THE VISIBILITY OF BREATHING: FLUTE PERFORMANCE PRACTICE, COLLABORATIVE COMPOSITION, PERFORMANCE ART, AND RESILIENCE

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Abstract

This body of practice-based performance and collaborative composition research consists of the documentation of four substantial creative projects alongside a contextual and critical commentary. This research contributes to a growing area of scholarship that engages hybrid music practice and, as such, provides vital case studies to better understand entangled 'performer' roles of interpreter, advisor, improviser, deviser, curator, and co-composer.

The creative work is positioned simultaneously within performance art and concert music paradigms, to provide new knowledge in conceptual work situated within a diverse, music-focused, artistic practice. The research considers the performer's body, including its abilities and limitations, as a catalyst and starting material for new creative work, and in doing so provides new knowledge on the relationship between breathing, air, the environment, and flute performance and composition practice.

By further situating this creative work within specific examples of physical and social trauma, the work maps and draws parallels between an evolving creative musical practice and a personal trajectory towards overcoming and developing resilience. Within this, the work and accompanying commentary serve as a critical examination of issues including: music and ableism; music performance practice and female body image; music-making as self-improvement; and complex artistic collaborative relationships in which the focus is the performing body, trauma, and resilience.

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Chapter 1: Introduction

1.1. Research aims

The primary aim of this practice-based research is to create and perform new work in collaboration with a wide range of composers and artists with starting points of physical restriction in breathing, and the personal narrative of injury, recovery, and long-term management of a respiratory condition. My initial project, Coming Up for Air, has generated over one hundred pieces by different composers, each one limited to a single breath. The aim is to examine the symbiotic relationship between composer and performer in the context of this restriction and narrative, and to explore the possible creative imperatives that emerge from these starting points. This creative project and thesis reflects on the social, artistic, and music-performance role and visibility of breath and breathing and how this is addressed in Coming Up for Air. This leads to developing new insights into collaborative dynamics, and explores, through the artistic practice, the therapeutic relationship between musical development, musical transformation, physical recovery, personal growth, and resilience.

The theme of transformation is explored further in three substantial subsequent projects with Annie Hui-Hsin Hsieh, Jessica Aszodi, and Andy Ingamells. All of these projects have led to pieces that are co-composed, were intended to be jointly performed, and have developed from themes of physical, social, and artistic resilience and transformation. Through these projects and Coming Up for Air, this research contributes to a growing area of scholarship that engages hybrid music practice and, as such, provides vital case studies to better understand entangled 'performer' roles of interpreter, advisor, improviser, deviser, curator, and co-composer. This project also recognises the autonomy and agency of numerous artistic collaborators and evaluates their contributions more nebulously: these pieces and experiences have shaped a new creative compositional theatrical and devising practice.

1.2. Methodology: practice research, autoethnography, and resilience

This thesis is situated within an evolving field of practice as research engaging with music performance (with emphases on flute performance practice and experimental approaches to performance practice), composition, and curation with a further focus on experimental music, breathing and physicality, feminist research, creativity and resilience, and distributed creativity in collaboration. As a consequence, this research reflects a hybrid practice and is informed by a broad range of existing research with the intention to contribute primarily to

discourses on creative practice research and music performance and composition research as well as, more peripherally, critical feminist and disability studies.

The approach to this work acknowledges philosopher David Pears' (1971) observation that "practice nearly always comes first" (p. 29) and therefore recognises that "critical reflection on process is an integral part of the research inquiry, as it might well be in the making of artwork. But, because arts research is subtly different from arts practice and makes small, but significant, additional demands, it is necessary in PaR [practice as research] actively to promote critical reflection" (Nelson, p. 29). In this case, the critical reflection of each step of the project informs, in part, subsequent artwork as well as the wider application of the new knowledge emerging from the creative and performance practice. This research also engages with autoethnographic approaches to research and critical reflection. The significance of injecting the personal into critical writing on creative practice is becoming increasingly ubiquitous; a recent conference introduction at the University of Glasgow observes that "the advent of autoethnography, a form of qualitative social science research that combines an author's narrative self-reflection with analytical interpretation of the broader context in which that individual operates, holds particular significance for the field of music composition (broadly conceived)" (Wiley, 2019). I would go further and assert that this autoethnographic paradigm shift in creative research mirrors the impact that ethnographic research has historically had on traditional musicology. In Nicholas Cook's chapter *We are all (Ethno)musicologists now* he argues for the transformational combination of ethnomusicology and musicology acknowledging the latter's then recent move towards "social-interactionist approach to musical meaning" (p. 55) (and in doing so emphasises performance). I am inclined to extend this argument to performer and composer researchers: we are all *autoethnographers* now.

This research is also concerned with composition and music performance as acts of developing personal physical and psychological resilience. Brydie-Leigh Bartleet and Carolyn Ellis's publication *Making Authoethnography Sing / Making Music Personal* demonstrates how autoethnographic approaches can lead to new readings in performance practice and that this can be entangled in, and generate, therapeutic experiences (2009). My own research foregrounds this, as the initial project (as well as features of subsequent projects) are directly informed by autobiographical crises. This work is therefore simultaneously intended as: multi-textual metaphors for these crises; as ethnographic starting points for sharing comparable experiences with collaborators; and as direct ways of

positively addressing the psychological and physiological concerns arising from these personal circumstances. To that end, this work is intended to be explicitly personally transformational. In this respect I am sympathetic to Tim Ingold's distinctions between ethnography and anthropology. He writes, "anthropology is studying with and learning from; it is carried forward in a process of life, and effects transformation with that process. Ethnography is a study of and learning about, its enduring products are recollective accounts which serve a documentary purpose" (2013, p. 3). Although autoethnography might reasonably be considered to be more inherently transformation and less documentary than a traditional ethnography, in this case the transformational nature of these projects is of paramount performance and requires emphasis. Therefore, I consider this project to be an 'auto-anthropology'.

This transformational 'anthropological' consideration has informed the creative approach to my collaborative projects. The first, Coming Up for Air, is a substantial collection of pieces limited to a single breath (one inhale and one exhale), in which one of the key starting points was my own problems with breathing. Over a period of some years I developed increasing difficulties in breathing through my nose, aggravated by allergies, asthma, and recurrent sinus infections. My vulnerability to these infections was likely exacerbated by other psychological and physiological stresses; I was a long-term victim of domestic abuse and then a young single parent living in the UK with my entire family in the USA. These circumstances also meant I delayed properly confronting and addressing my physical illness until the situation was almost career-ending. Coming Up for Air is part of my response to the recovery from the necessary surgical operation on my sinuses so that I could resume my professional career and, more personally, demarcates the point at which I was empowered to take more control of my own life.

The project functions as a sequence of pieces that challenge breath control (and therefore operate as therapeutic breathing studies), and importantly serves as Ingold-like 'anthropological' symbiotic dialogue between myself and the composers/co-composers/other collaborators for each piece. In some cases, this allowed composers, sometimes for the first time, to address their own physical situations through their music. For example, Megan Grace Beugger's *Asthmatic Inhalation and Exhalation* (2017) describes her own experience with asthma; Lucy Hale's *When we breathe* (2019) features a recording of her own voice and breath, which are dramatically affected by her physical circumstances; Charlotte Marlow and Chrissie Pinney's *Breathless* (2018) considers breathing in the context

of a positive sexual experience. Other composers found that my physiology was rendered more visible because of the extreme restrictions of the brief and attempted to extend the duration of their work as much as possible, causing me visible discomfort in performance. However, the more extreme pieces emerged as a direct result of a collaboration framed by such a personal experience. In most cases, the composers' sentiments about the project emerged after their piece had been written and performed (this is explored in detail in Chapter 3). Mark Dyer's *Memento for Kathryn (And Being Able to Hold That Forever)* (2018) takes this to extremes by including extracts from our conversations while working together (specifically autobiographic experiences regarding recovering from surgery) as the soundtrack for the piece.

1.3. Research context

The starting point for this project is to connect to, and fundamentally extend, John Rink's radical re-evaluation of the agency of the performer and performer/musical work relationship (Rink, 2018). I seek to contextualise this within the work of artist interpreters, improvisers, and performer/composers who specifically consider autobiographical and personal concerns as part of an autoethnographic methodology.

Of particular interest are performers who discuss or document their journey from interpreters to composers. In Sarah Nicolls' *Moments of Weightlessness* (2014) for her own 'inside out' piano and soundtrack, she narrates the work through the recording as if disembodied, describing the process of making and building the piano, composing the music (having until that point mainly been an interpreter and improviser), and making the decision to become pregnant, give birth, and raise children. By connecting the creation of a new instrument, performance and composition practice to childbirth, she also creates a fundamentally feminist reading of her practice challenging a masculine status quo in contemporary music performance and composition.

Catherine Laws' recent new version and interpretation of Annea Lockwood's multimedia composition *Ceci n'est pas un piano*, for piano, video, and electronics, similarly explores performer agency in relation to her body. As with Coming Up for Air, Laws focusses minutely on the main interface between her body and the instrument: her hands, including an autobiographical dimension shared in performance. In her new text for the piece, recorded and played back inside the piano or played through a traducer speaker connected

to the soundboard of the instrument, entangling the identity of the instrument and performer, we hear:

> These hands of mine: I sometimes wonder where they come from, how they got this way. They're not much like my mother's: hers are thinner, whiter, more elegant; the fingers look long and slender where mine are stubby and chunky. And I haven't looked after mine… Arthritis runs in my family, and I do worry what that might mean for me. So far, I've been lucky, but with every little twinge I imagine the worst. (Laws, 2018, p. 351)

This entanglement of performer, instrument, and personal narrative is closely connected to Coming Up for Air, where the focus is on breath and breathing, although in my case I have not been so lucky. Some of the breathing difficulties I have experienced further connect to Laws and her hands, although for opposite reasons: "sometimes in performance it's as if I become detached from my hands: they're outside me, dancing for me. Watching films of my playing has the same effect: there's an agility, an assuredness I don't recognize" (Laws, 2018, p.353). My research subscribes to Laws' "questioning of the notion that the instrumentalist's body is a vehicle for the realisation of cognitised musical intentions"(2014, p. 131).

There are also examples in my research[1] similar to Laws' description of "examining composition as choreography, but a choreography in which the intimate relation between the physical and the sonic was embedded" (Laws, 2014, p.139). However, there are also examples where the innate physicality of performance is rendered theatrical beyond the physicality of usual instrumental performance practice. In these cases, choreography is not a feature of the work, and if it were, then the pieces would be very different in their intent and meaning. For example, the exercise in *PIXERCISE* (2018) (Chapter 4) and Ingamells and I eating while performing Larry Goves' *happy/boomf/fat* (2018) (Chapter 6). As with Claudia Molitor's *Voice Box* (2009), in which a performance or rewriting of a vocal master score is affected by an action or intervention chosen by the performer, choreography in these cases might compromise the authenticity of the performance (Chapter 5). In these cases, perhaps a suitable description of an embodied practice comes from Jennifer Torrence: "I felt like my body and artistic tendencies were the literal material being thrown around like oil on canvas, whereby my specific artistic practice becomes the material of the work" (Torrence, 2018).

[1] Examples include the work with Jessica Aszodi (Chapter 5), Andy Ingamells (Chapter 6) and some of the pieces written for *Coming Up for Air* (Chapter 3).

Philip Thomas, in an article examining two movements of Christian's Wolff's *Pianist: Pieces* (2001), also considers the personal impact of his hands on the interpretation of the music. His article considers:

> How in this work the physiology of the pianist's hands limit and shape the music both in terms of *what* is played (which sounds are heard) and *how* they are played. Specifically… how *my* hands and my interpretative preference determined what is played and heard when I am the pianist in these pieces. (2016a, para. 1)

He goes on to explore the agency of himself as performer in the context of the performance practice required for Wolff's music and how:

> it might relate not to sounds to be made, or limits of sounding material, but to the performer's willingness to be surprised, to be curious in the performance act, possibly to fail, to push to her limits, maybe beyond those limits, and hopefully also to discover possibilities about the music through performance itself. (2016a para. 48)

Thomas connects this to a tendency towards fragility "sometimes leading to breakdown or failure" (2016a, para. 49) and connects this to Alvin Lucier's music. This is interesting because Coming Up for Air begins with reflections on musical and physical fragility, musical and physical failure, and music by Lucier (as well as Brian Ferneyhough).

As breathing is such a universal act, a largely invisible intimate entanglement with the world around us, I have also been drawn to projects that explore autoethnographic tendencies in connection to performance and the environment. Performance artist and researcher Annette Arlander makes much of her artwork with plants and trees, considering the notion of a performance agency in a much more elusive context. By considering that "recent scientific studies of plant behaviour and plant genetics have revealed that we share of lot of life processes with plants due to our common descent from one-cell organisms" (2020, p. 135) with "the notion Planthroposcene, proposed by anthropologist Natasha Myers (2017), is a reminder to put our self-importance into perspective" (ibid.). The environmental impact on breath and breathing can profoundly affect music performance, is often invisible, and only usually noted where there is a serious problem (see Chapter 2).

As a consequence, when considering literature on artistic collaborations, I am drawn to the more discursive approach for documentation that allows for personal insights into a working approach, often with documentation that extends beyond act of making into social and personal interactions. It has been interesting to note that Amanda Bayley's ethnographic and documentary-like research on composer Nicole Lizée's work with the Kronos String Quartet

and composer Michael Finnissy's work with the Kreutzer String Quartet is in collaboration with the composer and one of the performers (Neil Heyde), respectively (Bayley & Heyde, 2017 and Bayley & Lizée, 2016). The documentation of this project similarly requires the voices of the composers and performers for its rigour, details, and authenticity. Composer Fabrice Fitch and cellist Neil Heyde's (2007) diary-like back and forth illuminates how the personal affects the collaboration and, in the context of this research, offers a more compelling methodology than the more empirical approach from Sam Hayden and Luke Windsor (2007). Composer Cassandra Miller, when discussing the collaborations that formed part of her doctorate, highlights the importance of personal interactions beyond the easily identifiable as 'collaborative work' and, in her project, uses traditionally feminine imagery to define these spaces (2018). Ellen Mara De Wachter's 2017 book on (predominantly visual and performance) artists' creative collaborations takes the form of a sequence of interviews with 25 partnerships and collectives often emphasizing the personal, intimate, and the everyday.

It has been compelling to see how performers find neutral spaces to facilitate their collaborative endeavours, and both Zubin Kanga (2017) and Sarah Nicolls (2010) described autoethnographic projects where technology is a mediating space for their collaborations. It has been particularly useful in Coming Up for Air, which has an unusually large body of data to draw on, to question some of the methodological assumptions, or at least engage with a wide variety of collaborative methods. For example, when working on new collaborations with composers and motions sensors, Nicolls writes:

> their dependence on the detail of each person's body and reaction is so refined as to necessitate, I would argue, an entirely collaborative approach and therefore one that involves at least directed improvisation and, more likely, fairly extensive improvised exploration." (Nicolls, 2010, p. 47)

Coming Up for Air does have examples of improvisation to facilitate collaboration, and this is further developed in projects with Hsieh, Aszodi, and Ingamells. I would argue that an entirely collaborative approach does not necessitate improvisation, however much it might be prevalent in certain circumstances, and that the phrase "directed improvisation" potentially points to issues of hierarchy and degrees of agency which are at the heart of practical and theoretical questions about collaboration and distributed creativity in composition and performance. In a review of Philip Thomas' album *Comprovisation*¸ Tim Rutherford-Johnson acknowledges that the invisibility of composer/performer agency when composition and improvisation are combined:

> At first it is frustrating that, despite telling us that these pieces are a mixture of the fully notated and the partly improvised, Philip Thomas doesn't expand his sleeve notes to tell us which is which. But it emerges on listening that this is partly the point. The very word, comprovisation, no longer acknowledges a division between the two. (2007, para. 8)

Much of the theoretical and practical writing on collaboration serves to establish or clarify different definitions. As this thesis incorporates over one hundred short works written with a wide variety of different methods, compositional approaches, and distributions of agency, and then charts how three substantial pieces that emerged from the process, this research provides an ideal data set for reflection on practical collaboration (although a more empirical survey of this data is beyond the remit of this research). Overall, when discussing collaboration, I subscribe to definitions laid down by theorists and practitioners that collaboration (in a composer and instrumentalist context) requires "an overturning of deeply entrenched hierarchies" (Clarke, Doffman, & Lim, 2013 p. 628), and sincerely distributed agency in the creation of a new work (ibid; Taylor, 2016; Fraser, 2019; Torrence, 2018). It is easy to define the three latter, more substantial, collaborations, and problematic in Coming Up for Air. On the one hand, there are examples of more traditional composer/performer behaviours, but given the physiological starting point of a single breath, and the necessary agency of curatorial decision-making, itself a paradigm shift in performer agency (Amaral, 2018), I see the overall project as collaborative. There are also composer/performer relationships that initially seem straightforward but are ultimately more ambiguous. Sam Hayden and Luke Windsor, in their survey of composer/performer collaboration case studies, reasonably give this Ferneyhough comment as evidence of his unambiguous assertion of the traditional role of the composer, "it is they [composers] who, in the final analysis, are directly charged with providing binding compositional contexts to be interpreted" (Ferneyhough (Cody, J. (1996), quoted in Hayden & Windsor, 2007, p.31). However, my own experience of performing Ferneyhough's solo flute works *Unity Capsule* and *Cassandra's Dream Song* presents a more nuanced situation where the degree of performer decision making leads to a less polarised agential reading.

The more substantial collaborations detailed in this thesis are most suitably contextualised in scenarios where making and performing are intrinsically entangled. These projects aspire to Jennifer Walshe's description, in her compositional manifesto the New Discipline, that "thrives on the inheritance of Dada, Fluxus, Situationism etc. but doesn't allow itself to be written off merely as Dada, Fluxus, Situationism etc." (2016). This is most carefully

scrutinised in work with Ingamells where Fluxus pieces have provided the launching point for new work including a substantial new interpretation of George Brecht's 1960 text score *Motor Vehicle Sundown (Event)*. Other artists and groups that work in this way include Bastard Assignments, Jessie Marino (endemic in her work but particularly with Jessica Aszodi, Natacha Diels, and Ensemble Pamplemousse), Object Collective, and performance duos Burrow&Fargion and Parkinson Saunders.

Perhaps the most compelling example of a performance duo that connects to this work is the example of cellist/performance artist Charlotte Moorman and composer/performance artist Nam June Paik. As with Nicolls and Kanga, this duo often use technology as a mediating space, as Paik designed bras from televisions or technological body prosthetics. This foreshadows Donna Haraway's 1985 polemic, 'Cyborg Manifesto', as "a possible allegory for feminist scientific and political knowledge (Haraway, 1991, pp.2-3), outside patriarchal, essentialist paradigms that attempt to define the 'natural' woman" (Landres, 2017, p. 68). Paik's *Opera Sextronique* (1967), which involved Moorman undressing as part of the performance (ultimately leading to Moorman and Paik's arrest), connects innocence, classical music, and female body image, and mine and Annie Hui-Hsin Hsieh's *PIXERCISE* highlights similar concerns emphasized by its distance from sexualized controversy (ibid. pp. 49-50).

1.4. Repertoire starting points

The musical impetus for Coming Up for Air was informed by my performance of and reflections on two very different pieces for solo flute: Brian Ferneyhough's *Unity Capsule* (1975-6) and Alvin Lucier's *Self-Portrait* (1989) for solo flute and wind anemometer. In both pieces, the connections to breathing and Coming Up for Air are explicit: the final section of the Ferneyhough has to be performed in one breath with the physiological strain and likelihood of 'failure' dramatically affecting the sounds. In the Lucier, the short text score invites the performer to activate an antique wind anemometer, a device that used for measuring wind speed that resembles a small windmill, placed between the performer's face and their light source, by playing the flute into it. The moving blades cast intermittent shadows over the player's face, obscuring and revealing them. In both cases, the performer is required to re-evaluate their physical relationship with their instrument. In the Ferneyhough (explored in more detail in Chapters 2 and 3), the physical demands extend far beyond the necessity to perform the final phrase in one breath. The music is characterised by its elaborate rhythmic language and simultaneous physical demands, as Lois Fitch (2013)

economically describes: "the performer must negotiate many complex layers of parametric polyphony. These are visible in the score and include microtones, multiphonics, notation of various embouchure position and key percussion, in addition to a double stave indicating flute materials (upper) and voice actions (lower)" (p. 66). Although comparatively non-prescriptive and superficially much less demanding, the Lucier demonstrated how little awareness I had over the direction and speed of my air flow despite how essential this is to control and effective tone production on the flute. These physical demands contribute to the theatrical dimensions of the two works. However, there are other, more nuanced, readings about the physicality in play in these pieces. Fitch (2013) quotes Ferneyhough discussing the performers in relation to his piece *Incipits* (1996) from an undergraduate lecture in Durham in 1997 as "semi-permeable membranes" (p. 65/93) and directly connects the performance of *Unity Capsule* to this description. Both pieces demonstrate explicit theatre; however, both are also preoccupied with elements of obfuscation. In the Lucier, the movement of the anemometer blades is highly problematic, but this difficulty is essentially invisible to anyone who has not attempted to perform the piece. While the virtuosity in the Ferneyhough is evident, the number of simultaneous and often contradictory instructions in the score are invisible to anyone except the performer. In Evan Johnson's music, this feature of the music is foregrounded, and despite the comparable or increased degree of notational complexity, the virtuosity of the performance practice is understated. In a 2019 interview with composer, conductor, and artistic director of The Riot Ensemble, Aaron Holloway-Nahum, Johnson describes the audible result of this work in these obfuscated terms, "I'm not sure it's 'theatre' per se because relatively little of all this makes its way to the audience. What one hears in my work is kind of like a shadow, or an afterimage, or a watercolour reproduction of a photograph that you can't see" (para.12). The literal and metaphorical shadows of the Lucier are reflected in the metaphorical performative shadows of the Ferneyhough.

There are both positive and negative readings of these obfuscations. In Ivan Hewett's 1994 article on the music of Richard Barrett, a composer also known for notational complexity and extreme contradictory demands made on the performers, he concludes that, unlike Beckett (one of Barrett's models) he visits "the ultimate humiliation on his characters… turning them into objects" (p. 151). This extreme viewpoint, perhaps the author taking umbrage at an approach to notational detail and complexity that has since been explored more expansively, nevertheless points to elements of a detailed but obscured notational approach as a form of censorship, a feature that is potentially comparable to the Ferneyhough. More literally, Lucier describes in the opening of his score as a "self-portrait as the performer can select

when to obscure and reveal their face" (1989, p. 1), which nevertheless involves the literal shadowing of the performer. Given that the direction and speed of the airflow is affected by the instrument, this is not a straightforward performer decision. If this is music designed to obscure the performer experience, then it could be construed an extension of the privileged role of the composer over a performer.

1.5. Privileged and restricted spaces

A more positive reading would be to invert this notion of a privileged space. In Sarah Hennies' *Contralto,* a work for four string players, four percussionists/object operators, and video projection, the idea of trans-female vocal dysphoria is explored through video interviews with six transgender women "speaking, singing, and performing vocal exercises accompanied by a dense and varied musical score that includes a variety of conventional and 'non-musical' approaches to sound-making" (Hennies, 2017). The women appear in very short segments often starting in the middle of sentences or vocalisations and being cut-off before finishing them. After a performance at the Royal Northern College of Music in 2019[1] there was an interview with Hennies and an audience member asked her if this feature of the piece might be considered to be or misconstrued as a form of censorship. Her response was to suggest that the audience never/rarely experience full sentences or extended dialogue from the women in the film to protect the space they are occupying; exclusively trans-women spaces are rare and so she maintains the privileged privacy of this through the editing. I find, when considering social issues (particularly with regard to feminism and ableism) in my own composition and performance, that the tensions between reading something obscured or partially hidden as exploitative, protective, or as a way of offering agency to the reader (whether audience or performer) are often interwoven and difficult to decode. Richard Barrett states:

> The *imposition* is that of explicitness, of explanation. So much contemporary art still suffers from the 'explanation disease', art *as* (failed) explanation, in which works are smothered in 'instructions', bother wining themselves and without, in what often seems like a desperate attempt to lead their audience by the nose through an obstacle-course of the artist's (or some bureaucrat's) devising. Is this all we can do to 'programme' the emotional/intellectual response of (in this case) listeners as if they were so many automata? Surely if we have any respect for the dignity of the listener, this is the *last* thing

[1] Decontamination #16, *Contralto*, Royal Northern College of Music, 22nd March 2019.

> we should be aiming at (consciously or otherwise). So in [Paul] Celan's words[1] what remains is the work as *exposure*, as a 'laying bare' from which the listener may construct her *own* experience instead of passively receiving one at second hand…" (Barrett, 1992, paras. 1-2)

The complexity in Barrett's music, therefore, might be read as either a performer or listener being forced to fail or offered the autonomy to find their own path through the music and construct, in dialogue with the composer, their own meaning. The obfuscation in the Hennies might, likewise, be seen as a tool to preserve a private space and compel the listener to actively engage with the content by considering the spaces left in the interviews, or could be considered its own form of censorship. Although I entirely sympathize with these examples as encouraging active engagement from the performer and audience member, and thus increasing the performer and audience agency, I remain instinctively cautious of how this might be read as appropriating or censoring when addressing social issues. It is interesting to note that while the notation in Hennies' *Contralto* is very different to the complexity typical of Barrett's (the former being simple notational fragments and text instructions), the performers often operate autonomously in the Hennies, leading to dense and complex-sounding textures. In these respects, both examples require comparable active engagement from both performers and audience.

Unity Capsule and *Self-Portrait* are also both exemplary examples of Ferneyhough's maxim that "all invention comes from restriction" (1997, p. 132). While the restriction from a performer's perspective in these two pieces is clear, although coming from diametrically opposed places (the multi-layered notational in *Unity Capsule* and single-minded instruction in *Self-Portrait*), I am attracted to Johnson's more personal description of restriction as part of his creative process in an interview with Tim Rutherford-Johnson:

> I will say, though, that I regard the entire compositional process as a gradual accumulation of restrictions on myself, of various sorts. The initial composition idea is a restriction in that it defines the field of inquiry, the parameters of the project I'm setting out upon in a general sense; in fact that initial idea often comes in the explicit form of a restriction (What if this piece was limited to____, or only ____?). Then the imposition of restriction takes more specific form, in that a process of winnowing begins in which decisions have more and more local effects on a gradually ossifying structure (2010).

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[1] "La poésie ne s'impose pas, elle s'expose" [Poetry is not imposed, it is exposed]. Paul Celan, quoted in Barrett (1992) and unreferenced (this author's translation).

When the creative process for a new piece of music involves the performer as a composer, then these 'restrictions on myself' are inherently performative. In Coming Up for Air, the main restriction, or at least the restriction that applies to all works in the sequence, is fundamentally connected to a music performance act. However, this choice of restriction is also to allow for an entirely universal performative act: everyone has an experience of breathing. Here the restriction is not just the catalyst for invention but for conversations about invention, performance and action, and by extension informs an understanding of collaboration.

1.6. Collaborative projects and personal transformation

1.6.1. Coming Up for Air

When reflecting on Coming Up for Air, there are certain emergent features which have led, at least from my perspective, to successful collaborative conversations. The project might also be considered as an effective case study to evaluate collaboration more widely and systematically. In Sam Hayden and Luke Windsor's paper on collaboration from composers' perspectives, drawing on case studies from the end of the 20th Century (2007), they identify three main categories of collaboration which correspond to the level of involvement of performers (or others), "directive, interactive, and collaborative", and clarify that "these are by no means exclusive categories but should be seen more as a continuum along which the case studies are to be located" and that "some of the projects contain aspects of more than one category" (p. 33). They use an anecdotal (and therefore perhaps slightly problematic) but useful five-point scale from poor to excellent to evaluate both the quality of collaboration and the quality of the musical outcome of ten pieces written for different groups (pp. 35-36). I would argue that Coming Up for Air provides a richer source of data and more effective context for composer collaboration: the brevity of the pieces allows, in most cases, for an examination of the process to be prioritised in discussion rather than the product; the pool of composers involved in the project is diverse[1]; the project is performer-centric allowing for a focus on different composers' relationships with one performer rather than the opposite (and

[1] Over a hundred composers have contributed to Coming Up for Air and the project is broadly gender balanced, involves trans-gender composers, and has contributors ranging from eight-years-old to eighty-years-old. There is ethnic and social variety in the contributors but less so given the context from which this project emerged. For a comprehensive list of the composers involved in the project please see Appendix 1 on page 137.

a performer capable of acting as a traditional performer, as a creative interactor, as a collaborative or co-composer); and the project has a tangible legacy in a number of continuing and new collaborations emerging directly from the project (detailed in subsequent chapters in this thesis). However, one of the key features of the Coming Up for Air collaborations is the 'shared collaboration space' and universal experience of breath and breathing.

1.6.2. *PIXERCISE*

The second project (Chapter 4) explores a collaborative work that brings together notions of performative restriction as invention, and also develops some of the simultaneous strands of personal transformation than run through this body of work. This is also a more extensive work that explores connections between feminist theory, body image, and classical music performance practice. The work, *PIXERCISE* (2017-8), is a jointly-composed collaboration between myself and composer Annie Hui-Hsin Hsieh. The piece emerged from Hsieh's contribution to Coming Up for Air, which is simply to sustain a single note on the piccolo while doing sit-ups for a single breath. We were both affected by the playfulness of this. The original piece often elicits laughter from an audience when performed as part of a longer set, but for both Annie and I, this initial playfulness gave way to something more sinister: the expectations of female body image, and by extension the expectations of perfection associated with orchestral performance practice. The final version of the piece is in the form of a twenty-minute High Intensity Interval Training (HIIT) sequence (which includes sit-ups, planks, press-ups, burpees, leg raises and more) all while playing the piccolo, including at four key moments an iconic orchestral excerpt. The sounds from the piccolo are affected by the exercise and the range of possibilities for instrumental performance is limited by the inherent restrictions of the piece. The piece also includes a soundtrack that was recorded from initial workshop sessions through a laryngaphone (a contact microphone placed in a collar worn around my neck), which captured the intimate sounds of breathing, saliva, strain, and exhaustion. This feature of the work is an explicit example of sharing 'privileged material' (usually inaudible to the audience). Although Annie and I equate this material with vulnerability, it is, in part, obscured by occurring away from the live performance act that created it. This is an example of the tension and variability between a 'safe' and 'exploitative' space.

The piece also marks the start of a range of personal transformations that exist as a consequence of this series of projects. This is the first piece that I co-authored and the subsequent projects are either co-authored or music I composed myself. The process of preparing and performing this piece also required considerable personal fitness training and this took place over eighteen months prior to the initial premiere. I also directly connected my exercise regime to my instrumental practice schedule in preparing (successfully) for a high-profile orchestral audition. These musical and physical transformations are performative experiences that have informed my own attitudes to the feminist and ablest readings of the piece as I have increasingly been forced to address my own privilege: at the start of Coming Up for Air I was embarking on a creative journey into the unknown with the aspiration to recover from surgery and years of compromised performance. By the premiere of the full version of *PIXERCISE* (at Huddersfield Contemporary Music Festival, 2018) I was physically fitter, in better instrumental performance shape, and more psychologically robust than I have ever been.

The exercise was also intended, as breathing is in Coming Up for Air, to be a neutral shared collaborative space for Hsieh and me (discussed more in Chapter 4). We are both capable of exercising and neither of us are (or at least were) particularly specialised or experienced in this, so this was intended as an area of direct overlap which we could use to facilitate our conversation about possible co-composition and co-performance. Our plan was to use exercise as a shared embodied experience throughout our compositional process – to inject the performative and to create a shared experience fundamentally entangled in what might usually be seen as a solitary compositional act. In his PhD thesis exploring numerous collaborations with composers, pianist Zubin Kanga notes several occasions where his written communication to a composer (suggesting changes to a work in progress) caused conflict "partly a result of the conventional expectations of collaboration, where the composer is allowed to work privately, and my communications may seem like a disruptive intrusion into this normally secluded creative space" (2014, pp. 444 - 445). Employing joint exercise as part of our creative process does not remove private working but does facilitate conversation and experience away from this.

