EXPLORING AN EMBODIED MUSICAL HABITUS

Harnessing productive resistances in the performance of contemporary solo oboe repertoire

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Abstract

This research explores the experience of ‘resistance’ in the performance of complex and experimental solo oboe repertoire. Resistance manifests in the performance projects discussed in this dissertation as a subjective sense that something is transgressive or incongruous with musical ideals; a feeling of contradiction between what I – the performer – am doing and what some subliminal part of me thinks I *should* be doing. The research focuses necessarily on the individual performative perspective and history: the insights of this specificity are central to understanding the in-the-moment embodied interactions between performer, instrument and score in which some characteristic of this relational experience *causes* resistance. I examine how resistance arises between the ways I play my instrument in the repertoire of this project and my standard practice ‘habitus’ – understood within Pierre Bourdieu’s sociological framework as my internalised and embodied technical and aesthetic ideals of oboe playing. This exploration of the subjective manifestation of resistance contributes to the wider understanding of performance processes that is the concern of practice research into embodied experience.

Resistance is investigated here via five practice research projects designed to create situations in which to explore the nature, origins and impacts of performative experiences of friction or transgression. Crucially, the research shows that resistance is *creatively productive*: it often endures beyond the learning of the piece of music, and is a source of musical meaning in performance, informing an understanding of the work that feeds into performative affect. The research articulates a *process* of understanding the structures represented by a musical habitus, and their potential implications for the experience of performance; something that is applicable to a range of practices.

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I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

Chapter 1: Introduction

This research explores the experience of ‘resistance’ in the performance of complex and experimental solo oboe repertoire. The project stemmed from the recognition, while playing, of a sense of resistance arising during encounters with difficult contemporary repertoire. This was a repeated experience, manifesting as a type of friction that withstood resolution even once the piece of music was ostensibly learned. The research undertaken in this PhD developed out of a desire to investigate these sensations further, and to consider their role in the wider understanding of performance processes that is the concern of practice research into embodied experience.

Resistance manifests in the performance projects discussed in this dissertation as a sense that something is transgressive or incongruous with my musical ideals; a feeling of contradiction between what I am doing and what some subliminal part of me thinks I *should* be doing. Crucially, this resistance is *creatively productive*: when it was present in my practice prior to commencing my PhD, I often felt that it was worth preserving – this was the case even when it was possible to simplify complex aspects of the musical material (such as rhythmic subdivisions, for example) into more immediately readable or playable formats for the sake of performative ease. In the contemporary music ensemble that I played in as part of my Masters degree studies, there was often a collective agreement that such simplifications would diminish something intangible about a piece brought about through musical interactions that were sometimes abrasive or resistant. In moments of rhythmic hypercomplexity, for example, we were rarely in favour of reconceptualising nested tuplets or dense rhythms, preferring instead to retain them as a source of performative resistance, despite the increased ease and speed that such simplification would bring to the rehearsal process. Building on that understanding, this research explores the ways in which these modes of resistance can be a source of musical meaning, when the sensations experienced while playing of, for example, novelty or vulnerability, help inform an understanding of the musical work which can then be drawn out in performance.

The research examines the forces at work in the resistant interactions between the ways I play my instrument in this repertoire and my standard practice ‘habitus’ – understood as my internalised and embodied technical and aesthetic ideals of oboe playing. Resistance, and its implications for interpretation and musical meaning, is investigated here via practice research projects designed to create situations in which I can explore the nature, origins and impacts of feelings of friction or transgression. The five works in this project provoke resistance in distinct ways; through, for example, modes of playing that reduce or remove the ability to measure my success against the quality of my oboe sound in familiar ways, or the reduction of my capacity to refine my playing through the use of generative

