In all future projects using this and similar methods, I've taken more care with issues of consent.

Phase 5: Performing

Thiessen sat and meditated for the duration of the performance, her instrument sitting on a chair opposite, the two facing each other. The following audio file presents, for archival purposes, the two mono tracks together: the mono speaker (worn on Thiessen) track on the left, and the mono transducer (worn on the instrument) track on the right.

Further Considerations

Challenges relating to recording quality and to consent arose in this project, as a result of not knowing at the outset that the recordings would be presented as part of the performed composition. Issues of recording quality arose again in later work (*So Close #1, Traveller Song*), and not until 2017 did I purchase a microphone for home use.

2.2.2 So Close #1 (2016)

Violin, Tape, 16 minutes

So Close #1 is an output (or artefact) of my on-going collaboration with violinist Silvia Tarozzi. The submitted audio file is a home recording: multiple layers of my voice, recorded at my home (in the left channel) and one layer of violin, recorded at Tarozzi's home (in the right channel). This work has not yet been performed publicly. In a performance situation, the voice recordings would sound from on-stage speakers while Tarozzi would perform live. The two elements are presented left and right here for the purposes of this submission.

See digital file 'Portfolio_ *So Close #1*'

Portfolio: So Close #1. Silvia Tarozzi, violin and tape (home recording)

Summary of Research Intentions & Outcomes

My intentions in the creation of *So Close #1* were as follows:

- to explore the automatic singing method, established in *Undone*, now with my own voice
- to further build the collaborative relationship with Tarozzi
- to search for a creative integrating of my composing and Tarozzi's improvising

The research outcomes of this project were as follows:

- understanding of automatic singing method, from personal experience
- exploration of different types of repetition and repeating
- understanding of various practical concerns related to the use of canons to create repetitive yet varied melodies
- a first attempt at integrating recorded voice and live violin, leading to further questions

Phase 1: Preparation

After the successful use of automatic singing in *Undone*, I returned to the idea (abandoned months previously) of singing-along to the recorded improvisation of Tarozzi entitled *So Close*.

While I had not attempted, during the exploratory stage, to imitate (but rather to respond to) Tarozzi's recording, I aimed now to begin from a place of mimicking the violin as closely as possible. To aid in pitch-matching, I slowed down Tarozzi's file, sang-along, and then sped up the singing file to match Tarozzi's original pacing. As a result I was able to mimic, while remaining in my voice's comfortable register. I used a recording of this close mimicking as the starting place for the automatic singing process which followed.

Phase 2: Automatic Singing

I layered this recording of my voice to create an eight-voice canon, with entries at fifteen-second intervals. To retain something of the musical identity of each phrase, I spaced the phrases such that the canon on the first phrase would complete before the canon on the second phrase would begin.

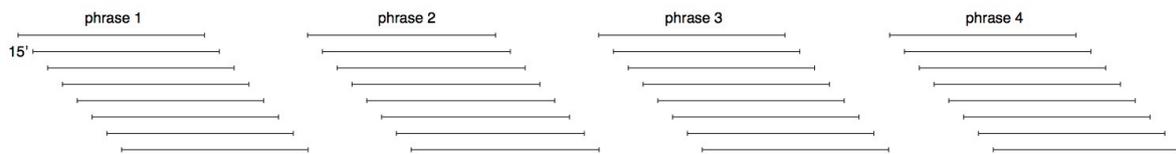


Figure 17: Diagram of canon of voice recordings, Phase 1 (So Close #1)

In turn, I took this repetitive line and subjected it to the same process—layering it into an eight-part canon with entries every 15 seconds—and I sang along again to this. The canon made from the fourth iteration of this process engaged me as a listener, with its repetitiveness and considerable duration. This canon became my first proposal to Tarozzi, and I sent it to her, in our conversation of responses, as my reply to her improvisation of months before.

See digital file ‘Audio Example 17_Continuous Vocal Version’

Audio Example 17: Continuous Vocal Version, Phase 2 (So Close #1)

Phase 3: Com-posing

My hope had been that this continuous vocal version would inspire a musical reply from Tarozzi, as a next phase of this collaboration. She tried to improvise along with the track as it was, but felt that the vocal track was too complete in itself, leaving no space for a response.

To create space the needed space, I made a new version, alternating sections of singing with silence. Tarozzi was to improvise during the silent sections, and during the singing sections, I asked Tarozzi to play short cells, gestures from her original improvisation recording, which she was to repeat as precisely as possible for the duration of the section. As a navigational aid to such a performance, I provided a one-page map of the piece, shown in Figure 18.

Silvia:

0'00 - 2'30	repeat figure 1	Touch lightly, caress
2'30 - 3'40	improvisation	<i>Time is dilated.</i>
3'40 - 5'20	repeat figure 2	Soft, tender and warm
5'20 - 6'05	improvisation	<i>The air is full of echoes of harmonies.</i>
6'05 - 8'10	repeat figure 3	Like a prayer or invocation
8'10 - 9'20	improvisation	<i>You could almost see her body singing because the voice is completely embodied.</i>
9'20 - 12'00+	repeat figure 4	Melodic movement from high to ground, like to glide

Cassandra:

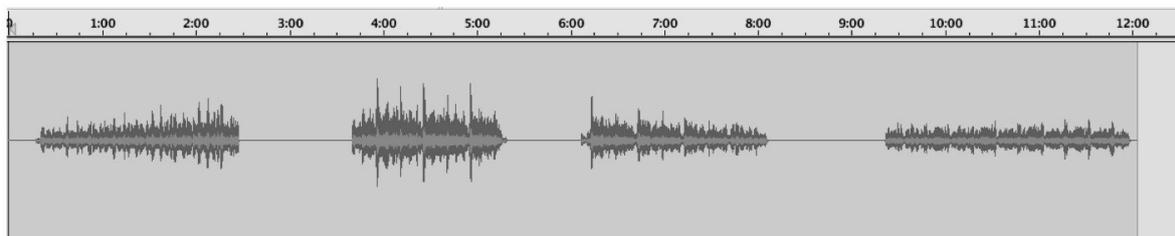


Figure 18: So Close #1, Map

Phase 4: Documenting

Tarozzi made a home recording, using the above map. We now consider this recording to represent Version 1 of the piece, and it is submitted in the portfolio as *So Close #1*.

Further Considerations

Various elements of this first version lead to further explorations. The recording quality of my voice is a challenge, as discussed previously. A strained tension felt in my own voice lead to

further experiments with another kind of singing in *So Close #2*. Moreover, the involvement of Tarozzi as performer in this piece lacked fluidity, and we continued to seek for a more meaningful relationship of voice to improvising violin.

The Tracery Project

The title *Tracery* refers to an ongoing collaborative project between soprano Juliet Fraser and me. Four modules (stand-alone pieces) created as part of the *Tracery* project are included in this portfolio:

- 2.2.3 *Tracery : Lazy, Rocking* (2016)
- 2.2.4 *Tracery : Hardanger* (2017)
- 2.2.5 *Tracery : The Slits* (2017)
- 2.2.7 *Tracery : Attending to a task* (2018)

The *Tracery* project involves no notation or score. Video documentation of each module is included in electronic portion of the portfolio submission. The commentary includes a documentary video about the making of *Tracery : Attending to a task*.

Tracery Project, Acknowledgements

I refer to *Tracery* as a collaboration, since Fraser and I worked almost exclusively together (almost never working apart), and we invested equal amounts of time in the project. Fraser and I maintained our different roles as performer and as composer/director—not exclusively, and with blurred boundaries (especially in the later work), but as a basic mode of interaction. With respect to Fraser’s creative contributions, I claim the outputs of the *Tracery* project as my own composition work with her explicit support and consent. Our roles and levels of authorship are made clear in the commentary below.

The documentary video about the making of *Tracery : Attending to a task* was filmed and edited by Angela Guyton, and is included here with her permission.

Foundations of the Tracery Project: Creating a Working Relationship

If the meaning of an act of musicking is found in the relationships formed, as asserted by Christopher Small (1998), then the central concern of *Tracery* is found in the collaborative relationship between soprano Juliet Fraser and me. A commentary on the *Tracery* project therefore must begin with an account of our initial conversations about working together and our first moments of growing to know each other. In this first stage of the *Tracery* project, we discussed our goals and needs, which later functioned together as a central research question. What follows is an account of how we arrived at the following common concern: *How can we, with myself as composer/director and Fraser as performer, generate music using an embodied process of translation which is transformative (towards non-performerliness and non-composerliness) to our practices?*

Preparations for the First Meeting, Establishing Intentions

In advance of the session, I asked by email if Fraser would be comfortable with a process-led way of working, and I asked her about her goals, wishes and expectations. She responded:

Without thinking too carefully or slowly, I am thinking about how I can better connect with my body. How breathing can be as valid a part of singing as vocalising, how to inhabit a slightly different performative 'posture' when on stage (essentially how to lose all the polish and the mask and instead be something more honest, more human, more generously sharing of a real process). [...] That is a lot about what this project is for me: stripping away the crap to be alone, to be me, to make music without the tedious constructs. [...] I want what I sing to mean something, to me (and therefore to the audience). [...] I think I'm looking for honesty, in text and in music, and therefore in my delivery. I'm not afraid of hard work. I want to bond with this piece: I want it to inhabit me. (personal correspondence)

Already in this email, our common concern can be seen: ‘transformative (towards non-performerliness) to Fraser’s performance practice’. Additionally, the beginnings of a definition of ‘non-performerly’ started to come into focus: generously sharing of a process, without polish or mask.

At this time, I also asked Fraser by email to share with me a list of songs which were of personal importance to her and which explored a sense of voice. She sent me a long list of recordings, which eventually provided the source material for works in the submitted portfolio.

The First Meeting: Experiments to Find a Way to Work

The in-person collaborative work began at Snape Maltings in September 2016, where Fraser was in residence, as part of their Open Space scheme. To this first meeting I brought exercises for discovering more about each other and for exploring what type of working relationship we would be interested to make.

From the beginning then, I established that my role could be one of director, rather than composer. In this sense, I would still give instructions and direct experiences as a composer might, but rather than notated instructions, my directions would come from listening, reacting to her input and to our evolving needs in the moment.