Evaluating the success of this is complicated. When we met, we did exercise together but this became increasingly problematic as I prioritised this far more than Hsieh and over time our stamina and experiences increasingly diverged. The piece is co-composed, however the role of the second performer is only to assist (to hold the piccolo in place at certain points – this

role never contributes to the sound or exercise). Some of these differences were the result of our personal circumstances: USA visa concerns meant that Hsieh was unable to attend the Huddersfield Contemporary Music Festival premiere of the piece and this, combined with financial concerns, meant we were not able to meet up often. Although exercise remained a focal point for our shared experience and conversation, the piece evolved increasingly around a single performer, compromising Hsieh's motivation to keep up with the exercise regime. Nevertheless, Hsieh not engaging with the exercise to the same extent is symbolic of the composer/performer differences. She was less inclined to embody the piece as part of the process of making and yet despite this (and perhaps even, to some extent, because of this) the piece is often credited to her and not to us both. This might be considered an extension of the privileging of theory and written document over action and performance that characterises the perceived dynamic of traditional composer/performer collaboration.

While being credited as the co-composer of the piece is not a primary interest (I have not, for example, sought out composition credits on many of the Coming Up for Air pieces despite a considerable creative stake in many of them), I have other concerns regarding a more traditional composer/performance collaborative dynamic. In the closing essay in her book on visual, performance, and multi-media artist collaborations and collectives, Ellen Mara De Wachter writes, "but collaboration is still overshadowed by individualism. The fervent promotion of individual desires by consumer capitalism in the twentieth century has led to overproduction, insecurity and alienation that have caused environmental, societal and psychological problems on a vast scale" (2017, p. 224). While my work does not directly address consumer capitalism, these concerns were, in part, responsible for my seeking out collaborations with more like-minded practitioners where notions of individualism could be explored and challenged. In Chapters 5 and 6 I detail the relationships, working process, and artistic outcomes/performances with two of these artists: Jessica Aszodi and Andy Ingamells.

1.6.3. Vagus Correspondences

My work with Jessica Aszodi was specifically motivated by our shared experience of working creatively with composers and wanting to make our own original work. This also connects to our joint interests about our physical bodies in performance and the subsequent entanglements of body, performance, and autobiography. Aszodi writes, in direct response to audience questions about using the body in musical contexts rather than simply working

with dancers or theatre practitioners, that, "in new music today, a focus on the body as performing subject is gaining momentum" and that "musicians are putting aside the instruments through which we first bound ourselves to music, to see what our musically trained minds and bodies can do" (2017b). She further connects this physicality to her impact on realising a musical work through an autoethnographic lens (2017a). Our performance project, *Vagus Correspondences* (2018-9) prioritises our joint autoethnographic efforts and the work emerges from a shared sequence of correspondences that took place for around six months before we started to make any other aspects of the work. The combination and collision of abstract and representational physical movements and sounds that make up the final version of the piece seems to connect to composer and performance artist Johnathan Burrow's response to a question in interview from Lawrence Dunn on his and artist/dancer collaborator Matteo Fargion's work, on whether they are more concerned with tableaux or portraiture. Burrow responds that "the questions touches upon something very interesting about dance, which is the way that no matter how abstract or distanced it seems, there is always a sense of the person revealed. Having said that though, the job of the dancer or performer is usually to resist the autobiographical impulse at all costs, because to embrace it is to reduce other rich and contradictory elements, like more abstract or formal things, and then you risk losing some of the peculiarities and uncertainties which make performance resonate" (2017, p. 23). Aszodi and my prioritisation of the physical in our musical performances directly address the extent that we are 'revealed' and leads us to explore tensions between the autobiographical and the impulse to resist it.

1.6.4. Private Hire

Chapter 6 concentrates on my collaborative work with Andy Ingamells, which has evolved to the point where we have given our duo a name, Private Hire. This is work that also shares an approach with Burrows and Fargion. Burrows states that "Matteo and I have had a policy for many years of saying yes to any invitations to perform, and then figuring out how to do it afterwards, whatever the space and conditions of working" (p. 33). Andy and I have embraced a similar attitude and as a result have created a diverse, invitation-dependent, range of work that includes very different sizes of traditional and non-traditional concert spaces, outdoor spaces, underwater spaces, and the inside of cars.

Ingamells and I are both composers and performers, and one reason why this collaboration has been and continues to be so fruitful is in the egalitarian way in which we identify our

skills. As Ingamells' training is rooted in notated musical composition and his practice is rooted in music and performance art, he has a subversive approach to notation which appeals to my training as a performer. This has proved to have a significant impact to my own approach to notating music. In a consideration of three of his works, *Shh* (2019), *Waschen* (2015), and *Make each face a living note* (2018) he offers "practical examples of ways in which notation can be reframed to become an integral part of the physical theatre of a musical performance, rather than something hidden behind a music stand or completely removed through memorization" (Ingamells, 2019, p. 79). This embodied approach to notation has informed our collaborative dynamic in creating new work and interpreting work by others including a version of George Brecht's *Motor Vehicle Sundown (Event),* also engaging with Ingamells' reconfiguration of Brecht's diagram considering the relationship between composer, notation, performer, sound, and listener (ibid, p.77).

These collaborative experiences have led me to consider making new music alone, and in other increasingly intimate scenarios, exploring an emerging compositional identity writing for myself and for other performers. This will facilitate my engagement with further physical, psychological, and social crises and positive experiences which continue to broadly affect my music making. This includes music that addresses more of my past experiences of domestic abuse; from a much happier, healthier time now with my husband (composer and artist Larry Goves) inspired by positive experiences and heartrate; and music regarding my current second pregnancy. This stage of my creative transformation, very much in its germinal stages, allows me to address more intimate and oblique notions of collaboration as well as identity in relation to veiled and unveiled creative making.

1.7. Research questions and territory

Given the exploratory, iterative and creative nature of this project, it is problematic to identify straightforward research questions, and this would likely prove a contrived endeavour. However, there are clear research territories which are traversed in new ways throughout this research offering new creative, musical, and social insights. Georgina Born, writing about musical mediation, discusses music's "myriad social forms" (2005, p. 7) and goes on to say that music

> produces its own varied social relations – in performance, in musical associations and ensembles, in the musical division of labour. It inflects existing social relations, from the most concrete and intimate to the most abstract of collectivities – music's embodiment of

> the nation, of social hierarchies, and of the structures of class, race, gender and sexuality. But music is bound up also in the broader intuitional forces that provide the basis of its production and reproduction, whether élite or religious patronage, market exchange, the arena of public and subsidized cultural institutions, or late capitalism's multi-polar cultural economy (Born, 2005, p. 7).

My work recognises the entangled nature of these social forms. As a consequence, this project offers new knowledge in the 'musical division of labour' with particular reference to composer-performer and performer-deviser collaborations. There is applicable knowledge in the transformation of my practice which contributes to a growing area of scholarship that engages hybrid music practice and, as such, provides vital case studies to better understand entangled 'performer' roles of interpreter, advisor, improviser, deviser, curator, and co-composer. Furthermore, there is new insight into the inflection of existing social relations as these projects offer new perspectives and practical strategies on musical collaboration, performance, and composition as acts of psychological and physical resilience.

Chapter 2: Breath, breathing, and the air around us: the origins and background of Coming up for Air

As discussed in Chapter 1, a key revelation from my combined experiences of managing my asthma, recovering from the surgery necessary for me to continue playing the flute, and reflections on preparing and performing Brian Ferneyhough's *Unity Capsule* (1976) and Alvin Lucier's *Self-Portrait* (1989), was to reconsider the importance of breathing and reframe this within my practice. Beyond the axiomatic and practical considerations of breathing as the primary performative act for a flautist, this is also the action that directly connects a flautist to the environment around them through drawing in air and expelling it as sound. This chapter therefore contextualises a range of situations and circumstances which affect, or are affected by, air and breathing through multidisciplinary perspectives including physiology, public health, and philosophy. Breath is investigated through the lens of a wide variety of different practices, including freediving, yoga, sniper shooting, glassblowing and theatrical actor training as well as musical activities. The argument developed through this chapter posits that air and breath are often overlooked or treated as invisible, apart from where there is malfunction (for example excessive atmospheric pollution or breathing-related medical conditions), and that this has implications for how air, breath, and breathing are considered in musical situations. This framework also serves as part of the theoretical foundation for my commissioning and performance project, Coming Up for Air.

2.1. The history and theoretical background of the understanding of breathing

The discovery that a gas was necessary for bodily existence was first published in the mid 1600s by John Mayow, who at the time named it "nitro-aerial spirit" (West, 2013, p.L116). A century later in 1774, Joseph Priestley took these experiments further by producing the gas himself, which he called "dephlogisticated air" (ibid.). Around the same time, Carl Wilhelm Scheele also produced the gas, calling it "fire-air" (ibid.). The three respiratory gases (oxygen, carbon dioxide, and nitrogen) were clarified by Antoine Laurent Lavoisier in his 1777 publication on the respiration processes of animals (ibid). Priestley's substantial and highly influential outputs also included showing that plants restore air to animal life, and this led to the discovery of photosynthesis in 1799 by Jan Ingenhousz (Encyclopaedia Britannica, 2020). This phenomenon illustrates the interconnectedness between all living breathing things, plants, and the environment. Artist and researcher Annette Arlander writes, "understanding that we are breathing the same air with all the living beings around

us, the same oxygen or carbon dioxide and the same molecules of poisons, might help us remember that we really depend on plants" (Arlander, 2018, p.185). Philosophers Luce Irigaray and Michael Marder (2015) propose that we turn to plants for help "to recover our breath, to perceive what being alive means..." (p.28 as cited in Arlander, 2018, p.185).

Tim Ingold describes a living, breathing body as being both "a body-on-the-ground and a body-in-the-air" (2020, p. S126); earth and sky are simultaneously regions of the body's very existence. He makes the case that as breathing is our symbiotic relationship with the world around us and necessary for life, that it is *only* through breathing that we are able to know the world (Ingold, 2020). This symbiosis between the living body and the world around it could be taken further. In considering the materiality of breath, Allen (2020, p. 89) draws on the Baradian sense of matter not as "fixed essence" but an "intra-active becoming – not a thing but a doing, a congealing of agency" (as cited in Alaimo and Hekman, 2008, p. 139). One possible artistic reading is that breathing is not only how we understand the world but is our transformational collaboration with it.

Breath is so entangled in everything that bodies are, experience and do, that it "gets taken for granted, lost from view and is rarely a direct focus of attention" (Macnaughton, 2020, p.31). Despite its universality, the anthropologist Timothy Choy observes that "air matters too little in social theory" (2010 p.9 cited in Graham, 2015, p. 195) and that "air is left to drift...neither theorized nor examined, taken simply as solidity's lack" (Choy, 2011, pp. 9-10, cited in Allen, 2020, p. 79). Furthermore, when air and breath *are* theorised, they are usually discussed in "separate breaths" (Allen, 2020, p. 80) with the lived experiences of breathing usually being treated in the context of *ill*-health – when breathing is a site of suffering (ibid).

The philosopher and feminist Luce Irigaray challenges conventional scholarly traditions to propose an ontology of breath as a means to explore the grounds where consciousness and body meet (Oxley and Russell, 2020, p. 4). In particular, Irigaray critiques Heidegger's dismissiveness of breathing in relation to his epistemological and metaphysical problem of Being in her book *The Forgetting of Air in Martin Heidegger* (1983) and by extension "offers a reassessment of *Air*, arguing that it is an all-persistent circulation of the material and the transcendental" (Nair, 2007, p. 43). Irigaray emphasises the importance of thought being situated both within an environment and, by extension, within the action of breathing critiquing Heidegger and others of "the *void* that they have created by using up the air for telling without ever telling of air itself" (Irigaray (trans. Mader,B.), 1999, p. 7, cited in Nair,

2007, p. 44). Irigaray further connects breathing to consciousness as it is the first autonomous act after birth and is fundamentally connected to life and death (Nair, 2007, p. 45). This reinforces the significance of Barad's agency of breath and demonstrates the blurred intra-active lines between body, consciousness, intent, and environment. This also emphasises the body and its breath/breathing, autonomous or otherwise, as an unavoidable filter though we understand ourselves and the world around us. This extends philosopher Maurice Merleau-Ponty's placement of the body at the heart of perception, our cognition, and interpretation of our material selves and his observation that "I am not in front of my body, I am in it or rather I am it" (1962, p.173).

2.2. Breathing difficulties and visibility: social and environmental concerns

This philosophy regarding breath, breathing, and the environment tends to assume that there is an able body managing the breath cycle without difficulty, and that the body has the capacity to inhabit a place where the air is safe. Its assumption of seamless functionality might account for some for the lack of significance placed on air, breath, and breathing which seems to require an atmospheric or physiological problem to become more visible. In the 2015 International Handbook on Political Ecology, air is not even an index entry (Allen, 2020, p. 83). Despite receiving less attention from ecologists and theorists in the past, sinister circumstances are forcing change. The World Health Organisation has now declared air pollution the world's biggest health crisis (Allen, 2020, p. 80) and air is currently at the forefront of international concern as the SARS-CoV-2 pandemic spreads throughout the world via air droplets and aerosols (Morawska and Cao, 2020). Research suggests that long-term exposure to air pollution can significantly increase the severity of existing chronic respiratory conditions and have potentially detrimental effects on the immune system (British Lung Foundation, 2020). This complicates the treatment of breath and breathing as invisible, as it is a fundamental entanglement of the private and public.

Magdalena Górska, founder of the interdisciplinary Breathing Matters Network, writes that breathing is "an event of bringing the outside in and the inside out" (2016, p. 28). This connects to an important point made by the theorist Mel Y. Chen that "while immune systems might be considered private, toxicity is often understood as a violation of an integral bounded self" (2012, p. 194). Chen further explains that toxicity threatens physical immunity through Donna Haraway's 1991 work on the politicisation of the immune system (Garnett 2020, p. 60). Industrial toxins and harsh environments harm workers' bodies first (Barca,

2014, p. 9), yet workers struggle to defend their own labouring bodies (Allen, 2020, p. 93), further emphasizing the invisibility of air and breathing. This is particularly disturbing when it is considered that as many people are killed on construction sites throughout the world each year as die as a result of armed conflict (National Examination Board in Occupational Safety and Health, n.d. cited in Graham, 2015, p. 207).

Military and weaponized perspectives on air and breath provide further examples of the tension between the public and private, visible, and invisible nature of breathing. Philosopher Peter Sloterdijk's work on the histories of what he terms 'atmo-terror', the deliberate manipulation of air, weather, and climate, shows how the gas attacks of the First World War shaped further techniques of strategic fire for atomic bombing, the use of hot and cold climates as means of inflicting pain on detainees (Graham, 2015, 2010). Sloterdijk suggests that these techniques have contributed to the weaponizing and militarisation of weather, pointing out that so long as meteorology and climate are seen as natural, "it can pass in silence over the question of the weather's possible author" (Sloterdijk, 2009, pp. 86-87 cited in Graham, 2015, p. 211).

Yet what is often missing, and by extension invisible, in the descriptions of air's manipulation in warfare is the living, breathing body. Air is still divorced from the experiences of human and other bodies that breathe it. According to Allen (2020, p. 84), this turns air into an object rather than an immersive presence of medium and overlooks much intimate, situated, and *embodied* understanding of our relatedness to air. Allen goes on to state that "attending to breath brings previously considered immaterialities (elements, lungs, dust, emotions, affects, atmospheres and breath itself) into sharp focus with implications for how environmental subjectivities and politics come into being for how embodiment figures through these encounters" (Allen 2020, p. 98). If breathing, as previously discussed, is the first autonomous action that brings life into being (Nair, 2007,p. 7) and air is the implicit condition of bodily existence (Sloterdijk, 2009, cited in Allen, 2020, p. 79), then the question posed by architect Albert Pope is highlighted as vital: "can a set of ontological rights— such as breathing—actually challenge or even displace economic hegemony?" (Pope, 2013 cited in Graham, 2015, p. 200).

Evidently, elements of breath, breathing, and air/atmosphere are underexplored, sometimes to the point of invisibility, from philosophical, theoretical, and social perspectives. Therefore, part of the motivation for an artistic project which explicitly focusses on breath and

breathing through the creative and expressive encapsulation and dissemination of single breaths, is to render breath and air more visible. The projects also seek to invert a contradiction at the heart of the visibility of breath. As previously discussed, breathing is often only visible where, for medical reasons, it has become a problem. However, to those for whom breathing is difficult and the site of their suffering, the aspiration may be the opposite; they wish to make *themselves* invisible for the shame felt at their condition (Macnaughton, 2020, p. 31). This is indicative of my own, as well of some of my collaborators', experiences and is explored in detail in the critical commentary on the Coming Up for Air project in Chapter 3. I have found this further complicated by the perception, even taboo, of ill-health in classical music performance practice, and this is further explored in Chapter 4 which details my collaboration with composer Annie Hui-Hsin Hsieh and our collaborative work *PIXERCISE*.

2.3. Music performance and embodied breathing activities

The encapsulation of, or focus on, a single breath is a restriction employed by a diverse range of disciplines. The following consideration of some of these disciplines serves as part of the epistemological foundation for Coming Up for Air. Within the context of this performance project, a key part of this methodology is also to engage directly or indirectly with some of these practices as acts of embodied learning. This facilitates an understanding of these practices beyond the theoretical and also provides a range of breathing techniques that can be applied in performance and engaged with by my collaborators. These techniques form part of my vocabulary for this project and, as these tend to be less well known to my collaborators than the conventional abilities of a trained flautist, have often provided a starting point for our collaborative conversation.

The disciplines and activities I have focussed on that I have direct embodied experience of are yoga, freediving, and the administering of asthma medication through a spacer. I have indirectly engaged with two other disciplines, formal theatrical actor training and sniper shooting, where I have employed techniques from these studies in musical performance but have not undertaken either activity directly. I have also explored micro-sculpting and glassblowing from a more theoretical perspective, although in both cases embodied characteristics are carried through into the performance project.

As has already been discussed, breathing is often rendered visible through physiological or environmental damage, and this was the case for the starting point Coming Up for Air. However, through the project I have sought to invert this axiom so the visibility of breath and breathing emerges from overcoming, resilience, and self-improvement. This project was intended to entangle the artistic and therapeutic, and subsequently this forms the basis for a discussion of all musical practice as therapeutic endeavour, to consider a potential model whereby music and resilience can be foregrounded, and to consider the implications of this reading through the critical reflection (in particular to consider where this might shift the focus from a creative outcome to a creative process).

Considering breathing as a body's symbiotic relationship with its environment and that Coming Up for Air takes the flute/flutist as its starting point, these different breathing practices and their restrictions are considered through three broad categories: the bodily, the environmental, and the instrumental (in this case anything that connects the body to its environment). These are starting points for this exploration and are not intended to trivialise the interconnected nature of these categories. Nevertheless, the activities explored fall usefully into these categories, using breathing techniques pertinent to each. Actor training and yoga are dominated by practices of self-control and mindfulness; mirco-sculpting and sniper shooting are indirectly affected by relevant instruments; glass blowing and administering asthma medication are directly affected by the instruments; and freediving is particularly informed by the environment.

2.4. Yoga, precision shooting, and micro-sculpting

In their paper on yoga breathing, longevity, and health, Richard Brown and Patricia Gerbarg consider yoga breathing (pranayama) to be fundamental for the development of physical well-being, meditation, awareness, and enlightenment, and suggest that it can rapidly bring the mind to the present moment and reduce stress (2009, p. 54). In Vinyasa Yoga practice, half-breaths (single inhales or exhales) are matched to the transition between poses and "the poses themselves are located at the suspension points between these half-breaths" (Spatz, 2015, p. 99). Spatz identifies this "epistemic location at the intersection or border zone between athletics and somatics" (ibid). It is the awareness of breathing and the association of both precise breathing and breath suspension that facilitates the practitioner to connect specific physical movements to their holistic physiology. The breath suspension also allows the body to relax, despite being in a heightened state of tension. In a physiologically similar

but otherwise very different situation, comparable breathing techniques are used to anchor soldiers' bodies when training in precision shooting. For a cadet to hit what they are aiming for, they are trained to breathe 'rightly', which means extending the pause between exhale and inhale to at least ten seconds in order to 'zero' a weapon (Lande, 2008, p. 102). During this forced pause, the diaphragm and breathing muscles are relaxed and there is a harmony between the target and the cadet's movements, posture, gaze, and aim (ibid). A comparable procedure is taken to extremes by micro-sculptor Willard Wigan. When he makes his work, he must significantly slow down his nervous system, meditating for an hour before entering his workshop in order to slow his heart rate to 40 beats per minute (Secher, 2007). Wigan can only work between heartbeats, having just 1.5 seconds at a time to move, using a hair from a dead fly as a paintbrush to create scenes inside the eye of a needle. His microscopic work is so vulnerable that just one uncontrolled intake of breath can result in accidentally inhaling an entire piece (ibid).

The consideration of these practices has had a tangible effect on Coming Up for Air. In practical terms, they highlighted the importance of the inhale in the composition of single-breath pieces. While the composers writing for the project were welcome to approach this in any way they wanted, it became evident that ignoring the inhale was less about conscious choice and more to do with a lack of awareness of its significance or potential within a composition (although there are numerous examples of pieces that use sounds from the inhale very effectively both within and outside of Coming Up for Air). However, I started to find it a problematic omission when a composer entirely ignored the inhale while providing copious information on how to manage the exhale and I began to interpret this as a misunderstanding of the brief. This is less the case in pieces that use more conventional notation or explore an idea or compositional notion that simply happens to take place within a breath, and of greater significance in pieces that specially engage with breathing as their starting point. Discussing the inhale and understanding the embodied act of breathing became a central part of my conversations with composers.

My own experiences of Vinyasa Yoga have also directly informed features of Coming Up for Air. A number of the pieces specifically call for physical movement again sometimes as part of their own theatrical agenda contained within a breath, and sometimes and an extension of the breath of the piece. The decisions around associating movement with specific moments of inhaling, exhaling, and breath suspension have facilitated conversations with composers

about the shared experience of breathing as a way of better understanding the sonic and theatrical intentions.

2.5. Breath suspension and Brian Ferneyhough's *Unity Capsule*

Breath suspension is of particular significance to Coming Up for Air as a number of composers directly engaged with this and, as this has the potential to extend the duration of the breath as much as possible, includes most of the longest pieces in the project. Breath suspension, inspired both by sniper training and yoga, is also at the intersection of the notions of precision (a musical precision different to military precision, but an appropriate metaphor), the meditative mindfulness that is the ideal state of mind for performance, and the athleticism that inevitable emerges from a commissioning project that starts with a physiological conceit. All of this is evident in the opening of Ferneyhough's *Unity Capsule* where he stipulates "15 seconds of absolute silence and lack of movement (playing stance)" (1976, p. 1). This silence and stillness, only truly achievable if the performer is holding their breath, simultaneously relaxes the internal physiology of the performer, a musical equivalent of 'zeroing in' on the subsequently complex and athletically charged music. In his article on learning and developing and interpretive context for Ferneyhough's solo percussion work *Bone Alphabet* (1991), Steven Schick discusses the processes by which he approached and prepared the complex polyrhythms and acknowledges the importance of balancing the abstract distillation the of the rhythm with embedding the music in the body and ears so that the music doesn't sound like a "flat rhythmic composite" (1994, p. 145) rather than "a living polyphonic structure" (ibid.). By starting *Unity Capsule* with an extended moment of complete physical stillness, Ferneyhough points to the necessity to embed the management of the subsequent polyphonic physical and vocal instructions into the body as much as the intellect. The opening stillness also serves to highlight the athletic trajectory or form of the piece; the piece starts in stillness, is characterised by its relentless athleticism, and ends, as mentioned in Chapter 1, entirely out of breath (as the final section of the music is prefaced with the instruction not to take another breath – the very ending is usually, essentially, mimed or rather reduced to only the possible physical actions).

Perhaps inevitably, my own interpretation of *Unity Capsule* is coloured by my connection with this to my own disability, subsequent operation, and recovery. I prepared and performed the piece when my sinus condition was at its worst, and the complete physical involvement required for this music meant that I was considering my instrument as a

problematic prosthesis amplifying my physical difficulties. The physical demands and athleticism of the piece subsequently served as a post-operative musical workout as I gradually recovered and built up my playing strength. The consideration of the flute as prosthesis was also inspired by one of the idiosyncrasies of my asthma medication spacer, a small plastic chamber that connects to my inhaler to better distribute and improve the administering of the aerosolized medication. Mine has a crossed-though quaver on the side; if I breathe too quickly then the spacer creates a pitch to ensure that I slow down. I found it curious that one of the two situations in my life that regularly required very precise breath control had to be silent to be effective, and the other the opposite. This consideration of the sound being there (or not) to prioritise the necessity for breath control, with the sound as a secondary concern, was useful when approaching pieces within the collection, where the notation focusses on the physical behaviour of the performer rather than the sonic outcome or the sound is otherwise dominated by glitch or uncertainty. This might be considered cases of prescriptive notation which Mieko Kanno, extending Charles Seeger's (1958) original definition, compares to "a kind of instruction manual" (2007, p. 235) or "a notation system in which the composer specifies the method of making music. It includes action notation, as well as notations in which the outcome becomes known only by following process-orientated instructions" (ibid.). Kanno argues that this "points to a shift in the function of notation from representation to mediation" (2007, p.231). While evaluating Coming Up for Air, I have found through close collaboration with many of the composers and the action-orientated starting point (whether the notation is prescriptive or not), that this emphasises the mediation function of the instrument itself as well as the notation.

2.6. Freediving and apnoea

One area of practice that has become of particular interest to me and formed part of my initial recovery and further development of my breath control is apnoea through freediving. Apnoea, derived from the Greek word for *apnoia* which literally translates as 'without breathing' refers to any deliberate or unintentional temporary cessation of breathing. Languages including Spanish, French, and Italian use the word synonymously for 'freediving' (Christen, 2018). A word commonly attached to 'sleep apnoea', a common disorder in which the airway is temporarily completely or partially obstructed (Mannarino et al, 2012, p. 586), apnoea is a discipline which is rich in training techniques practiced by freedivers, or apnoeists, from recreational to elite competitors. Freediving begins when the breath is held under water or, more precisely, when the decision is consciously made to

temporarily suspend the movement of respiratory muscles with the volume of the lungs remaining unchanged. Competitive freediving is a relatively new sport, although the practice, undertaken out of necessity to gather food or resources, is ancient (Carpenter, 2015). Freediving particularly appealed to me because it is also a discipline, like music, that balances physical exertion with mental strength, resilience, and control. Although classified as an extreme sport (as there is a risk of blackout), unlike others characterised by dangerous acceleration, speed, and adrenaline rushes (Breivik, 2010), freediving emphasises simulating a calm, meditative, almost sleep-like state and adrenaline is specifically avoided (Strandvad, 2018). Practitioners must train extensively physically and mentally to achieve the longest and deepest breath-hold dive. The freediver must be mentally resilient to exertion, pain, intensified effort in extreme conditions as well as to the potential threats to health and life (Ostrowki et al, 2012).

I had intended my own training and qualification as a freediver to be part of my journey to physical recovery, increased breath capacity, and increased physical and mental resilience. All of this has been the case and I have found compelling connections between optimal state of mind for freediving and for music performance (in Chapter 4 I discuss how drawing on freediving and exercise experiences helped in successfully preparing for a professional orchestral performance audition). However, I have been struck by how sharing my experiences freediving has inspired some of my composer collaborators. As most people have experienced holding breath underwater and how difficult this can be, it has been an effective way to describe my own increased breath capacity (I can now consistently hold my breath underwater for over two minutes). Several pieces in the Coming Up for Air collection use water, and my collaborative work with Andy Ingamells and Jessica Aszodi have both involved water (in the former, playing the flute underwater and in the latter, submerged breath-holding on stage).

2.7. Breathing, theatre, and actor training

A further contextual exploration has been considering breath in a literary context. In particular, the concept of breath as life force (*pneuma*) or vital spirit are included in various religious texts including *The Bible*, where in the creation story God creates man by breathing his breath into Adam (Macnaughton 2020, p.41). However, I have been more interested in breath in a theatrical context. Here there is further evidence of the invisibility of breath. Professor Jane Macnaughton, an expert in medical humanities, observes that despite the

centrality of breath to life included in Shakespeare's plays, there is no literature about breath in Shakespeare (ibid). This is particularly surprising when you consider, as Bill Bryson playfully observes in his brief overview of Shakespeare, that "the Library of Congress in Washington, D.C., contains about seven thousand works on Shakespeare–twenty years' worth of reading if read at the rate of one a day and… *Shakespeare Quarterly*, the most exhaustive of bibliographers, logs about four thousand serious new works—books, monographs, other studies—every year" (2008, p. 20-21).

Breath is at the heart of some methods of actor training. An ancient form of actor training developed by Bharata Muni, the *Natya Sastra* (the Hindu treatise on training and performance) establishes the links between breath and acting to achieve the experience of *rasa*, which can be expressed by "bringing breath to the eyes" (Nair, 2007, p. 125). Bharata's teachings say that the only way to accomplish perfection (*siddhi*) in acting is to strengthen the *prana* (breath) by eating healthy food and doing proper physical training (2007, p. 124). Japanese *Noh* actor training incorporates traditional knowledge of breathing, drawing from *T'ai Ch'i* in which breathing is explored through imagination, use of voiced sounds and specific body zones (for example, imagining that the air enters through the nose and exits through the pores) (2007, p. 136). In Western actor training, Jacques Copeau worked on the basis that breath controls everything and his approach involved developing techniques of breath control to deliver texts convincingly. His view was that with rigorous physical fitness and training, the actor became an instrument (2007, p. 137). Stanislavski believed that non-verbal communication and pauses opened up the potential to transmit and receive rays of energy, and his training methods were applied to focus on non-verbal physical work. For example:

> Close your eyes, relax, and feel your breath moving through your body. As you inhale, breathe the energy in from the surrounding room; as you exhale, send the energy back out into the furthest corner' and 'actors stand in a single file, one behind the other. The person behind concentrates on a simple command (open the door, sit down, shake my hand), then radiates it to the person in front, who carries out the command (Hodge, 2010, p. 22).

Jacques Leqoc developed nine attitudes which combine the experience of *rasa* and detailed breath control. This method deeply interweaves the actor's bodily movements with emotional attitudes (for example, four different ways to say farewell: if the arm is raised on an in breath, lower it on an outbreath for a positive farewell; if the arm is raised on an out breath and raised on an in breath, the farewell is negative; if the breath is held in during both movements and breathed out when completed, the farewell is emotionless; breath is exhaled

during both movements and inhaled when completed, also making an emotionless farewell), (2007, p. 142-3).

I have been struck by the stark contrast between my own classical music training in flute performance and these examples of actor training. While breath has been emphasised as central to tone production and good practice, I have never had connections made between holistic well-being, good breathing, meaning, and performance practice. My classical music training has emphasised the performing instrument/instrumentalist, while this actor training emphasises the performing *body*. Throughout Coming Up for Air the flute has become an option which I have expertise in, but its inclusion is not essential. A number of the pieces require rudimentary expertise in other instruments, objects, or no instrument or object at all. As a result, I have felt more compelled as a performer to think about myself as a performing body and have encouraged composers to consider this when working on the project. This has also fed into my approach to performing these pieces, particularly when a concert is entirely dedicated to Coming Up for Air. As the pieces are quite short, the responsibility of programming a concert takes on increased significance and I have started to consider these sets (and subsequent collaborative work) as building complete performances for the whole body. This has also led, in all of my subsequent collaborations, to combining musical practice with performance art practice and exploring the performance literature relevant to this[1].

Perhaps the most notorious direct engagement with breathing in a theatrical context is Samuel Beckett's 1968, 35-second play, *Breath*. The curtain is raised to a stage littered with rubbish bathed in very low light, a recording of a brief cry sounds (described as an "instant of recorded vagitus[2]" (Beckett, 1984, p. 211), a slow ten-second amplified inhale with an increase in light follows, then a slow ten-second amplified exhale as the light returns to low, then a second identical cry followed by a brief five second pause ends the play (Beckett, 1984).

[1] For example, alongside new work Andy Ingamells and I have performed and documented George Brecht's 1960s event score *Motor Vehicle Sundown (Event)*. These scores often combine elements of musical and performance art practice (or are performance art that can be read from a musical perspective). This is explored in more detail in Chapter 6.
[2] The first cry of a newborn.