single-use video scores. This portfolio also includes works that foreground and heighten the complex physical interactions of oboe playing in ways that transgress my embodied, proprioceptive, understanding of 'good' oboe technique. Often, this decouples heretofore intrinsically linked aspects of my playing apparatus, disrupting some of my most fundamental ways of conceiving of the interactions between my body and my instrument. The pieces were either devised or selected with the aims of this research project in mind. In addition to contributing to understandings of performance practices, habitus and resistance, this research has also produced premiere performances and films of three new collaborations – Alex Harker's *Drift Shadow* (2020), Stephen de Filippo's *Spectral Breathing Apparatus* (2020), and *Tegmark Variations* (2022) by Desmond Clarke – as well as filmed performances of two rarely performed extant works: *the green is or* (2003) by Aaron Cassidy and *iv 5* (2013) by Mark Andre.[1]

There are two basic facets to my reflection on the works in this portfolio. Each chapter discusses the in-the-moment embodied interactions between performer, instrument and score in which some characteristic of this relational experience *causes* resistance. Furthermore, there is also an interrogation of the *origins* of this resistance; an examination of why particular acts or modes of musicking[2] create friction. This also involves exploring the ideals that guide my performance practices, which have been developed through years of experience in particular musical contexts and operate at an unconscious, embodied level; circumscribed, conditioned 'beliefs' which, as Naomi Cumming (2000) notes, 'allow only some forms of expression' (p. 10). What are the musical goals and ideals that conflict with the practices explored in this portfolio, and why are they part of my embodied musical habitus? This project is rooted in practice, and thus its core insights are primarily attained through active interactions with my instrument, described in depth in the chapters belonging to each piece. Nevertheless, my reflection on these interactions is enriched by the research context in which the project is situated.

This introductory chapter therefore outlines the lens through which I examine the resistant aspects of my experience playing the repertoire represented in this research. It situates this project in the broader field of performance research, defining the core concepts of resistance and habitus, and mapping out the research questions and practical processes that guided and contextualised the investigation. Further exploration of these research

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[1] Scores for *iv 5*, *Drift Shadow* and *Spectral Breathing Apparatus* are provided in the appendix with permission from the composers and/or publishers. Video scores for *Tegmark Variations* are provided alongside the portfolio contents with permission from the composer, and are also available on YouTube at youtube.com/playlist?list=PLGznWdDsBOi8JWc3JW7awvYPxAAcM6ClV. *the green is or* is available at aaroncassidy.com/product/the-green-is-or/. All score excerpts in this dissertation are provided with permission.

[2] I am using the term coined by Christopher Small (1998) to denote all facets of the act of making music that are present in the works discussed in this research, since not all of the resistances that I experience are explicitly derived from my actions as an *oboist*, but rather relate more generally to my perceptions and histories as a musician (and also as performer, a student, a musical devotee, and so forth).

areas then takes place in the following chapters, drawing out the processes of the practice research that forms the core of the project, and considering their implications.

1.1 Perspectives on resistance

The presence of a kind of 'resistance', identified as the starting point for my research, signifies the existence of some thing to be resisted. Various musical performers and performance studies experts have examined the origins and implications of aspects of resistance (though often using different terminology). Aden Evens (2005), for example, discusses the interface between performing body and instrument, suggesting that friction in these interstices is a source of performative significance. Evens interprets the junction between performer and analogue instrument as a site of embodied, characteristic resistance; he understands instrumental resistance to be a product of the *relations* between musician and instrument, rather than an inherent characteristic of the instrument itself (Evens, p. 161). This is particularly relevant to my project, which emphasises the relevance of individual experience in shaping a performer's habituated modes of relating to their instrument, and which also views resistance as arising from these unique histories. Evens' understanding of the evolution of performer-instrument resistance is also significant. He notes that resistance typically diminishes over the span of a musicians' tactile, embodied relationship with their instrument as an expanded familiarity with its operation renders interactions 'smooth' (p. 153). Evens suggests that friction can be revived by modifying the interface between performer and instrument, and this is indeed how resistance is produced in my practice research projects: the point of connection between myself and the oboe is disrupted, either physically, through the alteration of the playing apparatus, or conceptually, through the introduction of novel techniques, sounds and playing modes.