Over the three days at Snape, we made several exploratory exercises. We improvised together renditions of Pauline Oliveros scores (*Horse sings from cloud*, and *We are together like*); we engaged in writing exercises about our personal values; I introduced Fraser to body-scan meditation technique; we discussed notions of ‘voice’ and ‘vocality’; we discussed

our current projects with other collaborators; equally important, we walked and dined and talked about our lives outside of professional activities.

Fraser's First Automatic Singing Experiments

In addition to the exploratory exercises above, we made some first exercises with the automatic singing method, with the intention of simply discovering if this method might reveal interesting ways of working together. These exercises formed the basis for much future work. These first exercises followed a simplified model of automatic singing, without layering and without a resonant loop.

Together we chose source recordings from the music she had previously shared with me, in the email discussion quoted above: four different tracks from the *Solo* album of Håkon Høgemo (Hardanger Fiddle) (2000), and the second movement of String Quartet No. 8 by Ben Johnston (1986).

Fraser listened in headphones to the source track (without layering) loudly enough to not clearly hear herself singing, performed a body-scan meditation, and allowed herself to sing along with little attention. I recorded the results for future use.

Immediately following each singing exercise, I asked Fraser to jot down notes about her felt experience of meditating and singing. The aim of this note-taking was to document the process, and more importantly to bring attention to the feelings she felt in her body, rather than opinions about how she might have thought it sounded.

We then would discuss together how she felt, and how each different piece of source material would affect her sensations of listening, or singing, and of meditating. These

discussions would lead our decision-making process about what source material to use in our next exercise. I added my own comments about my experience of listening to her, but our discussions and decisions were principally led by Fraser's in-the-moment sensations felt during automatic singing. I made audio recordings of these sometimes lengthy discussions.

2.2.3 Tracery : Lazy, Rocking (2016)

Voice, Tape, 12 minutes

Tracery : Lazy, Rocking is a composition made within the *Tracery* project with soprano Juliet Fraser. It was the first *Tracery* module to be created, in 2016, though it was not performed until 2018 when a performance version was made and premiered. The video document in the submitted portfolio reproduces this 2018 version.

See digital file 'Portfolio_Tracery_Lazy Rocking'

Portfolio: Tracery : Lazy, Rocking. Juliet Fraser, filmed by Angela Guyton

Choosing Source Material

Our second meeting took place in October 2016, at Fraser's apartment, the location of all our subsequent meetings for the following year. Here we could work in a casual setting, take breaks, be comfortable for long periods of discussion, and continue to get to know each other personally as I would lodge at her place for each session of two or three days. This space was an essential part of our working process, allowing for an open sharing of vulnerable moments and a bare honesty with our accounts and reflections.

I chose a recording made in our previous meeting at Snape—the recording of Fraser singing-along to the second movement of String Quartet No. 8 by Ben Johnston—for use as source audio to be transformed by Fraser’s automatic-singing mimicry.

See digital file ‘Audio Example 18_Fraser’s first singing’

Audio Example 18: Fraser’s first singing to Johnston string quartet (excerpt)

I layered this excerpt to make a canon of eight layers at five-second intervals. The interval of five seconds was chosen as it matched the periodicity of her singing phrases.

Fraser sang along, while listening in headphones to this canon, and while performing a body-scan meditation, and I recorded the result. She took notes and we discussed. We repeated this layering-singing-recording-noting-discussing process seven times, her voice becoming each time lower, more relaxed, losing its distinctive melodic features, and becoming closer to what she calls her ‘yogic breath’. The penultimate iteration consisted of only low breathy moans/sighs.

In the final iteration, she waited for her body to give her the impulse to vocalise, and this impulse never came. Our last track is silent except for some faint breathing sounds and the ambient sounds of the room. This was a natural place to stop working. We had discovered a possible end point to such a process—an example of making-process determining musical form: there was no more melody to be made.

Composing: constructing ‘speaker audio’ and ‘headphone audio’

The process above yielded seven single-voice recordings, one for each iteration of singing-recording-layering. Each of these recordings are several seconds longer than the previous,

with the first (shortest) mimicking most closely the Johnston quartet, and the last (longest) most distilled (focussed-in) and relaxed. I layered the recordings of these iterations to sound simultaneously and the result stands as a snapshot of our iterative process, a document of a ritual-like repeating.

Performing

A live version of *Tracery : Lazy, Rocking* was made two years later, in 2018. In this version, Fraser sings and meditates live, re-creating the seventh iteration of the layering-singing-recording process described above. Meanwhile, in the speakers, a tape part (referred to here as ‘speaker audio’ so as to distinguish it from ‘headphone audio’) consisting of iterations one through six, plays simultaneously. This live version was premiered in concert in 2018. A video document of this piece was made by filmmaker Angela Guyton in 2018, as found in the portfolio submission.

2.2.4 Tracery : Hardanger (2017)

Voice and tape, 17 minutes

Tracery : Hardanger was the first module to be performed publicly, in 2017. It follows a similar model of automatic singing as in *Tracery : Lazy, Rocking*, but with a further exploration of singing-along processes.

See digital file ‘Portfolio_Tracery_Hardanger’

Portfolio: Tracery : Hardanger. Juliet Fraser, concert performance at Café OTO, London

This commentary section focusses on these new singing-along processes, since other processes of the making of this piece are similar to those of works previously described.

Source Material

Tracery : *Hardanger* employs as source material two tracks from the album entitled *Solo* by the Norwegian hardanger fiddle player Håkon Høgemo. Hardanger fiddle, or hardingfele (Norwegian), is a bowed string instrument, similar to the violin with its four principle strings, and with an additional four or five strings strung underneath for sympathetic resonance. It is built to play the traditional music of southwest Norway, for dancing and for processions. The bridge is flatter than that of the violin, and two or three strings are usually sounded at the same time, creating a continuous sound (without breaths between phrases).

We chose our source materials after experiments with many tracks from the *Solo* album, at our first meeting in Snape. Those experiments, and the discussions that accompanied them, revealed that various elements in the music influenced how Fraser felt while singing, in the following ways:

- the source's register would affect her ease of singing, which would in turn affect her ease in meditating
- the source's speed and pacing of the source, and the alignment of this with Fraser's need to breathe, would affect her ability to let her voicing react with or without attention
- the source's ornamentation became the subject of meditative imagery connected to the flow of breath
- the source's general affect, or Fraser's emotional reaction to it, would above all influence her meditative state, the richness or depth of this state, and the complexity and readiness of her body's reactions

After these experiments, we chose the two tracks that moved Fraser the most (the word ‘moved’ being an apt summary of the affects listed above). The first section of the piece was to evolve from our experiments with the track named *Lydarslott*, and the second section, from the track *Hei So Dansa Jenta Mi*.

Making-process of Section 1: Lydarslott

At first, we followed the automatic singing method as established previously, complete with layering-in-canon and resonant looping processes. This provided a wealth of material. However, even through many iterations of the process, the melodic content did not lose its contrasts (focus-in) in the same way as in *Lazy, Rocking*, and the ornamentation kept its natural warbling, comfortable in the voice. This comfort and ease of singing meant that the ornamental melodic content was in a way robust, not inviting of change—inviting of intimacy but not necessarily vulnerability.

This melodic and meditative robustness experience led us to consider exploring aspects of vulnerability and fragility of sound, so as to inject further instability and potential for transformation, opening further to non-performerliness. To this end, I was drawn to any moment of hesitation in Fraser’s voice, which were very engaging to see, seeming to open a window to Fraser’s personality in an otherwise hidden way. Such moments would occur when Fraser had difficulty following what she was listening to.

As a way to explore these hesitation moments, we decided to make an instruction for Fraser that was more difficult than singing-along to the canons. Instead of simply singing-along, we followed instructions from Oliveros’ score *Horse sing from cloud* (as published in Oliveros,

2013) in which one continues to make a sound until one wishes to continue instead of wishing to change, at which point one must change the sound one is making.

I chose three small phrases that I enjoyed from our last recording made in the canon-based automatic singing process above. I made three tracks to sound simultaneously, each of these tracks containing one of these small phrases repeated multiple times. I asked Fraser to sing-along to one track, repeatedly, until she no longer wanted to change what she was doing, at which time she was to sing-along to another track until she no longer wanted to change, at which time she was to change again to another track.

Fraser was therefore always in a state of lack of comfort with her task, and moreover, she was engaging in a very difficult mental exercise while singing. To add to the difficulty, the three tracks were in fact very similar, and Fraser struggled to differentiate them while listening. This exercise resulted in a recording which I found very engaging in its fragility, and which I found to be repetitive but not in any way I could predict or follow as a listener.

The success of the three-minute recording that resulted led me to focus on the vulnerability of the solo voice in the performance that would come from this process.

Making-process of Section 2: Hei So Dansa Jenta Mi

The second section of the *Tracery : Hardanger* evolved from the track *Hei So Dansa Jenta Mi*, and was made quite simply from the now well-established automatic singing method.

The material generated was relatively lively and similarly robust.

Composing and Performing

The performance of *Tracery : Hardanger* involves a single line of Fraser's singing presented as speaker audio, and Fraser re-creating a second line live. The first ten minutes use the *Lydarslott*-based fragile material, the remaining five minutes use the *Hei So Dansa Jenta Mi*-based lively material. The two sung lines (live voice and speaker audio) are made by singing-along to similar headphone audio, with different meditation instructions. Each performance is made with a new version of the headphone audio, with slight differences, so that it is new to Fraser in each instance.

2.2.5 Tracery : The Slits (2017)

Voice and tape, 11 minutes

Tracery : The Slits was created in 2017 and performed in London, Penzance, and Chicago. It follows an identical model of automatic singing as in *Tracery : Lazy, Rocking*, but additionally explores physical movement, at Fraser's request. While singing-along, Fraser combined her body-scan meditation with an activation of the body part of her focus. The video document in the submitted portfolio was made by filmmaker Angela Guyton in 2018.

Source Material

The source material for this module is the track *Love und Romance* of the album *Cut* (2005) of the punk band The Slits. This album featured on Fraser's list of music important to her life, given to me at the start of the Tracery project. Fraser enjoys The Slits for the anti-refined, anti-pretentious attitude that their music reveals. We felt that this attitude could contribute to our own exploration of non-performerliness. Additionally, Fraser wished to explore moving her body while meditating, and this track offered the energetic body-moving music needed.