Part of the impact of this play is in its immediacy and compression, naturally connected to Coming Up for Air. Art theorist Sozita Goudouna writes that "these small-scale dramatic forms are characterised by simplicity of the dramatic situation, concentration, visual, aural and textual fragmentation" (2018, p.107). This cyclical, dramatic compression of birth and death framing breath suggests breathing as a wider metaphor for living, practice, and activity. Before my nasal surgery, when I was most profoundly affected by breathing difficulties, this also represented my approach to all performance; to address each breath as one autonomous musical shape. Catherine Laws, writing about the connections between Beckett and composer Richard Barrett in his cello work *ne songe plus à fuir*, notes that:

> the performance details state that each bar should be played as if taking place in a single breath, the commas at the ends of bars acting as breaks for gasps of air: the effect is reminiscent of Beckett's *How It Is*, wherein the protagonist emits a stream of grammatically incomplete phrases, punctuated only by actual gaps in the text layout. (1997, p.291)

Each musical statement is compressed into a single breath, even in a context (i.e. for string instruments) where this is not physiologically necessary, and, as in *How It Is* and *Breath*, it is the breathing and necessity of breathing that humanises otherwise abstract, complex, or nonsensical expression.

Goudouna also observes that Beckett's *Breath* "evades human and corporeal representation; the body is missing both as an object and as an image, and human agency is made present through its absence" (2018, p. 111). The potential for play between the body, both present and absent, has become a feature of the staging of Coming Up for Air where some of the video pieces in the collection highlight the body in more or less elusive ways. This provides an interesting reading of Lucier's *Self-Portrait* (Chapter 1) where the moving blades of the wind anemometer revealing and hiding the performer's body could be seen to emphasise the player's agency through the interplay of presence and absence. This also became a feature of *PIXERCISE* (Chapter 4) where in moments where the performer is not exercising, contact microphone recordings of breathing during previous exercise sessions are played disembodied to the audience, similarly highlighting the performance agency through bodily absence.

2.8. The visibility of breath: relevant musical literature

2.8.1. Shiomi, Oliveros, and Herbert

There are also literal ways of considering the visibility of breath. It is popularly thought that the size of wine bottles originally corresponded to the average breath of individual glassblowers (700-800ml – now standardised at 750ml) (A short history of wine bottles, n.d.). A poetic notion of a 'bottle as a breath made visible' has directly informed some of the pieces from Coming Up for Air (examples include breath captured in a balloon and paint placed into the flute so the breath contributes to a new painting – more on this in Chapter 4). The literal visibility of breath and wine-bottle metaphor has also directly informed my work with Andy Ingamells (explored further in Chapter 6). This idea is perhaps most literally described in composer, improviser, and action artist Mieko Shiomi's 1964 event score, cited in full in Ken Friedman, Own Smith, and Lauren Sawchyn's *Fluxus Performance Workbook*:

> Air Event
> Inflate a small rubber balloon in one deep breath and sign your name on the surface of this balloon.
> (this is your lung)
> You can buy the lungs of other performers at an auction. (p.97)

Shiomi parodies the elusive and invisible quality of breath with the use of an everyday object to capture the breath, the idea that this is interchangeable with the body, and that this could be for sale. Pauline Oliveros' 'Teach Yourself to Fly' which opens her 1971 *Sonic Meditations* emphasises breathing as a shared experience a more direct manner. Here, a group sits in a circle facing each other and observes their own breathing, which they gradually allow to become audible and then fully vocalised (or, in a variation, the breathing becomes audible through an instrument) (Oliveros, 1971). I have found connections between the observation of breathing in the Oliveros and experiences of performing Coming Up for Air where I can observe that the audience are breathing (or, in the longer and more demanding pieces, attempting to breathe) with me. Despite the physical demands and duress typical of a Coming Up for Air concert I have found them, for these reasons, meditative experiences. When experimenting with breath holding and exercise in creative work with Jessica Aszodi, we also built in time for joint meditation as, in part, a response to this feature of Coming Up for Air (Chapter 5). The shared experience of breathing takes on a potentially sinister, potentially redemptive quality in Matthew Herbert's 'Breathe' from his second big band

album *There's Me and There's You* (2008). This album wears its political sensibilities on its sleeve; the album cover takes the form of a contract signed by the musicians and others connected to the album reading "we, the undersigned, believe that music can still be a political force of note and not just the soundtrack to over-consumption" (Herbert, 2008). 'Breathe' opens with a vocal ensemble quietly singing chords as if breathing in and out with samples sounds including those relevant to breath, this lasts for about 90 seconds before the song rhythm section then voice begin. The lyrics weave issues of environmental pollution and capitalism together ultimately implying a shared solidarity and defiance in breathing together; "breathe a little more, buy a little less" (2008). This is a musical and literary example of the breathing body being directly connected to our changing environment.

2.8.2. Cage and Barnett-McIntosh

A practical example of breathing directly informing musical behaviour is found in John Cage's later 'number pieces'. For example, in *108* (1991), players are encouraged, within flexible time-brackets, to perform 'single tones, which should be played in a single bow or breath'. Whether it is fanciful to imagine that this is connected to Cage's comments in an interview from 1982 where he indicates that he wanted to make his 'music so that it doesn't force the performers of it into a particular groove, but… gives them some space in which they can breathe and do their own work with a degree of originality' (cited in Thorman, 2006, p. 111), this is certainly a way of generating flexible durations directly connected to the physicality of the players.

A more extreme example can be found in composer Antonia Barnett-McIntosh's *Breath* (2015) for solo alto flute. This piece was made as part of a two-year project Hubbub, "an international team of scientists, humanists, artists, clinicians, public health experts, broadcasters and public engagement professionals … [who] explored the dynamics or rest, noise, tumult, activity and work as they operate in mental health, neuroscience, the arts and the everyday" (McIntosh, n.d.). Macintosh writes that the piece explores "the concept of breath as musical rest and breathlessness as a form of exhaustion, *Breath* requires the performer to utilise each in- and out-breath in the creation of sound" (McIntosh, n.d.). The notation, Figure 1, uses a unique tablature to indicate finger positions, airflow, embouchure, dynamic, vowel shape, and duration for each inhale and exhale. Here music is likely created as collateral damage from physical exhaustion; the inherent contradictions in measuring an

inhale or exhale over anything from 1 second to 49 seconds or as long as possible while attempting to create a dynamic shape creates a highly destabilised sound.

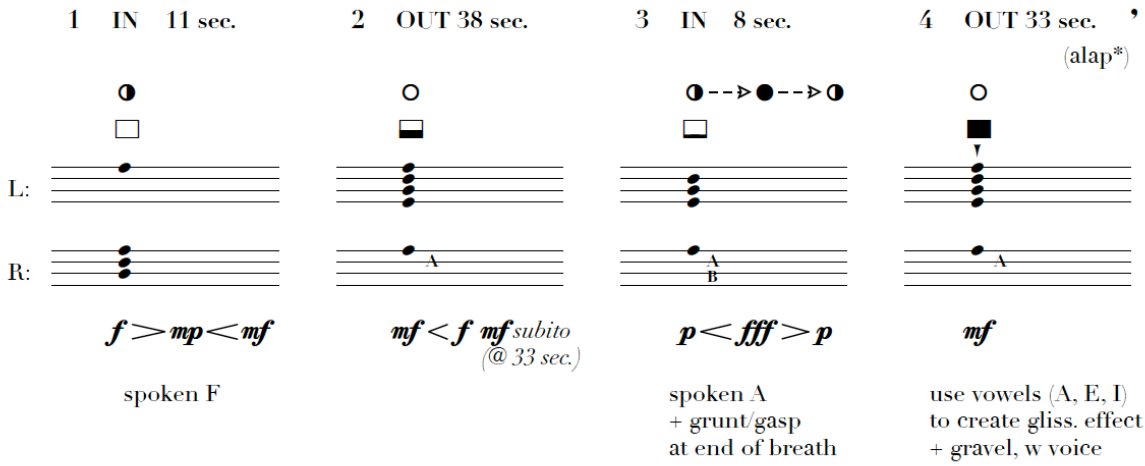

Figure 1 Breathe, Antonia Barnett-McIntosh, first two full breaths

Michael Baldwin writes expressively about his empathetic response to a performance by Ilze Ikse (Barnett-McIntosh's flutist collaborator on the piece):

> When I listen to Breath I breathe. I breathe with Ilze, not simple alongside, but at the same time, for the same duration, and in the same direction. I switch between breathing through my nose here, my mouth there, exploring what it means to remain relaxed, sometimes switching between different ventilation circuitry responsible for the circulation of shared air, sometimes, somewhere, unsure whether or not I am breathing through mouth or nose. The physicality of both bodies becomes emphatically sonified; I merge into the form of Breath, which is essentially a life form, a living form: Ilze's breath and body. (Baldwin, 2016a)

It is noteworthy that while Baldwin's response is apparently extremely empathetic, his experience is one of exploration not of struggle. I have noted similar responses to Coming Up for Air, where audience members have noted the physical extremes of my performance but their own breathing-along has been, in contrast, meditative and reflective[1].

[1] The subject of respiratory empathy has been researched throughout this project, including: respiratory changes during observation of breath-holding (Kuroda et al, 2012); breath rate variations when viewing art (Esrock, 2018); effects of breath-holding on emotional processing (Menicucci et al, 2014).

2.8.3. Saariaho

Engaging with breathing sounds does not, of course, have to put the body under any extra duress. The composer Kaija Saariaho has long been preoccupied with breathing as a sound as much as with the connected physicality. In her early 1981 quintet *sah den Vögeln* (*Saw the Bird*) both the flutist and soprano are required to breath heavily and audibly within the music and musicologist Pirkko Moisala notes that "as a child… she sang so close to the microphone that it recorded her breathing mixed with singing" (2009, p.80). Part of the reasons for Saariaho's extensive collection of pieces for or that feature the flute is because it "is an important instrument for her because of its proximity to breathing and voice" (ibid.). In an interview, Saariaho notes the connection of our breathing to the environment, "the sounds of nature, all around us, are really for me the most beautiful sounds you can hear. I feel no separation between our breathing, the wind, the sea, the birds, and some of my own music. It's for me a natural continuity" (cited in Moisala, 2009, p. 77). Saariaho also suggests that the flute is, for her, "an enlargement of breathing" (ibid., p. 83). In both the Barnett-McIntosh and Saariaho, the flute is employed as the natural instrument to act as microscope and mediator for breath, breathing, and the environment, rendering visible this often, invisible world. In an interview with Pierre Cabanne, artist Marcel Duchamp entangles breathing with living and, in connecting this with his artwork, is dismissive:

> I like living, breathing, better than working. I don't think that the work I've done can have any social importance whatsoever in the future. Therefore, if you wish, my art would be that of living: each second, each breath is a work which is inscribed nowhere, which is neither visual nor cerebral. (Cabanne, 1971, p.72)

Coming Up for Air extends this by, for me, turning breathing and living into work. Each breath is inscribed, visible, cerebral, and an invitation for composer and performer to explore this both specialised and everyday feature of performance in their work and their lives.

Chapter 3: Coming Up for Air: pieces, performance, and curation

3.1. Technical performance considerations

As has already been discussed in Chapters 1 and 2, Coming Up for Air was initially started as a response to my recovery from the respiratory issues I faced from 2012 to 2016, when a chronic sinus condition made breathing a constant obstacle. From the outset, I had hoped that a project focussed on breathing would have a personal therapeutic dimension, increase the visibility and difficulties of breath and breathing in flute/wind instrument performance practice, and would instigate conversations about notions of normalcy in breathing.

The project was also motivated by practical musical considerations and expertise I had gained during the worst of my illness. Overcoming obstructed and problematic breathing led me to unconventional approaches to playing and to an obsessive consideration of breath control when playing the flute. For example, I started to become hyper-consciously aware of the precise measurement of air required for all registers and dynamic ranges on the instrument, using harmonic fingerings to determine the exact air speed, volume, and angle necessary (especially for the third octave and higher). While awareness of breath in this way is necessary for any flute performance, prior to my illness this had become a subconscious consideration invisibly embedded in my advanced performance technique. My illness forced me to more consciously reconsider the relationships between all features of breathing and sound production.

My condition also affected phrasing beyond tone production and projection. Breathing quietly often took much longer than was possible or desirable during a musical rest or at an appropriate point within a musical phrase. To breathe elegantly (quietly) I had to try to open my mouth wider than normal, otherwise there would be a very loud gasp or guttural sound. When there was not sufficient time for this, I could top-up noisily with very small chesty inhalations. The cumulative effect of this made me become dizzy, light-headed, and anxious or even panicked. It was necessary then to create a strategy and even notation to plan the type of breath the music would allow, ranging from top-up bursts to a faster noisy breath if the background music was loud enough to cover the sound of my inhalation. My concern over negatively affecting a performance with an inappropriate breath noise caused considerable anxiety, and my inability to breathe quickly and quietly was noted in auditions.

Overall, breathing was a site of constant scrutiny and suffering, and performance was not enjoyable at all.

The sinus condition that was causing this (chronic nasal obstruction due to allergic rhinitis) required surgery to correct. Although this was essential for flute performance practice (and was affecting my holistic health) it was not considered essential surgery. In 2016 the charity Help Musicians (with characteristic speed and generosity) provided funding so I could have the operation privately. The recovery was immediate; as soon as it was safe to play the flute again, I could feel the resonance back in my head, could breathe quietly, and could sustain phrases for longer.

Around six months after the operation I experienced a bronchospasm, which was triggered by breathing in cold weather. The symptoms of a bronchospasm include tightness in the chest, wheezing, shortness of breath, and difficulty breathing— an extraordinarily frightening experience. At the local accident and emergency department, a peak flow test (a measure of how quickly air can be blown out of the lungs which is performed by blowing as hard as possible into a small hand-held device) gave me reading of 200. According to the British Lung Foundation (BLF), normal adult female range for my age and height is 410-450 (2020). This strongly indicated that my childhood asthma had returned. After numerous visits to the asthma clinic and experiments with medication/inhalers, my asthma became well-managed. However, the extent to which I can successfully manage my asthma is dependent upon the control I have over my environment. Visiting an environment which includes, for example, furry pets, significant amounts of dust, and/or smoke from cigarettes, fireworks, or barbecues can all lead to a worsening of my symptoms, as can cold environments or even being given fresh flowers by someone well-meaning. This has led to a hyper-awareness of my practice, rehearsal, and performance environments and, alongside considerations of the visibility/invisibility of breath (Chapter 2), has further informed my consideration of breath and environment and, in particular, the notion of 'normal' in music performance and pedagogical scenarios in relation to breath.

3.2. Expected normalcy and physical heath

Nancy Toff, who has written extensively on flute performance practice, states that for wind players, breathing is a three-step process: inhalation (inspiration), suspension, and exhalation (expiration), and suggests that the third stage is by far the most important because exhalation

activates the air column in the flute and thereby generates a tone (1996, p. 81) The ability to control that exhalation with the lungs and abdominal muscles before the airstream ever reaches the embouchure, much less inside of the flute, is essential (ibid.). Flutist Michel Debost describes sound production on the flute as a vibration carried by a medium (air). The air column can be defined as every part of the body or of the instrument in contact, directly or indirectly, with air. This includes the air not only in the lungs and in the mouth, but also in the cavities of the nose, forehead, and inner ear that singers, with good reason, call resonators (Debost, 2002, p. 14). Resonance of the sound implies that none of the various elements of the air columns counteracts the others: diaphragm, throat, mouth, nose, and nose cavities (Miller, 1986).

This instrumental pedagogy contributes to the 'constructed normalcy' (Howe, 2016, p. 203) of flute/wind instrument performance practice, and does not take into consideration the possibility that any resonators could be chronically blocked (or indeed any other condition that may prohibit playing in the manner prescribed). My conditions audibly disabled my body from conforming to sound 'normal' and forced me to develop my own personalised breathing and playing techniques. My inability to maintain the standard set-up and pedagogy I had studied for many years before my illness and the resulting restrictions to my body, sound, and musicality were evident every time I played my instrument. I could no longer naturally combine phrasing with breathing. In trying to do this, I endured physical pain during and after playing, causing the cartilage between my ribs to tear when a teacher continuously implored me to 'support' more. While my example is relatively extreme for someone still determined to play a wind instrument to a high level, this is a common, and increasingly common condition. The BLF estimates that one in five people in the UK have a longstanding respiratory illness (2020) and our environment is increasingly affecting our breathing, with 90% of the English local authorities that the BLF investigated still breaching the legal limits for nitrogen dioxide and over 35% of local authorities had areas with unsafe levels of $PM_{2.5}$[1] in 2018 (*$PM_{2.5}$ air pollution*, n.d.).

The issues related to my breath and breathing was also entangled in my wider personal concerns. At the time, I was a single parent with a very young child, studying full-time

[1] Miniscule particles known as PM10 and $PM_{2.5}$ are the most damaging particles to breath, 'exposure to $PM_{2.5}$ can cause illnesses like asthma, COPD, coronary heart disease, stroke, and lung cancer. There is also evidence that links $PM_{2.5}$ to low birth weight, diabetes and diseases such as Alzheimer's and Parkinson's (*$PM_{2.5}$ air pollution*, n.d.).

towards postgraduate degrees in performance, living thousands of miles away from my USA-based family, and dealing with a complex divorce. A combination of continuous sinus infections, high stress, and a compromised immune system led to contracting shingles and three occurrences of viral meningitis, the latter requiring hospitalisation. My sinus condition also affected other areas of my wellbeing; it was impossible to smell, taste, and properly enjoy food, and problematic to exercise.

I was increasingly considering my breath and breathing, and by extension my instrumental performance practice, as a literal and metaphorical representation of my body, its problems and its wider connection to the environment and wellbeing. Therefore, the decision to create a project of pieces limited to one natural cycle of breath was to set a framework in order to focus on my own body and physiological limits for breathing in an attempt to overcome restriction, develop a wider personal resilience, and invite musical collaborators into a manageable space to discuss this through making new work.

3.3. Coming Up for Air: commentary

Coming Up for Air is, therefore, an ongoing collection of musical pieces (broadly defined) that are limited to a single breath (one inhale and exhale, not using circular breathing). The project was publicly launched in June 2017 with a performance of fourteen one-breath pieces generously written by friends and colleagues (with one exception) especially for a fundraising concert for the charity Help Musicians. Given the very personal starting point for this project, I felt more comfortable confining the initial stages to friends who would be more likely to invest in my narrative and my concerns at the heart of the physiological conceit. The one exception was Megan Grace Beugger, who I had contacted about another project having read about her work, and we bonded over our shared experiences of asthma (her one-breath piece directly references this). The project has grown dramatically from this starting point as there are now over one hundred pieces including theatrical works, text pieces, multimedia works, and video art. Some of these pieces have come from an open call on my website, which was promoted through the new music charity Sound and Music, some have come from friends or professional associations, and some have come from projects with various universities, the Junior Royal Northern College of Music, and the National Youth Orchestra of Great Britain composition section.[1]

[1] A full list of pieces and information on their dissemination can be found in appendices one and two respectively.

The project has been widely disseminated; I have performed numerous Coming Up for Air concerts in the UK, USA, Australia, and France and have included short sets from the collection in many other concerts; forty of the pieces have been professionally publicly released on CD and digitally by Huddersfield Contemporary Records (HCR); and I have also publicly shared videos of many of the pieces on my website and YouTube channel. A comprehensive list of pieces and their availability can be found in appendix one and the full archive of performances can be found in appendix two.

Coming Up for Air is, therefore, an inherently unwieldy project; a collision of different agendas all framed by their connection to breathing and (for the most part) brevity. The following serves as both an overview of the project and a detailed critical reflection on some of the key pieces, technical concerns, and themes that have arisen over the last three years. I have drawn primarily on the forty pieces that have been released on the HCR album but have also referenced other pieces where relevant.

I intended the starting point for this project to be an engagement with the physical limitations of a single breath. So, while the original call for pieces does invite contributors to work with electronics, objects, voice, and flutes, the focus is on the duration of the pieces being a reflection of my body's capabilities. As a consequence, from the entire collection of pieces, only two use technology to extend the duration of the piece beyond the real-time single breath[1]. However, there are various options for extending the duration of a single breath. The inhale, usually not considered in traditional performance practice, can form a substantial part of a piece and I have found that I'm capable of elongating this to about 40-60 seconds. I have also found that I can continuously exhale for 60-80 seconds. I can also interrupt the inhale and exhale and suspend by breath for up to 10-20 seconds and do this more than once depending on what else is expected in the piece. The breath suspensions might be silent or create space for instrumental sounds that don't require air (key clicks or other percussive sounds), other bodily sounds (body percussion or other physical

[1] Vitalija Glovackyte's *Untitled* captures a single breath in a balloon and then slowly releases this into a microphone with live signal processing accompanied by live kalimba, and Amber Priestley's *It involves beautiful tightropes of logic on which one has to walk* was extended with field recording in the studio version (but is confined to a single breath when played live). As a consequence, Glovackyte's piece sits outside of the collection and has only been played live once (although it is included on the album).

movement), engagement with sound-making objects, or electronic sounds. There are also, of course, options to play with variable air flow which might create temperamental sounds and glitch. This explains the long duration of some of the pieces (for example Mary Bellamy's *Atom* is 1'17", Nina Whiteman's *Thread* is 1'24", Mark Dyer's *Memento for Kathryn* is 2'02", and Lucy Hale's *When We Breathe* is 2'18"). To provide some context, the longest sustained note on a wind or brass instrument with a consistent tone, according to Guinness World Records (held by Philip Palmer in 2007), is 1'13.28" (Guinness World Records, n.d.).

Given that this project serves as an invitation to engage the flute and, in particular, the physiology of the body and breath, the project has elements in common with disablist music. The project started when I still considered myself recovering for long-term illness and distanced from what might be considered a normal performance body. With one exception[1] the pieces were written especially for me. When writing about disability and performance, Blake Howe observes that "it is rare for composer to write disablist music without an intended performer already in mind: such is the nature of music's constructed normalcy that, absent a specifically marked body for whom they choose to write, composer tend to otherwise imply – and reconstruct, and reinforce – the prototypical normal performance body" (2016, p. 203). However, the project does not sit comfortably within this definition. Given the starting point of the notoriously complex and highly virtuosic *Unity Capsule*[2] alongside the 'physical virtuosity' that comes from playing sequences of pieces many of which make extreme demands on breath capacity and control, this could be seen as hyper-ablest; the collection requires a level of instrumental virtuosity and athletic ability that sits, perhaps, beyond the expectations of the normal performance body. This also might not be considered hyper-ablest but rather, as it has many contributors with so many different perspectives and the project itself charts a conscious process of recovery and further physical development, viewed as a project which naturally allows for a wide range of different perspective in relation to ability, disability, and performance.

[1] When I approached David Pocknee to write a new one-breath work for the inaugural Coming Up for Air concert, he already had a flute work with an option to perform the piece in a single breath looking for a performer.

[2] In a 1990 interview with James Boros, when discussing Ferneyhough's reputation for writing music that is extremely difficult to play, he (Ferneyhough) singled out *Unity Capsule* as a piece which 'several quite well-known flutists… have refused to take [it]… into their repertoire with the argument that it is not worth the amount of time and effort required' (1990, p. 6-7).

3.3.1. The Exhale: Ellis, Slater, Coates, and chrysanthemum bear

While there are a significant number of pieces that have engaged, often collaboratively, with the different physical techniques I have learnt and developed throughout the project to extend the duration of a breath, many of the pieces are essentially short conventional works that focus on the exhale. These pieces in particular, that do not necessarily draw much attention to the physicality of breathing, treat the breath as invisible and, as with discussions about the visibility of breath and breathing in medical and environmental contexts (Chapter 2), are only noticeable when there is a problem or an undesirable failure. For example, Patrick Ellis's *Breath, Patterns, Bends* (2018) (Figure 2) only lasts 20-30 seconds (including a dramatic opening audible breath) but has a high level of activity, is in the middle to high register of the instrument (which uses more air at a louder dynamic), has six *crescendos* to *mezzo forte* and one longer *crescendo* to *fortissimo* (louder dynamics and increases in dynamic both require more air), and has five upward bending notes (which also require more air). With the final crescendo and the careful attention to detail in pitch the single breath is a compositional decision to compress the activity into a single gestural flourish and is not concerned with the difficulty required to achieve this. Similar issues are evident in Angela Elizabeth Slater's *A Moments Breath* (2018) (Figure 3) which again, at 20-30 seconds, does not superficially seem likely to cause difficulty. However, the requirement here to sustain harmonic timbral trills with five *crescendos* to *forte* can use up a lot of air, so that the middle moment of activity and rhythmically ambiguous sustained ending both require that ample air is carefully kept in reserve.

Oliver Coates and chrysanthemum bear's (CB) *Leif* (2017) also concerns itself with a simple music phrase (Figure 4). However, in this case the visibly of the single breath is subtly more apparent. Where the Slater and Ellis pieces are designed as single phrase gestures, potentially problematized by their activity and dynamic shape, Coates and CB write a long phrase that naturally divides into five. It is easy to imagine a breath after each or any of the first four rising four-note gestures and it requires care when shaping the phrase to carefully 'place' the first note of each gesture without an interruption. In contrast, the final part of the phrase, where the final rising four-note gesture evolves into a longer and more elaborate contour, is the part of the line where a breath, at least in a traditional sense, is undesirable. This occurs at the point in the 40-second piece a breath starts to become a physical necessity. In this way, the music naturally and gently renders the feat of endurance visible within context of an otherwise simple single-phrase melody.

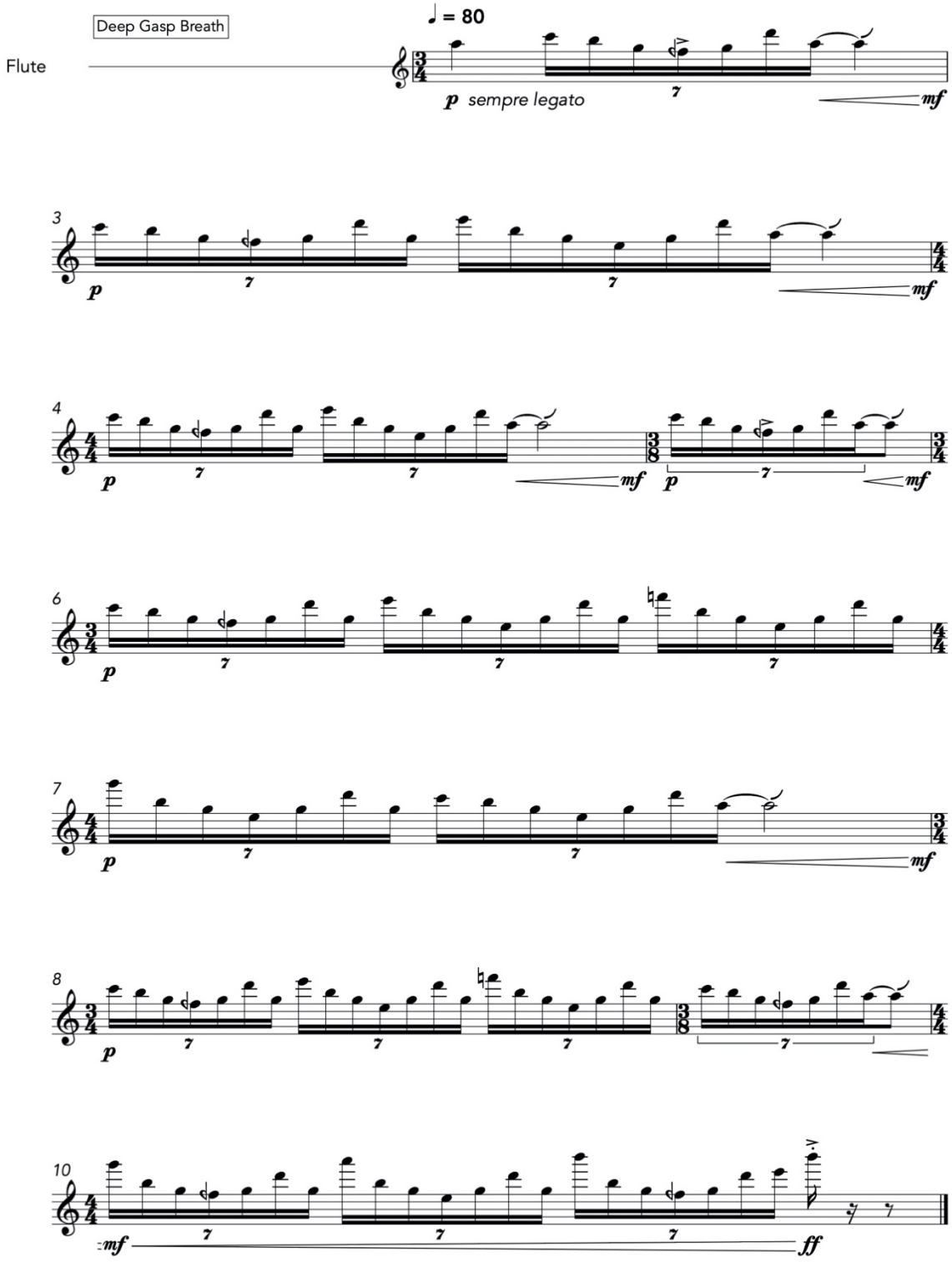

Figure 2: ***Breath, Patterns, Bends*** **(2018), Patrick Ellis**

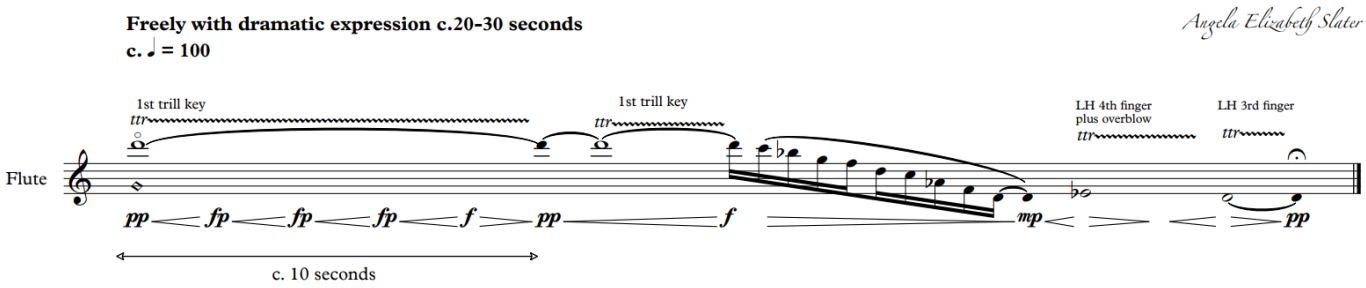

Figure 3: ***A Moments Breath*** **(2018), Angela Elizabeth Slater**

one breath sketches for Kathryn, 1st draft

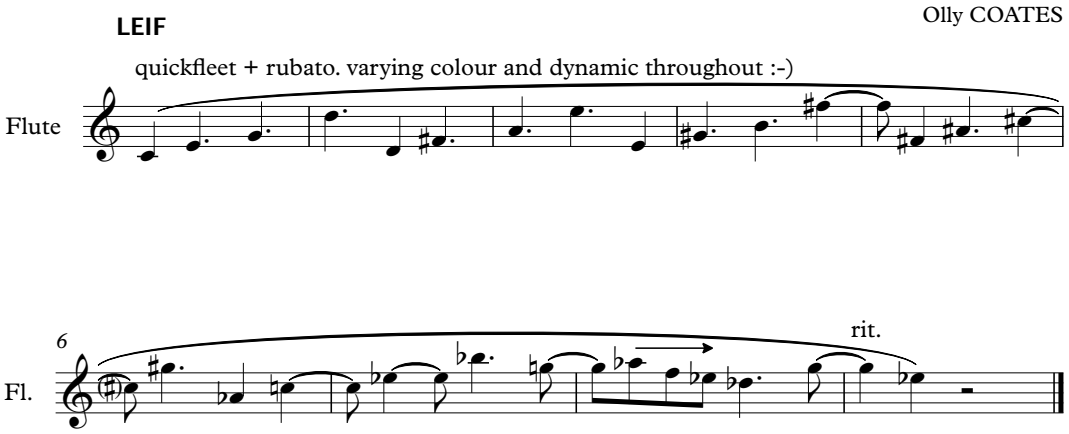

Figure 4: ***Leif*** **(2017), Oliver Coates & Chrysanthemum Bear**

3.3.2. An invitation to fail: Ferneyhough, Sheen, Tompkins, Webb, Pocknee, and Crehan

Other pieces, notated in a variety of different ways, highlight the visibility of the breath by deliberately inviting the performer to fail. This is similar to the final phrase of Ferneyhough's *Unity Capsule* (which is the extract included on the Coming Up for Air album). However, when playing the final phrase of *Unity Capsule*, the player has already come to the end of the athletic workout of the piece itself and months of discursive learning where each bar requires the performer to make decisions about the polyrhythmic texture. Inviting a performer to fail outside of a context like this might be construed as a more aggressive act and it is noteworthy that almost all the examples of pieces that behave in this way have what might be considered mitigating circumstances. For example, Jack Sheen's *(It's really you strolling by)* (2017) is two pages of densely packed notation – several minutes of music – that would be impossible to play in a single breath even without the indication to repeat both pages.