Three performer perspectives on resistance (or resistance-adjacent concepts) are especially useful in the context of this research project. Pianist Marc Couroux (2002) explores the performative 'energy' (p. 65) arising from complex interactions between pianist and piano in Xenakis's *Evryali* (1973). Couroux does not explicitly discuss *resistance* as a concept, rather describing the 'tension' and 'struggle' (p. 66) that come from the performer striving to realise the extreme notational demands of the piece. In *Evryali*, according to Couroux, this 'energy' is derived partly from the physical effort of traversing the keyboard, but also from how the piece breaches the boundaries of standard models of virtuosity – in which mastery is absolute and virtuosity an exhibition of polished brilliance – over the expression of extreme physical effort. Couroux notes that this energy is an inescapable aspect of performing *Evryali* and suggests that the tension of these performer-instrument interactions is part of a 'performative paradigm' (p. 57) that emphasises the friction between the forces at play in performance.

Flautist Richard Craig (2020) discusses 'physical "resistance"' as concerned with types of performance that diverge, from 'an engrained practice or cultural instantiation of practice.' (p. 119) For Craig this occurs through, for example, recognition of the physical limitations that prevent the complete realisation of the notational demands of complex works (2015), or through performance practices that require substantial renegotiation of an established performer-instrument relationship (2020). Significantly for this project, Craig identifies this type of resistance as not only an unavoidable feature of his performance practice but also something that is *creatively* productive, contributing an 'existential dimension' (2020, p. 123) to performance and helping to inform his interpretation of the works from which it arises.

Stefan Östersjö also directly embraces the concept of productive resistance as a creative tool. Östersjö (2013) discusses the 'resonance' (p. 205) between body, instrument and musical material, suggesting that resistance is a result of *critiquing* 'resonant' habits – modes of making music that lean into affordances – in performance. An in-the-moment denial of standard modes of interaction brings about a resistance that is productive, providing direction to improvisation and composition. As Coessens and Östersjö (2014) note, this productivity is a result of the ways in which resistant interactions 'compel the artist to be … dynamic' (p. 368), informing their decisions as they interact in the moment of playing with the complex conditions of their practice.

My research project draws on these ideas, viewing resistance as a byproduct of certain modes of relating to my instrument. Like these performers, I find performative tension to be creatively provocative. I aimed, through the projects, to develop a practice that, as Sarah Callis et al. (2015) put it, 'takes hold of a potential obstruction and puts it to use' (para. 1). Extending the ideas discussed above, I suggest that resistance originates in the undermining of enculturated and habituated modes of musicking and is located in the interface between performer, instrument and musical material. Therefore, like Coessens and Östersjö (2015), I posit that the 'thing' that resists the types of playing present in my portfolio is my *habitus*. This project expands on their suggestion that the friction between musical material and habitus is, in practice, a source of dynamism, and explores ways in which it becomes a source of *musical meaning*; one that not only causes me to be 'alert' to the 'resistance of culture, the body, and materials' (p. 368), but also informs my musical choices and my reading of the piece.

1.2 Bourdieu's habitus

The concept of 'habitus' is core to this thesis. Though this term has a multifaceted philosophical heritage, historically, especially through the work of Hegel and Husserl

(Wacquant, 2008, p. 322), in the context of my project it is primarily used in the sense used by French sociologist Pierre Bourdieu, denoting a way of acting in and perceiving the world that is enculturated and socialised according to the value structures of one's surroundings. Bourdieu's concept of habitus is frequently intertwined analytically with his theories of capital and field: he argues that it is often through the exposure to capital structures and shared values in a field that an individual internalises a habitus.