Making-process and 'Automatic Moving'

The making-process of *Tracery : The Slits* followed the basic model of automatic singing. As with *Tracery : Lazy, Rocking*, Fraser sang along to the source material in canon, and then to her own voice in canon at the same interval, and so on. The meditation, however, was different. While Fraser carried out her body-scan meditation, she would not only sense the parts of her body in turn, she would also move or activate the body part. She attempted to move in a way which felt impulsive, without thought to the result, in a similar way to her non-performerly singing. We were making a space to explore 'automatic moving' in the same sense as 'automatic singing'. In addition to Fraser's interest in exploring movement, my interest in the topic was inspired by two sources. The Voicework training of Catherine Fitzmaurice (Watson and Nayak, 2014) and the composition *Mouvance: Intonation of Alwynne Pritchard*.

Fitzmaurice's Voicework training, primarily intended for actors, involves four steps: Destructuring, Restructuring, Presence, and Play. The Destructuring step contains many elements similar to our automatic singing explorations, and 'promotes awareness and aliveness in the body, spontaneous and free breathing, and wide-ranging vocal expressivity' (<https://www.fitzmauriceinstitute.org/fitzmaurice-voicework>). One of the Destructuring techniques is 'tremoring'. In the words of Fitzmaurice,

The tremoring is a reflexive action, it's not an intentional shaking. This is the healing response of the body to a perceived stress. For instance, in fatigue, or cold, or anger, or fear, in all of these the body can involuntarily shake, and its purpose is to heal the problem. It's part of the "fight or flight" response. The involuntary tremoring does a number of different things. It may speed up the breathing and the heart-beat to oxygenate the blood, it loosens muscles, and it gives you an adrenaline rush, primarily. It does these things to enable you to be alert, with pliable muscles, so you are ready for anything.

What it does for the voice—apart from deepening the breathing, which is why I first started to use it—it tends to release tight muscles, and you'll discover that as you work. It also sensitizes the body to vibration. Vocal resonance vibrates the body, and when muscles are tight, that resonance can't flow through the body. It flows better when you release muscles. (Kotzubei, 2005)

Though our primary intention (artistic engagement with automatic moving) was not necessarily identical to that of Fitzmaurice (release of tightness in the voice), Fitzmaurice makes a connection between an uncontrolled shaking and the functioning of the voice which provided, in a sense, the location of our exploration in this module.

Secondly, Alwynne Pritchard's *Mouvance: Intonation* (2016-2018), written for the Wheels Within Wheels research project of the University of Bergen, greatly influenced my automatic singing work in general, and this *Tracery* module in particular. In 2016, I participated in a workshop rehearsal of this piece. During the rehearsal, I wore headphones while listening to previous improvisations of the ensemble mixed with the voice of Pritchard. After each run of the piece, the members of the group each wrote privately in a journal about our experience. My role in the composition was to react in any way to the headphone track. In reaction, I vocalised and moved small objects which Pritchard had placed on a table in front of me. I fell into a quasi-hypnotised state, a powerful experience completely new to me. Pritchard's voice on the recording spoke texts she collected from her decades-long training in Butoh movement. Above all, I remember the phrase, 'you do no move, but are made to move.'

From Pritchard's work, I incorporated three elements into my own work: 1. the practice of speaking meditation instructions in the headphone tracks I give Fraser, 2. the practice of asking collaborators to write about their experience immediately after an exercise, and most importantly, 2. the experiential knowledge (embodied technique) of being-made-to-move.

The influences of Fitzmaurice and Pritchard open a field for exploration, into which *Tracery : The Slits* is a first sortie. Both Fraser and myself feel there is more to be discovered in this direction, and that automatic movement is a research area of significant potential.

Composing, Performing, and Documenting

As with previous *Tracery* modules, I made a headphone track and a speaker track for performance. The headphone track consists of canons of the original source material combined with canons of Fraser's recorded voice, again following the model of previous modules. For the first time, the speaker track, in addition to recordings of Fraser's voice, includes for a canon of the source material in the final moments—revealing to the audience the source on which Fraser sings. This revelation of the source allows the listener to understand an element of our making-process.

The film submitted in the portfolio was made by Angela Guyton in 2018. In this film, bright back-lighting shows the outline Fraser's full body, hiding details of the face and bringing attention to the body as a whole organism. In doing so, it both conceals and reveals, in a way consistent with the playful and perhaps seductive nature of the *Tracery* project. In each *Tracery* module, elements of the process are concealed (principally, the audience members cannot hear what Fraser hears), while at the same time Fraser's non-performerliness reveals a bare intimacy. Seduction, as a combination of concealing and revealing, is a topic not developed explicitly in the *Tracery* project to date. However, it is present as an area of great potential for further work. The style and manner of Guyton's films serve to highlight this potential.

See digital file 'Portfolio_Tracery_The Slits'

Portfolio: Tracery : The Slits. Juliet Fraser, filmed by Angela Guyton

2.2.6 So Close #2 (2018)

Violin, Voice, Tape, 20 minutes

So Close #2 uses as its source material the original recorded improvisation used as the source for *So Close #1* (Audio Example 8). It builds on the musical material of *So Close #1*, for example, using the repeated cells which came out of that work and making use of my previous memorisation of the original improvisation. Both pieces are artefacts of the *So Close* collaborative project. *So Close #2* is the first artefact to be performed live. It differs from *#1* in two significant ways:

- Rather than singing-along to canons, the making-process involved a technique I call 'mimicking-becoming', explained further below.
- I performed on stage, together with Tarozzi. *So Close #2* was my first experience of performing my own work live.

Mimicking-becoming

I made the recorded vocal parts (speaker audio) for *So Close #2* by singing-along to Tarozzi's original recorded improvisation. I found it easy to mimic, as I had memorised it thoroughly in the process of *So Close #1*. I wanted to explore the internal choreography of my voice production, the motion of my muscles while singing.

Rather than carrying out a full body-scan meditation (from head to toe, or toe to head) I scanned up-and-down my torso, following Tarozzi's pitch as it rose and fell. Moreover, I

imagined that the *motion* of her left hand on the finger board was the *motion* of my attention in my torso. Thus, my attention was mimicking—empathising with, attuning to—my memory of her physical movement. At the same time, I mimicked the pressure of her bow with the tightening and loosening of tension in my throat.

This close attunement created a quasi-hypnotic state, where I felt Tarozzi to be present. As I let my memory of her external choreography control my internal choreography, I conjured an image of her movements in my mind so vividly as to create a mental state completely new to me. I dub this embodied technique ‘mimicking-becoming’, because it felt as though I was inhabiting or becoming her sound. I practiced this new technique by singing-along to (mimicking-becoming) the recording of her improvisation more than twenty times without pause.

I recorded this practicing, and a simultaneous playback of each iteration created choir-like sections. I asked Tarozzi to also carry out this exercise, playing-along to each of my singing iterations, imagining my physical motions. The simultaneous playback of these recordings created a violin choir. These two choirs formed the basis of the speaker audio.

Com-posing

To make the speaker audio, I edited together (com-posed) a twenty-minute collage using these two choirs, along with recordings of Tarozzi’s and my improvisations made in the days leading up to performance as we attempted various versions of a performance scenario. I provided a time map (Figure 19) for us to follow in performance, in which we were instructed to re-enact our memory of repeated cells from *So Close #1* (shown in the time map as ‘material #1, 2 or 3’), to improvise, or to remain silent.

Tape	Time	Violin	Voice
base material A	0:00	material #1 (simple)	material #1 (simple)
violin material #2	2:10	silent	
	3:10	- improvisation -	
base material B	4:40	silent	silent
	5:20	material #2 (slide)	
voice material #1	5:50		material #2 (slide)
silent	6:50	- improvisation -	silent
mixed material	7:40		material #3 (low)
	8:30		material #3 (low)
	9:30	silent	
voice material #1	10:40	- improvisation -	material #1 (simple)
tired material	11:40		
	12:50		silent
	13:30	material #2 (slide)	
voice material #1	14:30	silent	material #1 (simple)
	16:10		silent
base material A & B	17:10-20:20	base material A & B	base material A & B

Figure 19: Time map used in performance of So Close #2

Performing

Without rehearsal, we discovered in concert how to improvise together, and the submitted video is a document of the piece in the moment of its discovery. This performance served as a fitting artefact, a snapshot of this particular moment in our collaborative relationship. In discussion with me a month after the concert, Tarozzi summarised:

The way that we found to do it and to play music, also to arrive to our concert. [...] It was something that expressed anyway a certain level of our experience and our work together. [...] All these, the colour that we expressed and a way to stay together on

scene [stage] and a way to do things, I think was an exact expression of the point where we are now. Also the expression of a big work before that. (Tarozzi, as transcribed from a recorded Skype interview, 2018)

See digital file 'Portfolio_So Close #2'

Portfolio: So Close #2. Silvia Tarozzi and Cassandra Miller concert performance

2.2.7 Tracery : Attending to a task (2018)

Voice, Tape, 15 minutes

Tracery : Attending to a task shares many similarities with the previous three *Tracery* modules: Fraser and I worked collaboratively, the making of the modules involved vocal mimicry, and the performance involved Fraser on stage together with a tape part consisting of recordings made during the making-process. However, it differs from the previous modules in significant ways:

- Fraser and I shared the role of composer equally—deciding source material, all details of process and result together. This change in roles followed naturally from the growth in our collaborative relationship over the previous two and a half years of *Tracery*.
- The entire making-process was filmed, and therefore we worked on a constrained timeline of three days.
- The source material consisted of spoken text rather than melody. The source is a 15-minute excerpt of the conversation between Pauline Oliveros and Robert Ashley (with interjections of a third character: an aesthetician) in *Music with Roots in the Aether* (Ashley, 1975-76).

- The tape part includes both Fraser's voice and, for the first time in a *Tracery* module, my own.
- Fraser and I explored the 'mimicking-becoming' technique of *So Close #2* (as discussed above in Section 2.2.6). As a result, the module does not employ canons.

The video documentary submitted here was filmed, edited, and produced by filmmaker Angela Guyton. It serves as one artefact of the *Tracery* project, a creative piece in its own right. It is not submitted as a portfolio item, as I did not create it—rather, this documentary stands in place of a written explanation of the making-process of *Tracery : Attending to a task*.