However, this work is from a regular collaborator, the excessive length provides the musical material for the multi-tracked version of the piece, and part of our conversation was to imagine this as a one-breath piece, a longer work, and potentially even a pre-recorded or live installation. Laurie Tompkins' *Bistro Legende* (2017), in which the player is invited to simultaneously build and consume a musical doner kebab, looks slight on the page but is physically very problematic given the repetitions, range of dynamics, speech, and simulated chewing. In this case, the piece serves as a spiritual epilogue to his (and Sam Quill's) 30-minute work for the ensemble The House of Bedlam, *Tithonus: drunk 2* (2016), where the flute part was written especially for me. Here, behaviours and objects associated with drinking alcohol are used to create sounds (drinking beer during the piece; shaking off-licence bags). Therefore, a gasping, rushed kebab is a fitting solo addendum. John Webb's *One Breath Bop* (2017) does not ask for an impossible duration or provide an excess of musical material, but it does draw attention to the visibility of failure. The piece involves raising an inflatable hammer (or similar, Figure 5) above the head, holding the flute with just the left hand, and attempting to sustain a C-sharp whistle tone (an extremely delicate and temperamental technique at the best of times) for as long as possible in one breath. If the tone wavers at all, the performer is to 'bop' themselves on the head with the hammer. This naturally disturbs the airstream again, so the piece is likely to lead to more interruption over the short duration. In this case the piece, likely informed by Webb and I meeting and working together in primary school music education, does highlight 'failure' but it is a self-assessment and prioritises playful theatre over anything genuinely punitive.

David Pocknee's *Gray Winter Grimes* (2017) invites the performer to play as much as they can in a single breath, or the whole piece in as few breaths as possible. Despite the breathing restriction, the piece's excess is in its keywork. Based on Gray code, or reflected binary code, each finger is assigned its own line. In the score (Figure 6) the blocks represent depressing a key for the duration of the block and the piece systematically goes through every possible key combination on the flute. The overall tempo and the air speed are up to the performer, however when there are pitched (or 'real') notes naturally emerging from a finger combination, the performer is required to attempt to highlight this in the texture.

The graphic tablature notation Pocknee has designed for the piece demonstrates the pattern, but does not communicate the complexity of the keywork. Figure 7 show the fingering for just the first line of Pocknee score, and I made and used this chart to break down the complex fingerings and note down expected or possible sonic outcomes. The piece

demonstrates the tendency to expect as much as possible in the usually short duration of the pieces beyond breath and breathing.

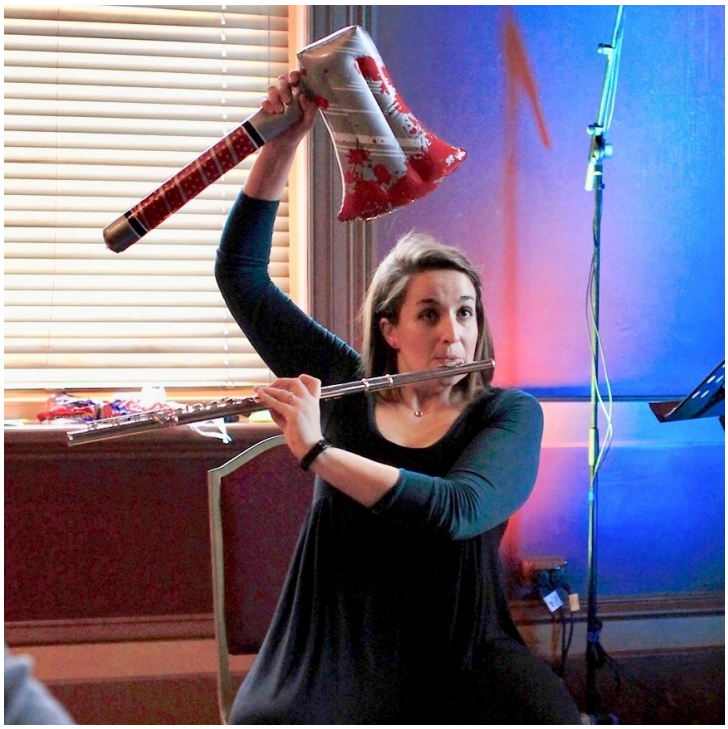

Figure 5: Performance of John Webb's *One Breath Bop* at the Bendigo International Festival of Experimental and Exploratory Music (BIFEM), 2019

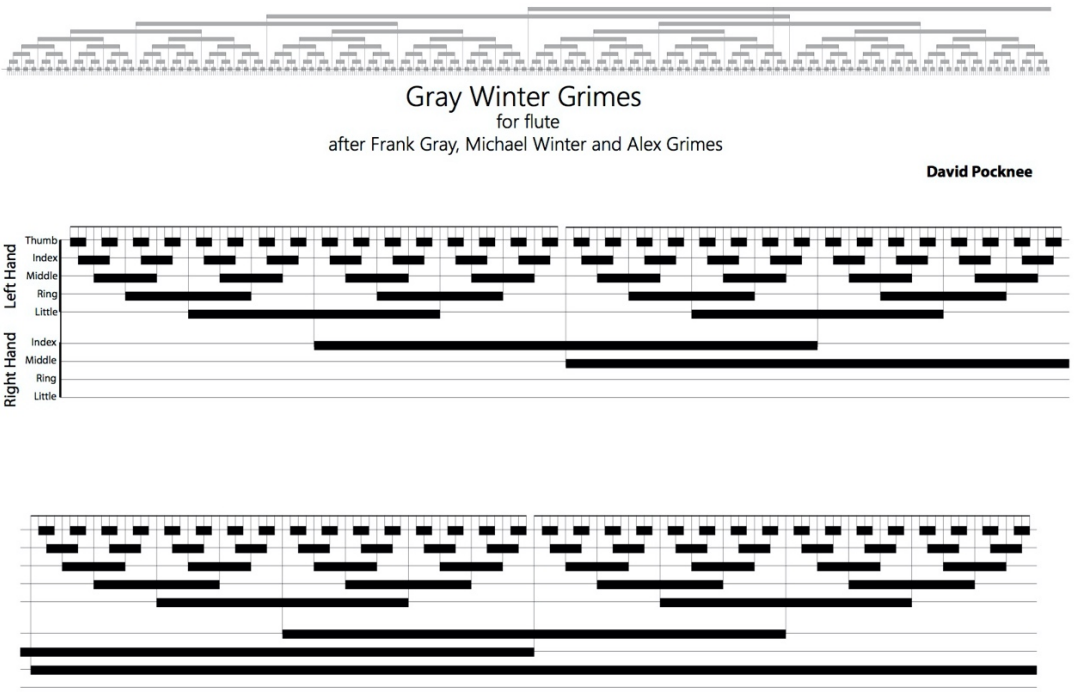

Figure 6: *Gray Winter Grimes* (2017), David Pocknee, p.1

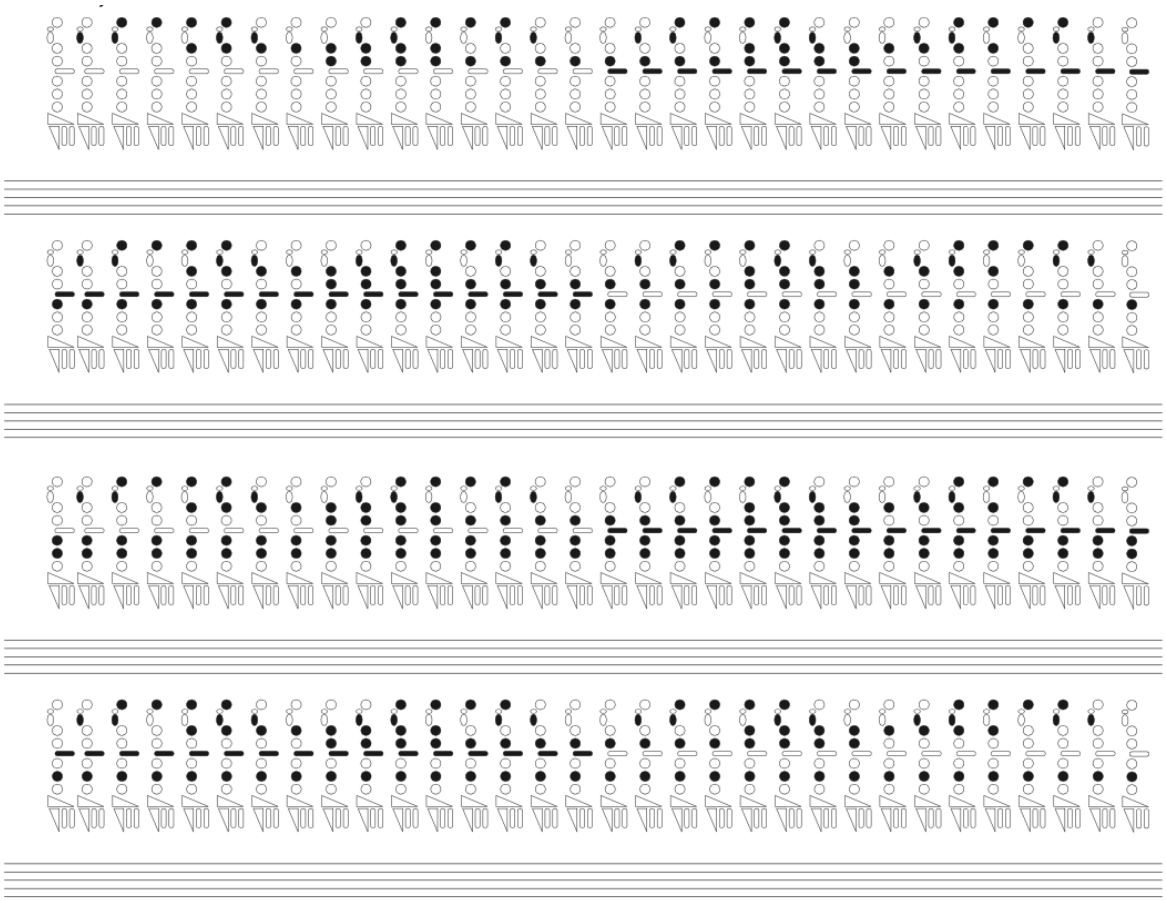

Figure 7: ***Gray Winter Grimes*** **(2017), David Pocknee, fingerings, first system**

A problematic example in terms of breath control is Robert Crehan's *Save Your Breath* (2019), which consists of 30 different short cells of music with a very wide range of dynamics, articulations, and playing techniques, an invitation to repeat any of the cells up to three times, and a request to play as many as possible in the single breath. Unlike the Sheen and Pocknee pieces (which are too long to be possible in a single breath but are essentially a sequence of variations), the Crehan is a sequence of very different cells with no possibility of performing all of them. In fact, one of the cells is a rest with an indication to audibly completely exhale (Crehan, 2018, p. 2), potentially bringing the piece to an abrupt and 'early' end. Although my interpretation of a committed performance of this piece is to play until the sound is affected by the lack of remaining air, the piece softens this necessity for failure by inviting the performer to essentially construct the piece in collaboration with the composer; the cells are so varied and there are so many to address within the physical limitation, that a large number of starkly contrasting pieces are possible. For the same reason, two of the longer pieces on the album that are not specifically concerned with the techniques used to

extend the duration of the breath are Joanna Ward's *One, Breathe* (2019) and Ewan Campbell's *Polar Vortex* (2019). Both these recordings are over a minute long and both are graphic scores designed as composition, invitations to a performer to collaborate, and as a strategy for improvisation. Unlike the Crehan, in these graphic-score contexts I have found a more extensive feeling of ownership over the pieces, more necessity for conversation to better understand the composers' intentions, and the greater flexibility to manage my body during performance. This means that pieces are, in context, substantial and from my perspective, wholly distanced from any notion of sonic or performative failure.

3.3.3. Disability simulations: Beugger and Hale

Part of the preoccupation with physical and musical failure has emerged from the narrative origins of the project. However, only a very small number of composers have engaged with this directly and in most cases have engaged with their experiences of respiratory impairment rather than engage (exclusively) with mine. Megan Grace Beugger's one-breath piece, *Asthmatic Inhalation and Exhalation* (2017), uses a technique of rolling in the flute completely, inhaling noisily and 'grotesquely' until completely full, and buzzing through the mouthpiece, controlling tiny, sharp bursts of air one at a time, gradually slowing down from very fast to extremely slow. This mimics the sounds and silences in a bronchial spasm; Beugger is a fellow asthma sufferer and she was aware of my own traumatic bronchial spasm. This shared experience directly informs the composition and interpretation, and triggers memories, fear, and a physical response of struggling to breathe. It is unclear whether the piece would trigger the same reaction when experiencing the piece and this is not the intention - any consideration of ableism is, in this case, personal, although anecdotally I have had audience members approach me after a performance to tell me that they heard their own asthma struggles in the piece.

This is not the case in Lucy Hale's *When we breathe* (2019). This work also engages directly with respiratory conditions, but rather than focussing on a shared experience, it brings me into the site of suffering faced by the composer. In a blog post about the compositional process, Lucy writes:

> When I read Williams' brief, I was experiencing the effects of an undetected increase in my blood CO_2 level. Breathing isn't my strong point at the best of times and the increased CO_2 meant I was struggling almost constantly. My relationship with breath and the body was particularly fractious and therefore very much at the forefront of my mind. I began to

> wonder whether I could somehow write a work which would aurally replicate the effort I have to expound on breathing and the resulting 'stilted' nature of my speech. The paradox of exploring these things in a single, extended breath seemed a perfect metaphor for the disjunction between my speech as it is in reality and my 'thinking voice' which feels much more fluid and 'like me'. (Hale, 2019)

Through an email exchange, Lucy decided that she would record herself reading out several sentences chosen from a Muscular Dystrophy UK leaflet, which describes the nature of breathing in conditions like hers. I used this recording as an audio score, suspending my breath whenever Hale took a breath, in order to mimic the stop/start nature of her speech. The constant pauses throughout the piece means my breath is suspended with only short bursts of tiny exhales over the entire 2'18" duration. Hale was not prescriptive about the type of sound she wanted me to make; she only suggested that I might attempt to sound like her.

I initially found it very challenging to try to mimic the sound of Hale's voice. She normally relies on her iPad programmes to communicate with people and reserves her verbal speech for family and carers who can more easily understand her, so this felt like an extremely privileged space and I was concerned, despite the collaborative nature of the piece and Hale's generosity, about issues of appropriation and insensitivity. The constriction in Lucy's voice ruled out any air sounds and I wanted to feel my sound production was also constricted (even though making one breath span well over two minutes is quite demanding in itself). I found that in order to be convincing I had to ensure that performing the piece was a struggle; in performance, I completely cover the mouthpiece with my lips to allow the air to escape irregularly through as small an embouchure as possible. It was gratifying to read that Lucy "was astounded by how effectively her sound captured the physical effort and struggle associated with breathing and speaking for me at the time" (ibid).

Our shared concern was that the piece might be read as a kind of disability simulation, something both Lucy and I would wish to distance ourselves from. Disability simulations involve 'taking on' physical and sensory impairments related to low vision, hearing loss, and mobility limitations (Kiger, 1992 in Nario-Redmond et al, 2017, p. 325). Activities such as getting ambulant people to spend time in a wheelchair, wearing ear plugs to simulate deafness, or sighted people to attempt everyday tasks whilst blindfolded are common activities in disability awareness training workshops in schools and businesses (ibid). Although intended to grant nondisabled people a personal experience into what disability

must be like, simulation training has come under criticism for "failing to account for the diverse coping mechanisms acquired from living long-term with disability" (Wright, 1980, cited ibid). For example, a few minutes of wearing ear plugs cannot possibly simulate a lifetime of learning creative ways to navigate without sound and communicating in sign language and using other sensory cues. According to Nario-Redmond et al, this reflects an ablest perspective that emphasises loss and limitation rather than the lived experience in an often-discriminatory world (2017, p. 327). A study conducted by Nario-Redmond et al supports this argument by finding that participating in such exercises can lead to feelings of pity, apprehension, and even fear towards disabled people. Lucy Hale offers a possible solution. She writes in her blog:

> If traditional disability simulations fail to promote understanding and empathy whilst giving the illusion that they do increase those things, then perhaps a less direct experience could do the job better... an artwork created by an individual disabled artist that deals with their experiences as disabled people can achieve the purported aims of disability simulations whilst avoiding some of their problems. (Hale, 2019)

When we breathe does require a degree of simulation but does not make any claims that the experience of performing the piece gives an embodied insight into Hale's lived experience. However, this does not diminish the experience of playing the piece as a profoundly empathetic act. This is highlighted in a version of the piece (the one included on the album) where the audience hears excerpts from the audio score of Hale's voice as well as the sound of the flute[1]; the result is an affecting duet and has the potential to highlight Hale's physical difficulties without the expectations from disability simulations. Indeed, the stark differences in Hale's and my breathing on the recording serve to highlight this. Tim Rutherford-Johnson observes in his sleeve notes for the album:

> The recording last over two minutes as Hale must take a new breath at least once every word… Both physically and emotionally it is one of the most challenging pieces here: breath not as break but as fragile line, breath itself rendered as musical theme and form. (2019)

3.3.4. Documentary and autoethnography: Dyer

Mark Dyer's contribution to the project, *Memento for Kathryn (and being able to hold that forever)* (2018), at over two-minutes long, is another work that makes extreme physical demands to

[1] A video version of Hale's piece which provides the text to read as she speaks is included in the accompanying portfolio.

extend one breath, in this case enforced through an accompanying soundtrack which simultaneously serves as an audio score. This was a close collaborative experience and, as a consequence, the extreme performance practice emerged organically. As part of this process, we discussed Dyer's composition practice and research, involving the creation of what he calls 'musical ruins' (defined as degenerated borrowed material, specifically historical art music) that might establish a sonic discourse analogous to visiting an architectural ruin. His interest in engaging with the poetry of ruin experience such as nostalgia, alienation, and hopes of restoration had begun to lead to a quasi-archaeological and ethnographic uncovering of performers' relationships to historical music and musical experiences. This was inspired, in part, by social historian Carlos López Galviz's (and others') notion of "ruins as thresholds, windows that provide unique insights into the relationship among lived pasts, presents, and futures" (2017, p. 533). As a consequence, we also spoke about my personal experiences, particularly my surgery and recovery, with a view to incorporating this into the piece. Dyer asked if a particular work came to mind in relation to this experience. I used Claude Debussy's opening flute solo to *Prélude à l'après-midi d'une faune* as a benchmark for my breath control and tone quality throughout my illness and recovery (even playing the solo to my surgical consultant to demonstrate my improved sinuses). The solo is something I have discussed with all my teachers and many colleagues as potentially the repertoire's best known and notorious excerpt. I have heard it played in numerous masterclasses and treated as a measure of a flutist's abilities in breath and tone control, in particular challenging breath control over a long phrase. For example, the celebrated American flutist and teacher William Kincaid wrote about the piece as "an excellent example for breath control. The first passage, which is for flute alone, should be played in one breath if possible" (Kincaid, 1978, p.10). However, in flutist Virginia Tutton's exhaustive examination of Kincaid's recordings of the phrase, she observes that he breathes at least once in all of them (Tutton, 2018, p.45).

Dyer observed that the entanglement of experiences of illness and recovery, and performing and preparing the Debussy, was similar to the experience described by artist-ethnographer Lydia Degarrod: "as I listened, I experience sense memories" (Degarrod, 2017, p. 329). Therefore, his starting point for his piece, also following artist and educationalist Dipti Desai's approach to ethnographic art making, was to treat me as an expert and allow our "exchange to naturally guide the direction of the project" (Desai, 2002, p. 317). This involved directly referencing the Debussy solo and including extracts from my contribution to our conversations on the soundtrack.

The piece involves making six small inhalations (made audible by turning the flute in and covering the embouchure hole), separated by breath suspensions (similar to the suspensions in the Hale and the sniper shooting training suspension discussed in Chapter 2). This is followed by the opening solo from the Debussy which starts with the flute held around six inches away from the face and is gradually moved into normal position. The effect is a temperamental sound as only the slightest movement of air touches the lip plate and the ghost of the melody is heard in wispy air-like tones along with the sound of gentle key movement. As the flute is moved into a normal playing position, the air naturally runs out and the final A-sharp dissolves into a whistle tone and further air sounds. The soundtrack is made up of the sounds of my breathing; snippets of me talking about my surgery, recovery, and the Debussy; heavily distorted and very brief extracts from the Debussy orchestral recording; and moments of silence all of which indicate when to breath, suspend breath, and play. The piece is particularly demanding because of its duration and the number of inhalations and breath suspensions; it is easy to inhale too much too early and the piece was initially very uncomfortable to perform. It is partially for this reason that the piece is performed sitting down, but also because this hints at the posture of a seated orchestral flutist awaiting the start of this famous opening.

I found the process of exploring, confessing, and expressing my frustrations with my body's limitations, and remembering comments from a variety of teachers I had worked on the Debussy excerpt with (sometimes highly problematic[1]), cathartic and an effective starting point for our collaborative dynamic. This highlights the project's overarching themes of overcoming and resilience, and led reviewer Michael Baldwin to observe that the piece "represents a highly integrative approach towards the complex subject at its heart: Williams" (2018, p. 74). This was the first example of my story being told through a piece rather than through a description of the project, and the most explicit example in Coming Up for Air of a piece that involves a tension between apparently vulnerable confession and virtuosic musical performance. These autoethnographic, documentary, and performative approaches to making music have had a profound effect on the development of my own practice as will be seen in subsequent chapters.

[1] For example: 'you must seduce the audience with your first note!'; 'tell the entire story on just the first C-sharp'; 'sound sexier!'; 'you don't really need to breathe there, do you?'

There is a further feature of the piece that has had an ongoing impact on my subsequent practice. Dyer was clear that, once the audio track was made, he saw himself more a spectator in our collaborative scenario, conscious not to appropriate my experience for his artistic means. Removing his own discursive voice from the soundtrack meant he was aligned with the notion of a 'vulnerable observer' (Desai 2002, p. 311), perhaps required in ethnography so as to form a "layering of artistic authority... ruptures our common sense perception of the artist as a sole author of the work and troubles it" (Desai 2002, p. 314). Although I believe that I have had a considerable and tangible impact on the compositional details of and sonic outcomes of a substantial number of the pieces in Coming Up for Air (far beyond what might usually be expected of an interpreting performer), this piece is an example where the composer encouraged an integrated compositional collaboration, took a step back at a key point in the process, prioritised my story, and framed this with a notion of artistic authority. This was a turning point in the transformation of my own practice as I started to self-identify as much as a composer as a performer and found personal value in scenarios where performance and compositional responsibilities were shared. Furthermore, I have subsequently equated my transformation from performer-interpreter to composer-performer-curator-collaborator as a literal and metaphorical expression of my ongoing journey of overcoming and resilience, and I have used subsequent collaborations to explore varying degrees of artistic authority and ownership. This is also explored in more detail in subsequent chapters.

3.3.5. Diverse interactions: Williams and Czernowin

Given the number of pieces that make up Coming Up for Air and the variety of sources from which they have emerged, the project serves as an effective overview of a range of different collaborative dynamics. Although in broad terms the pieces were either written by friends or colleagues, emerged from education workshops in secondary and tertiary education, or were sent in by strangers, this doesn't communicate the complexity and variety of these different relationships, nor does it describe every piece. For example, some of the strangers who sent in pieces have since become more regular collaborators and in some cases friends. Other pieces involved extensive back and forth communication, remotely or in person, and these different engagements have contributed to my approach to collaboration on new music. Even where the apparent compositional methodologies are comparable, the reality of the collaborations are radically different. For example, *Gerbil behaviour* (2019) and *Breathing Etude 1* (2018) were each written when I was in the room with the composer for under an hour.

Both involved conversation about the project and the composer asking questions about possible sounds and vocalising to demonstrate what they wanted to hear, both are included on the album and neither have, to date, led to further collaboration. However, the former was written by my then eight-year old daughter finding musical sounds to describe her pet gerbils' everyday actions and the latter was written by the celebrated Harvard-based composer Chaya Czernowin, perhaps one of the internationally best-known composers of the project. Both pieces are also gently subversive. It is not usual to include music by children on experimental music albums and issues of ownership are made more complex by the lack of score and the inevitable educational dimension in making the piece. When the University of Huddersfield offered hour-long individual lessons with Czernowin as part of her visit to the institution there was initially (and fortunately quite brief) surprise and resistance to a performer taking this opportunity from a composer, despite the institution celebrating the kind of creative fluidity that inherently questions demarcations within the roles. These demarcations also problematize how I might choose to describe the collaborative piece in terms of authorship and agency. Czernowin and I wrote this piece together and yet it is her piece in terms of its description and, negligible though it may be, remuneration. I might share vocalist and composer Juliet Fraser's blunt description of the classical music industry as "still very much bound to the traditional distinctions between, say, composer, librettist, performer, editor… in spite of some wilful blurring of these roles (notably in more experimental scenes), it struggles to achieve the sort of flexible nomenclature that might reflect the variety and flexibility of our collaborative practice" (Fraser, 2019, p. 52). However, it is inevitably bound, in part, to a real or imagined hierarchy and I would be more tentative to assert the shared compositional agency with Czernowin than with my daughter (whatever either of them felt about the work). Aside from the quality of the short piece, I have included my daughter's piece on the album in order to help highlight the difficulties in identifying and ascribing compositional agency for a number of these pieces.

Coming Up for Air is simultaneously so diverse and complex in its range of interactions and so restrictive in its physiological limitation that I'm uncertain as to its utility as a way of examining different ranges of agency and involvement to contribute developing the more flexible vocabulary that Fraser describes. It has, nevertheless, helped me understand how I might develop a collaborative practice. In her article, Fraser laments the overuse of the word 'collaboration', particularly when used to describe the "merely coming-together of artists" (p. 51), and provides her definition of collaboration as "a shared practice that intentionally cultivates an intimate creative space (physical, intellectual and emotional) to produce a

distinctive body or work" (ibid). She suggests that "common features of a healthy collaboration are a shared aesthetic mission, a non-hierarchical structure, mutual dependence, a dialogue-rich process and a shared vulnerability… and stipulate[s] that true collaboration is long-term" (ibid). Coming Up for Air, in which different pieces represent a wide spectrum of interactions, from the 'merely coming-together' to addressing all of Fraser's 'healthy features' and many different interactions in between, achieves this aspiration with a wide variety of personal and social relationships. In this sense, Coming Up for Air serves as the foundational manifesto in a practice that has since been almost exclusively collaborative.

3.3.6. Rendering breath visible: Goves, Glovackyte, Cooper, Ingamells, Marshall, Marlow and Pinney

I have found it particularly interesting to examine how different composers have addressed a question at the heart of the project: addressing the invisibility/visibility of breath and breathing. As the pieces are all one breath long and, in particular, as the pieces are usually performed in together in groups, this will happen (to some extent) naturally. However, there are a number of composers that have addressed this directly. Larry Goves' *Air Pressure* (2017) extends Bruce Nauman's 1976 performance art text score *Body Pressure*, which invites the participate to press their body's up against a flat surface and, through an evocative text, consider the physical, even sensual, awareness of the bodies through the experience of pressure. *Air Pressure* involves a closed hole flute with the end of the instrument sealed, all the keys closed, and the flute filled with as much air pressure as possible. The air is then sharply released by the trill keys, like tiny steam valves, and this movement is further emphasized as the hand is covered in crinkling plastic wrappers. Here the flute becomes an external machine-like lung; a vessel outside of the body designed to magnify physiological action of breathing. The piece closely connects to Ben Spatz's observation that "holding one's breath is difficult; the longer one holds one's breath, the more one feels material reality push back against technique" (2015, p. 212). This is the most visible example of the flute behaving as the material pushing against the body, a common if usually more elusive feature of the Coming Up for Air collection.

Vitalija Glovackyte's *Untitled* (2017) is the only piece that uses objects and technology to artificially extend the breath and is therefore the longest track of the project at five minutes on the album version. The piece requires the performer to 'capture' a single breath in a

balloon and then releases the air slowly and noisily into a microphone to create music through live signal processing alongside a part for live kalimba. Although I have been resistant to this piece, which does not quite adhere to the stipulation for the project, the gradual release of the air from the balloon is an effective visible example of the breath suspension which is harder to detect in other works[1]. Ed Cooper's workshop piece *For Kathryn Williams* (2020) is perhaps the most direct example of a visible breath as a flute is filled with dyed water and the exhalation sprays and dribbles this onto a canvass; the flute and breath contribute directly to a graphic score in real time, and subsequent visual artwork. Two other works make use of water to highlight the visibility of breath. Andy Ingamells and my *Aquafifer (after Hermeto Pascoal)* (2019) take its inspiration from the popular Brazilian composer and multi-instrumentalist who, perhaps due to his formative experiences living "in close contact with nature and animals" (Neto, 2011, p. 133), wrote *Música da Lagoa* (1984), in which he and his ensemble play flutes while stood in a lagoon, partially submersing their instruments in water to affect the sound. The silent video score, which is visible to the audience when played, is footage of me playing a plastic fife in a local swimming pool, and the piece involves recreating the sounds live; the water acting like the *glissando* mechanism of a slide whistle (this is discussed more in Chapter 6). Lauren Marshall's *Suck/Blow* (2019) involves pitch, air, and vocalisation played through the flute's headjoint which is intermittently dipped in a bowl of water creating burbling and lapping-like sounds that simultaneously visually and sonically renders the breath visible as well as visually and sonically alluding to the sexual and sensual implication in the title. Composer Charlotte Marlow and writer Chrissie Pinney's contribution *Breathless* (2018), which is played, sung, and spoken, uses the single breath and the inevitable breathlessness caused by performing this busy, diverse work to consider positive sexual experiences and a moment of musical and physical climax.

3.3.7. Universal experiences: Hsieh, Chase, Cully, Haines, and d'Heudieres

In all these cases, the composers have decided to find a more visible and universal expression for their single breath than instrumental practice would usually afford; pressure, balloons, painting, and water. In fact, many of the pieces in the collection required little, if any, flute performance practice at all. Annie Hui-Hsin Hsieh's *PIXERCISE 1* (2017) (subsequently substantially developed and discussed in detail in Chapter 4) involves holding

[1] In collaborative work with Andy Ingamells, we have used balloons to render the breath visible, however the balloons remain connected to the bodies (see Chapter 6).

a single piccolo note for as long as possible while doing sit-ups, Stephen Chase's *Feet. Can't. Fail. (Slight return)* (2018) similarly involves a held note slightly rising in pitch while jumping up and down on the spot. It is the visible and straightforward physical action that directly affect the flute performer's airflow, a well-known action impacting on a more rarefied one. These more universal, everyday actions feature elsewhere evoking behaviours associated with childhood and nostalgia. Eleanor Cully's *Make a wish* (2017-18) series of three pieces simply involves blowing out a candle or on the seeds attached to a dandelion stem; Cee Haines' *DOOO* (2017) involves playing the body of the flute like a toy trumpet; Sarah Hennies' *Packing it in* (2019) involves singing and dismantling the flute while playing it, and sustaining the breath until the instrument is back in its case; Amber Priestley's *It involves beautiful tightropes of logic on which one has to walk* (2018) is played, whistled, hummed, or sung, while walking the several metre long single stave score with recordings of the piece made in noisy locations played simultaneously; and Louis d'Heudieres' *Need bigger lungs* (2019) cartoon-like graphic score directly references his formative experiences in playing (or failing to play the tuba, where he was constantly told his lungs were too small), as the title is vocalised until the breath is almost used up and a single note is played on the tuba resting on the ground. The project seems to have invited many of the composers into a conceptual space that highlights formative, rudimentary, and game-like experiences as a mechanism for music making and as a natural artistic extension of the primordial one-breath starting point.

3.3.8. Games: Whiteman

A particularly developed example of a piece expressed as a game is Nina Whiteman's *Thread* (2017) (Figure 8), in which the score is a labyrinth that must be navigated in a single breath. The piece equally engages with the sonic possibilities of the inhale and exhale and this, combined with breath suspension, means the piece (on the album) is one minute and nineteen seconds long. The breath is managed through a click track and the scores requires a playful interplay of pitched and percussive sounds including: a turned in and sealed mouthpiece resulting in a pitch a 7th lower than usual; sharp bursts or air; flutter tongue; lip pizzicato; tongue pizzicato; key clicks; and a gradual turning of the instrument so the piece ends with no air to flute contact.