In Bourdieu's framework, the term 'capital' refers to the various forms of currency that an individual can exchange for power. In addition to (and often more significant than) its standard economic application, Bourdieu's 'capital' extends to the concepts of social and cultural capital – essentially who one knows and what one knows, respectively – as a means of accruing status (1984, p. 70). The worth of an individual's specific capital is determined in relation to the collective values of the spaces they inhabit. These spaces, referred to as 'fields' by Bourdieu, are conceptual territories in which networks of social interactions form shared attitudes and regularities. Michael Grenfell (2014) notes that fields are sites of 'objective structural relations' in which 'objectivity is constructed by individual subjectivities' (p. 4). In other words, fields have implicit rules which are determined by the dispositions of, and interactions between, those individuals within their boundaries. These rules subsequently exert influence on the individuals whose subjectivities contributed to their creation, manifesting in sociocultural phenomena such as dominant cultural tastes and implicit expectations with respect to people's attitudes and behaviours. Power is distributed according to how one's capital adheres to the collective dispositions that exist within the field: a type of capital that is highly prized in one field may be virtually worthless in another. Applying this to a musical context, Rosie Perkins (2013) highlights the field-specific nature of capital in her ethnographic study of learning in conservatoire environments, noting that a pupil's external orchestral experience does not automatically translate to capital inside the conservatoire, unless the orchestral position is considered to be prestigious by peers and teachers (p. 206).

Habitus is the embodied synthesis of the interactions between field and capital experienced by an individual. It constitutes a set of acquired dispositions that influence both action and perception as they mediate one's experience of their surroundings. Bourdieu suggests that habitus is both a 'structured structure', and a 'structuring structure' (1984, p.166); it is structured in the sense that it is formed by external environments, while also acting as the structuring lens through which one experiences the world. Habitus tends to be deeply internalised. It is, according to Bourdieu, 'spontaneity without consciousness or will' (1990, p. 56) – its dispositions are not consciously deployed with the intention of affecting experience, but rather are expressed as values and behaviours that are 'taken-for-granted' (Singh, 2022, p. 3) as second nature. While habitus is mutable due to its ability to accumulate and adapt to new stimuli, being inscribed in the body also renders it motile and thus durable; as Wacquant (2008) notes, a habitus 'stores social

forces into the individual organism and transports them across time and space' (p. 268). An individual can therefore carry their distant personal histories in their habitus, while also adopting newer experiences into the habitual fold.

Bourdieu viewed music and music consumption as potent sites of the types of cultural exchanges he was exploring (1984, p. 75), and his framework is frequently discussed in socio-musicological and music education contexts (see Burnard et al., 2015; Mitchell, 2016; Rimmer, 2010; Ashwood & Bell, 2016 for example). However, when applied to performance contexts this is often from an external analytical perspective, as in Perkins' work, cited above; it is rarely used in practice research. This doctoral research project primarily focuses on my own musical habitus, examining 'the embodied sediments of individual and collective history' (Wacquant, 2011, p. 85) that reside in the ways in which I interact with my instrument. My musical habitus is the summation of the values belonging to the fields in which I have been situated as a musician, from which I have absorbed certain nuanced ideals about concepts such as my role as a performer, the tenets of good musicianship, desirable types of playing, and so forth. These internalised ideals are rendered external in my oboe technique, as I interact with my instrument and with music in ways that are affected by the dispositions I have accumulated from the collective values and behaviours around me. As Catherine Laws (2014) notes, the ways in which a performing body is 'modified by years of practice, subjected to the disciplines of instrumental training and by the demands of repertoire, but also by other, non-musical, social and cultural experiences' (p. 136) have significant implications for performance. The personal and musical histories that reside in my habitus therefore exert influence over my musical activities.