My wish for a *Tracery* documentary stemmed from my continuing challenge to share some aspect of the *Tracery* process with audience members. This topic calls for further research. Future *Tracery* artefacts may take the form of installations with integrated documentary aspects, or future performances may explore multimodal avenues for sharing the making-process. The making of this documentary, together with Guyton's films of *Tracery : Lazy*, *Rocking*, and *Tracery : The Slits*, serve as a starting place for this future research.

See digital file 'Portfolio_Tracery_Attending to a task'

Portfolio: Tracery : Attending to a task. Juliet Fraser, concert performance

See digital file 'Video Documentary_Tracery_Attending to a task'

Video Documentary: Tracery : Attending to a task. filmed and edited by Angela Guyton

2.3 Research phase 3: Crossover work (transcription of automatic singing)

2.3.1 Traveller Song (2017)

Cl., El. Guitar, Pno. Four-Hands (doubling Accordion), Violin, Viola, Cello, Tape, 25 minutes

Traveller Song combines both Methods 1 and 2. To create this piece, I first recorded myself (automatic singing) and then transcribed this recording to create the ensemble score. As source material, I chose the song of a cart driver (carrettiere) from Sicily. The song in question was recorded by Alan Lomax and Diego Carpitella, and appears on the album “Folklore Musicale Italiano, Volume 2” – the name of the singer was unfortunately not documented. Sicilian carrettieres sing alone while driving all day, and meet in taverns in the evening for singing competitions.

Though *Traveller Song* merits its own Research Phase on account of its combining of the notated and non-notated practices, little new is offered in terms of methodology. I employed the transcription model in a near identical way to earlier works, and I used the basic model of automatic singing to create the recordings of the voice.

The combination of the two methods worked seamlessly, in large part because the otherwise-onerous task of metricisation was made simple due to the regular 5-second intervals of the canon which I used in the automatic singing. This regularity made for regular measure-lengths. The process of harmonisation I used was borrowed from the Duet for Cello

and Orchestra (parallel triadic harmony), and the repetition and focussing-in (the constant simplifying of material) which was inherent to the singing gave form to the notated work.

In brief, I found that the methods combined well due to the similarity of their musical tools: repetition, focussing-in, and accord (types of unison). This piece reveals this striking similarity, and lead me to explore further these tools as a point of comparison and contrast between the notated and non-notated practices. As this discussion warrants its own section, the commentary on *Traveller Song* ends here, and an in-depth discussion of these tools forms the first section of this document's conclusion which follows (Section 3.1).

See digital file 'Portfolio_Traveller Song'

Portfolio: Traveller Song. Ensemble Plus Minus, concert performance

Chapter 3: Conclusions

3.1 Musical Tools (Comparisons)

This concluding chapter discusses three elements of musical language explored through the submitted works which serve an interesting purpose in the comparison of the two areas of practice. In Research Phase 1, these topics form an essential part of my musical language. In Research Phase 2, these same elements become tools of the making-processes themselves. In a sense, the composition actions in Phase 2 are a living-through, an enacting or an incorporating, of the musical tools used in Phase 1.

I conclude that the two methods discussed throughout this document differ in the following way: in my transcription practice these musical tools serve the 'com-posing' stage, whereas

in my automatic singing practice the same (or similar) musical tools are incorporated (corporeally) into the ‘mimicry’ stage.

The three topics are as follows: the relationship between repetition and melody / vocality; a gradual distillation of material I dub ‘focussing-in’; and types of unison referred to as ‘accord’ and ‘attunement’ (relating to homophony and heterophony). These topics have a common thread—they each aim to bring attention to the presence of bodies in real time. A philosophy of these elements of musical language would be outside the scope of this document—instead I focus on the elements of these topics which provide useful comparisons of the two areas of practice. For example, rather than claiming to understand the relationship of repetition to melody, I track the changing nature of my experiments relating to this line of enquiry. The trajectory of these three topics over the course of the grand shift in practice is summarised in Figure 20.

<i>Research Phase 1</i>	<i>Research Phase 2</i>
notated repetition, in relation to transcribed melody	repeating, as making-process
gradual distillation of material, erasure of contrasts	gradual distillation of material, as a result of focussing in meditation
homophony as type of unison, related to intentionality	heterophony as type of unison, a result of attunement in the making-process
<i>Research Phase 3 integrates concepts from both sides of the chart.</i>	

Figure 20: Musical tools, summary table

3.1.1 Melodic Repetition & Melodic Repeating

Notated Repetition

'Repetition draws us into music, and repetition draws music into us.' (Margulis, p180)

The notated pieces in the submitted portfolio use repetition in three different ways. First, the *Duet for Cello and Orchestra* and *Round* are built from *canons (or rounds)*, wherein the melodic material is layered, with multiple iterations entering at regular intervals. Second, the unremitting *repeated figure (or ground)* of a rising scale is used in *About Bach*, and in the *Duet*, a repeating two-note figure played by the solo cello serves a similar function. I refer to these unchanging ostinati or grounds (here I use the term 'ground' as one would 'ground bass', but without the implication of bass register) as 'repeating iconic figures'. Third, both *About Bach* and *Duet* enact a series of *reiterations* of self-similar phrases of material, rather than developing towards a goal.

Repetition and Intentionality

Each of these uses of repetition serve to bring my attention (empathetically) towards the intentionality of the performers, to their focus on the detail of their actions. In her book *On Repeat: How Music Plays the Mind* (2014), Elizabeth Margulis analyses from a psychological perspective how repetition can cause music to be 'experienced as lived/enacted phenomena, rather than heard/cognized ones' (p. 67). In the chapter *Attention, Temporality, and Music that Repeats Itself*, she makes links between repetition in ritual and repetition in music, describing how both cases demote goal-directed thinking, fostering a sense of intentionality and bringing attention to detail.

Repetition has been understood to serve the process of goal-demotion in ritual contexts. [...] The shift in attention itself can elicit a sense of profundity, sacredness,

or transcendence, as everyday goals are set aside, and new insights and perceptions are allowed to emerge. Moreover, as carefully controlled and replicated motor movements never happen by accident, the *deliberate repetition powerfully signals intentionality, revealing to the external world the internal commitment of the participant*. Goal demotion, for example, can be promoted in various ways by musical repetition. The very act of repeating a passage in the first place emphasizes a certain nonteleological attitude, intimating that *something within the sound itself*, rather than an aim toward which things are driving, should be the focus of attention. [emphasis added] (Margulis, 2014, pp. 57–58)

Elements of playing (detail) that may otherwise not be attended-to are brought to the fore through repetition. This includes details of sound and resonance, and also the physical reality of bodies in space, for example in the relating of person to instrument, or in the gestural precision of ensemble unison.

Intentionality and Vocality

Empathetic listening to voice and vocality, as discussed previously in Section 1.0.3, can also be brought to attention through such repetition. The music of Henry Flynt, discussed in Section 1.1.1, involves the precise and continuous repetition of gestures over lengthy periods of time—gestures thick with performance practice. This repetition, to my ear, says: ‘I intend this’.

I am aware also of a corporeal aspect of these gestures, like touch, seeming to say: ‘I intend this physical action, with my instrument, with your ears, empathetically with your body’. This intentionality of voice and touch is evoked by the repeating trumpet figure in *Round*, whose trance-like nature comes from a sense of a repeated physical action, that of rocking. The repeating, without change, seems to say, ‘I intend this rocking’, and as a listener, I attend to this rocking.

The music of Aldo Clementi may, at the first glance of a score, appear mechanical. However, in experiencing these works I attend to human gesture. It is not the interval I hear over and over, but the human paying it, the physical body mechanism, the performance practice, the social-cultural identity which says: 'I intend this; attend to this'. As a phrase repeats (or reiterates) until listening-exhaustion, my attendance comes and goes, but the sense of intentionality remains, as an open invitation.

In the course of making the *Duet for Cello and Orchestra*, I conducted various listening experiments to explore this relationship of intentionality (through repetition) to vocality (in melody), which are discussed in Section 2.1.2. These experiments laid the foundation for further investigations into this relationship, which run as a through-line, connecting these notated works with the non-notated practice.

Non-Notated Repeating

Repetition as Both Process and Form

In my non-notated practice, repetition is an essential part of the making-process, manifesting as it does as an embodied behaviour. In a practical sense, the repetitive actions (of multiple iterations of singing-along) create a quasi-repetitive melody. When singing-along to material set in canon, the voice tends to automatically imitate the most prominent gestures of each line. For example, in an eight-voice canon set at five seconds (i.e., a melody heard in eight identical layers, each starting five seconds after the previous one), the highest part of the phrase will return eight times at five second intervals, and the listening voice therefore tends to follow this highest gesture, up to eight times in a row. When this process is repeated, with the output recorded and set again in another eight-voice five-second canon, the resulting

melody may include this highest gesture repeated up to sixteen times. After eight iterations of singing-along, up to sixty-four repetitions of this phrase are possible, often gradually morphing with the prominent gestures of the surrounding phrases. In these pieces, the repetitive form (the repeating nature of the audible structures over time) arises directly from the repetitive process of their making (the returning multiple times to a similar action).

Intentionality vs Interoceptive Attention

This use of canons and of repeating (looped) processes follows directly from my experiments in repetition in the notated practice. The repeating of vocal gestures in this automatic way leads to an internal attention on the sensations of the full-body vocal production. The word 'intentionality' is not suitable to describe this phenomenon, as automatic singing engages with unintended aspects of voicing. Nonetheless, there is a great deal of similarity between my experience of listening to repeated performed melody and my internal experience while singing these continuously repeating gestures; the enacted integration of repeating gestures brings the detail of physical action to corporeal attention.

As an extreme example, my performance of *Still / Sill* (2018, Appendix 4) involves the singing of a single repeated pitch, each on a full breath, throughout its 17-minute duration. I have never before attended to such elaborate detail of vocal production (in particular the minute difference in each iteration of engaging and disengaging of vocal cords), though the detailed technique of vocal cord engagement has indeed structured each act of voicing since infancy.

3.1.2 'Focussing-In'

Notated Focussing-In: Subtracting & Removing Contrasts

Over the half-hour duration of *About Bach*, the original phrase is continually reiterated with an near-imperceptible process of subtraction of notes (as discussed in Section 2.1.1), such that listening attention focusses-in on the phrase's resolution—in particular, on the gentle, reverent, repeating, intentional and intimately unified motions of the bodies of the string quartet members, present on stage in real time. In the *Duet for Cello and Orchestra*, at the moment of quasi-climax of the building canons, the details of the melodic layers are slowly subtracted to reveal continuous waves of saturated harmony, in surging repetition over an extended time, before each layer is lifted one-by-one to reveal and celebrate a harmonic simplicity (as discussed in Section 2.1.2).