The piece forces the performer to isolate and operate numerous aspects of the body independently as the information for breathing, keywork, and articulation are separate. While this, coupled with the duration and breath suspension, makes this work extremely

physically and intellectually challenging, the feeling when performing this is like taking part in an elaborate game.

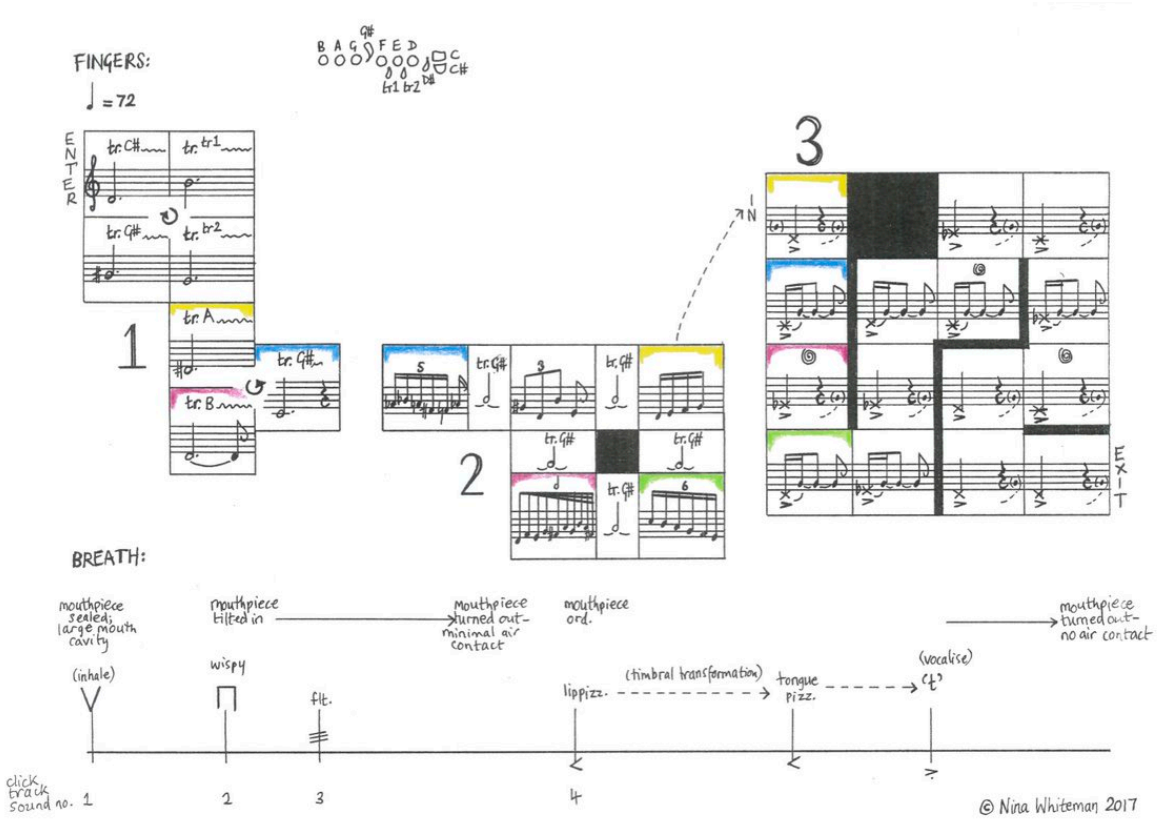

Figure 8: *Thread* (2017), Nina Whiteman

3.3.9. Reading aloud: Welton and Cully

Other contributors to the project have engaged exclusively with text, perhaps the most directly shareable and universal experience. Eleanor Cully's second contribution to the project, *Snow Geese* (2019), is a short text that repeats until the breath runs out. Poet Matthew Welton's *Poem in a single breath* is a single sentence in just under one hundred words, and I have often invited audiences and participants in concerts, classes, and workshops to perform this collectively:

> you've been singing along with the radio all morning
> and I sit here turning pages without really reading
>
> and your fingers smell like vinegar
> and we think we hear the doorbell

and as the shadows sharpen and you prop
open the window, the drizzle seems to ease

we think it's our thoughts that are distorting how we see things
though we wonder if it's what we see that is distorting our thoughts

the sunlight catches the spider-webs
and I can't really hear what you're saying

and somebody's used up the peanut butter
as we'd imagined somebody might
(Welton, 2020, p. 93)

It is common for the first attempt at reading the poem in one breath to fail, and after a few suggestions about posture and breathing, second attempts to be successful. In this way the universal experience of reading aloud can become a shared one and give audience members an embodied experience as a window into the project.

3.3.10. Conversations: Rodriguez, Pauly, Montagné, Holden, Tasca, Armstrong, McIlwrath, and Goves

Another common trope in pieces from the Coming Up for Air collection, perhaps as a distillation of the collaborative dynamic between composer and instrumentalist comparable to the distillation of a piece into a single breath, is one of conversation or two-way dialogue. This is literally the case in Lavender Rodriguez's *I didn't say that he did* (2018) in which interchanging flute performance and speech creates an argumentative conversation. Composer Mauricio Pauly and poet, animator and programmer Gabriel Montagné's audio score *H-Yodo Draft 4* (2017), an experiment as part of their ongoing collaboration, uses artificial intelligence to distort speech and text to create an integrated instrumental/speech conversation. Daisy Ellen Holden's *Waves* (2018) and Lucio Tasca's *One Breath* (2018) both create a contrapuntal dialogue with simultaneous singing and playing, and Newton Armstrong's *Two Canons for Kathryn* (2019) is written as two staves of music played simultaneously as if by two performers. In *My pillow is made of nettles* (2018) James McIlwrath creates a conversation by having the performer constantly shift between playing fragments on the piccolo then flute, with an assistant required to pass the instruments back and forth.

Larry Goves' video-art work *Air pressure 2* (2018) (Figure 9) takes the implied dialogue of air pressure mediating instrument and body from his text score *Air pressure 1* and creates a literal if surreal dialogue through a quartet of identical performers for each of the eight sections in which the air pressure on the instrument is gradually reduced.

Figure 9: *Air Pressure* 2 (2018), Larry Goves, still

3.4. Curation as composition-like activity

There are numerous ways to read Coming Up for Air and to divide up pieces within the project, and while for this chapter I have chosen bodily strain, playful universality, theatre, or dialogue, there are many other ways this might have been discussed. For example, I have offered a range of pieces that present different forms of notation (graphic, tablature, video, audio, text) and a range of pieces that engage with theatre and/or multimedia, but I have not grouped or examined these pieces collectively. This highlights the curatorial responsibilities when performing (and indeed writing about) Coming Up for Air, where very different aesthetic, conceptual, and technical priorities will be visible by the decision of what pieces to include and in which order.

The only occasion when this was not the case was the first Coming Up for Air concert on 7th June 2017 which featured the fourteen works originally written for the series[1] framed by Alvin Lucier's *Self-Portrait* and Brian Ferneyhough's *Unity Capsule*. As these works were written especially for the occasion, and the concert was an event to raise money for Help

[1] The fourteen works written for the first Coming Up for Air concert were written by Megan Grace Beugger; Cee Haines; Oliver Coates & chrysanthemum bear; Eleanor Cully; Vitalija Glovackyte; Larry Goves; Mauricio Pauly; Michael Perrett; David Pocknee; Jack Sheen; Laurie Tompkins; John Webb; Matthew Welton; and Nina Whiteman.

Musicians (the charity that had funded my surgery), the only curatorial decision here was putting a relatively modest number of pieces in order. However, I learnt essential lessons from this experience. Coming Up for Air concerts are always physically exhausting (especially when closing with a complete performance of *Unity Capsule*) and I had to order the pieces so that the most demanding works are not all adjacent. In subsequent longer Coming Up for Air concerts, video versions of Charlotte Marlow and Chrissie Pinney's *Breathless* and Eleanor Cully's *Make a wish* along with Larry Goves' video work *Air Pressure 2* were strategically placed throughout the concert to provide some recovery time. The ordering of the pieces was then a careful balancing act between creating groups of pieces that share certain obvious properties (for example melodic, textural or theatrical pieces) while also creating variety, and recognising pieces' different levels of presence/visibility, the extent to which I have to come towards or directly interact with the audience or amplify or project the physical action in larger venues.

For example, at a Coming Up for Air concert given on 4th December 2018 at London's Café Oto, the audience was very close and visible to each other. I was able to join the audience for the fragile intimacy of pieces like David Pocknee's *Gray Winter Grimes* and invite a member of the audience whose birthday it was to blow out the candle in Eleanor Cully's *Make a wish*. For a long (62-piece) Coming Up for Air concert in the Purcell Room on London's Southbank Centre on the 2nd of November 2019 for their DEEP MINIMALISM 2.0 festival, the raised and distanced stage combined with high-fidelity lighting distanced the audience from the experience and the emphasis was on theatrical pieces and maximising the use of the large stage. For these larger-scale concerts I set the stage with different stations in different locations for groups of pieces to create a balance between consistency and variety; for example, all the water pieces would be in one location but punctuated by other pieces suitable to that station. At the Bendigo International Festival of Exploratory Music in Australia I gave eight 15-minute performances, each to a different audience of up to ten, where I was able to offer a privileged perspective on the project by sharing scores, taking requests, and performing extremely close to the audience. I played three short sets of Coming Up for Air pieces as part of short concerts on the 24th of November 2018 at the Royal Northern College of Music as part of the national festival of the humanities Being Human. As these sets were part of a larger examination of the body in performance, the concerts were supplemented with installations which included scores, complementary writing, and videos of various pieces from the collection.

Curating a Coming Up for Air concert is, therefore, like constructing a new modular experience, each one the composition of a unique event. In her essay on performer-curators, Heloisa Amaral talks, with particular reference to ensemble at the Darmstadt new music festival and summer school, about a fundamental shift in the curatorial behaviour of performers:

> These performers typically create their own projects, test different forms of collaboration, and leave their personal imprint on commissioned works. Further, they think and act beyond their immediate field, searching for new impulses in other musical genres, related art forms, politics and science, thus questioning the relevance of their work within a larger social context. Finally, they challenge prevailing discourses and modes of musical presentation, in particular the classical concert format. (Amaral, 2018)

I would argue that Coming Up for Air achieves exactly this, and, in particular, challenges the fundamental notion that a performer/interpreter serves the musical meaning of and from composers. While this is a collaborative project and I have different creative stakes and agency in different pieces, this is essentially an interpretative project in which the initial concept and the eventual meaning of the concerts and other presentations is dominated by the agenda and decisions of the performer.

Chapter 4: Training and the making of *PIXERCISE*[1]

4.1. *PIXERCISE* background and introduction

This chapter considers the process of writing, preparing, and performing *PIXERCISE* (2017-), an ongoing music and theatrical work written with composer Annie Hui-Hsin Hsieh. The piece is currently a twenty-minute work for solo piccolo that connects elements of musical performance, performance art, and physical exercise. The piece, prepared and performed by myself and collaboratively devised with composer Hsieh, was born out of a spontaneous and deliberately comical response to my commissioning project, Coming Up for Air, in which pieces are limited to a single breath. Here, Annie publicly challenged me to see how many sit-ups I could do while sustaining one very high note. *PIXERCISE* has developed into a work where high intensity interval training (HIIT) collides with piccolo performance practice, and in doing so has proven emblematic of transformational musical practice in a variety of different ways: the piece represents the development of a new collaborative relationship; has provoked my own development as a composer; and provides a visible and accessible parallel to the permanent physiological and psychological changes that come about when training as an instrumentalist to a high level. Throughout its development, we have also been considering the work as a multi-textural metaphor for attitudes to female body image, including apparently self-inflicted, unrealistic personal expectations, and possible relationships between this and expectations upon professional orchestral musicians.

4.2. Training and making

Despite the unusual performative nature of *PIXERCISE*, our process started with myself as performer and Annie as composer in relatively traditional roles. The impetus to exercise came from Annie, who wanted to monitor what would happen to my piccolo sound as I became significantly fitter, particularly performing and exercising simultaneously. As I was initially uncomfortable with my perception of the scrutiny and posturing of exercising in public spaces and was not naturally drawn to this kind of fitness regime, this process began with a series of specially tailored individual sessions with a personal trainer. The initial sessions were utterly painful and affected me outside of the training sessions, however I did start to feel more confident and happier with the process as I noticed physical changes and

[1] This chapter has been previous published in a shorter version as:
Williams, K. (2020). PIXERCISE: Piccolo Performance Practice, Exercise and Female Body Image. *Tempo*, Vol. 74, 292, pp. 74-79.

apparently reduced pain. This is line with sociologist Karen Throsby's observation that "pain and discomfort may come to feel differently as the body becomes cultivated and transformed physiologically, functionally, and sensorially" (Strandvad, 2018, p.54). This is also my experience of learning an instrument and learning new pieces that require a particularly demanding or radically new performance practice (for example Ferneyhough's *Unity Capsule* (1976) discussed in Chapters 1 and 2).

Although Annie and I had originally planned to undergo the same physical transformations and therefore the same exercise regime, without the necessity to train Annie soon stopped. This changed our plans for a shared collaborative experience and reflections on the process shifted from a shared experience to a reflective diary-like exchange (a method that has proved successful in other performer/composer collaborations[1] and, taken to an extreme, would form the basis and starting point for a future collaboration with vocalist, artist and researcher Jessica Aszodi (Chapter 6)). This also shifted our notion of the ownership of this piece as we discovered and agreed that the training was and is part of the creative process of making the piece and part of the piece itself. As my baseline fitness improved, we reincorporated the piccolo into the exercise routine and the creative decisions about material and structure of the artwork were emergent from the exercise and transformational physical experience of training. There were also practical considerations and the two main categories of exercise we settled on are: exercises where I can safely hold the piccolo (crunches, sit-ups, leg raises), and fixing the piccolo to a stand where I could blow towards the piccolo intermittently (plank, push-up, burpee). Both approaches, particularly the latter, led to highly indeterminate results.

I might argue that in abandoning our plans for a shared exercise routine, Annie was attempting, subconsciously or otherwise, to maintain our traditional roles in the performer/composer dynamic and perhaps, by extension, these traditional power dynamics. It seemed that she wanted to decide what should be done but not actually do it, despite our explicit agreement that the piece would be as much the process as the result. This is not to trivialise her generosity in acknowledging the shared ownership of this piece which became more apparent as the training fed into the score and performance. As I was also reflecting on my changing confidence as I became fitter, I was aware that I was happier to contribute

[1] For example, the jointly authored and diary-like conversation in Fabrice Fitch and Neil Heyde's 2007 article exploring the collaborative process as invention.

creatively to the piece more, and more likely to assert where I felt my creative contribution was already apparent. This has proved a vital tool in reflecting on other creative collaborations[1] and on the holistic effect of this embodied approach.

The structure of the work is centred around a typical exercise routine. For the first performance[2] this was twelve-minutes long and for the second[3] a twenty-minute performance; this change partially reflected new collaborative ideas, our growing confidence with the piece, and my increased physical fitness. Central to the piece is the measurement of duration, which is partially based on the amount of time I can sustain a particular exercise, partially the amount of time typical to an HIIT workout (30 seconds of activity and 10 seconds of rest), and in one more playful case, the amount of time it takes to perform a section of Maurice Ravel's *Bolero*. This extract was chosen for its familiarity, its notoriety as an orchestral excerpt in the flute and piccolo repertoire (similar to the choice of the opening of Debussy's *Prélude à l'après-midi d'un faune* in Mark Dyer's contribution to Coming Up for Air), and for the physical demands required to play it (the abdominal support required to play so high and quietly naturally emphasizes the struggle when exercising and the sonic transformations). The forward momentum in the piece is, therefore, dependent on the physical struggle of performing and in the extended version of the piece we further emphasized this. This new section, *PIXERCISE ADVANCED*, is faster, tougher and introduces a competitive element; at times I am required to play with a recording of myself with all the difficulties of coordination and tuning in these intense circumstances. We also created part of the soundtrack with a laryngophone (a contact microphone attached to the throat) which was intended to highlight in the internal physical reactions of heavy breathing and tightening throat typical to this exercise; our impression was that this intimate recording of usually private or elusive sounds further exposes the difficulties of performing the piece.

4.3. Theoretical influences

PIXERCISE provides a potential case study for exploring Judith Butler's notion that gender is unstable, continuously influenced with gender identity (Butler, 1988). Instrumental performance practice seeks to normalise behaviour regardless of gender, however, the

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[1] Including co-writing *Vagus Correspondences* with Jessica Aszodi (Chapter 6) and working as a composer/performer duo with Andy Ingamells (Chapter 7).
[2] Eavesdropping Symposium, Oxford House, London, 18 March 2018.
[3] Huddersfield Contemporary Music Festival, University Sports Hall, 18 November 2018.

"stories of everyday sexism from orchestral members could fill libraries many times over" (Rhodes, 2014). It is noteworthy that the introduction of 'blind' screened auditions to American orchestras from the 1970s resulted in a considerable rise in the number of women with full-time orchestra jobs (Goldin & Rouse, 2000). Similarly, *PIXERCISE* presents a performance scenario in which gender is apparently not relevant, but because of the ubiquitous association of exercise and female body imagery, gender is placed centre-stage in the work.

One perspective is the reflection upon the relationship between personal and media preoccupations with body image and the commodification of fitness, as research suggests that exposure to mass media depicting the thin-ideal body may be linked to body image disturbance in women (Grabe et al., 2008). Simultaneously, physically strong and competent women pose a threat to ideologies of male physical superiority. In order to contain this threat, the media tends to erase such women from view (Dworkin & Wachs, 2009). Likewise, the female body is often framed as failing in myriad ways so as to encourage adherence to an always shifting, idealized "feminine" form (ibid., p.107). In *PIXERCISE*, this conflict intensifies further with yet another perspective of failure; the effect of the exercise of the quality of sound, is, from a traditional perspective, detrimental, and this is framed in a situation of unremitting vulnerability. However, the exercise is also a demonstration of strength, personal improvement, and achievement. This piece is intended to make visible "the reassurance that one can overcome all physical obstacles, push oneself to any extremes in pursuits of one's goals… the thrill of being in total charge of the shape of one's body" (Grosz, 1994).

Another perspective lies in examining the relationships between the transformation associated with personal goals in diet and exercise and that of musical instrumental training, and how this might be folded back into the diffuse territory of experimental performance practice. Philip Thomas, when exploring the notion of a Post-Experimental Performance Practice, argues for experimental performance practice as:

> …founded on the idea of 'work' – of doing the job required. An experimental interpretative approach might be considered non-interpretative, as the emphasis is upon actions rather than ideas, upon sound and their qualities rather than notions of continuity, cohesiveness and the projection of a narrative upon a sequence of sounds (2016).

PIXERCISE shares many of the qualities associated with this definition: the explicit nature of the physical exercise as 'work' and the focus on the relatively minimal musical material processed through the prosaic act of exercise, even the usually expressive/interpretative content associated with the orchestral excerpt in the piece. In this case, the conventional interpretative mechanisms are compromised and parodied. However, the process of preparing this piece shares a different narrative, although still far removed from traditional interpretation. The preparation for this piece has become embedded in my social behaviour as the requirements to perform this are a representation of my holistic wellbeing. Any break to this exercise regime means that it will be much more difficult to get 'back into shape' for a performance. This opens up Jennifer Torrence's observation that 'just about anything can be considered preparation as long as the activity is done with the intention of cultivating a particularly work or is retrospectively reflected upon as provide such creative input' (Torrence, 2019), and this idea became a starting point for my subsequent collaboration with Jessica Aszodi, as did further entanglement of the notion of work, both the everyday and in performance, and more elaborate notions of expressive interpretation.

4.4. Conclusions and legacy

The intention of this piece has always been to render visible real-life improvement through performance. To that end, I would distance this work from theatre and situate it in a tradition of performance art. When asked by journalist Sean O'Hagan to define the difference between performance art and theatre, Marina Abromović replied:

> To be a performance artist, you have to hate theatre. Theatre is fake… The knife is not real, the blood is not real, and the emotions are not real. Performance is just the opposite: the knife is real, the blood is real, and the emotions are real... I test the limits of myself in order to transform myself." (O'Hagan, 2010)

This sentiment highlights the tension between the preparation of this piece and its performance. The piece was initially intended as a statement of personal overcoming and empowerment. However, as my physical fitness has improved, I'm aware that, ironically, this piece may be becoming part of the intimidating body-shaming, and perhaps, by extension, instrumental-performance-shaming, that I was seeking to privately overcome and publicly positively highlight.

The next stage of the work was, therefore, an entirely private process and the 'performance outcome' highly esoteric. *PIXERCISE: PRO* has been the private preparation for a

professional piccolo orchestral audition with the UK's Royal Philharmonic Orchestra. Considering violinist Janet Krause's axiomatic observation that "being well prepared mentally and physically is also a vital aspect of doing well at an audition" (2020) and her experience that "many candidates often report after an audition of having felt too nervous or stressed come anywhere close to playing at the level they could achieve" (ibid), I created a version of *PIXERCISE* to develop the former and, through playful interactions, alleviate my concerns regarding the latter. I exercised while practicing the material for the audition and engaged with the self-competitive features of audition preparation as if it were the preparation for a piece commenting on this, delivered to a small audience rather than directly engaging with this and playing for a panel. I considered treating this like a Fluxus style happening, where I would essentially exercise in the audition, even to the point of attaching my instruments to boxes as with the concert-version of *PIXERCISE*. However, this kind of sabotage seemed disingenuous and insincere, not in keeping with the self-improvement spirit of the piece. While unscientific (not least because nobody else has performed *PIXERCISE* or directly engaged with this), by being successful for the first time in my professional orchestral audition by receiving a trial I have proved, to my own satisfaction, the effectiveness of *PIXERCISE* as a vehicle for self-improvement.

Chapter 5: *Vagus Correspondences*: collaboration in breath-activated nervous system manipulation

5.1. *Vagus Correspondences* introduction

Vagus Correspondences (2018-19) is a music and theatre piece which I co-wrote and performed with vocalist Jessica Aszodi. The piece takes the source material of our written correspondences between January and July 2019 to create a multisensory work that entangles musical performance, theatre, documentary, personal relationships, and confessions. Through this project we sought to affect one another's bodies, habits, and performance techniques through a cross-fertilization of physical, artistic, and psychological actions. The piece was created during two intensive periods of making (April/May 2019 in Manchester and September 2019 in Australia). It was performed as a work-in-progress at Huddersfield University (May 2019), at Bendigo International Festival of Exploratory Music (September 2019), and the Hundred Years Gallery in London (October 2019).

Aszodi and I both have long-standing interests in work that engages the body as a site for transformational practice, and we both inhabit bodies that have undergone extensive classical instrumental training (operatic voice and flute performance respectively). Our bodies are the sites upon which we enact our experimental art-making practices, aiming to problematize, reframe, affect, and build on what they are capable of; in my case, both Coming Up for Air and *PIXERCISE* are examples of this. As solo performers, we are experienced in the rigorous application and control of processes that unfold over time, both in performance and in preparation, and this is enacted with the goal of becoming more fit for the purposes of musical work. Between us, we have trained in a number of different kinds of physical techniques that can be applied to our work, including Feldenkrais Method, high intensity interval training, contemporary dance training, weight lifting, durational performance, and freediving. To make *Vagus Correspondences* we turned our gaze, usually confined to ourselves, onto each other, asking how we might create an artwork that explores bodily and subjective 'becoming together', while unpacking questions about the nature and purpose of female friendships, physical strength allied with intellectual and emotional agility, and collaborations whose materials are sourced from the gritty entanglements of everyday life.

5.2. *Vagus Correspondences* background

I was introduced to Aszodi by Annie Hui-Hsien Hsieh at the Eavesdropping Symposium (London, March 2018), where Hsieh and I presented a work-in-progress performance of our piece, *PIXERCISE* (discussed in Chapter 4). Aszodi also presented on her collaborative work with musician and choreography Jenna Lyle in *Grafter*. Aszodi has described *Grafter* as

> an evolving practice… that places heightened focus on the physical act of sound production, its material sitedness, and the connectivity between the many layered activities of embodying... The gestural language of the work fuses sounds and movements together; placing energetic focus on particular body areas, as they alter sonic outcomes through choreographic and electronic affectation of vocal tone... pushing their bodies and voices to points of crisis that produce new experiences. (Aszodi, 2017c)

There was an immediate connection as we both realised the parallels in our practices: undergoing training to transgress different types of abilities, exploring the sonic outcomes during the process without regard to an expected music performance practice, and developing virtuosity that goes beyond instrumental or vocal technical abilities.

During our initial meetings, in particular because Aszodi had expressed a particular interest in the physical and feminist themes of *PIXERCISE*, we shared our joint interest in physical fitness, worked out together when possible, and regularly kept in touch in the interim sharing various exercise ideas and routines. As described in Chapter 4, the dedication required to develop my physical strength and endurance for *PIXERCISE* was sometimes a rather solitary experience, in part because bodily transformation *is* inherently self-contained, and also because Hsieh did not commit to the same type and frequency of exercise. With Aszodi, who shared similar fitness goals but had been committed to them for much longer than me, I discovered new motivation in our exchanges and found myself attending the gym to exercise more than usual.

5.3. 'The Kitchen' collaboration

From the start, our collaboration has been rooted in friendship and shared everyday experiences. When staying at my home, Aszodi was able to experience insights into my life as a mother, partner, and freelancer with a diverse portfolio of work where each day was different. She would also offer to cook for my family and read to my daughter before we were able to enjoy quiet drinks and long conversations about music and life. When staying

with Aszodi I was similarly able to experience the everyday and more dramatic occurrences in her life. All of these things led to a familiarity that composer Cassandra Miller beautifully describes as '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" (2018, p. 122). The description is particularly apt as, building on *PIXERCISE*, Aszodi and I were considering the positive and negative notions of typically female spaces.

Aszodi and I are both performers who have worked closely with numerous composers, have worked on devised pieces, improvised, and interpreted open text and graphic scores. Together, we were looking for a space where we could develop this and our musician identities into our own compositional practice; a safe space without judgement. As I described this as the musical equivalent of 'what happens in Vegas stays in Vegas' our two starting points were, playfully acting on the coincidental homonym, the development of a platform to discretely share compositional ideas ('composition Vegas') and my interest in the vagus nerve, an essential subject area for my qualification in freediving. As our schedules and locations rarely allowed us to spend time together to collaborate, we began an intimate correspondence as our 'collaboration kitchen', the germinal Vegas/vagus project.

5.4. The vagus nerve

The vagus or 'wandering' nerve is the longest and most complex cranial nerve, running from the brainstem to the abdomen, and is responsible for vital sensory activities and motor information within the body (Bonaz et al, 2016). It conveys visceral, somatic, and taste information, and is a key component of the parasympathetic branch of the automatic nervous system (ibid). Sensory vagal inputs are considered by some neuroscientists to contribute to the sixth sense (Zagon, 2001), as in "a faculty of perception that does not depend upon any outward sense" (Shorter Oxford English Dictionary, 1965).

Vagus nerve stimulation can have a profound effect on the body. It is an FDA-approved treatment for drug-resistant epilepsy and depression (Bonaz et al, 2016). It has showed effectiveness as an experimental treatment for chronic inflammatory conditions such as rheumatoid arthritis, and medical trials are ongoing to learn more about its potential to treat other conditions including inflammatory bowel disease (ibid) and attention deficit hyperactivity disorder (Heid, 2019).

The vagus nerve is frequently activated in everyday life, such as splashing cold water to the face to alleviate a panic attack. In this scenario, the vagus nerve is responsible for activating the diving reflex and slowing down the heart rate (Farrell, 2016). Vagus nerve stimulation is also the reason behind the body and mind's comfort that comes from having a hot drink and a good meal (Zagon, 2001) or a long hug (Heid, 2019). More extreme vagus nerve stimulation methods come from initiating the diving reflex, or 'mammal dive reflex'. This was discovered in 1968 by American US Navy diving instructor Robert Croft who, collaborating with scientists to understand the physiology of freediving, reached 70m depth and discovered that when humans are submerged in water, the heart rate slows down to conserve oxygen and blood vessels in extremities contract, leaving a higher percentage of blood volume in the torso to protect vital organs (Strandvad, 2018, p. 53).

Freedivers are taught to do breathing exercises in order to relax before a dive, using inspiration from pranayama yoga to breathe slowly and diaphragmatically. The calmer the diver is, the longer they are able to stay underwater, and the opposite is true if they are stressed and have shallow breathing (Strandvad, 2018). The intention is to engage bradycardia as part of the diving reflex which causes a deceleration of the heartbeat (Pelizzari and Tovagliere, 2009) and is "an essential protective reaction of the cardiac system, aimed at economically managing O2 levels during breath-hold" (Ostrowksi et al, 2012, p. 200). After 33 seconds of a breath-hold, the heartbeat decreases to about 48 beats per minute, and in some cases as low as 20 beats per minute (Butler and Woakes, cited in Ostrowski et al, 2012, p.196). I have experienced this first-hand through undertaking an AIDA 2* Freediver Course where the minimum breath-hold duration to pass the course is two minutes. The preparation and breath-hold are only two-thirds of a dive. Recovery breathing after the dive is a vitally important part of training, as improper breathing can lead to hyperventilation or hypoxia (blackout) (Farrell, 2016). While holding on to something and under the watch of a diving 'buddy', recovery breathing involves quickly exhaling a small amount of air, opening the mouth widely for a quick inhalation, closing the mouth for a second, passively exhaling, and repeating this process for at least 30 seconds (ibid).

Another way in which vagus nerve stimulation is activated in freediving is through the Valsalva manoeuvre, where the nose is pinched and pressure from the diaphragm is created by trying to exhale through the nostrils. A similar technique, the Frenzel manoeuvre, uses the back of the tongue to create pressure in the back of the throat and does not engage the

diaphragm, and is used for dives of greater depths (Farrell, 2016). The Valsalva manoeuvre is commonly used to equalise ears at high altitudes, and in medical settings it can restore a regular heart rate with those with supraventricular tachycardia (a resting heart rate of over 100 beats per minute) (Srivastav et al, 2020).

I started freediving in order to improve my breathing and breath control in my flute playing as part of the process of preparing and developing Coming Up for Air. However, I was aware of the increased holistic awareness and control of my body though this, and I continued to develop this practice by completing the course and joining my local apnoea club. Apnoea was a natural starting point for the project and a way in which we could safely start to explore stimulation of the vagus nerve. In our correspondence I updated Aszodi on my progress and shared tips to start practicing dry apnoea (voluntary breath-hold on land) which is safe to practice alone; we increasingly wanted to include vagus nerve activation in our daily lives and explore them within the piece. The complex and powerful nature of the vagus nerve served as a perfect metaphor for exploring the connection between the technical instrumental and vocal virtuosity, and more unusual, physical, and hidden virtuosity.

> 6 February 2019 (J to K)
> Also - on a totally different topic. We should totally do a section where we just breathe really slowly, in unison (e.g. 'vagus stimulation' exercise). I also like the hug until calm exercise. We should try that.
> (Extract, Williams & Aszodi correspondence).

While we both are experienced in preparing physically challenging work, particularly in *PIXERCISE* and *Grafter*, both involving making sounds while undertaking physically challenging movements, this was the first time where we engaged our personal narratives in relation to making new work. This was a development of the germinal vulnerability I had explored when Mark Dyer referenced my narrative in his contribution to Coming Up for Air (Chapter 3), and also extended the sections of *PIXERCISE* which recorded and played back the internal bodily sound of my breathing (Chapter 4). This also connected to my conversation with Lucy Hale about her discussing, and recording for performance, her difficulty with breathing and speaking in her piece *When we breathe* (Chapter 4).

5.5. The correspondence

Our only 'rule' (and this was a loose rule) for the correspondence, which was undertaken via a shared Google Doc, was that we would try to respond on the document within 72 hours. We chose a Google Doc as this meant we could both always see the whole document and see any additions (and edits) in real time. The document became a permanently opened tab on my computer browser. Through the correspondence we created physical experiences for each other (for example, we would copy each other's workouts for the day, or Aszodi would try to emulate a new technique I had learned for breath-activated vagus nerve stimulation). We would also discuss and share personal details of our lives, the people who impacted on us, our professional activity, and the music that was affecting us. Entries in the correspondence would vary from the equivalent of a brief message scrawled on a post-it note, to something akin to a private rant over a drink, to scholarly writing. We also shared thoughts on the methods and methodologies used in past collaborations and research to contextualise and lay foundations for our formative collaboration.