This is essentially the crux of this research project: how does my performing body, with its habituated social and cultural background, mediate the experience of playing certain repertoire? What is the origin, in this structured and structuring habitus, of the resistance that arises? How does the experience of friction inform the way I play and perform? The answers to these questions are necessarily subjective: this is a project that investigates my experiences, and while some of the concepts that arise in these discussions may apply to other performers with similar training backgrounds, its conclusions can, finally, only reflect a singular outlook. As Laws (2019) suggests, 'we can only understand the broader significance of practices by attending to the particular, in dynamic relation with wider frameworks, practices, and theories. The specific practice and the wider practices constitute – contribute to and produce – each other' (p. 17): here I discuss *my* work, but the modes of interrogating these co-constitutions are, of course, not limited to one particular habitus or performance practice. What is more broadly applicable across a range of practices is the *process* of understanding the structures represented by a musical habitus, and their potential implications for the experience of performance.

1.3 Contextualising my habitus

Though habitus is malleable, a key feature of my own musical habitus is the durability of the classical ideals that characterised my earlier engagement with music. Many of the dispositions that I acquired in the classical musical sphere remain with me because of the long-term, effortful nature of my engagement with them. I have, for a long time, worked deliberately to internalise specific ways of acting as a musician, enculturated through many years in contact with the standard practice values of conservatoires, orchestras and other similarly western classical musical experiences in my youth. While I have noticed my habitus slowly adapting to my more recent immersion in contemporary performance practice, those earlier classical influences nevertheless still act as a force in my interactions with my oboe. In order to identify and contextualise the traits of my musical habitus, it is necessary briefly to explore those personal musical histories that have influenced its development.

I have been actively involved with classical music since I was a very young child. As the youngest of three children, I eagerly observed my older sisters playing and learning piano, and I endeavoured to start lessons of my own as soon as possible by asking my mother to teach me to read early.[3] Though I do not come from a family of musicians,[4] classical music was a constant presence in my home life during my childhood and this was influential in directing the development of my interest in performance. Growing up, I rarely encountered any other genres of music; streaming services were not accessible until I was in my mid-teens and our internet service was too poor to easily use websites like YouTube to listen to music. I therefore encountered music almost exclusively via the radio (both with friends and, more extensively, at home), recordings and the classical music concerts I attended with my mum. Our kitchen radio, audible everywhere in the house and only switched off at night, was never tuned to anything other than the national classical music station. I would wake up every day to the sounds of my mum humming along to the radio and would fall asleep to a weekly rotation of orchestral CDs from our household collection playing on my own CD player next to my bed. For much of my childhood, I had only peripheral knowledge of music that was not classical – when asked to bring dance music to the end-of-year preschool party, I brought a recording of a Brandenburg Concerto while many other students brought music by the Spice Girls and Aqua.

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[3] At the start of the summer in which I turned five, I asked my mum if I could start piano lessons in the coming school year. She told me I could begin once I learned to read, assuming that I would learn throughout that coming school year and commence piano lessons the year I turned six, but instead I learned to read that summer in order to begin piano earlier.

[4] None of my relatives are musicians; my siblings and I took various instrumental lessons throughout school and participated in extracurricular musical activities to maintain school tuition scholarships but I was the only one who planned to pursue music further.

My exposure to, and enthusiastic engagement with, classical music early in life had a significant impact on the direction of my musical development. I commenced oboe lessons at ten years old because I had developed a love of the sound of the oboe through listening to the music of composers like Bach and Strauss. While many of my classmates had instruments assigned to them based on the availability and condition of the instruments in my primary school's music storeroom, I pressed my classroom music teacher into asking the high school music department for an oboe. By the age of 12 I was pushing my oboe tutor to let me audition for youth orchestras in my state, so as to be able to play classical orchestral repertoire rather than the soundtrack medleys and pop or folk arrangements that our school ensembles were playing. I was an impatient student and regularly sought out oboe pieces I had heard on the radio that transcended the elementary method books and repertoire considered appropriate to my skill level.

Much of my musical development therefore stemmed from a desire that my playing should sound a particular way and that I should play specific types of repertoire, based on what I was exposed to as a child. From an early age, my musical and oboe playing goals were linked to a musical ideal that was external to me and pre-existent, as opposed to an understanding of musicality that developed alongside a growing familiarity with my instrument. I suspect that my current relationship to my instrument would be somewhat different if I had not had such well-formed goals prior to learning it: I knew the oboist and musician I wanted to become before I ever picked up my first oboe. Of course, the specifics of this have changed and grown over the years, but the classical foundations of my musical ideals have constituted a concrete part of my musical identity and goals since an early age.