For the purposes of this dissertation, I coin the term 'focussing-in' as a way to describe a transformative formal process of subtraction of musical material, or of distillation of material through the subtraction of contrasts, complexity or detail. This term, in a positive way, replaces the more negative-facing terms decay, disintegration and erosion, which are often used to refer to similar processes, for example, in works of Aldo Clementi, William Basinski, and Alvin Lucier.

Evan Johnson, in his article *Catene simmetriche and the Stress of Duration* (2011), calls for a shift away from a concept of disintegration or debasement and towards one of generative productivity when speaking about the relationship between content and duration in the music of Aldo Clementi.

The silence at the end of these structures is no longer an image of loss, but rather one of accomplishment, the successful reconciling of a structural contradiction—the

end state of a formal language of joy, not resignation. The music is generative, not decaying; its progress is one of fertility, not foreordained barrenness [...] (Johnson, 2011, pp. 296–297)

The experience described here, of joy rather than resignation, indeed described my experience of listening to such works of Clementi, as they slow gradually from saturating complexity to revelatory clarity. Michele Zaccagnini, in his article *Deus Ex Machina, Uncovering Aldo Clementi's System* (2016), describes Clementi's elimination of contrasts (here attributed as a function of repetition) as a way to enact the 'goal demotion' described by Margulis.

The slightest variations in pitch material, dynamics, or even timbre could be enough to trigger music's pseudo-linguistic features. Clementi's lucid realization of a "narrative bias" in westerners' perception of music—a bias that he was determined to "rectify" in his music—is a key moment that defines Clementi's aesthetic. The erasure of contrasts is, therefore, far from being a choice based on trite ideology (i.e., a solipsistic intellectual fixation of sorts); on the contrary, it is instrumental to achieve a specific perceptual outcome for his compositions, one that would prevent the listener from locking in a narrative perception of the music. Clementi achieved his goal of eliminating contrast altogether from his music by means of a simple tool: repetition.' (Zaccagnini, 2016 p. 168)

Non-Notated Focussing-In: Interoception & Distillation of Melody

Where the notated works engage with 'focussing-in' as an element of musical language, as above, the non-notated works are preoccupied with 'focussing-in' as a behaviour, as an integral tool of the making-process.

The making-process of these pieces directly causes this distillation in three ways. First, the real-time mimicking removes a degree of complexity, as the singer is not able to 'catch' some elements of detail in the quick turns of the headphone audio. Second, as the experience of

interoceptive meditation connects the singer more closely with the sensations of vocalising than with auditory result, muscle tension can lessen, and the vocalisations can begin to follow the natural flow of inhalation and exhalation, approaching a simply intoned sigh—as most notably in *Tracery : Lazy, Rocking* (as discussed in Section 2.2.3). Third, when the singer mimics a layered canon, automatically favouring the most prominent features of the line, the melodic complexity and detail of the less prominent features of the line are naturally removed (for example, in *So Close #1*, Section 2.2.2).

In the making-ritual of these works, each time the material is mimicked, detail is removed further until only a very distilled repeated gesture is sung, or in some cases, nothing but breathing remains. In the experience of the singer, the sonic material is gradually internalised until it becomes similar to a keen, a mantra, or a meditative (yogic) breath. In a resonant loop, the singer performs—and is performed by—the focussing-in. As the sound resonates in the body, and the body resonates in the sound; the connection between corporeal sensation and melodic sound is amplified, and it is this amplification that produces and is produced by the distillation of musical material. Here, in this practice, the focussing-in of musical material (distillation by removal of detail) and the focussing-in of meditation (attending to interoceptive sensation, as a means of letting go of control and intention) are one and the same.

3.1.3 Accord & Attunement

The terms ‘accord’ and ‘attunement’ here refer to two types of unison: the rhythmic (gestural) unison of homophony, created by instrumentalists performing as a unit; and the pitch-and-gestural quasi-unison of heterophony, created by layering recordings of closely attuned mimicry.

Notated Accord

In *About Bach*, the *Duet for Cello and Orchestra*, and *Traveller Song*, I harmonise my transcribed melodic lines in an almost identical way, with unadorned parallel triadic homophony. This gestural (rhythmic) unison again brings attention to the intentionality of the players, the attunement and precision of their consort. This homophonic texture (as compared to contrapuntal texture, for example) adds equal emphasis to each note, and to each step or leap of the transcribed line. Attention is brought to the rhythm (pushing and pulling against pulse) and melodic movement (the striving upwards or falling downwards) of the source material, and as a result, these elements of the vocalicity of the transcribed line are amplified (as discussed in Sections 2.1.1, 2.1.2, and 2.3.1).

This amplification of corporeal intentionality can conjure images of individuals walking in synchrony: a marching opera chorus of Verdi, the concerted rhythm of a marching piping band, or *faux bourdon* psalm singing for procession⁵. The triadic harmonisation creates a pan-diatonic and consonant sound palette, with parallelism used in much the same way as with the music of Claude Debussy, which makes for a colour-laden non-teleological sense of stasis.

Non-Notated Attunement

As in the previous two musical tools discussed here, the non-notated works engage with the musical tool of ‘unison’ as a behaviour. In automatic singing, the act of mimicry relies on an attunement to the subject replayed in the headphone audio. The heterophony (the loose unison of both pitch and rhythm) heard in the submitted works is a result of layering of multiple mimicking iterations; heterophony here is a record (organised simultaneously) of

⁵ The connection to *faux bourdon* is notable, as I employ an identical technique: the transcribed melody remains the top voice (as the *cantus firmus* in *faux bourdon*), with voices added in parallel at a fourth and sixth below.

embodied learning. Similarly to repetition, as discussed above, musical form and making-process are linked: the heterophonic melodic relationships are not more than an archive (or tracing) of a process of attuning.

This quasi-unison, in a different way than homophonic accord, also brings attention to intentionality and detail. When sounding as a group (as a multiplication of the same voice, each performing the same task of empathetic mimicking), a unity of intent is felt, and the heard details of the corporeal voicing (a hesitation, a warble, or a breaking, all at the same moment) are amplified.

3.1.4 Musical Tools (Contrast)

In this conclusion, the similarity of these three tools in their different contexts creates a through-line between the two practices—and yet also reveals the crux of their methodological difference: in the first case I com-*pose* with these tools, and in the second I ‘music’ through them, in real (lived) time. In other words, in Method 1, the repeating, focussing-in, and accord occur in the com-*position* stage of the process. In Method 2, the repeating, focussing-in, and accord occur within the transformative mimicry stage itself.

This conclusion, however clear and powerful, is insufficient to explain the full difference between the two practices. In Section 3.2 below, I draw further conclusions about the knowledge (embodied technique) that lies behind these practices. In so doing, I open a path to future research about the space of creative exchange and about the power of an artist to reframe her practice.

3.2 Guiding Questions, Revisited

What knowledge structures the practice of notating? When notating is cast aside, which areas of technique replace it? How can one describe the knowledge that structures non-notated or post-notated compositional practice?

To address the questions above, I discuss three divergent answers. At first, I investigate the proposal that my research in Phase 2 constitutes embodied research, where Phase 1 does not. This investigation, however, leads not to a solution but to further questions. My second proposal is to name the areas of technique-as-knowledge which structure the two practices, and to note their meaningful differences. This proposal, too, leads to further questioning. A third answer emerges, bringing to light the significance of ‘sharing space’. I explore this answer, investigate its implications, and use it to clarify my first two proposals.

3.2.1 First Answer: Types of Research

When first writing this dissertation, I took the viewpoint that my transcription work does not constitute embodied research, but that automatic singing provides a place to enact or embody the untapped research potential of my notated practice. I include this assumption as the first response to the Guiding Questions. On further investigation and contemplation, I deduce that this temptingly simple answer is based on a misconception of notation, and serves to negate the Guiding Questions at hand.

In an article by Ben Spatz, he declares that a course of inquiry can be considered ‘embodied research’ if ‘the research itself, the processes and practices of repetition and discovery, are embodied’ (Spatz, 2017, p. 6). Comparing Research Phases 1 and 2, it is clear from the outset that Phase 2 constitutes embodied research. The processes of repetition and

discovery therein are explicitly embodied. My notated work in Phase 1 may appear at first to ask questions of the *technology of notation*, its nature and function, rather than of the body—leading to an assumption that the work is not embodied research. However, on further examination, I find that the artistic questions I ask through that work are about the *practice of notating*, as a verb. Notating is a human action, and my notating practice is indeed structured by embodied knowledge. In the commentary sections, and at length in my description of the transcription method of *About Bach*, I explain in detail the embodied aspects of the notating process, showing the practice to be structured by embodied knowledge (technique) of instrument use and of rhythm.

The recognition of transcription as an embodied practice allows the formation of my Guiding Questions. Indeed, such a gross differentiation would negate the questions themselves, as one must see the embodied nature of both practices in order to compare and contrast the embodied technique which structures them.

3.2.2 Second Answer: Areas of Technique

The second answer, also problematic, is that the areas of technique that structure transcription-based composing are essentially different to the areas of technique behind automatic singing. The Guiding Questions of this dissertation imply this answer, in their request for contrasting descriptions of these areas of knowledge. The questions also make the implication that the ‘casting aside’ of notation creates a hole to be filled, a gap in the fabric to be patched, the avoidance of one area of technique to make the need for another. To investigate the validity of this last implication, I begin by describing these areas of technique.

What knowledge structures the practice of notating?

I claim that the areas of technique-as-knowledge that structure the primary activities of the notating practice are as follows:

1. areas of technique relating to embodied listening (ways of listening empathetically to vocality and voice)—structuring, for example, the choosing of source material, or the use of repetition in the exploration of melody.
2. areas of technique relating to experiencing rhythm and breath, and to experiencing physical sensations of the resonance and reaction of an instrument (a body-empathy, memory, knowledge, in conversation meditated through a score)—structuring, for example, the metricising of a transcribed melody, or the making-idiomatic and making-resonant of melodic material.
3. areas of technique relating to participating in and developing collaborative relationships (creating empathy to musical and aesthetic intentions, musicking together in a variety of activities in shared rehearsal and concert space, making and developing social contracts through or around scores, sharing also meals, etc.)—structuring, for example, the sustaining of a long-term collaborative relationship with the Quatuor Bozzini, or the forging of a new musical relationship with Charles Curtis.