> 20 Feb 2019 (K to J)
> We are doing this workout at home. Copy it?
> 10 x rounds: 5 x push-ups / 10 x sit-ups / 15 x air squats

> 25 January 2019 (J to K)
> I want to get away from the attitude of 'only if it works does it matter'. I want to embrace practices enacted for the purpose of exercising the imagination. I want to practice 'how we think about what we think about'. These are practices for "staying with the trouble" (Harraway, 2016) and for unpacking problems with enthusiasm and compassion. These kinds of shared material practices build constellations of flexible kinship that require personal and artistic honesty in relation to each other (just like this correspondence). From these materials, maybe we can create those unexpected compositions we are reaching for, becoming-with, entangled and worldly.
> (Extracts, Williams & Aszodi correspondence.)

Keeping up with the travels, mundane routines, and exciting performances lent a privileged glimpse into what it was to be the other. Aszodi's glamourous-sounding travels, elaborate opera costumes, and cast parties; my caring responsibilities and patchwork of self-employment where each week could include delivering music sessions in children's hospitals, care homes, prisons, guest lecturing in higher education, solo concerts, and PhD

supervisions. What we both tried to keep consistent in our varied and often hectic lives was a tethering to our bodies through making the time to exercise. This was at times, unsurprisingly, challenging.

> 12 April 2019 (K to J)
> It strikes me today that bodies are endlessly greedy bottomless pits which devour all of our efforts.
> (Extracts, Williams & Aszodi correspondence.)

5.6. Making *Vagus Correspondences*

Our first opportunity to perform a version of *Vagus Correspondences* came when Aszodi was staying with me and I was asked to contribute to a postgraduate performance at the University of Huddersfield. At this point the collaboration had been limited entirely to the correspondence and the actions, usually emerging from exercise and freediving, that we had discussed and shared. We started by individually highlighting sections that stood out to us, a starting point that Andy Ingamells and I had used that ultimately lead to new insights on our conversations (see Chapter 6). However, the source material with Ingamells was a ten-page transcript from a previous rehearsal session and our goal to make a script out of it was clear from the outset. Here, Aszodi and I had created a hyper-personal, body-centric stream of consciousness document with texts and photographs, consisting of a shared narrative of our travels, music-making, embodied activities, and everyday interactions over 40 pages long, with only a 20-minute performance slot and four days to make the piece. This sudden impetus to move from the private to the public was daunting, and although our intention had always been to prioritise the process over the product, we did want this to culminate in some kind of new work.

As some of our source material was extremely personal, and yet the correspondence had become a shared document, it was very important to establish a dialogue from the start of the making sessions where any potential personal references would have clear consent, and there was always the option of taking it out if it felt too much down the line. In this daunting situation, we started off where we were comfortable: exercising together. Having agreed that we wanted to use some elements of the physical exercises shared in the correspondence in the piece, at the gym we came up with a sequence of body weight exercises to use in the piece, in line with Jess's idea in the document:

21 April 2019 (J to K)

I would love a particular set of gestures that becomes the 'set' for our piece. We repeat it at various intervals, and it becomes a kind of gestural cantus-firmus. I like the idea that it references athletics/HIIT etc, and think it should be genuinely difficult to enact, but kind of think it would be more interesting for it to be a mutated workout, something that isn't 100% obviously a hit routine but is something person between us, with added gestures and signs like a secret language.

(Extract, Williams & Aszodi correspondence.)

We also recorded musical improvisations and read-aloud excerpts from the correspondence. I made an acousmatic soundtrack for our physical performance amalgamating this material and a two-minute loop of the opening 30-seconds of *Diddle my Skittle* (2000) by Peaches, an artist who connects popular music and performance art, and a track that formed a regular part of the soundtrack to Aszodi's exercise.

The piece developed into a sequence of actions on stage we had developed using different approaches to vagus nerve stimulation, followed by improvised or devised sounds directly affected by the activity. This included an underwater breath-hold (with our faces submerged in washing up bowls), hugging until calm, matching each other's breathing, high intensity exercise, then singing and playing straight after these activities.

On the day of the performance, Jess had been feeling slightly unwell, experiencing anxiety for no apparent reason, and the various relaxation techniques we usually employed effectively were not helping. She also noticed a small rash on her neck, a sign of vagus nerve over-stimulation. This was concerning, but she was still determined to carry on with the performance. However, I was worried about the potential dangers of overdoing the breath-holds. Aszodi's attitude towards difficulty is to confront it head on and push against it until she overcomes it, which serves her well in her highly successful performance career (and inspiring personal story). Nevertheless, experimentally activating a cranial nerve was new territory to us both, and, given the closeness of the collaboration, the responsibility for any negative affects felt shared. The practical difficulties experienced in making new work evaporated in our continuing open correspondence.

9 May 2019 (K to J)

I wanted to do more to stop you. My empathy radar was all over the place. Permission to protect you from you in future? Parts of this process are rather intimate but putting them into a thing, finding ideal boundaries, really fucking difficult, hindsight is so crucial here.

13 May 2019 (J to K)
Thanks for trying. I'm sorry I was so stubborn. The more time passes, I'm starting to feel like (the pain I caused you aside) maybe I kind of had to do it? I pushed myself right up on the edge of danger, and that feeling helped me feel some things I wasn't able to access otherwise- maybe just giving it some time would have been the sensible choice - but I do feel like it was cathartic.
(Extract, Williams & Aszodi correspondence.)

This work-in-progress performance highlighted some of the difficulties in our process. The piece felt unwieldly and, in certain respects, too personal and I was concerned about safety when combining the approaches typical to rigorous musical practice to freediving apnoea. Our process of being as open and discursive as possible meant there was too much material, and we needed to make more abrupt decisions to focus the piece. While our intentions to be open, personal, and vulnerable to each other were effective and cathartic, translating vulnerability into a public work is, especially for a collaboration and creative practice in its infancy, an inherently unstable act. I also found that as the piece was so personal, we were counteracting this with more oblique qualities, and I found this problematic when combined with a degree of stylisation, in particular the jarring difference from simply enacting high intensity exercise and discovering to what extent it affected piccolo performance in *PIXERCISE*, to creating more theatre-like choreographed exercise routines with another person in the new work. We had also always intended to incorporate the everyday and personal alongside our formal musical training in order to critique this, however this was also an open invitation for us to straightforwardly engage with tropes that we were trying to reassess as a coping mechanism within this vulnerable situation.

5.7. When the score entered the room

Shortly after our work-in-progress performance, we had the opportunity to present *Vagus Correspondences* at Bendigo International Festival of Exploratory Music (BIFEM) in Bendigo, Australia. With more time to reflect upon our now more than 50-page correspondence, we created some broad categories for the topics covered, including: mission statements and key

extracts from the correspondence, bodies/gestures, personal/confessional, and practice/process/method.

Once again, we had under a week together before the BIFEM performance to make and rehearse changes to the piece, a short, intense period of working typical to new-music devising. This led to a reflection on two slightly contradictory conclusions from similar observations. We would certainly agree with, and aspire to, Jennifer Walshe's comment on collaborators "always, always working against the clock, because the disciplines which are drawn from have the luxury of development and rehearsal periods far longer than those commonly found in new music. Then again, the New Discipline relishes the absence of that luxury, of the opportunity to move fast and break things" (Walshe, 2016). However, in an interview between Jennifer Torrence and Carolyn Chen on their collaborative process, Chen observes:

> I think that had we not had this time constraint of a performance at the end of two weeks, if we had the luxury of a much longer period, things might have been even more improvisational and role-crossing. This is one thing that distinguishes our process from a more typical theatre or dance process – the regularity with which we're used to notating and much shorter rehearsal periods in new music (Torrence, 2018).

There is a tension in making work in a short time-period between the constraint leading to joyously breaking things/conventions, and a constrained time period ultimately forcing a more conservative approach.

This tension was apparent when I decided to notate parts of *Vagus Correspondences*. I did this to offer us a framework, a sense of certainty, and more control (and would help calm my nerves about the performance). In this respect it was similar to Chen's statement on familiarity with fast notation and shorter rehearsal periods. This was also, however, my first written score and was entirely in line with our initial and, throughout the correspondence, emergent aspiration to break new personal ground while considering our formal musical training. The score sets out three sequences of vagus nerve stimulation activities with the musical/sonic consequences ensuing, leaving scope for improvisation.

In the rehearsal space, there was a palpable shift in our working dynamic when the notated score entered the room. Aszodi was suddenly averse to making changes, stating that if any of the pitches were changed then she would have to go away to practice it alone. While I needed to respect the realities of embedding pitches in vocal rehearsal and performance, this

made me feel imprisoned by the score, which I had only made as a draft to alleviate my own anxiety and had intended to be an open guide to further discussion, devising, and improvisation. I considered the changes I suggested as minor, as the notation was very minimal and had been intended to be taken freely depending on how our *bodies* felt, with room for improvisation built in. Given the time limitations and Aszodi's resistance to changing the notation, I chose to accept what I had already (partly arbitrarily) written.

Composer and vocalist Alex Temple has written about composers, performers, and consent, and points out that "frustration can arise in…the absence of meaningful, mutual understandings of consent" (Temple, 2015). Temple cites a specific example involving Aszodi where a composer insisted that she perform a particular passage four times despite being told it was only safe to perform once, leading Aszodi to experiencing temporary vocal damage. For Aszodi and I, when the score entered the room there was a shift from equal co-authoring to a performer-composer model and Aszodi felt the need to defend herself in this scenario. While this was a situation that Aszodi was familiar with and experienced at managing, this was my first experience of being observed as a composer by a performer. The situation closely follows composer Elliot Gyger's observation that:

> The sooner a developed score enters the process the more likely the performer will assume the role of interpreter or adviser. The later the score comes into place, the more likely the performer will be asked to improvise and/or co-create to develop the materials that form a musical piece. (2014, cited in Torrence, 2018)

Although the score caused some confusion about our roles, it was a helpful resource, perhaps a 'necessary evil' given the short working duration and the scale of our source material. This experience has profoundly affected my future collaborations, where in my work with Andy Ingamells, all of our scores have been made as documents *after* performance (Chapter 6).

5.8. *Vagus Correspondences*: commentary

The piece starts by performing a breath-hold with our faces submerged in fish tanks. Before this, we sit inconspicuously on the stage so that the audience doesn't notice us, the lighting low, so that the audience keeps talking to each other. Removing the necessity to come onto the stage to applause allows us to maintain the calm for an optimum breath-hold. An audio track starts at the same ambient volume of the space, comprised of us taking turns reading out excerpts of the correspondence, and over three minutes it becomes louder so that the

audience stops talking. During these three minutes, Jess and I are practicing slow, measured, diaphragmatic breathing to achieve a level of calm which will allow for the longest possible breath-hold. When the track finishes, we slowly stand and step towards the tanks (placed facing in, on opposite sides of the stage), look at each other once, and submerge our faces. Although we are trying to keep 'inside' ourselves to sustain the breath-hold, we also need to be aware if the other finishes the hold first, and then finish soon after. I use a small towel to dry my chin so that I can immediately play my flute, but Jess leaves the water dripping down her hair and face.

Section B (Figure 10) is an attempt to translate the sonic consequences of performing apnoea to our instruments (flute/voice). The notes are very close in pitch to show the differences in our breathing; when we have caught our breath enough to produce a stronger sound, wolf tones emerge, contrasted with similar pitches which can only be described as breathy and weaker. The 'catch breath' bars are put there to remind us that we must be empathetic to the other; a balance of waiting and leading, however this section is more closely related to the mind-set required for the apnoea and we are free and partially independent. At the end of the section, our notes are able to become longer and louder. This leads into the first of two physical exercise sections to driving rhythmic music. With ethical issues of copyright and ownership in mind, I replaced the looped section of the Peaches track with a looped groove from a much shorter sample from the same track, now modified beyond recognition.

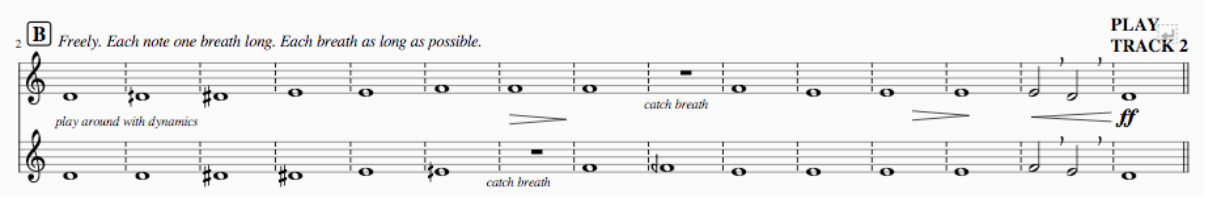


Figure 10: ***Vagus Correspondences*****, bb. 2-16**

The sounds and durations in the next section (Figure 11) are largely dictated by the exercise routine performed just before. Immediately after the two-minutes of fast action, we attempt to copy each other's sounds and tone colours, repeating this section until our breath, and therefore sounds, recover. As well as demonstrating the effects of the exercise on our performing, the structure of the piece is informed by both the nature of the correspondence (we gradually come together and synchronize or communicate more closely), and the music

making gradually becomes more traditionally virtuosic (here with more problematic intervals in terms of size and micro-intervals – although this is still a section of the music where we could be flexible and play with the sound).

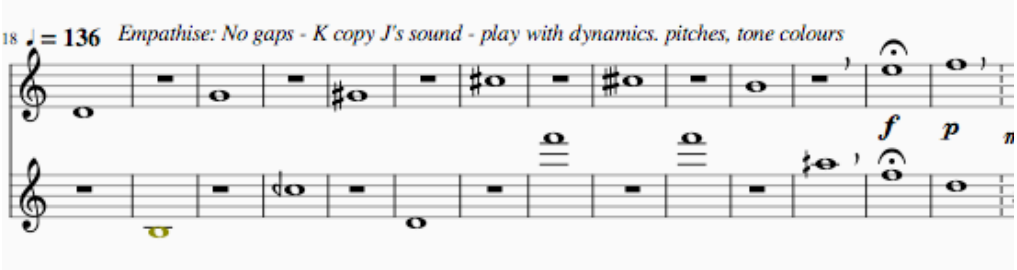


Figure 11: ***Vagus Correspondences,*** **bb. 18-31**

The next exercise routine begins, this time with a voice-over recording included with the rhythmic music, in which we are reading more excerpts from the correspondence. The following vagus nerve stimulation is to hug until calm while repeating the section at letter B (Figure 10), this time I sing instead of playing the flute. While the choice to sing rather than play the flute is partially practical as we are holding each other, this musically mirrors the literal physical coming together. As our voices normalise after the vigorous exercise, the distinctions between Aszodi's trained and my untrained voice becomes more apparent. This choice was directly informed by the balance of the classically trained and the everyday in the correspondence, and in the piece.

The final section is to return to our respective fish tanks and perform a series of gestures in any order but with a strict tempo of 140 beats per minute. These gestures are made up actions informed by vagus nerve references such as holding nose (referring to Valsalva manoeuvre), sticking out tongue (diving reflex), a jumping jack (exercise), a rapid face immersion (diving reflex). The end of the piece is signalled by a prolonged facial immersion, and the other performer copies this as soon as they notice it. Where our exercise routines had been perfectly synchronized, this final section reintegrates an early idea of physical movement in counterpoint but maintains the overall structural conceit of coming together as the movements are precisely coordinated in time.

5.9. Further thoughts and reflections

At the heart of this piece is a series of contradictions in collision. As has been discussed, the piece puts the everyday alongside more familiar 'stylized' performance tropes. This is

mirrored in the distinction between our everyday correspondence, our learning new performance skills, and our extensive formal training in classical music performance practice. The piece requires the body and mind to reach a state of deep relaxation, and we carefully monitor activities leading up to a performance including proper stretching and not eating for at least two hours beforehand. In contrast to a typically adrenaline-fueled backstage atmosphere, we should feel like we are about to fall asleep before we enter the stage. This contradiction is pointed to at the very start of the piece as, after the first breath-hold, we need to snap into a highly energetic exercise sequence (enabled and activated by the diving reflective through the breath-hold). As with *PIXERCISE,* this emphatically engages Jennifer Torrence's observation that "just about anything can be considered preparation as long as the activity is done with the intention of cultivating a particular work or is retrospectively reflected upon as providing such creative input" (Torrence, 2019). Our approach to making this work was to open the doors to anything in our lives over a particular time-frame being a potential part of the piece.

It is interesting to consider the extent to which our intention to be as open as possible and incorporate the everyday in our correspondence has potentially had an impact on our lives. By having such a dauntingly substantial starting point, waiting so long to focus this, and continuing to correspond so openly, I believe that the piece started to affect us in ways outside of our direct control. In *PIXERCISE* I was always in control of the physical transformational features of the piece. In contrast, in this collaborative scenario I started to recognise a different ethical dimension to a process that is both a sincere experimental step into the unknown, and engages personal transformation, and that this transformation may not be entirely under our control has worrying implications.

Considering incorporating our vulnerability into the process and performance was also problematic. During devising periods, we rehearsed in the gym every day. Aszodi has a great deal of experience in dance and movement training, whereas I only came to regular exercise a year previously. She wanted to keep running the exercise sequences of the piece to coordinate perfectly, almost like cheerleaders, but because of my lack of dance training, I was unable to progress at the same rate. This, combined with my asthma, meant that I could not match her endurance. While I did not want to admit that I was too tired to carry on, I was wheezing, sweating, and feeling worried about being disappointing. This engaged exactly the issues with performance, and ultimately body image, that *PIXERCISE* had sought to critique. These experiences of difference also affected our attitudes towards making.

Considering the comment, so central to *PIXERCISE*, from Marina Abromović regarding her hating of theatre and that theatre, unlike performance art, is fake (see Chapter 5), I was uncomfortable with the 'fakeness' of a coordinated exercise routine and other, more theatrical tropes that Aszodi wanted to incorporate. However, I also had to respect that theatre is an everyday experience for Aszodi and a part of her training alien to me that needed to be incorporated into our work. It may true that, in performance art, "the knife is real, and the blood is real" (O'Hagan, 2010) but unlike Abromović I would suggest that the emotions in theatre can be just as real, and just as transformative. With hindsight, it is also easier to appreciate that my feelings towards Aszodi potentially injuring herself though overly ambitious breath holds may have been exactly mirrored in her concerns over my comparable lack of experience in exercise and choreography. By deliberately including our experiences of virtuosic performance practice we accessed the problematic territory discussed in Temple's article exploring performer consent of demanding too much from ourselves and each other (Temple, 2015).

Despite these concerns, the emergence of a piece and practice that incorporates our virtuosity, agency, and vulnerability are aspects of performance that don't naturally come together at the same time. This was transformative in how we viewed ourselves as composers and makers, and in how we evaluated our relationships with composers in other circumstances. Whether the experience of performer-as-deviser as "the most radical practice a performer can assume as it presents the widest range of possibilities regarding what a performer can be and how a performer can contribute to a new musical piece" (Torrence, 2018) holds true when both performers are also the composers, this certainly connects to Torrence's suggestion that "creating and co-authoring can also constitute a performance practice" (ibid). In *Vagus Correspondences* our performing, both of everyday actions and of devised music and theatre, are inherently entangled. This performance is the act of creation.

Chapter 6: Private Hire: enquiry, play, and pentimento

6.1. Introduction: pentimento and sympathetic error

Private Hire is the duo made up of myself and experimental musician Andy Ingamells. We are named after our most recent large-scale project, where the devising, composition, and performance roles are shared as equally as possible. Our work operates within, and extends the boundaries of, experimental music, performance art, theatre, and athleticism. We look to starting points from everyday life, following Dick Higgins' approach to intermedia as an art form that rejects ideas of art separate from life (Friedman, 2012, p. 389), and employ playfulness with a sense of purpose to explore our artistic goals. Robin Nelson suggests that this balance between playfulness and seriousness is typical in "much post-structuralist thought and writing which is… attractive to arts practitioners-researchers" (2006, p. 109) and points to obfuscatory writing, drawing attention to the difficulties of discourse. In our case, there is also resonance with Nelson's description of post-structuralism's rejection of grand narratives and in his description of Jacque Derrida's 1978 concept of différence/différance suggesting, through the "possibility of infinite deferral… a free play beyond rule governed activity" (2006, p. 109). Where *PIXERCISE* directly satires some of the undesirable behavioural tropes that I had acclimatised to in my 'classical music' training and professional experience, Private Hire overturns this by ignoring these culturally accepted norms as conventions, but freely incorporating them as part of a wider art-making vocabulary.

In this case, our sense of purpose reveals lines of enquiry about how everyday experiences reframe, focus, and inform our artwork. The work not only takes starting points from the everyday, but also blurs the distinctions between process and product. For example, devising a piece for swimming while playing harmonicas is also treated as a performance event for the lifeguard and other swimming pool users at the time.This is then subsequently described in a text or other musical score for future performances as *Aquamonica* (2020)[1], and the video footage of our devising sessions is edited for including in video art pieces and as video scores for live musical works.

Our first time working together started with me giving Ingamells a tutorial on playing the flute head joint, the natural starting point for beginner players. This developed into a two-

[1] Most recently performed by Dublin-based Kirkos Ensemble as part of Biosphere, outdoor concerts of experimental music as a transition out of Covid-19 lockdown.

day enquiry into how the flute head joint can be played exploring, for example, how far it can physically be from our bodies and still produce a sound, what kind of sounds it can make under (or partially under) water, how our breath can be made visible while playing it, how it can be prepared (or the sound otherwise modified) with objects easily available to us, and how the sound can be affected by other simple actions (including running, jumping, and swimming).

Another one of our methods is the metaphorical application of and engagement with what immersive theatre performance specialist John Freeman (2010) calls "clinging to the capacity for infinite revision." This is associated with the Italian term "pentimento, where an underlying image in a painting shows through as the top layer of paint and the finished article becomes transparent with age" (xii). We audio and/or video document all rehearsal and devising sessions, and sometimes even extend this to peripheral conversations, viewing everything that we say and do as a potential material for further development. All recorded materials are archived so they can be referred back to for new starting points or inspiration. Everything and anything in our activity and experience can be viewed a potential 'layer', and nothing is viewed as trivial. When suggesting ideas for new work, we avoid judgement early in the process and resist deciding if an idea, action, or sound will 'work' until we have had time, together and away from each other, to live with and consider it. The care and respect with which we treat these spontaneous early drafts connect to Finnish architect Alvar Aalto's notion of 'sympathetic error,' in which so-called mistakes lead to new design solutions as well as leaving their traces on whatever eventually surfaces (Pallasmaa, 2000, cited in Lim, 2013, p. 11).

With our formal training in classical flute performance and composition respectively, our practice also involves looking for ways to challenge or directly undermine elements of our established practice, particularly where this had led to more comfortable (and perhaps complacent) working. For example, I rarely play my fully assembled flute in our performances, a step that was initially nerve-wracking. I recall a question posed by composer Evan Johnson at a 2019 seminar at Huddersfield University that mirrors our intention: "what is left of my work when I strip away all the things about it that make it comfortable for me to inhabit?" We are concerned with this 'stripping away' as a catalyst for new work and as the shared space for our collaborative conversation.

This chapter illustrates some of the ways in which the concepts of pentimento, playfulness, and rigorous enquiry have been applied in creating three new works: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire* (2018-20), *Aquafifer* (2018-19), and *Private Hire* (2020), along with our interpretations of two works by Larry Goves and George Brecht that require considerable performance agency.

6.2. Establishing a working method: *Sharon d'Aire*

Although Ingamells and I had played alongside each other before and he had submitted music to Coming Up for Air, our first chance to collaborate was in 2018 over an intensive two-day period during the Composition, Alternative Performance, and Performance Art (CAPPA) Britten-Pears Young Artist Programme course. We took, as our starting points, two of George Brecht's 1962 event scores *Flute Solo* and *Concert for Clarinet, Fluxversion 1*.

Ingamells had been developing a radical durational interpretation of the two words of *Flute Solo*, "disassembling assembling" (Friedman et al., 2002, p. 25) as an invitation to melt a flute and learn to rebuild it while simultaneously learning how to play the flute. We were able to begin to address the latter, so we started with a lesson format learning the basics of playing on a flute head joint. Focussing on this, we also began by subverting the theatrical and sonic norms of the flute through preparations with long grass-like reeds (Figure 12) and filming the head joints being blown underwater (Figure 13).

Figure 12: Flute head joint prepared with plant reeds

Figure 13: Flute head joints blown underwater

Brecht's Concert for Clarinet, Fluxversion 1 reads:

> Clarinet is suspended by a string tied to its center so that it holds it in a horizontal position about 6 inches above the performer's mouth. Performer attempts to play a note without using his hands. He should do this either by swinging the reed end down or jumping up to it and catching the reed with his mouth.
>
> (Friedman et al (ed.), 2002, p. 25)

Applying this set-up as a point of departure, we attached head joints to a microphone stand (Figure 14a), positioned it slightly above our heads (it is fortuitous that we are roughly the same height), and jumped up and down, trying to connect our rapid exhalations with the embouchure hole to produce sounds (Figure 14b).

Figure 14: (a) Flute head joints attached to a microphone stand and (b) jumping to play these.

Exploring the concept of making our breath visible, itself emerging from our conversations about Coming Up for Air, we placed balloons on the ends of the head joints, covered the

embouchure holes with our mouths, and then breathed in and out for as long as possible (Figure 15). This was also informed by our conversation about Marina Abramović and Ulay's 1970s work *Breathing In, Breathing Out* in which "the two artists blocked their nostrils with cigarette filters and pressed their moths together, so that one couldn't inhale anything else but exhalation of the other" (Grammatikopoulou, n.d., para. 10). Our physical proximity to each other when performing this suggests an echo of the intimacy in the Abramović and Ulay, and the use of separate flute head joints an entangling of body and instrument. As our air was being repeatedly recycled, there was a limit to how long we could do this for safety reasons, and the duration of the piece/section is informed by our physiology. The piece's title, *Sharon d'Aire,* is a pun on the air that we were sharing with ourselves in breathing through the balloons.

Figure 15: *Sharon d'Aire* in performance

Other performance activities that formed part of our initial experiments at CAPPA included making sounds with wine bottles (from my description of wine bottle being the size of the average glass-blowers lung capacity) and a radically changed version of Ingamells' initial submission to Coming Up for Air. *Long Piece* (2018), yet to be performed because of practical considerations, is a 42-metre score which requires the performer to run alongside the score for as long as possible while playing and reading the music in a single breath. On CAPPA this score was rearranged for the resident ensemble (with whom I play) The House of Bedlam into a large (8-metre diameter) circle which is played with flute head joints or slide whistles (in multiple breaths) as a visual and sonic musical canon.

These approaches to devising at CAPPA are the formative examples of our developing artistic methodology and this continues to develop in our working practice. In previous chapters, I have discussed examples where I have sought to expose and explore apparently simple ideas or everyday actions (such as breathing, exercising, and corresponding) and fold these into a creative musical practice to explore social and artistic meaning. These projects explore the visibility of personal vulnerability in the devising process and/or the performance. However, in the work with Ingamells, our starting points are often presented simply as they are, without expressive adornment, allowing us to explore simple ideas from myriad perspectives, arguably in greater depth, and with more time to reflect. Like Robin Nelson's sentiment about Roland Barthes' *Mythologies* (1957), in which he celebrates the playfulness "when he pushes an idea to its limits, and sometimes beyond" (2006, p. 109), Ingamells and I allow our simple starting points to lead to strange and often bewildering places which we celebrate for the emergent sound and theatre; our own myth-like ritual formed by the reframing and recontextualizing of the everyday. Our work also presents an example of a scrapbook-like approach (extended, to some extent, to the choice of structure and figures in this chapter). Like Brion Gysin's 'Cut-up Method' of creating new literary identities though cutting up and collaging two writers' work (Burroughs & Gysin, 1978), we collage our historical, personal, sonic, theatrical and everyday starting points without judgement, and then reflect in the new gestalt personality and work that emerges.

6.3. States of play: *Aquafifer* and *Aquamonica*

Aquafifer takes the everyday experience of swimming at the local leisure centre and transforms it into a multi-layered artwork. Taking turns to film each other improvising with harmonicas, fifes (Figure 16), and singing in the pool, *Aquafifer* emerged as one approximately 20-second section of one of my longer fife improvisations which happened to cover a range of interesting sounds and musical shapes, unintentionally played in one breath. This footage was edited as a video art piece for my Coming Up for Air project and has served as a welcome break within longer sets of single-breath pieces.

Figure 16: Still image from *Aquafifer*

Aquafifer evolved into a film score when I recorded the Coming Up for Air album. I watched a muted version of the film while copying my physical actions, playing the fife with a full washing-up bowl acting as the pool water. This version has since also been used in numerous live performances, including Figure 17 at the Bendigo International Festival of Exploratory Music (Australia) in 2019, where the scores or materials used for single-breath pieces were laid out and the audience chose what they wanted to hear.

Figure 17: Live setup for *Aquafifer*

Another film from our swimming pool archive features Andy and I holding harmonicas in our mouths and swimming on our backs in a circular formation (kindly filmed by a curious lifeguard). When the Kirkos Ensemble approached us looking for pieces that involved water

for their Biosphere series of outdoor performances, we revisited the footage to create a text score, *Aquamonica* (2020):

> **Aquamonica** (August 2020)
> for any number of performer-swimmers and harmonicas
>
> Gather at the edge of the water. Wear a life vest and/or wetsuit if the conditions require it. Enter the water one at a time, swimming on your back with the harmonica in your mouth. Begin inhaling and exhaling through the harmonica as soon as you get in the water, and continue to do so for the duration of the performance. Make small movements with your feet and hands so that you glide through the water as smoothly as possible. The next performer should enter after 2-3 breaths until all are in the water. Try to swim in a large circular formation, ensuring appropriate distances between swimmers. Try to match your volume with that of the other players. When you are too tired to continue, remove the harmonica from your mouth and swim slightly out of the circle formation. Float on your back in the water* until all the others have stopped playing too. When everyone has been floating in silence together for about a minute then you should all return to shore/to the edge of the pool.
> *tread water if that is more comfortable; just be safe.

The play evident in our approach to this work has had an impact on our attitude to these pieces and the reach they have had within and beyond our own performances. As scores are often the final object to emerge, documents *of* a performance as much as instructions *for* one, the work is never fixed so is always fluid and can easily be adapted to different scenarios. This has been a key part of our approach to shared agency in our collaboration (see below), but has also allowed the work to be taken and reinterpreted by others. Our reticence to interpret and develop the actions and sounds via our personal and social concerns (as, for example, Hsieh and I did in *PIXERCISE*) means that performers can more easily bring their own perspectives to the work, and therefore bring their own agency to our partnership. This seems to provide a possible explanation as to why we have been able to play pieces from our collaboration alone as well as together, and that other performers are engaging with this work. It is difficult to imagine this happening with *PIXERCISE*, and unthinkable for *Vagus Correspondences.*

6.4. Pentimento: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire*

In keeping with the fluid approach to our making, an invitation to perform a Nonclassical concert in London (March, 2019) led us to revisit *Sharon d'Aire* and extend it into a three-movement piece. The first movement, *Levitas, Gravitas*, combined our Brecht-inspired jumping experiment with the first flute (head joint) lesson I gave to Andy. The recording of our conversation and flute sounds from the lesson was made into an accompanying audio track which playfully shares the rhythmic articulation exercises we had worked on in private. In performance there is visual and sonic tension between our inability to articulate a clear flute sound while jumping, despite the obviously physical effort involved in the attempt, and the accompanying conversation and sounds from the beginner flute lesson, which frames the activity on stage.

At an early stage of developing ideas for the new sections, I recorded and transcribed one of our devising conversations. I was interested in colour-coding the transcript to measure contribution in terms of topic relevance (e.g., talking about something one of us had done in the past vs offering an idea for our new work) and conversational elements. This was motivated by my awareness that Ingamells already had a substantial catalogue of compositions and considerable experience as a composer. As our work was intended to be egalitarian, I felt I didn't have 'as much' to offer in this area, was concerned about how this manifested in our conversation, and wondered how to quantify and address this. Colour-coding the document and then surveying it from afar, without scrutinising the detail, allowed to us evaluate trends in our conversation at a glance (Figure 18). This forced us both to face some difficult truths and we have been provocative in our experimentation with this simple technique (for example: yellow represents talking about ourselves; blue about new ideas; purple a response to the blue; green a potentially significant finding/conclusion). This simple but challenging approach of quickly visible and easily assessable accountability has directly impacted our behaviour in rehearsals and making (for example, Ingamells might encourage me to 'be more yellow'), been a vital tool in establishing our egalitarian creative endeavour, and has allowed us to reconsider our conversations and initial ideas in new contexts to produce more diverse work from these starting points.