Reflecting now on my development as a musician, I can see that my musical pursuits and my growth as a person through adolescence and young adulthood were substantially intertwined. I too experienced the 'powerful identity formation' that Anna Bull (2019, p. 58) describes as taking place through lengthy engagement with social and musical hierarchies as a child and adolescent. This has occurred both through the more intangible transfer of domain-specific values and priorities described at length in, for example, Bull (2019), but also through the obvious channelling of my time and focus into musical spaces. The force of my early dedication to music has acted as a catalyst for many of my life experiences, and it is difficult to locate a part of my identity that has not somehow been shaped by this. For example, my childhood hobbies and extracurricular activities were chosen based on how they would fit around my rehearsals and practice: if they conflicted extensively with my musical engagements, they were discarded (often through my own volition, rather than any external pressure). This was the same for social commitments. My interest in playing the oboe has been responsible for many of the fields, in Bourdieu's sense, that I have inhabited throughout my life; as a consequence, it has had an impact on the values to which I have been exposed. My childhood determination to become an accomplished

oboist directly contributed to my experiences in lessons and youth ensembles throughout my school years, which in turn influenced my decisions relating to my attendance at Australian conservatoires and later professional ensemble and orchestral work. Ultimately, many of my friendships, tastes, values, views of my own creativity and identity, and so forth, have all been – and continue to be – impacted by my musical pursuits, either as a direct result of operating within musical fields, or as a by-product of the musical ambition which shaped my non-musical choices. As Bull suggests, 'learning classical music cannot be separated from a broader sense of identity' (p. 54): classical music (in particular, the desire to achieve and express a specific type of musicianship through my oboe playing) has been one of the most enduring and influential forces in the direction of my life and the development of my sense of self. Understanding the environments and values that have impacted the development of my habitus has been fundamental to this project, helping to delineate the source and nature of the resistant musical interactions that lie at the heart of my research.

1.4 Embodied habit

Wacquant (2008) emphasises that, in representing 'the evolving influence of the social milieu' (p. 221), habitus has the potential to evolve over time. It can, he suggests, 'be modified through the acquisition of new dispositions and … can trigger innovation whenever it encounters a social setting discrepant with the setting from which it issues' (2008, p. 267). As one's environment changes, external forces influencing an individual will also change and this is likely to be discernible in the habitus. I recognise this mutability in my habitus as it adapts to the novelties of contemporary performance practice to which I have been exposed in recent years. Since first learning contemporary repertoire – tentatively, and without significant input from teachers – as part of my undergraduate Honours year project, five years ago, many new techniques have entered my playing vocabulary. These were consolidated during my Masters degree at the contemporary music-focused and performance-intensive International Ensemble Modern Academy in Frankfurt, and this continues in my current practice, which primarily centres on contemporary repertoire. These days, I also feel more emboldened to explore performance practices that diverge from my standard practice goals. This is particularly evident in my willingness to attempt types of playing that conflict with conventional classical ideas of oboe playing; something I avoided in earlier years when my focus was primarily on orchestral performance. My willingness to expand my practice is due in part to extensive exposure to extended techniques and novel playing styles, resulting in heightened familiarity with these modes of playing. However, it is also a result of spending time in fields where experimentation is encouraged and where the accrual of cultural or social capital feels less tied to traditionally virtuosic playing.