When notating is cast aside, which areas of technique replace it? How can one describe the knowledge that structures non-notated or post-notated compositional practice?

Looking at the primary activities of the automatic singing practice, the structuring areas of knowledge are, surprisingly, not meaningfully different. These areas could be described with the identical words:

1. areas of technique relating to embodied listening (ways of listening empathetically to vocality and voice)—structuring, for example, the choosing of source material, or the use of repetitive activities in the exploration of melody.
2. areas of technique relating to experiencing rhythm and breath, and to experiencing physical sensations of the resonance and reaction of the full-body vocal apparatus (a body-empathy, memory, knowledge, in conversation at a kitchen table)—structuring, for example, the choosing of the pace of particular canon-iterations, or the choosing of specific meditation activities.
3. areas of technique relating to participating in and developing collaborative relationships (creating empathy to musical and aesthetic intentions, musicking together in a variety of activities in shared creation, rehearsal, and concert space, making and developing social contracts through or around working processes, sharing also meals, etc.)—structuring, for example, the forging and sustaining of long-term collaborative relationships with Silvia Tarozzi and Juliet Fraser.

Enacting of Musical Tools, Revisited

In Section 3.1 above, I look at various musical tools, and show how elements of musical language in the notated practice are ‘lived’ (embodied, enacted, or incorporated) through the post-notated practice. From the opposite point of view, however, one could argue that the post-notated practice is simply another instantiation of the areas technique which structure both practices—and that the post-notated practice, instead of greatly expanding areas of musical technique-as-knowledge, is but one participant in the expansive and powerful technique learned over a lifetime of notating experience.

To illuminate this shift in emphasis, I revisit the musical tool I dub ‘focussing-in’. In that section, I underscore the importance of the expansion of knowledge when enacting that tool

in real time—however, the comparative breadth of knowledge behind these practices could be seen differently, not necessarily as a great expansion from one practice to another. For example, the listening to and creation of notated music has, over a lifetime, contributed significantly to my understanding of meditation and attention, to my experience of feeling the presence of bodies on stage in real time, to an empathy with a focussing intentionality. *About Bach* is part of a continuing exploration of this knowledge. *Tracery : Lazy, Rocking* (in the way it carries automatic singing, through greater focussing-in, to a silent conclusion), is also an exploration of the same area of technique. To claim that notated music is not lived or enacted to the same extent as non-notated music is either to misunderstand the immensely incorporating experience of embodied listening, or to miscalculate the nuance and power of the living communication tool that is notation. Without delving further into these misunderstandings, I propose simply that there could be multiple ways of interpreting the relative primacy of areas of knowledge behind translation and behind automatic singing, and that the narrative (given in Section 3.1) of expansion-through-enactment is not fixed.

With this shift in emphasis, an absence or avoidance, even a ‘casting aside’, these are not to be seen. It is possible then that the change in practice comes not from the absence of notation, a hole to be filled, but from another impetus. It is also possible that the new practice is not defined by the fact of being structured by new technique, but it is, primarily, an instantiation of old technique. How then to compare the practices? The differentiating factor eludes the first two answers here proposed. I return to these answers, reframed by a third, below.

3.2.3 Third Answer: Old Technique, New Space

The link between the answers above and the proposal that follows is the phrase from the previous paragraph, ‘an instantiation of an old technique’. Technique, as defined at the outset of this dissertation (Section 1.0.2), is common to moments of practice instantiated at different times, by different people, and in different places. Following from this definition, I posit that my non-notated work, which is structured by knowledge largely similar to that which structures my notated work, is made significantly different by its instantiation in a different location: in the physical presence of a collaborator, in a shared space.

Transformative Spaces: the Kitchen & the Mat

The Kitchen

The act of sharing physical space with a collaborator is a deeply significant and transformative one. More than a physical room, in this sharing is a third space arising from two people in the resonant act of listening, a between-ness.

Louise Marshall, in her recent dissertation *Deep Listening: The Strategic Practice of Female Experimental Composers post 1945* (2018), examines connections between this third space, the reframing of practice enacted by the five composers, and the musical / sonic implications (dubbed by Marshall as ‘(de-)composition’), allowed by this reframing. Her work investigates the existence and significance of ‘sonic artefacts’ which arise in interviews with five experimental composers. Sonic artefacts are ruptures in the linear narrative of an interview, and rely on the third space to manifest. The implications of Marshall’s work reach beyond interview technique, and the interrelations she explores (between space, reframed practice,

and '(de-)composition') have lead me to a new understanding of my grand shift in practice.

Marshall describes the experience of sharing space in terms of a resonant listening:

While this third space is a creation of the encounter between two people, it is one in which both participants are bound together in a listening experience that the psychoanalyst Édith Lecourt characterises as “one of *omnipresent simultaneity*”. (Lecourt 1990: 211, her italics) Both speaker and listener are engaged in a complex simultaneously created mesh of uttering, signifying and decoding. Meaning is archaeologically ordered in the sense that it is stratified through layers of nuance, idiolect, conscious and unconscious assumptions, of which the manifest (one might say superficial) meaning sits on top. (Marshall, 2018, p. 137–138)

Creating shared space is a practice, structured by technique: a way of listening, of attending empathetically to what is said, to how it is said, to 'sonic artefacts', to what is not said, to what is sung and what is not sung; and by a way of allowing for unpredicted and unpredictable outcomes, for process-led makings and interactings, allowing for moments of rupture of linear narratives or of linear musicking processes. This resonant space, both a psychoanalytic space and a shared voicing, is not only a way of being together, but also a way of making together, participating and musicking together. In relation to experimental composition, Marshall describes the third space as the location of a particular mode of working:

[The sonic artefact] offers the possibility of a communicative space in which composers and improvising musicians, through the use of listening and an intuition informed by a transferentially-sensitive attention, might locate themselves. Examples of this mode of working can be found in Oliveros's (de-)compositions (for example, the *Sonic Meditations*) and in Radigue's scoreless *OCCAM* series, in which she sets up parameters for a compositional collaboration to happen. (Marshall, p. 195)

In order to differentiate between two types of space, I dub this transformative space 'the kitchen', as a place of working together. In practice, Fraser and I would usually work in her

dining room or mine, Tarozzi and I in her living room. Nevertheless, 'the kitchen' makes for a fitting name; it is a space of making and it is a space of being-at-home.

The Mat

Where 'the kitchen' refers to a space shared between collaborators, 'the mat' refers to a space analogous to a meditation mat or to a yoga mat. Though a yoga mat can be approached alone or in community, the essential function of the mat is to provide a space for an individual's embodied learning. The mat is space afforded by my private studio work when singing alone, and it can also be the internal experience of my collaborator across from me in the kitchen. It is an interoceptive space.

The transformative power of the mat, in my practice, is related to a process-led exploration of automaticity. As described in Section 1.2.1, such explorations can open a space for exchanges and conversations between sedimented and attended knowledge.

These two spaces are entirely not separate. I learned to come back to the mat through the support of work made in the kitchen.

Learning

The significant areas of new technique learned through my new practice were as follows:

- a way of letting go of particular results (gendered, accepted, serious, 'good', exceptional)
- a way of listening to corporeal sensations, in particular ones I usually ignore
- a way of noticing which of those sensations I am ignoring
- many ways of allowing automaticity
- ways of mimicking, or empathising sonically

These were each learned in and through community, a combination of the use of the kitchen and the mat. Different areas of knowledge do structure the post-notation practice, but were generated by it, and were not in place a priori. What this implies is that there is an enormous power inherent in transferring technique to a new frame. I was misled to think that a shift from notation was to be my embodied research—instead, the research was in my taking of space.

Reframing: 'To Power'

Mary Beard speaks about the decoupling of power and prestige, in a way which supports the theory that these spaces of which I speak are of more importance than their simple change in geographical location implies:

You can't easily fit women into a structure that is already coded as male; you have to change the structure. That means thinking about power differently. It means decoupling it from public prestige. It means thinking collaboratively, about the power of followers not just of leaders. It means above all thinking about power as an attribute or even a verb ('to power'), not as a possession: what I have in mind is the ability to be effective, to make a difference in the world, and the right to be taken seriously, together as much as individually.

(Beard, 2017, p. 14, quoted in Marshall, p. 223)

The taking of space, and in particular the sharing and giving of space, is a feminist act.

However,

Cixous (1976: 875) is not writing about writing *by* women so much as a new feminine (*la nouvelle*) writing that is different – and differentiated – from that which came before, the old (*l'ancien*). In this sense, men are as capable of *écriture féminine* and *écriture féminine musicale* as are women. (Marshall, p. 152)

'Refusing a compositional form of containment, is, I suggest, in itself an *écriture féminine musicale*.' (Marshall, p. 159) I claim that this refusal of containment is analogous, in musical,

social, and personal terms, to the space discussed above. In that sense, composers who give and make space, regardless of gender, are acting on feminist principles. The scores of Scott McLaughlin, for example, with their open invitation to transmission of new listening technique; the scores of Aaron Cassidy, which involve great lengths of time where new embodied technique must be learned and shared in a space of open listening; the opera *Time With People* of Tim Parkinson, which, as the title suggests, involves people spending time together, in both creation and performance—these feminist works create space with and through notation, and with and through the work of men. My feminist invitation, to change the structure, to reframe, is open to all.