Figure 18: Transcribed and colour-coded devising conversation

Suggested by the physical activity in *Levitas, Gravitas*, I was keen to include the kind of direct physical exercises that had been a feature of both *PIXERCISE* and *Vagus Correspondences*. It was empowering to revisit physical action in different creative circumstances with a duo partner who was committed to the training and at a similar level of fitness. This evolved into the second movement of the piece, *High Intensity Interval Training*, which includes 12 sections of high intensity interval training (HIIT), where 30 seconds of exercise is followed by ten seconds of rest. We took the exercises in turn so that where one was exercising, the other would be acting like a sports interviewer, with a handheld microphone and script in hand. The script comprised of jointly chosen sections of our colour-coded rehearsal transcript. The idea behind this was to capture the changes in our voices as we became more fatigued, and to play with the comic image of enthusiastic television commentator speaking to an exhausted athlete.

Ingamells and I have individually explored how breathing rates affect sound in previous works. It is a recurring theme in Coming Up for Air (Chapters 2 and 3) and central to the sound of *PIXERCISE* (Chapter 4). In Ingamells' *Sounds of a Marathon* (2013), he engages the physicality and sound of long-distance running. This work takes a recording of him imitating a spoken commentary on the sensation of accidentally being caught up in a pack of runners, while running for ten kilometres. As he runs this has an increasing effect on the sound of his voice. This becomes the soundtrack to a performance that begins, on stage, at the end of another ten-kilometre run: there is a shifting juxtaposition between his recorded voice becoming more strained and his live breathing (amplified through old fashioned bicycle horns in his mouth) gradually returning to normal. This was, for Ingamells, already an appealing compositional material, "the sounds of the voice when you're out of breath; I think it really changes it and really gives it a different character. And it's that character that

sounds like music" (Ingamells, 2017, p. 23.) In *High Intensity Interval Training* therefore, we set ourselves the limit of working with our live speaking voices.

Our engagement with a multi-layered 'pentimento-like' approach was also extended to other notions of 'intense intervals'. We recorded Hindemith's Series 2 intervals in order of harmonic value (O'Connell, 2011, p. 3) with flutes (as Ingamells had developed enough to make a basic contribution to this recording). These pitch intervals served as the soundtrack to the movement and, along with loud regularly spaced electronic beeps, created the structural framework for the timed HIIT exercises.

The final movement of the piece, *Sharon d'Aire*, connects to our original starting point (itself connected to Coming Up for Air) of making the breath visible by fixing balloons onto the end of the flute head joints. The mic stand is lowered from the *Levitas/Gravitas* height so that this is comfortable playing height. Our breathing directions are staggered so that my inhale is Andy's exhale, thus the balloons are choreographed as if connected. Emerging from our conversation about *Vagus Correspondences*, the accompanying soundtrack is directly related to mine and Ingamells' own extensive correspondence. Between December 2018 and March 2019, we sent each other short, original four-part chorales (broadly defined) every week. As writing chorales was a part of Ingamells' composition training, this was intended to be my notated compositional equivalent of his flute lessons. The final soundtrack for *Sharon d'Aire* is our electronically layered humming of a selection of these chorales.

6.4.1. The Score

The final artistic decisions for our performances were written down in shorthand and discussed at length verbally. The score for *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire*, therefore, was a document that emerged sometime after the piece had been performed. Ingamells' attitude towards score-making and composition was ideally sympathetic to my trajectory of performer starting to make original work from scratch: "composition, which could be described as 'putting things together', for me involves an integration of both the devising process and the live performance. I see composition as inseparable from performance" (Ingamells, 2017, p. 42). This perspective on composition is increasingly common. Luke Nickel writes of several composers who are developing alternatives to traditionally notated scores by shifting towards verbal transmission, including Cassandra Miller, Pascale Criton, Éliane Radigue, and himself, and shares interviews with

their performer-collaborators including Heather Roche, Mira Benjamin, Juliet Fraser, and Cat Hope (Nickel, 2020). The consensus amongst composers is a feeling of being 'fed up' with the distance a traditional score can put between the composer's intention and performer's interpretation and they have begun to favour spending time in the same room to create orally-transmitted scores as optimum grounds for fruitful exchange (Nickel, 2020). Our scores operate differently to this. Rather than aspiring to communicate the specific sounds as precisely as possible, the score is an expression of the inherent absence of barriers between Ingamells and I as joint performer-composers, and ultimately seeks to provoke a response to our work within a composed framework.

The scores are therefore primarily an example of prescriptive notation, as described by violinist Mieko Kanno, as rather than "notation that informs us of the *sound* of a musical work (descriptive notation)" it is notation that "informs us of the *method* of producing this sound (prescriptive notation)" (2007, p. 232). In this respect the score includes instructions of what to do in rehearsal (Figure 19), in performance (Figure 20), and in preparation of the soundtrack (paragraph titled "4 humming performers" in Figure 22).

The score is formatted to resemble a sequence of corporate training posters, with images made by tracing photographs from our rehearsals and performances on every page (rather than, as is more usual, including images and stage layout information at the start of the score). Spoken words are indicated with speech bubbles (Figure 20 and Figure 21). Distancing from conventional notation is an extension of our intention to create an open document that invites subsequent free interpretation; a document of what was done as a starting point for something new. To avoid the notation acting as overly controlling, the specific pitch notation is either highly affected by other features of the performance or is made for the piece in advance. For example, the Cs in Figure 20 are an indication of the only possible pitch of the head joint (given that these are fixed to the stand and played while jumping); the parts for four flutes in Figure 21 are simple and included as a pre-made soundtrack; and the section for four humming performers in Figure 22 is the instructions for making a new soundtrack and, despite having specific pitches, is never performed live and the instructions are very free. The lack of otherwise typical prosaic instructions (the piece is written for four flute players despite, to date, having been made by two performers and pre-recording) also implies freedom of interpretation: this is a puzzle to solve (or perhaps a game to be played) as much as a simple set of instructions to follow. The full score and film of the piece are provided in the accompanying portfolio.

Movement 1: Levitas, Gravitas

INSTRUCTIONS **Part 1 – Rehearsal**

Set up: Attach 2 flute head joints to a microphone stand as shown in the final image of *Movement 3: For Sharon d'Aire* (page 12). Adjust the height of the stand so that the head joints can only be blown by jumping to reach them (see first image below).

2 jumping performers: Before the performance, make a video recording of the rehearsal for this movement. Each take a deep breath then jump up and try to play a note on your flute head joint whilst mid jump (see second image below). Do this as many times as possible in a single breath. When you run out of breath, rest until you get your breath back. This process should be repeated 3 times:

- Jumping and blowing as much as possible on a single breath (1)
- Rest and get breath back
- Jumping and blowing as much as possible on a single breath (2)
- Rest and get breath back
- Jumping and blowing as much as possible on a single breath (3)
- Rest and get breath back

This rehearsal video should be between 1 and 2 minutes long.

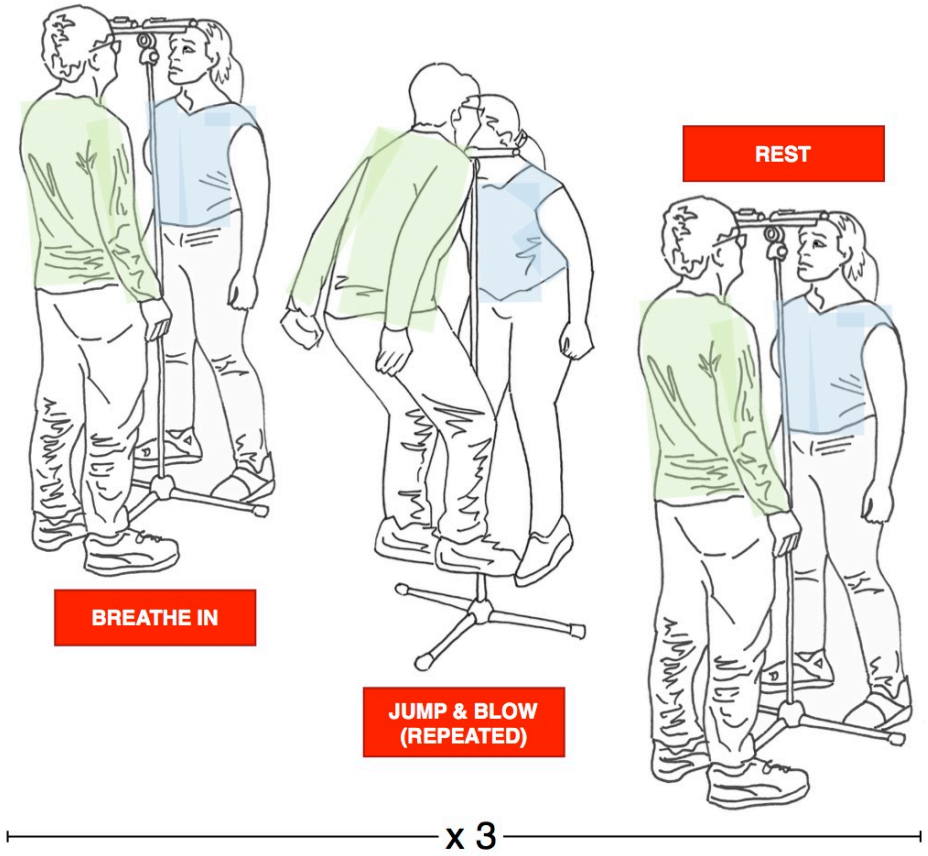


Figure 19: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire*, **page 1**

INSTRUCTIONS **Part 2 – Performance**

2 speaking performers: Read the rehearsal video as a score. Each choose a different jumping performer to follow on the video. Shout "JUMP!" when the jumping performer on the video jumps and "BLOW!" when the jumping performer on the video blows. Shout "REST!" when the jumping performer on the video rests.

2 jumping performers: When the speaking performers shout "JUMP!", jump up and try to play a note on your flute head joint whilst mid jump. Unlike in rehearsal, you don't have to do this in one breath. Stop jumping and switch position when the second speaking performer has shouted "REST!".

2 flute players: Play the repeated Cs as soon as the speaking performers shout "JUMP!", and stop playing them as soon as the second speaking performer has shouted "REST!". In the gaps between the jumping, when the jumping performers are switching position, play the given material as quickly as you can. It doesn't matter if you don't get to the end. Then play the repeated Cs again as soon as the speaking performers shout "JUMP!".

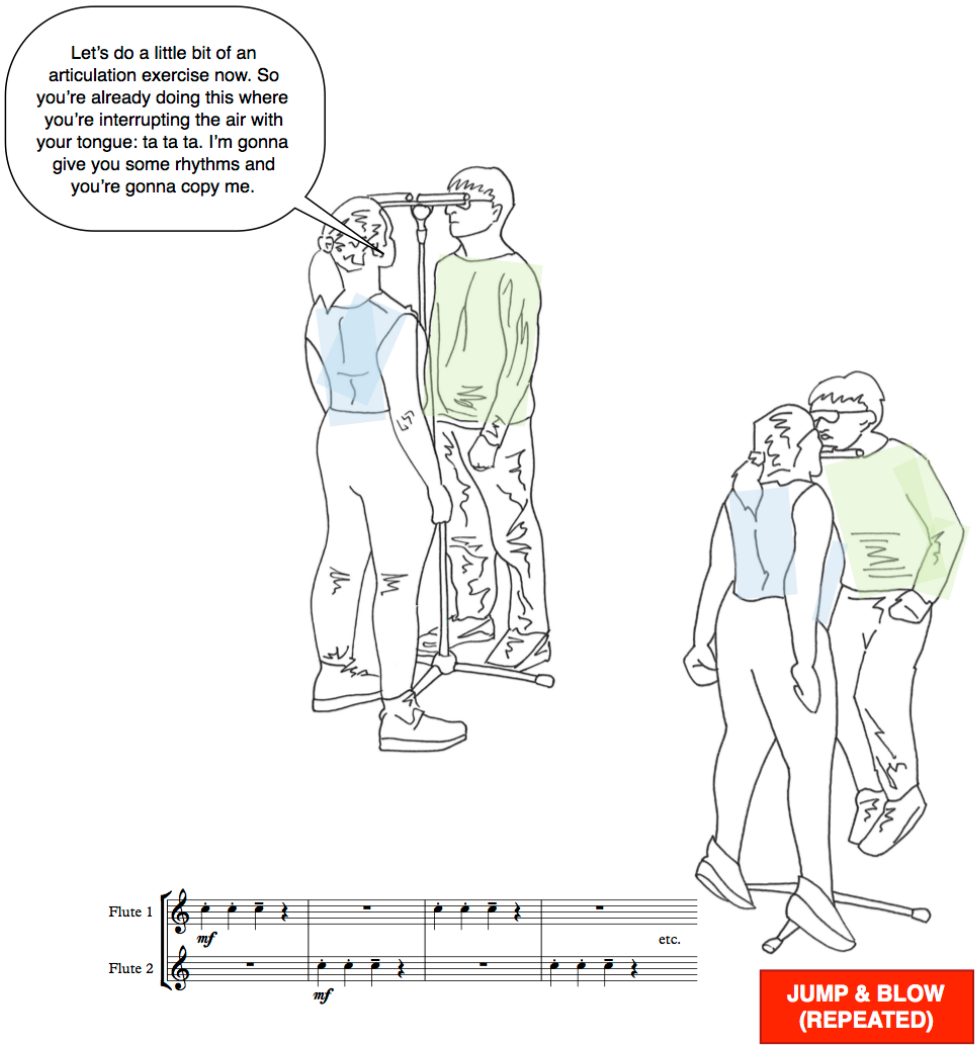


Figure 20: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire,* **page 3**

Movement 2: High-Intensity Interval Training

INSTRUCTIONS

2 exercising performers: Before the performance, make an audio recording of a conversation during the rehearsal or creative process for this movement. Transcribe this conversation. Divide the transcribed text between yourselves. In the performance have one person reading in the following exercise positions whilst the other holds a microphone. Do each exercise for 30 seconds. Alternatively, use the example text given below.

4 flute players: Begin the performance with 3 short Cs in unison so that it sounds like a countdown on a timer. Then sustain the written intervals at *mezzo-forte*.
Wait for 10 seconds before moving on to the next interval.

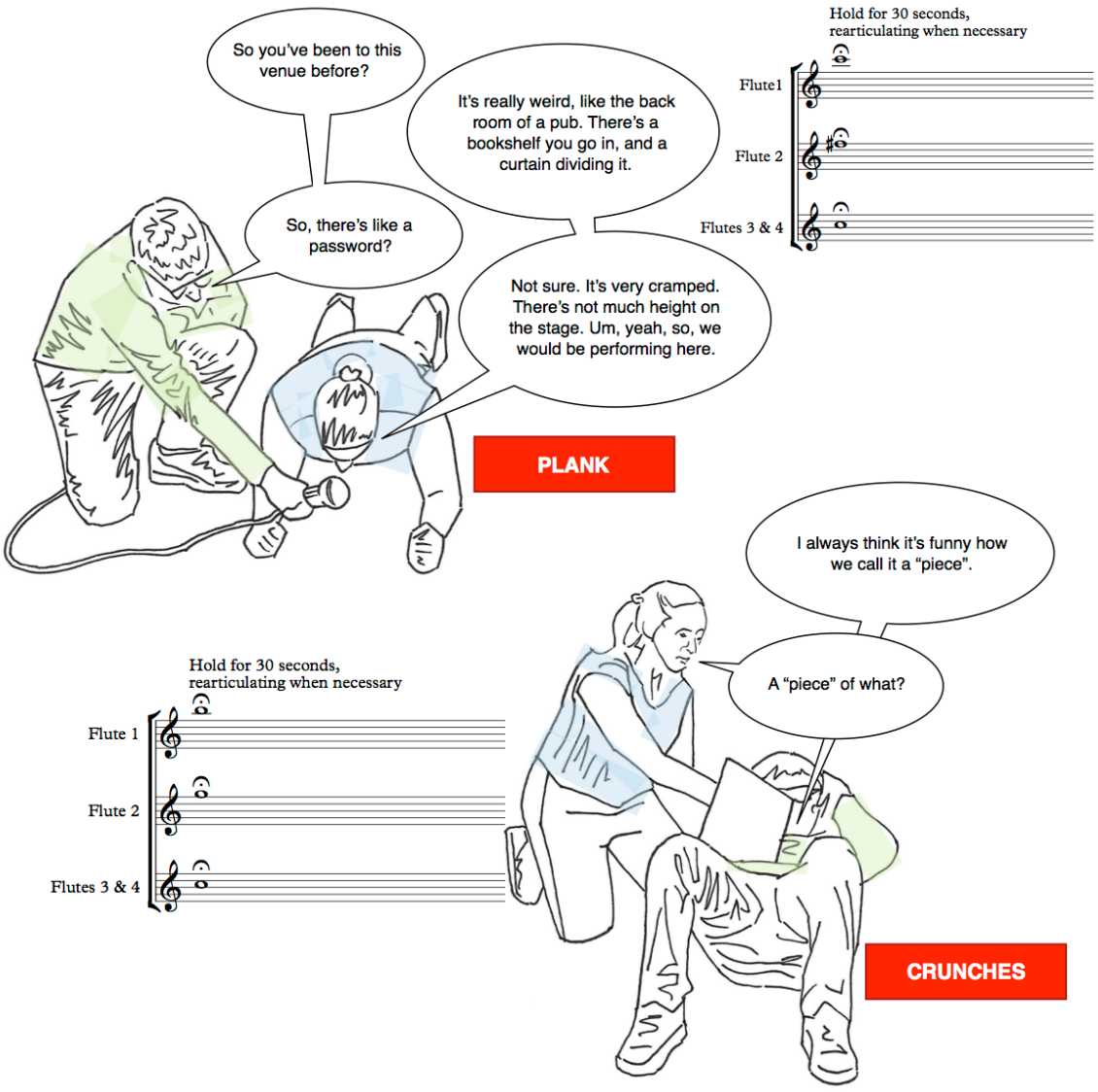


Figure 21: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire,* **page 6**

Movement 3: For Sharon d'Aire

INSTRUCTIONS

2 breathing performers: Lower the flute head joints from *Movement 1: Levitas Gravitas* so that you can reach them comfortably. Attach balloons to the ends of the head joints. Take turns inflating and deflating the balloons through the head joints in single deep breaths so that it sounds like an artificial lung. When one performer is breathing in, the other should be breathing out. At around 4:30, fully inflate the balloons and remove them from the head joints. Let the air slowly out of the balloons so that they squeak. The performance ends when both balloons are fully deflated.

4 humming performers: After 1 minute, hum into a microphone whilst recording. Begin individually in any order. Hum each note for as long as is comfortable in a single breath and don't synchronise with each other. The timings refer to the dynamics, not the pitches. Use a stopwatch to keep time. If you reach the end of the bar before the first 2 minutes is up, then pause. At 2 minutes, play back the recording through the speakers whilst humming the pitches in the next bar. Follow the same procedure as you did for the previous bar, but now in a higher register.

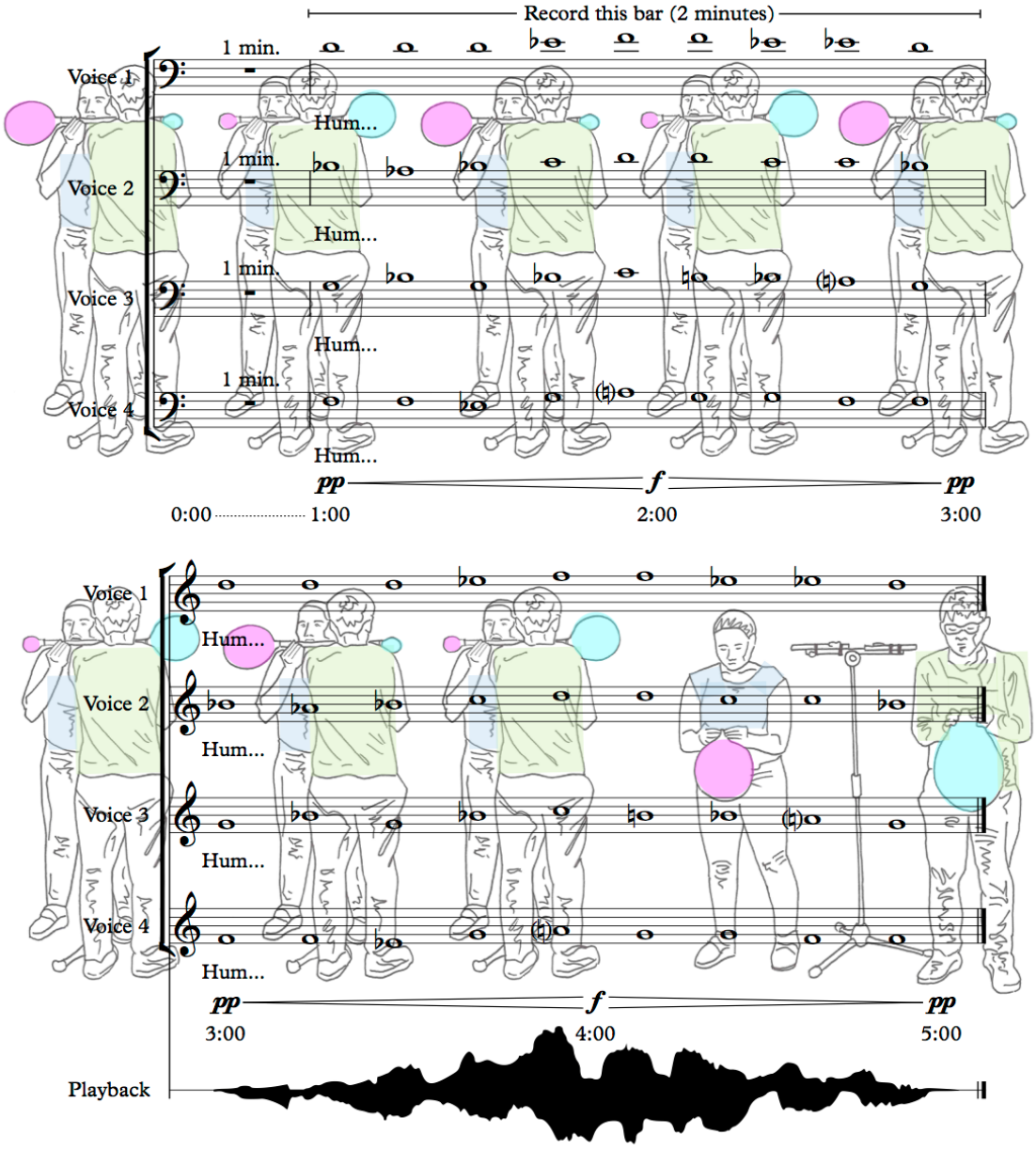


Figure 22: *Levitas, Gravitas and High Intensity Interval Training for Sharon d'Aire*, **page 12**

6.4.2. Pentimento-like layers

Levitas/Gravitas and High Intensity Interval Training for Sharon d'Aire is an example of our approach to pentimento-like laying as it gathers together and simultaneously engages with numerous starting points, ideas, processes, and procedures. There are starting points from both of our earlier pieces (both together and separately) in the form of exercise, breath sounds, visibility of breathing, affected spoken sounds, physical theatre, and limited instrumental practice. There is content from our didactic approaches to our own craft through the flute lessons, focus on the head joint, and chorale correspondence. This is connected by our colour-coded transcriptions of rehearsals, playful use of the different meanings of interval, and our spontaneity and improvisation. The overall affect is intended as a Futurist or Dada-like simultaneity where meanings emerge from our navigation of interconnected ideas and the different impressions left from materials revealed or concealed in layers. Some of these features, particular remnants from earlier drafts, are sometimes explicit, and at other times remain obscure. Freeman writes that "the idea of an early draft being made somehow visible, or half-thoughts and potential changes of mind being explored rather than edited out is my continued concession to *pentimento* as an act of seeing once and then seeing again" (Freeman, 2010, p. xii). Our multi-layering approach allows the privileged space of our devising process to be elusively revealed in the performance and score.

6.5. Interpretation

Most of mine and Ingamells' work is original composition. We have also performed works by other composers, focusing on pieces which allow for considerable performer decision-making or, in other respects, agency. Two of these works are detailed here.

6.5.1. happy/boomf/fat

happy/boomf/fat (2018), by Larry Goves, is a score printed on edible paper, stuck to nine large homemade marshmallows with liquid glucose, and eaten while it is performed (Figure 23). The score is made up of text instructions include whistling and singing, graphic scores, and some notation (albeit not entirely conventional, Figure 25).

Figure 23: ***happy/boomf/fat*** **(2018), Larry Goves, score prepared for performance**

This piece appealed as it extended a core idea from our existing work. As with our pieces that visibly take in and expel air, this seemed to create an equivalent with which to counterbalance our exercise both for the literal balancing of calorie intake and expenditure, and the societal connections between overindulgence and exercise. This also appealed to our joint considerations of play and excess as expressions of our practice. Eating marshmallows on stage is fun. Eating nine of them in a short period of time is excruciating. Both Ingamells and I have explored pushing physical and psychological boundaries in our pieces. In my case this has been through the endurance of Coming Up for Air, and the long-term exercise programme of *PIXERCISE*, and the on-stage breath holding of *Vagus Correspondences*. Ingamells has explored this directly in his work *The Ticklish Subject* (2013). Here he confronts his fear of being tickled by allowing a group of improvisers to tie him to a stepladder and tickle his body, treating his body as an instrument for 40 minutes (Figure 24). In the work he includes the following contradictory instructions in his desire to push the idea to extremes, creating ethical tension and potentially causing extreme discomfort and pain:

> Agree on a safe-word that Andy Ingamells may shout if the performance becomes unbearable.
>
> Under no circumstances must you stop the performance, even in Andy Ingamells shouts the agreed safe-word. (Ingamells, 2013)

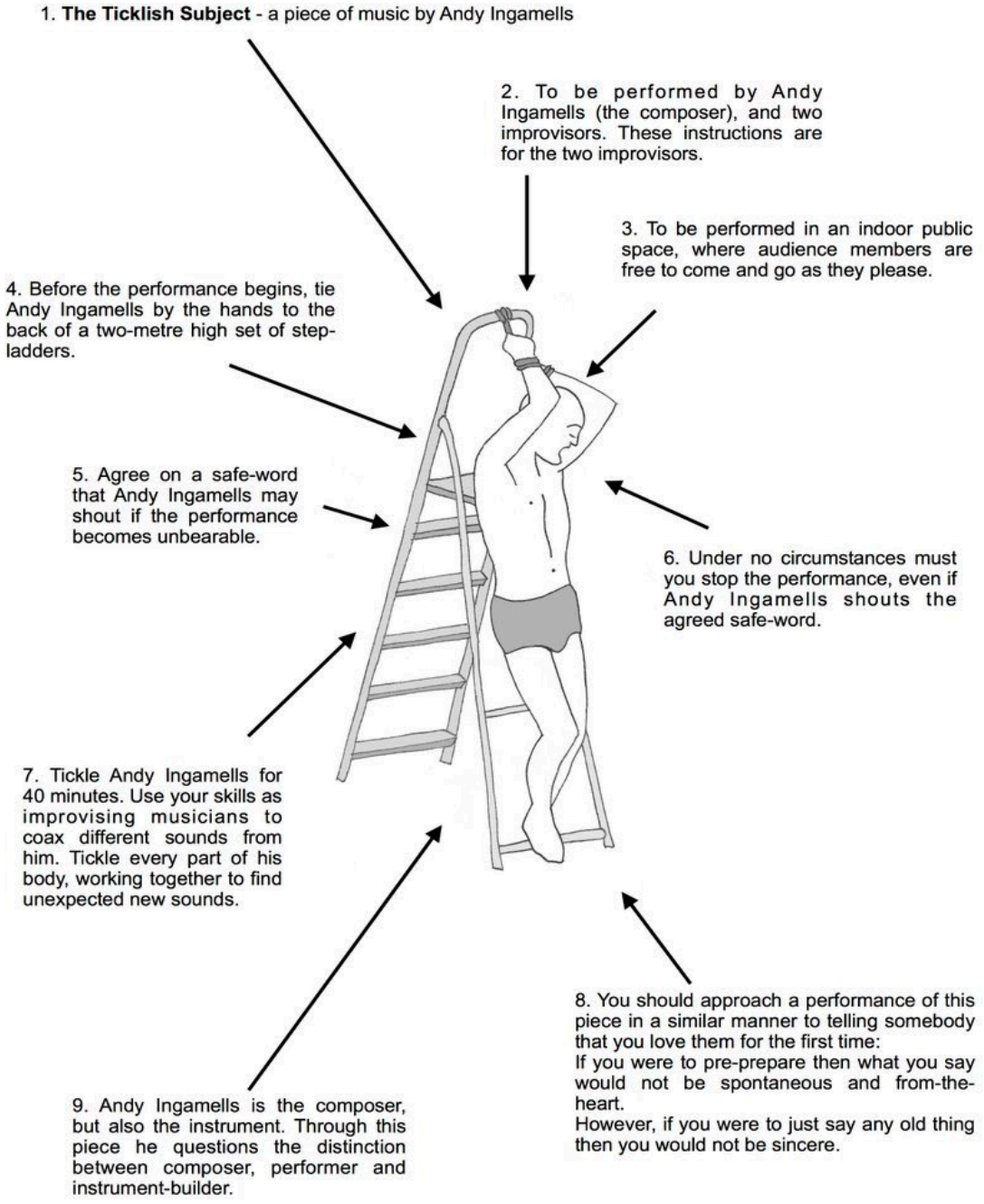


Figure 24: ***The Ticklish Subject*** **(2013), Andy Ingamells**

happy/boomf/fat caused us physical difficulties, surprising given the apparent innocence of eating sweets. Although previously this piece had only been performed by The House of Bedlam, where a duo would share score of nine marshmallows, Ingamells and I decided to perform/consume a score each. We also decided to finish the marshmallows no matter the duration of the piece (this is not required by the score and when I have performed the piece in an ensemble, we usually set a duration in advance). Performing the piece in this way caused us to be physically sick, and rehearsals were necessarily limited. This raised an

interesting (though esoteric) issue of 'calorific consent' and what level of pain or discomfort we would allow our bodies to endure for the sake of the artwork (considering the potential long-term effect of eating so much sugar in repeat performances). For our subsequent performances we shared a score, and perhaps owing to the unfavourable after-effects, I have opted out of performing the ensemble version again.

In performance, the marshmallows act as a filter for our vocal sounds and as the score is eaten the music tends to become more repetitive as there is less material to read. The performance usually starts with laughter from the audience, but this gradually seems to evolve into disgust and concern. During the course of the piece the performers gradually struggle to eat, are increasingly covered in icing sugar, and accidental spitting from attempting to whistle while chewing is common. This piece serves, therefore, as a comment on overconsumption, physical appearance/weight, and the social mores, whether joyful, uncomfortable or shameful, of eating in public. Goves made the piece as a direct response to my physical and psychological changes during the preparation of *PIXERCISE*.