Nevertheless, my musical dispositions have been impacted significantly by the extent to which my life has revolved around classically-orientated music making. The values prevalent in my earlier musical experiences remain potent in my habitus, in spite of the new directions that my practice has taken. Wacquant notes that shifts in habitus are not immediate: a 'temporal gap between cause and effect' in habitus results in an incongruity between the dispositions expressed by a habitus and an individual's present surroundings. Furthermore, as Bourdieu notes, 'the anticipations of the *habitus*, practical hypotheses based on past experience, give disproportionate weight to early experiences' (1990, p. 54, emphasis in original). This is due to the way in which habitus reproduces and reinforces its own sensibilities. Since it constitutes a framework of action and perception, habitus therefore influences an individual's experience of their surroundings in ways that tend towards the values already deposited in that individual, and creates a continuity of behaviour and thought that strengthens the extant features of the habitus. One tends to seek out experiences that align with values already held, rather than consciously and continuously reshaping the habitus. As a conservatoire student, my practice sessions were 'transformative' in the sense that they often focused on shaping some aspect of my physical relationship to the instrument, but they still generally adhered to a musical outlook already present in my habitus: one based on conventionally desirable modes of music making and performer characteristics.

Therefore, my habitus still reflects my musical encounters, perhaps partially due to the lag between habitual cause and effect, but also as a result of the length of my exposure to standard practice environments, in which particular types of playing ideals were continually repeated and reinforced. My exploration of contemporary oboe playing has been a somewhat recent influence on my oboe habitus and only constitutes a relatively small part of my musical history. The majority of my experiences in music have been in fields devoted to standard practice ideals – for fourteen of the nineteen years that I have been playing the oboe, I focused solely on standard repertoire, and even though the past four years have mostly focused on contemporary music, through professional ensemble work and my earlier Masters degree with Ensemble Modern, my standard practice is nevertheless still employed in my occasional professional commitments as an orchestral and chamber musician. Furthermore, my exposure to standard practice ideals predates my experience learning oboe; my ideas of music and musicianship had already begun to develop prior to commencing oboe lessons, through the other musical experiences described above. The classically-orientated environments of my early musical exposure generally reflected attitudes towards and ideals of performance and musicianship similar to those that I later encountered in conservatoires and orchestras. The long-term influence of these environments on my development as a musician means that many of the values that I internalised and reinforced in these spaces are still present – still actively felt – in my habitus. Even though its edges are shifting and stretching to accommodate a broader oboe practice, the classical foundation of my habitus feels concrete.

This is evident in the enduring presence of my standard practice habitus in my current instrumental technique. Despite often working solely on contemporary repertoire, the automatic ways in which I play the oboe are still ultimately 'classical' and these carry with them the habitual values that led to their internalisation. This is a fundamental part of what I would consider, borrowing from Naomi Cumming (2000), my 'performer's "identity"' (p. 10) – the external mechanical and technical signs of personal musical 'style' which reflect both my participation in specific socio-musical contexts and the interior ideologies that direct my engagement with these environments. The tenets of good musicianship and oboe playing that have resided in my habitus over the years have guided the development of my technique, prompting me to foster specific playing characteristics based on their relevance to the values expressed by my musical habitus. Since the majority of my musical experiences have taken place in fields in which proficiency at common practice period repertoire was the collective goal, those particular standard practice values have been the most substantially reinforced. Standard practice traits in my instrumental technique have therefore also been prioritised for most of my time playing the oboe, practised and strengthened to the extent that this type of playing is now the default.

After years of playing like this, I intuitively function as an oboist in 'standard' ways, even though other practices are currently more relevant to my technique.[5] Like cellist Tanja Orning suggests, repetition has rendered this type of playing as 'second nature, something one not only does but something one becomes.' (2014, p. 51). The first sounds I make on my instrument every day, testing my reed before practice, are not extended techniques, but rather tonal scales and standard repertoire excerpts. This unpremeditated action serves to warm up my sound production apparatus and familiarises me with the condition of the reed in ways that I understand implicitly through the lens of my standard practice habitus. Through this process I ask myself: does the reed feel comfortable across a range of dynamics and registers? Does it articulate smoothly and without unusual effort? Is it in tune and does it have a 'good' sound? The characteristics that are assessed through this brief contact are all orientated towards my ingrained understanding of desirable traits in oboe playing. They are not questions I pose consciously, but rather internalised criteria that are assessed largely automatically. Long-term contact with standard practice ideals and playing has left an indelible mark on my musical habitus, and my intuitive modes of interaction with my instrument reflect these habitual values, rather than any traits of my more recent contemporary practice.