Marshall does not stop at the social and political implications of the *écriture féminine musicale*, but attends to the musical potential of this reframing. Speaking of Oliveros, Marshall declares that ‘to change the structure would be to irrevocably change how we listen and how we think.’ (Marshall, p. 224) In this concise and extraordinary list of accomplishments, Marshall lists the musical reframing actions of the five interview subjects:

Annea Lockwood has changed the structure: offering us the oceans of subsonic sound, she expands the sonic world, and, thus, our place as listeners, connected in a vast network of sound and referrals, in it. Ellen Fullman has changed the structure: the Long String Instrument is an installation that came out of sculptural ideas of presence and gesture; conceived and developed outside of any musical hierarchy or structure, Fullman’s ingenuity, expressed in both sonic and physical form, has rerouted music-making to a place where a performative presence is at the heart of her most sculptural composition. Joan La Barbara has changed the structure: her extended vocalising removes limitations on how one sounds one’s musical presence and insists upon new ways of being heard. Éliane Radigue has changed the structure: by slowing sound into its basic materialism, a matter of particles on tape, her composition offers a transcendent sonic materialism that accentuates transmission, listening and community. And Pauline Oliveros has changed the

structure: her request that we listen, and listen deeply, is an invitation to hear not only music and sound, but the sounds of ourselves and those of other people in the world: to hear our harmonies and our dissonances. At its most dilatory, Oliveros's Deep Listening is a listening to the soundings of sound in all its organised and disorganised manifestations. At the level of the individual person, Deep Listening asks us to attend to our positions as people linked to one community—and then another, and another and another—in which the sense of sound is the first and last point of social and political triangulation. (Marshall, p. 224)

Marshall concludes with an invitation, as do I. She invites others 'to change their own narrative structures: to listen with an acuity that embraces a sonicity that joins us to ideas, to history, to each other—to a sonicity that holds not only history but, in its radical listening, anticipates future sounds.' (Marshall, p. 225)

Building on this work, I invite others, as a key element of feminist community building (in which all genders participate) to make space, to give space, to listen—as community but also in art—to explore the ways in which it can be included, in notated, non-notated, improvisatory, fixed work; to notice when space is not given, to notice when a lack of space is considered normal or necessary, and experiment with sharing space in those situations, to change the frame.

Appendix: Ethical Review

Postgraduate Student Ethical Review (4 pages)

Participant Consent Form: Jennifer Thiessen (1 page)

Participant Information Sheet: Jennifer Thiessen (3 pages)

Participant Consent Form: Silvia Tarozzi (1 page)

Participant Information Sheet: Silvia Tarozzi (2 pages)

Participant Consent Form: Juliet Fraser (1 page)

Participant Information Sheet: Juliet Fraser (3 pages)

POSTGRADATE STUDENT / STAFF RESEARCH ETHICAL REVIEW

SECTION A: TO BE COMPLETED BY THE APPLICANT

Before completing this section please refer to the School Research Ethics web pages which can be found at <https://www.hud.ac.uk/mhm/researchgovernanceandethics/>. Applicants should consult the appropriate ethical guidelines.

Please ensure that the statements in Section C are completed by the applicant (and supervisor for PGR students) prior to submission.

Project Title	Transformative Mimicry: Composition as Embodied Practice in Recent Works
Applicant	Cassandra Miller
Supervisor (where applicable)	Dr Bryn Harrison
Award (where applicable)	PhD
Project start / end date	2014 / 2018

Mark 'X' in one or more of the following boxes if your research involves:

- direct contact with human/~~animal~~ participants
- access to identifiable personal data for living individuals not already in the public domain
- increased danger of physical or psychological harm for researcher(s) or subject(s)
- research into potentially sensitive areas
- use of students as research assistants
- covert information gathering or deception
- children under 18 or subjects who may be unable to give fully informed consent
- prisoners or others in custodial care (e.g. young offenders)
- significantly increased danger of physical or psychological harm for researcher(s) or subject(s), either from the research process or from publication of research findings
- joint responsibility for the project with researchers external to the University.

Please note that if you provide sufficient information about the research (what you intend to do, how it will be carried out and how you intend to minimise any risks), this will help the ethics reviewers to make an informed judgement quickly without having to ask for further details.

SECTION B: PROJECT OUTLINE (TO BE COMPLETED IN FULL BY THE APPLICANT)

<p>Issue</p>	<p>Please provide sufficient detail to allow appropriate consideration of any ethical issues. Forms with insufficient detail will need to be resubmitted.</p>
<p>Aims and objectives of the study. Please state the aims and objectives of the study.</p>	<p>The research project is intended to provide the research focus for a commentary on a portfolio of compositions, submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy. This ethics review supports research into a collaborative process of music composition.</p>
<p>Brief overview of research methodology The methodology only needs to be explained in sufficient detail to show the approach used (e.g. survey) and explain the research methods to be used during the study.</p>	<p>The three participants are performers who aided in the process of creation of new musical works. The process involved improvisation, meditation, and discussion.</p>
<p>Does your study require any permissions for study? If so, please give details</p>	<p>N/A</p>
<p>Participants Please outline who will participate in your research. Might any of the participants be considered 'vulnerable' (e.g. children)</p>	<p>The three participants were Jennifer Thiessen (viola d'amore), Silvia Tarozzi (violin), and Juliet Fraser (voice) — no children nor members of vulnerable populations.</p>
<p>Access to participants Please give details about how participants will be identified and contacted.</p>	<p>All three participants have agreed to their names being published next to quotations of discussion and audio / video documentation of their work. All three participants were contacted personally, and were artistic collaborators of the researcher in advance of the study.</p>
<p>How will your data be recorded and stored?</p>	<p>All data is encrypted and stored on my personal computer.</p>
<p>Informed consent. Please outline how you will obtain informed consent. If informed consent or consent is <u>NOT</u> to be obtained please explain why.</p>	<p>Consent was obtained informally at the start of the study. Official informed consent (in the attached Participant Consent forms) was obtained after the study.</p>
<p>Confidentiality Please outline the level of confidentiality you will offer respondents and how this will be respected. You should also outline about who will have access to the data and how it will be stored. (This information should be included on Information your information sheet.)</p>	<p>Only the researcher will have access to data collected, with the exception of specific quotations used in the commentary and specific audio / video documentation, for which the participants have given explicit consent for specific use.</p>

<p>Recorded Media Will the research involve the production of recorded media such as audio and/or video recordings? If so how will you ensure that there is a clear agreement with participants as to how these recorded media may be stored, used and (if appropriate) destroyed?</p>	<p>Only the researcher will have access to recorded media collected, with the exception of specific audio / video documentation, which the participants have reviewed, and for which the participants have given explicit consent for specific use.</p>
<p>Anonymity If you offer your participants anonymity, please indicate how this will be achieved.</p>	<p>N/A</p>
<p>Harm Please outline your assessment of the extent to which your research might induce psychological stress, anxiety, cause harm or negative consequences for the participants (beyond the risks encountered in normal life). If more than minimal risk, you should outline what support there will be for participants. If you believe that that there is minimal likely harm, please articulate why you believe this to be so.</p>	<p>No harm.</p>
<p>Does the project include any security sensitive information? Please explain how processing of all security sensitive information will be in full compliance with the "Oversight of security - sensitive research material in UK universities: guidance (October 2012)" (Universities UK, recommended by the Association of Chief Police Officers)</p>	<p>No.</p>
<p>Retrospective applications. If your application for Ethics approval is retrospective, please explain why this has arisen.</p> <p>Consent was obtained informally at the start of the study. Official informed consent (in the attached Participant Consent forms) was obtained after the study. The participants entered into the research willingly and with full knowledge of the project. After the commentary was written, it became important to obtain consent (as requested by the examiners) from the participants for the use specific quotations which were chosen only in the writing of the document. It was only after the writing was finalised that the consent forms could be filled accurately.</p>	

SECTION C – SUMMARY OF ETHICAL ISSUES (TO BE COMPLETED BY THE APPLICANT)

Please give a summary of the ethical issues and any action that will be taken to address the issue(s).

<p>Ethical issue: Excerpts of personal email correspondence (between participants and researcher) and of personal conversations (between participants and researcher) are quoted in the commentary.</p> <p>Action taken: Participant Consent Forms with accompanying Participant Information Sheets were adapted from the general model provided by the University to contain the exact</p>

participant quotations used in the commentary, in advance of its final submission. This action gave the participants the option to ask for omissions or changes to the quotations, giving them complete control over which of their words would become publicly available. Additionally, all audio / video documentation that involves the participants was reviewed by the participants, and their consent for the use of the documentation is given through the Participant Consent Forms with accompanying Participant Information Sheets.

SECTION D – ADDITIONAL DOCUMENTS CHECKLIST (TO BE COMPLETED BY THE APPLICANT)

Please supply copies of all relevant supporting documentation electronically. If this is not available electronically, please provide explanation and supply hard copy.

I have included the following documents

Information sheet (x3)	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>
Consent form (x3)	Yes	<input checked="" type="checkbox"/>	Not applicable	<input type="checkbox"/>
Letters	Yes	<input type="checkbox"/>	Not applicable	<input checked="" type="checkbox"/>
Questionnaire	Yes	<input type="checkbox"/>	Not applicable	<input checked="" type="checkbox"/>
Interview schedule	Yes	<input type="checkbox"/>	Not applicable	<input checked="" type="checkbox"/>

SECTION E – STATEMENT BY APPLICANT

I confirm that the information I have given in this form on ethical issues is correct. (Electronic confirmation is sufficient). Applicant name: Cassandra Miller

Applicant Signature:



Date: April 30, 2019

Affirmation by Supervisor (where applicable)

I can confirm that, to the best of my understanding, the information presented by the applicant is correct and appropriate to allow an informed judgement on whether further ethical approval is required

Supervisor name: Dr Bryn Harrison

Supervisor Signature:



Date: April 30, 2019

University of Huddersfield
School of Music Humanities and Media

Participant Consent Form (E4)

Title of Research Study: Transformative Mimicry: Composition as Embodied Practice in Recent Works

Name of Researcher: Cassandra Miller

Participant Identifier Number: N/A

I confirm that I have read and understood the participant Information
sheet related to this research (attached, three pages), and have had
the opportunity to ask questions.

I understand that my participation is voluntary and that, in advance of
publication, I am free to withdraw at any time without giving any reason.

I understand that the quotations and documentation included in the
information sheet (and no others) will be published.

I understand that the above quotations and documentation will not be
anonymised, and I give permission for my name to be published along
with these responses.

I agree to take part in the above study

Name of Participant: Jennifer Thiessen

Signature of Participant: _____

Date: April 30, 2019

Name of Researcher: Cassandra Miller

Signature of Researcher: _____

Date: April 30, 2019

Participant Information Sheet

Research Project Title: Transformative Mimicry: Composition as Embodied Practice in Recent Works

Name of Researcher: Cassandra Miller

Contact Details of Researcher: Cassandra.Miller@hud.ac.uk

You are being invited to take part in a research project. Before you decide, it is important for you to understand why this research is being done and what it will involve. Please take time to read the following information and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. May I take this opportunity to thank you for taking time to read this.