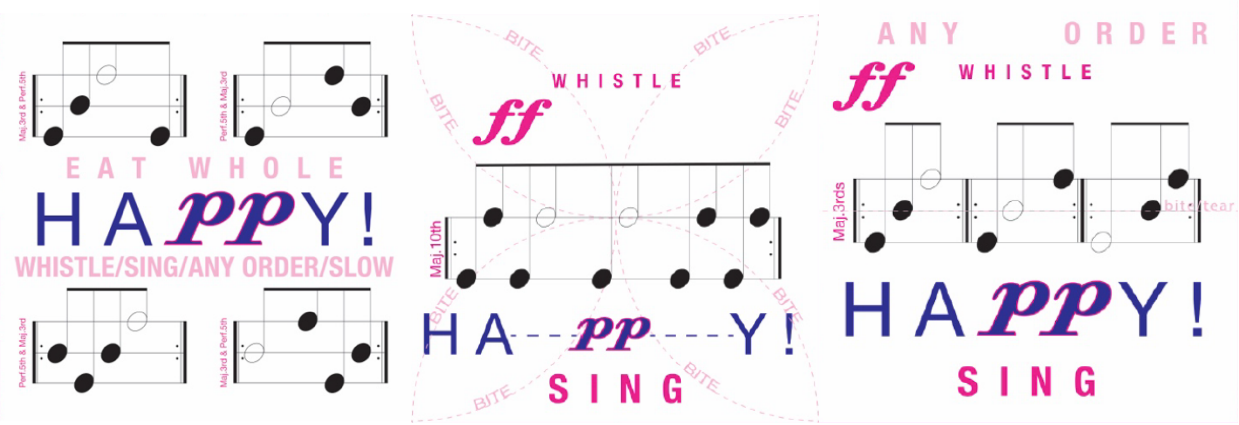


Figure 25: ***happy/boomf/fat*****, section featuring notation.**

It was interesting to discover that, despite our focus in rehearsal and preparation on the difficulties of eating/overeating, Ingamells' main concern was accurate pitching. Three of the nine marshmallows have notated elements that specify intervals but not starting pitches (the idea being that each performer produces thirds, compound thirds, and fifths as 'saccharine' intervals, but collectively dissonance and clashes of tuning are likely). This 'strict' pitching was out of Ingamells' comfort zone, and despite the freedom, disguised sounds because of the eating, and that the instructions allow us to choose which marshmallows to perform, this remained his primary concern. I consider this a striking reminder that in a transformational practice our reference points for challenging ourselves constantly shift, and one difficulty of

building our multi-layered practice on previous experiences is engaging with *former* challenges, essentially overcome, rather than sincerely addressing our current complacencies. New starting material was required.

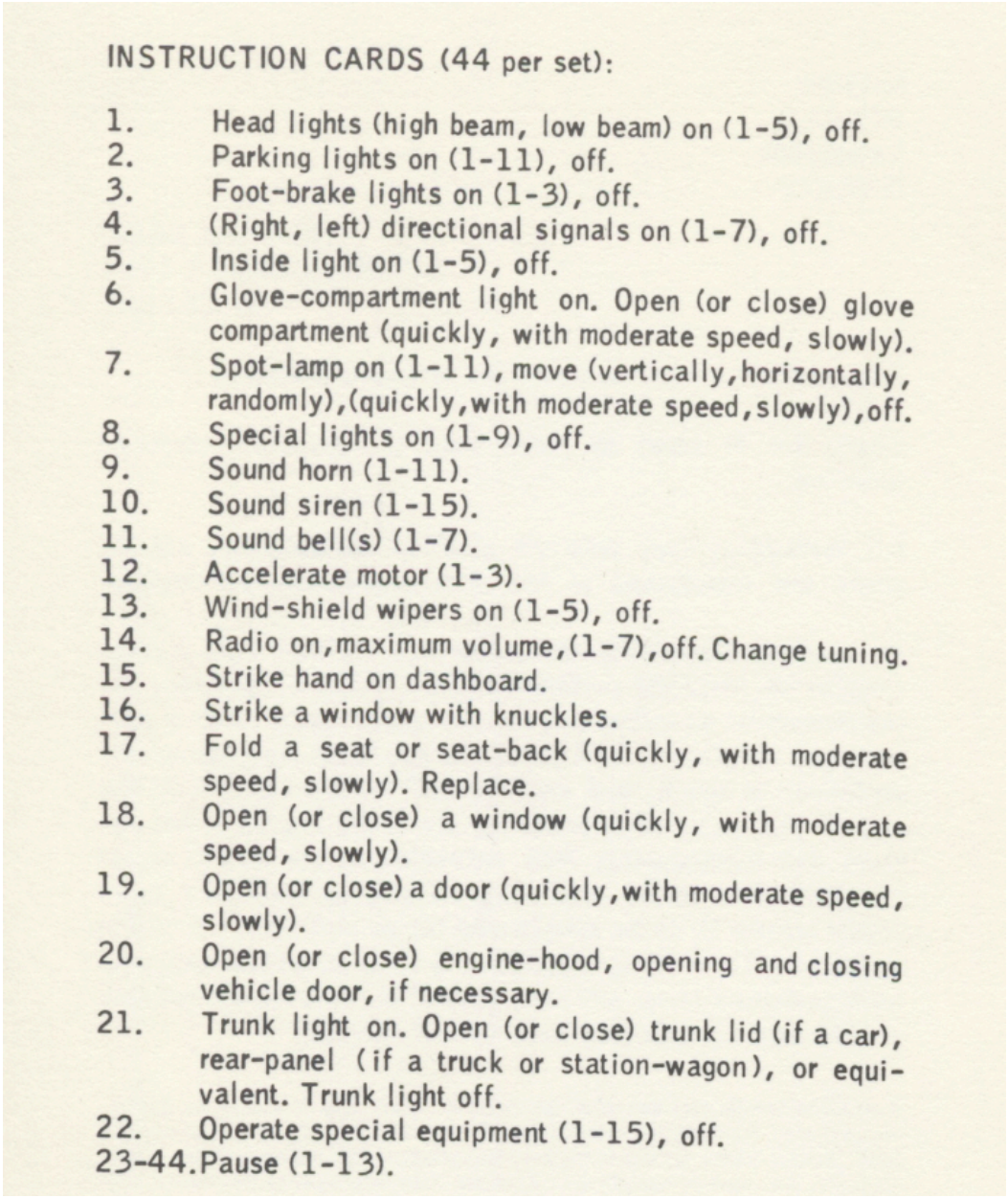
6.5.2. Private Hire (project)

Motor Vehicle Sundown (Event) (1960) was one of the first Fluxus event scores by American conceptual artist George Brecht, to be performed in and around a vehicle at sunset. Ingamells and I took this iconic work as a starting point to create our most recent live performance at the Kinetic Festival (Salford, February 2020) which included the Brecht and new realisations of Ingamells' *Tea Towel* (2014) and *Private Hire* (2011), Carolyn Chen's *Adagio* (2009), and our collaborative work *Sharon d'Aire*. The entire performance was situated in and around a car (the venue was a former MOT garage). As departure points, we took diverse imagery suggested by two people being together in a car. This included the cinematic and popular culture notions of romantic 'parking', drive through cinema, and projected scenery/background. This also connected to environmental concerns and we used an electric car for the performance, and our usual juxtaposition of the everyday (driving, washing, and loading the boot of a car) and extraordinary (all this taking place within a concert venue and coordinated and/or framed as music performance). Straight after this initial performance we were keen to develop and extend this new body of work. The Brecht, Chen, and Ingamells pieces were selected because of the high level of performer agency required to realise the work, allowing us to further explore our creative collaborative dynamic. Furthermore, the Brecht and Chen, as the two works not composed within our duo, served as aesthetic extremes (in terms of scale of activity), and therefore framed our original work.

6.5.3. *Motor Vehicle Sundown (Event)*

Motor Vehicle Sundown (Event) is the most direct expression of our twin interests of layering of ideas and behaviours, and the reframing of everyday activities to create new musical performance art. The piece consist of the performers undertaking a randomized sequence of straightforward actions, printed on cards, in and around a car (Figure 26). This piece, in its "complex orchestration of simultaneous actions and chance interactions, structurally resemble Dadaist 'simultaneities' of the early twentieth century: diffuse, multifocal, chaotic, they are extensions of collage aesthetics" (Kotz, 2001), p. 71). This approach and structure directly informs how we adapt the other pieces to this specific setup. For Ingamells and I, therefore, this is our equivalent of 'standard repertoire' and contextualises our other, more

recent, activity. This led us to consider it appropriate to reframe the Brecht, usually performed (as the title implies) as an outdoor event, into a more concert hall-like space with a distinction between audience and performers.



INSTRUCTION CARDS (44 per set):

1. Head lights (high beam, low beam) on (1-5), off.
2. Parking lights on (1-11), off.
3. Foot-brake lights on (1-3), off.
4. (Right, left) directional signals on (1-7), off.
5. Inside light on (1-5), off.
6. Glove-compartment light on. Open (or close) glove compartment (quickly, with moderate speed, slowly).
7. Spot-lamp on (1-11), move (vertically, horizontally, randomly), (quickly, with moderate speed, slowly), off.
8. Special lights on (1-9), off.
9. Sound horn (1-11).
10. Sound siren (1-15).
11. Sound bell(s) (1-7).
12. Accelerate motor (1-3).
13. Wind-shield wipers on (1-5), off.
14. Radio on, maximum volume, (1-7), off. Change tuning.
15. Strike hand on dashboard.
16. Strike a window with knuckles.
17. Fold a seat or seat-back (quickly, with moderate speed, slowly). Replace.
18. Open (or close) a window (quickly, with moderate speed, slowly).
19. Open (or close) a door (quickly, with moderate speed, slowly).
20. Open (or close) engine-hood, opening and closing vehicle door, if necessary.
21. Trunk light on. Open (or close) trunk lid (if a car), rear-panel (if a truck or station-wagon), or equivalent. Trunk light off.
22. Operate special equipment (1-15), off.

23-44. Pause (1-13).

Figure 26: Instruction cards from *Motor Vehicle Sundown (Event)* (1960). From *Water Yam* (1963), George Brecht

6.5.4. *Adagio*

As with the counterbalancing relationship between inhaling and exhaling in *Sharon d'Aire*, and the calorie intake and output in *happy/boomf/fat* and *High Intensity Interval Training*, we chose to perform Caroline Chen's *Adagio* as the most understated point in our performance, and as a direct contrast with *Motor Vehicle Sundown (Event)*. *Adagio* is written for slow-motion

face choreography while listening, on headphones, to an excerpted recordings of Sergiu Celibidache's slow interpretation the *adagio* from of Anton Bruckner's Symphony No. 7. As the audience are only offered a glimpse of the music through the choreographed behaviours of the performers, this is an embodied example of our overarching approach to layered simultaneity and pentimento. By performing this piece sealed in a car, with the Bruckner of the car stereo, we reframe this work within the context of our larger performance and, as the audience is peering at us through the car windows, emphasize composer and curator Michael Baldwin's voyeuristic reading of this piece (Baldwin, 2016b), and the cocoon-like quality of a car.

6.5.5. From live performance to video art

The global COVID-19 pandemic forced us to adjust our plans to develop this performance further, and our response has been to create a film/video art piece which adhered to the stringent lockdown conditions. The 20-minute film, also called *Private Hire,* includes four of the works from our original performance, *Tea Towel*, *Sharon d'Aire, Motor Vehicle Sundown (Event)*, and *Private Hire*. The works were filmed separately at home by our respective live-in partners for subsequent editing and assembly by professional filmmaker Oli Clark. Again, this further develops our cinematic vehicle starting points and the contradictory notions of a car as cocoon like sanctuary or as enforced confinement (for example, a commuter's 'prison'), now also serving as a metaphor for lockdown that so many people across the world were experiencing (and, at the time of writing, still are).

The juxtaposition of two different vehicles, often edited to seem as if they were one, and further confused when we are shown from two different angles simultaneously (Figure 27), extends the impression of the surreal and uncanny that is a feature of our work that freely blends the natural and stylized. Although motivated by our desire to maintain the momentum of our collaboration and find an outlet for our creative energy during lockdown, the project has proven to be a most natural extension of our methodology, despite not being able to work directly together and the highly physical nature of our work. This film is a natural consequence of our chaotic simultaneity, now asynchronous and entirely separate. Through the video is the suggestion of all the different layers in our work up to this point, hinted at by the shifting of locations and time periods, and the blurring of separation and closeness. As well as a stand-alone artwork, we are now starting to make plans to

incorporate this film into our subsequent live performances, as the process of layering continues.

Figure 27: Still from 'Sharon d'Aire', as part of the video version of *Private Hire*.

6.6. Private Hire: Commentary

Over the last few years my practice has fundamentally shifted focus. As a classically trained flutist with interests in experimental and exploratory music, I was increasingly considering the nuanced dividing lines between interpretation, collaboration, improvisation, and composition. Having considered myself a creative performer with burgeoning interests in composition, I now have a much better understanding of myself as a creative artist where all of my sound and theatre making are fundamentally entangled. My work with Ingamells has been the creative collaboration with the most measurable impact on this transformation. As much of his creative work builds on existing pieces (of his own and others), connected to traditions within and around Fluxus and performance art practice, many of the perceived dividing lines in my own work have ceased to be relevant: a positive influence on my own making.

As Ingamells' creative process, as well as his approach to performance, is largely rooted in spontaneity followed by rigorous critical reflection, this has proven the ideal foundation to explore and question my own performance and composition. As our work is inherently

exploratory, connected to both a tradition of experimental art-making and broader experimental methodologies, both mine and Ingamells' practice have remained fluid throughout our collaboration; my own creative pre-occupations with professional training in instrumental performance practice, long-term correspondence, and concerns around physicality, exercise, and ableism, have equally informed our work. The transformational creative relationship with Ingamells has proven to be symbiotic, allowing this work to naturally evolve and continue.

Chapter 7: Conclusion

7.1. Visibility of breath in the time of COVID-19

Current events have brought some of the issues that served as a catalyst for this project into the public arena. The current COVID-19 pandemic has caused air and breathing to be intensely scrutinized, politicized, and feared. Face coverings have become increasingly ubiquitous (or even legally required) as concerns about the safety of breathing are extensively debated. Studies, research, and summaries connected to breathing and viral transmission have been widely discussed and distributed. Building on existing research related to the transmission of influenza A and B, MERSCoV, and SARS-CoV-1, it is clear that virus-containing droplets can lead to short-range airborne transmission of COVID-19 (Pollitt et al, 2020). Airborne transmission occurs when infectious particles are inhaled, and every individual emits potentially infectious particles all the time, not just when sneezing or coughing (Asadi et al, 2020, p. 637). Aerosols, the smallest respirable particles invisible to the human eye, are produced through breathing and speaking, and can remain airborne for up to several hours in poorly ventilated spaces (Scheuch, 2020, p. 4).

Scientists and epidemiologists are working to answer the urgent questions that have arisen about breathing for public health. It is noteworthy just how wide-ranging this work has been in terms of different activities pertaining to breath. Studies on aerosol emissions during different respiratory activities examine and compare the rates of accumulation during coughing, sneezing, breathing through the nose versus the mouth, speaking and singing at different volumes and in different languages, and playing wind and brass instruments (Underhill and Williams, 2020)[1]. As air, breathing, and the movement of air necessary to provide sufficient ventilation are now widely visible in the political and social spheres and the press, it is striking just how invisible this previously was, despite its impact on how communities are connected.

While the specific breathing circumstances that connect to viral transmission are under unprecedented scrutiny, the conversation around and establishment of long-term strategies to address air pollution given its proven potential to weaken the immune system (British

[1] From June to September 2020 I co-authored a global literature review on COVID-19 and Music Performance and Education on behalf of the Incorporated Society of Musicians. The research includes studies on transmission, musician aerosol studies, and instrument hygiene.

Lung Foundation, 2020) and impair COVID-19 recovery are lacking (Zhu et al, 2020). This connects to the current global climate crisis in myriad ways beyond traditional notions of industrial pollutants. For example, at the time of writing, large swathes of the West Coast in the USA are on fire. Ash has filled the air over San Francisco, and the air quality in Portland, Oregon is the worst in the world (Green, 2020). Yet, despite bioclimatologists inextricably linking climate change with the vast and deadly wildfires, the majority of major news networks fail to report this connection (Fisher, 2020).

The first part of this thesis concerned with Coming Up for Air (particularly Chapter 2) highlights the discrepancy of air/breathing being largely invisible and ignored in numerous fields of activity and research including philosophy, public health, and music pedagogy and practice, except for instances of malfunction. These current events further illustrate this inconsistency; while the smallest particles are being studied, the air around us is still divorced from the experiences of human and other bodies that breathe it (Allan, 2020). This research demonstrates how a musical creative practice seen through the lens of wind instrument performance can act as an artistic mediator between the body and the air it is immersed in. COVID-19 serves as one, albeit dramatic and tragic, example of how this issue requires greater visibility. Here it is forged into a diverse creative project demonstrating a new intimate approach to the troubling, but often normalised, impact that the air around us can have on our bodies. As such this work contributes, as a case study, to new knowledge in art-making this socio-political issue.

7.2. Resilience & the evolution of a collaborative artistic practice

A unifying theme of this thesis has been documenting the process of my artistic growth and how this is connected to other personal transformations, in particular, better health, and developing strategies for greater personal and musical resilience. The American Psychological Association defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress" (2012, para. 4). However, this definition does not cover the complex nature of resilience and, according to Southwick et al, "it is important to specify whether resilience is being viewed as a trait, a process, or an outcome, and it is often tempting to take a binary approach in considering whether resilience is present or absent" (2014, p.2). I view the resilience developed through my projects as a combination of these things. For example, committing to a regular exercise regime to train for *PIXERCISE* when I was already very busy and had reservations about

exercising in public required resilience as a *process*. The ability to confidently perform the piece in public and remain faithful to keeping exercise in my everyday life is resilience as *outcome*. These contribute to identifying with resilience as a *trait* which has increased my confidence in undertaking other potentially challenging endeavours to renew the process (such as freediving training).

All of the projects in this thesis have contributed to different aspects of recovery from physical and psychological traumas through both explicit and discrete processes. They have enabled me to heal the disassociation of performing in a body which was a site of crime and transform into a more fully inhabited being. This is well-articulated in a statement on resilience by Dr Rachel Yehuda:

> People who are traumatized sometimes do actually end up in a better place than they started in many respects. In light of that, my current definition of resilience as it applies to people would involve a reintegration of self that includes a conscious effort to move forward in an insightful integrated positive manner as a result of lessons learned from an adverse experience. The idea of moving forward is an important component of resilience for me because this notion recognizes that some of the most resilient people, at least that I know, may have had or still have very severe PTSD that they struggle with every day. But they don't succumb to its negative effects. To me, resilience involves an active decision, like sobriety, that must be frequently reconfirmed. That decision is to keep moving forward. (Southwick et al, 2014, p. 3)

This thesis provides theoretical contexts and practical applications for developing a performance and composition practice which is embedded in these varied considerations of resilience. Furthermore, this work contributes new knowledge through demonstrating a new blended compositional/performance methodology directly connected to Yehuda's notion of the active decision to keep moving forward.

7.3. Musicians & trauma

Pianist and researcher Inette Swart writes of trauma experienced by musicians and composers and how this affects their work. There is an abundance of literature written on how music therapy is used in the facilitation of healing from severe trauma (Di Franco, 1993; Heal & Wigram, 1993; Kellerman & Hudgins, 2000; McClary, 2007, cited in Swart, 2014, p. 386). However, there is very little research on the person behind the instrument offering these therapeutic experiences, or the composer who has written the music (ibid). I would

suggest that this invisibility is a problematic omission, mirrored in examples elsewhere in this thesis (including notated wind instrument music assuming the preparation of the inhale, or the wider public health implications of air pollution). This causes me to consider to what extent musicians can deliver effective therapeutic experiences when the connection between their own music practice and notions of overcoming, healing, and resilience are so elusive. Having worked worked as a practitioner using music for therapeutic purposes over the past seven years in settings such as in hospitals, care homes, hospices, prisons, and special needs schools, I can anecdotally attest that I can match my increased recovery with being capable of delivering the most impactful and rewarding sessions.

Emotional trauma can be defined as a toxic condition (Peichl, 2007) that follows perceived overwhelming or life-threatening experiences when helplessness causes a "loss of control over one's body" (Levine, 1997, cited in Swart, 2014, p. 387). When unresolved, the 'core of the traumatic reaction' constitutes hyperarousal, constriction, dissociation, denial, and feelings of helplessness (ibid). Clinical psychologist Peter Levine (2010) emphasises that trauma is not only a mental condition, but it also involves the body (Swart, 2014, p. 387). There are parallels to be drawn here on how psychologists are urging for trauma to be recognised as affected a whole-body condition, and features of my research which highlight how music and breathing affect the entire body and not just the emerging sounds.

In music performance, increased anxiety and arousal is a normal, even expected state, which can be channelled to facilitate optimal performance ability in a "normal" individual (Swart, 2014, p. 391). For individuals living with Post-Traumatic Stress Disorder (PTSD), ordinary performance nerves are closer to the state from when the traumatic event occurred than during regular practice sessions (ibid). Therefore, the heightened awareness and arousal from a normal performance event can trigger a trauma response in a musician who is living with PTSD, causing "distressing memories to be unwittingly activated, affecting physiological and psychological aspects of music performance and complicating manifestations of MPA" (music performance anxiety) (ibid). Consequences of this can make a performer associate their negative experiences of public performance with a distrust and uncertainty about their ability to perform, contributing to a cycle of fear which stops them from being able to play to the best of their ability (Swart, 2014, p. 397).

It is possible to overcome the potential triggering of the trauma response in performers with PTSD. Levine (1997) suggests that "healing will begin when a person can trust the arousal

cycle again (and again)" and advocates that this requires "an awareness of physical and mental signs of arousal; acknowledging the signs; and letting the symptoms peak and thereafter diminish and resolve" (Swart, 2014, p. 397). I can offer a personal insight on this, drawn from my own experiences of overcoming a deep anxiety around professional orchestral auditions. Due to my past physical difficulties with breathing and the negative feedback I had received about the sound of my breathing (which I could not control), combined with an abusive relationship which crippled my confidence in pursuing a career in music, I took several years off from auditions, even after my successful recovery from sinus surgery. As described more in Chapter Four (regarding the making of *PIXERCISE*), I decided to undertake my first orchestral audition in years for a piccolo position in the Royal Philharmonic Orchestra. As well as the physical preparations (musical and exercise-based), I forced myself to undertake a large number of mock auditions as formally as the family home would allow, which my ever-patient husband endured. This process was not at all enjoyable for me as I experienced very intense anxiety manifestations such as sweating, shaking, and disassociation. However, in the audition room, I had never felt so free, happy, and like it was impossible to make any mistakes; what Gorrie refers to as the "zone", describing it as "an intangible state of mind, where our actions are effortless and where we are in the perfect state of mind for a given performance situation, resulting in optimal performance" (Gorrie, 2009, cited in Swart, 2014, p. 397). This example of Levine's strategy for healing has had a profound impact on me for further developing the trust in my body necessary to enjoy performing again. In connecting an exploratory creative project to a process of self-improvement (through exercise) and, by extension, a more holistic process of healing, I was able to create a uniquely safe space to address my issues of audition anxiety and how this is connected to my overall wellbeing. In sharing this account, I offer a practical mechanism for addressing this, potentially applicable or adaptable for other musicians.

7.4. Next steps

While in the midst of a global pandemic, it is difficult to imagine what the landscape of in-person collaborations and live performances will look like in the future, the plans for my next work remain unaffected. I will soon begin documenting the sonic equivalent of a weekly bump photo, through composition and improvisation, in order to track the significant changes to my lung capacity and breath control in my third trimester of pregnancy. This collection of recordings will be later assembled into a work of sound art. Not only is this a natural extension of my other breath-related work, it will be the next stage of

my development as a creative musician serving as the first work that I have set out to create by myself. The project serves as a metaphor for the penultimate stage of my own compositional development as I artistically respond to my pregnancy alone, while otherwise sharing the experience with my family. Furthermore, this will explore new territory connected to Annette Arlander's practice of performing with plants and trees, where she considers the notion of a performance agency in a much more elusive context. In this way, my 'collaboration' is with my unborn child as our bodies grow and accommodate one another, and pregnancy becomes a recast notion of autonomy.

Through rendering breath visible, this research has considered the performer's body (including its abilities and limitations) as a catalyst and starting material for new work, in doing so provides new knowledge on the relationship between breathing, air, the environment, and flute performance and composition practice. This research also contributes to a growing area of scholarship that engages hybrid music practice and, as such, provides vital case studies to better understand entangled 'performer' roles of interpreter, advisor, improviser, deviser, curator, and co-composer.

Beyond the more scholarly contributions to knowledge made through my research, it is my hope that this commentary and the performances I have given offers practical starting points for others to find their own ways of creating a compelling practice which is naturally already afforded to them by their individual abilities. I would also like to share a few more prosaic things I have learned throughout this process, in my experience easily overlooked but of vital importance. When addressing past traumas from a creative perspective, it is important to carefully choose those who are in the room with you. It is essential that support networks and self-care plans are in place as sensorial experiences can be re-triggered. I recommend regular breaks, alone time, and access to professional help if necessary. I believe that scars do not need to be left visible to make genuine work, and that performance does not have to be painful.

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Appendix 1: Coming Up for Air contributors

2017

1. Annie Hui-Hsin Hsieh *PIXERCISE 1*
2. CHAINES *DOOO*
3. David Pocknee *Gray Winter Grimes*
4. Eleanor Cully *Make a Wish: Dandelion*
5. Jack Sheen *(it's really you strolling by)*
6. John Webb *One Breath Bop*
7. Larry Goves *Air Pressure 1 (after Bruce Nauman)*
8. Laurie Tompkins *Bistro Legende*
9. Matthew Chamberlain *Average dying*
10. Matthew Welton *Poem in a single breath*
11. Mauricio Pauly *H. Yodo Draft 4*
12. Megan Grace Beugger *Asthmatic Inhalation and Exhalation*
13. Michael Perrett *untitled*
14. Nina Whiteman *Thread*
15. Oliver Coates and chrysanthemum bear *Leif*
16. Oliver Coates H. GARN
17. Vitalija Glovackyte *untitled*

2018

18. Alex Eddington *Codependency*
19. Alexander Glyde-Bates
20. Amber Priestley *It involves beautiful tightropes of logic on which one has to walk*
21. Andy Ingamells & Kathryn Williams *Aquafifer*
22. Andy Ingamells *Long Piece*
23. Angela Slater *A moments breath*
24. Anthony Lee Dunstan *Apnoea*
25. Bnaya Halperin-Kaddari *Residual pressure*
26. Charlotte Marlow & Chrissie Pinney *Breathless*
27. Chaya Czernowin *Breathing etude*
28. Cori Smith *Asleep on the edge of the universe*
29. Daisy Holden *Waves*
30. Damian Gorandi *Ollantay*
31. Daniel Ireland *Mountain climb*
32. Daniel Lee Chappell *Auto-diplomatic asphyxiation*
33. David Bohn (untitled)
34. David Mistikosa *ReConstruction*
35. E. Eyres *Ki breathing piece*
36. Eleanor Cully *Make a Wish: Fairy Dust*
37. Eleanor Cully *Make a Wish: Birthday Candle*
38. Eleanor Cully *Make a Wish: Cotton Grass*
39. Emma Ruth Richards *Eupnea*
40. F.P. Rhys *Intermezzo*
41. Grace Harper *Viloma birds*
42. Isaac Lukey *Dawn chorus*
43. Isabel Hazel Wood *HOLD*
44. James McIlwrath *My pillows are made of nettles*
45. Jenny Jackson *Expel*
46. Jessica Aszodi *All I have to say*

47. Jocelyn Sveranto (untitled)
48. John Aulich *Just a different wolf*
49. John Kerr *Blood flute*
50. Joshua Mock *Let it all out*
51. Larry Goves *Air Pressure 2*
52. Laurie Edwards (untitled)
53. Lavender Rodriquez *I didn't say that he did*
54. Lucio Tasca *One breath*
55. Luke Martin *possible deltas*
56. Marc Hoffeditz *first breath*
57. Mark Dyer *Memento for Kathryn (and being able to hold that forever)*
58. Max Erwin *Inventory*
59. Michael Regan *A little jazz etude*
60. Morgan Edward Overton *A continued novelty*
61. Oliver Coates Pet Semetary
62. Oogoo Maia *Full breath*
63. Patrick Ellis *Breath, Patterns, Bends*
64. Peter Walton *Whistle in the wind*
65. Rachel Forsyth (untitled)
66. Ramya Thiyagarajan (untitled)
67. Robert Crehan *Save your breath*
68. Robert Green *Mind over body*
69. Robin Morton *The other side*
70. Stephen Chase *Feet. Can't. Fail. (slight return)*
71. Tamsin Jones *Sonatiny*
72. Toby Andersen *Dispersed*
73. Torcuto Tejada Tauste *mikrosonata*

2019

74. Alex Bonney *Resonant ripples*
75. Ben Zucker *one breath convolution*
76. Bofan Ma #*enclosingenclosedenclosure*
77. Cathy Van Eck *Aerobic creatures*
78. Cevanne Horrocks-Hopayian *Breathing up*
79. Eleanor Cully *Snow geese*
80. Emilia Williams *Gerbil behaviour*
81. Ewan Campbell *Polar vortex*
82. Federico Pozzer *Ujjayi breath*
83. James Abel *One breath*
84. Joanna Ward *One, breathe*
85. Kathryn Williams *blow pens on canvas*
86. Lauren Marshall *SUCK/BLOW*
87. Louis d'Heuderies *Need bigger lungs*
88. Lucy Hale *When we breathe*
89. Martin Iddon *Les Passions de l'âme*
90. Mary Bellamy *Atom*
91. Newton Armstrong *2 Canons for Kathryn*
92. Ruari Paterson-Achenbach *you know the house is empty*
93. Sarah Hennies *Packing it in*
94. Scott McLaughlin *Like skipping stones on a lake*
95. Tim Rutherford-Johnson *FEV1/FVC*

2020

96. Gary Ankers *Egress ingress regress*
97. Hannah Caroline Firmin *Gasp*
98. Joseph Shaw *Over {Endless} Time*
99. Paul Zaba (untitled)
100. Ed Cooper *For Kathryn Williams*

Appendix 2: Selected performances and broadcasts of: Coming Up for Air, *PIXERCISE, Vagus Correspondences*, and Private Hire.

Coming Up for Air (performances and presentations)

7 June 2020: Coming Up for Air 3rd birthday livestream concert

9 June 2020: Royal Northern College of Music (RNCM) livestream concert

6 March 2020: Leeds University

4 March 2020: Bristol Pre-Conservatoire

2 February 2020: Constellation (Chicago, USA)

10 December 2019: Birmingham Conservatoire

20 November 2019: Huddersfield Contemporary Music Festival

2 November 2019: Deep Minimalism 2.0, Southbank Centre, London

21 October 2019: RNCM

13 September 2019: Royal Musical Association Annual Conference, University of Manchester.

7 September 2019: Bendigo International Festival of Exploratory Music (Bendigo, Australia)

7 June 2019: Churchill College, Cambridge University

4 March 2019: Birmingham Conservatoire

25 February 2019: York Crescent

4 December 2018: Cafe OTO, London

19 October 2018: York University

5 October 2018: Carnegie Mellon University (Pittsburgh, USA)

16 August 2018: Snape Maltings (Suffolk, England)

6 July 2018: Performing Studies Network Conference, Norwegian Academy of Music

14 April & 12 May 2018: Junior Royal Northern College of Music

25 April 2018: RNCM Research Forum

21 February 2018: Liverpool University

4 January 2018: Royal Musical Association Student Conference, Huddersfield University

2 January 2018: National Youth Orchestra of Great Britain

6 October 2017: Royal Northern College of Music

2 September 2017: Royaumont Abbey (France)

21 August 2017: Ohio State University (Columbus, USA)

7 June 2017: Islington Mill (Salford, England)

Broadcasts

22 July 2020 The Next Track Podcast: Kathryn Williams on Breath in Music

27 June 2020 BBC Radio 3: The Listening Service 'Breath and Music'

28 April 2020 RNCM Radio: Wellbeing

1 September 2019 PBS Melbourne: The Sound Barrier

13 April 2018 BBC Radio 3: Hear and Now (*PIXERCISE*)

PIXERCISE

4 December 2019: Collaborations are more refreshing than new socks (conference), Antwerp Royal Conservatoire

16 July 2019: University of Western Australia (Perth)

24 November 2018: Being Human Festival, Royal Northern College of Music

19 November 2018: Huddersfield Contemporary Music Festival, University Sports Hall

18 August 2018: Britten-Pears Young Artist Programme, Snape Maltings

17 March 2018: Eavesdropping Symposium, Oxford House, London

Vagus Correspondences (performed with Jessica Aszodi)

12 October 2019: Hundred Years Gallery, London

7 September 2019: Ulumbarra Theatre, Bendigo, Australia

1 May 2019: St. Paul's Hall, Huddersfield University

Private Hire (performed with Andy Ingamells)

July 2020: Private Hire film (funded by Help Musicians Fusion Fund)

22 February 2020: Kinetic Festival (Salford, England)

28 May 2019: RNCM

20 March 2019: Nonclassical (London)

24 August 2018: Britten-Pears Young Artist Programme, Snape Maltings