1. What is the purpose of the project?

The research project is intended to provide the research focus for a module which forms part of my degree. The topic of research is a collaborative process of music composition.

2. Why have I been chosen?

You have been asked to participate as a performer who has participated in the creation of music compositions included in my research.

3. Do I have to take part?

Participation on this study is entirely voluntary, so please do not feel obliged to take part. Refusal will involve no penalty whatsoever and you may withdraw from the study at any stage without giving an explanation to the researcher.

4. What do I have to do?

You are being asked to participate in the creation of music compositions, and to discuss the process with me in recorded conversations and emails.

5. Are there any disadvantages to taking part?

There should be no foreseeable disadvantages to your participation. If you are unhappy or have further questions at any stage in the process, please address your concerns initially to the researcher if this is appropriate. Alternatively, please contact Professor M. Adkins (m.adkins@hud.ac.uk) at the School of Music, Humanities and Media, University of Huddersfield.

6a. Will all my details be kept confidential?



All information which is collected in our discussions and creative processes, with the exception of the following quotations and documentation, will be strictly confidential in compliance with the Data Protection Act and ethical research guidelines and principles. The following quotations and documentation will not be anonymised, and your name will be published with them.

6b. Quotations and documentation to be published in the thesis (not anonymised)

Quotation #1 (personal email correspondence, 2015)

I tried to go with your instructions to just continue and keep meditating and keep whatever is there even though the perfectionist in me fought back! Especially with the first vocal tracks since I was trying to find the notes in a range I can sing in! So there are some wobbles for sure, and it was a struggle to really meditate through the whole thing but I kept coming back whenever I caught myself analysing, etc. So, at the very least it was a great and challenging meditation session!

Quotation #2 (personal email correspondence, 2015)

Ok, so this one was trippy. I kind of went to town on the meditation part... inspired by your account of crying when you do it on your own....! So I really focussed on my body sensations starting from head and moving down, and let the sounds I was hearing in to sort of guide me and also interacted with them sort of instinctually. Breath played a big part, and the vibration of certain notes in certain places, and feeling more open and closed in different places...

Documentation #1 (audio):

Portfolio: Undone (archival stereo version) See *digital file 'Portfolio_Undone'*

Documentation #2 (audio):

Audio Example 9: Source material, Undone
See *digital file 'Audio Example 9_Source material Undone'*

Documentation #3 (audio):

See digital file 'Audio Example 10_Automatic singing Undone' *Audio Example 10 : Automatic singing, sixth iteration, Undone, Phase 1*

Documentation #4 (audio):

Audio example 11: Instrumental mimicking of sixth iteration, Undone, Phase 1 See *digital file 'Audio example 11_Instrumental mimicking of sixth iteration Undone'*

Documentation #5 (audio):

Audio Example 12: Headphone audio, Undone, Phase 2 See *digital file 'Audio Example 12_Headphone audio Undone'*

Documentation #6 (audio):



Audio Example 13: Automatic singing, Sixth iteration, Undone, Phase 2 See digital file 'Audio Example 13_Automatic singing Sixth iteration Undone'

Documentation #7 (audio):

Audio Example 14: Instrumental mimicking of sixth iteration, Undone, Phase 2 See digital file 'Audio Example 14_Instrumental mimicking of sixth iteration Undone'

Documentation #8 (audio):

Audio Example 15: Headphone audio, Undone, Phase 3 See digital file 'Audio Example 15_Headphone audio Undone'

Documentation #8 (audio):

Audio Example 16: Automatic singing, Sixth iteration, Undone, Phase 3 See digital file 'Audio Example 16_Automatic singing Sixth iteration Undone'

7. What will happen to the results of the research study?

The results of this research will be written up in the thesis entitled *Transformative Mimicry: Composition as Embodied Practice in Recent Works*. If you would like a copy please contact the researcher.

8. What happens to the data collected?

Our discussions will give insight into my research about compositional processes, and elements of this discussion will be published in my thesis, to contribute to the commentary on my submitted portfolio of works. Audio and video documentation of your performance of the music will be submitted as documentation of my portfolio of compositions.

9. Will I be paid for participating in the research? No.

10. Where will the research be conducted?

At your place of residence (Montreal, Canada).

11. Criminal Records check (if applicable) Not applicable.

12. Who has reviewed and approved the study, and who can be contacted for further information?

Dr Bryn Harrison, Reader in Composition, University of Huddersfield
B.D.Harrison@hud.ac.uk



Participant Consent Form (E4)

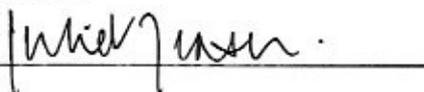
Title of Research Study: Transformative Mimicry: Composition as Embodied Practice in Recent Works

Name of Researcher: Cassandra Miller

Participant Identifier Number: N/A

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- I agree to take part in the above study

Name of Participant: Juliet Fraser

Signature of Participant: 

Date: April 30, 2019

Name of Researcher: Cassandra Miller

Signature of Researcher: 

Date: April 30, 2019

Participant Information Sheet

Research Project Title: Transformative Mimicry: Composition as Embodied Practice in Recent Works

Name of Researcher: Cassandra Miller

Contact Details of Researcher: Cassandra.Miller@hud.ac.uk

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6b. Quotations and documentation to be published in the thesis (not anonymised)

Quotation #1 (personal email correspondence, 2016)

Without thinking too carefully or slowly, I am thinking about how I can better connect with my body. How breathing can be as valid a part of singing as vocalising, how to inhabit a slightly different performative 'posture' when on stage (essentially how to lose all the polish and the mask and instead be something more honest, more human, more generously sharing of a real process). [...] That is a lot about what this project is for me: stripping away the crap to be alone, to be me, to make music without the tedious constructs. [...] I want what I sing to mean something, to me (and therefore to the audience). [...] I think I'm looking for honesty, in text and in music, and therefore in my delivery. I'm not afraid of hard work. I want to bond with this piece: I want it to inhabit me.

Quotation #2 (audio transcription of recorded interview, 2018)

J: Thinking about the collaborative process, I think one of the things that's been particularly meaningful for me is that this collaboration has had a lot of space for me. [...] there has been, I feel, more room for me in the creative process than normal. But it also strikes me in the work that we've done together and the work that you're doing with Silvia that there's a lot more of you in these new pieces.

C: I was going to say that, yeah, I was going to say that there's a lot of room for both of us. We've made a lot of room.

J: Yes.

Quotation #3 (audio transcription of recorded interview, 2018)

My big takeaway from *The Laugh of the Medusa* is... I can't remember the exact words.. but she says 'Women, write! Write your bodies, write your stories, write yourselves.' And I think that's what we've done. Ironically, we haven't written anything down! But... but this is us. These pieces are...us. This is us documenting us. And that what she's getting at. I feel that it's about...about a form of documenting our histories, and that is partly what Tracery is doing I suppose.

(JF)

Documentation #1 (video):

Tracery : Lazy, Rocking. Juliet Fraser, filmed by Angela Guyton

See digital file 'Portfolio_Tracery_Lazy Rocking'

Documentation #2 (audio):

Fraser's first singing to Johnston string quartet (excerpt)

See digital file 'Audio Example 18_Fraser's first singing'

Documentation #3 (video):

Tracery : Hardanger. Juliet Fraser, concert performance at Café OTO, London

See digital file 'Portfolio_Tracery_Hardanger'

Documentation #4 (video):

Tracery : The Slits. Juliet Fraser, filmed by Angela Guyton

See digital file 'Portfolio_Tracery_The Slits'

(JF)

Documentation #5 (video):

Tracery : Attending to a task. Juliet Fraser, concert performance

See digital file 'Portfolio_Tracery_Attending to a task'

Documentation #6 (video):

Video Documentary: Tracery : Attending to a task.

See digital file 'Video Documentary_Tracery_Attending to a task'

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9. Will I be paid for participating in the research?

No.

10. Where will the research be conducted?

At our places of residence (Huddersfield and London), and at the University of Huddersfield.

11. Criminal Records check (if applicable)

Not applicable.

12. Who has reviewed and approved the study, and who can be contacted for further information?

Dr Bryn Harrison, Reader in Composition, University of Huddersfield

B.D.Harrison@hud.ac.uk

Participant Consent Form (E4)

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Name of Researcher: Cassandra Miller

Participant Identifier Number: N/A

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- I agree to take part in the above study

Name of Participant: Silvia Tarozzi

Signature of Participant: 

Date: April 30, 2019

Name of Researcher: Cassandra Miller

Signature of Researcher: 

Date: April 30, 2019

Participant Information Sheet

Research Project Title: Transformative Mimicry: Composition as Embodied Practice in Recent Works

Name of Researcher: Cassandra Miller

Contact Details of Researcher: Cassandra.Miller@hud.ac.uk

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S.V.

6b. Quotations and documentation to be published in the thesis (not anonymised)

Quotation #1 (written text created within composition process, 2015)

*She caress the words, the touch lightly.
The sound is a little vibrato but just a little, soft, tender and warm. You could almost see her body singing because the voice is completely embodied.
Like a prayer or invocation.
Melodic line has a movement from the high to ground, like to glide.
Some words or notes more important for her are suspended for a long time.
Time is dilated.
In the introduction the piano fills the air with many harmonies, so when the voice enter and empties the accompaniment, the air is full of echoes of harmonies.*

Quotation #2 (spoken text, recorded Skype interview 2018)

The way that we found to do it and to play music, also to arrive to our concert. [...] It was something that expressed anyway a certain level of our experience and our work together. [...] All these, the colour that we expressed and a way to stay together on scene and a way to do things, I think was an exact expression of the point where we are now. Also the expression of a big work before that.

Documentation #1 (audio): See digital file 'Portfolio_So Close #1'

Documentation #2 (video): See digital file 'Portfolio_So Close #2'

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No.

10. Where will the research be conducted?

At our places of residence (Huddersfield and Vignola), and at the University of Huddersfield.

11. Criminal Records check (if applicable)

Not applicable.

12. Who has reviewed and approved the study, and who can be contacted for further information?

Dr Bryn Harrison, Reader in Composition, University of Huddersfield
B.D.Harrison@hud.ac.uk

S. T.

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