[5] This is even the case during phases in which I engage almost exclusively with experimental modes of playing, such as the time spent working on *Spectral Breathing Apparatus* or *Drift Shadow* for this research project. I still find myself operating in the default standard practice ways described here, even when I am rarely required to use my oboe in standard ways during practice sessions.

As a result, ‘deviations’ from these types of playing, demanded by some contemporary repertoire, feel not only novel, but also often like departures from an internalised understanding of optimal standards of oboe technique. For example, the embouchure I instinctively form in the moments before making a sound on the instrument is the same embouchure that I have honed for standard repertoire: it has a degree of flexibility that allows for variations in articulation and airflow within the stylistic constraints of standard repertoire, while crucially being supportive enough to achieve the specific timbral ideals that feature in my standard practice playing goals. This embouchure has limited use for the kinds of repertoire in this portfolio – it is far too inflexible on the reed to facilitate the various types of acrobatic mouth movements required in these pieces. However, it persists as the default embouchure that I subconsciously endeavour to produce every time I commence playing on the reed. Due to my familiarity with how it feels to form this embouchure – to shape it with every aspect of the mouth and oral cavity – I measure all other embouchure ‘architectures’ by their distance from this model. I am acutely aware of the ways in which my oral manipulations on the reed deviate from my embouchure ideals, both in their physical positioning and in my expectation of the sounds that will result. My default embouchure was developed in pursuit of a specific sonic ideal which I have historically seen as fundamental to good oboe playing. Its innate presence in my habitus is therefore not only a result of physical repetition, to the point of its adoption into long-term muscle memory, but also of the enduring significance of its role in contributing to a type of musicking that I understood as successful and desirable. This is the case for many of the characteristics contained in and adjacent to the fundamentals of my oboe technique, intertwined as they are: reed-making methods and my priorities for fingering, articulation, intonation, and so forth. I have default modes of behaving around my instrument that are orientated towards proficiency with standard repertoire. Departing from these often feels transgressive, not simply due to physical habituation, but more significantly because my innate understanding of good technique, and good oboe playing more broadly, is still subconsciously reflective of standard practice values.

1.5 The social structuring of habitus

The degree to which these values are embedded in my habitus is partially a result of the social forces represented by my standard practice oboe technique. My habitus does not exist in a vacuum (Bourdieu, 1977, p. 78), but rather has been shaped by the social apparatus of each of the musical fields I have inhabited. Therefore, while many of these innate playing ideals appear to be logical and even generic traits of a habitus primarily informed by the performance of standard repertoire, the nuances of my musical priorities and the methods by which I achieve them are influenced by the *social* environments in which I have existed as an oboist. It is understandable, for example, that I have developed core strategies for oboe articulation explicitly designed to cover the range of articulation

types in standard repertoire. However, the specific characteristics of my approach to articulation reflect the prevailing attitudes of the fields in which my technique was fostered. Certain modes of interaction with my instrument have long been foregrounded and reinforced in my habitus because of their associations with desirable oboe playing and musicianship, and subsequently with the acquisition of capital – which, as Bourdieu notes, reinforces the adoption of traits into the habitus (1984, p. 255) – in the musical fields I have inhabited.

Perhaps the most explicit way in which these associations have been learned is through instruction. My oboe technique is, in general, the product of my position in a particular lineage of oboe teaching: I had four teachers over the course of my undergraduate degree, all of whom had their own musical habitus (Dwyer, 2015) and pedagogical lineage, and whose understandings of 'correct' oboe technique were mediated by their musical experiences. For example, the timbral preferences of those teachers who all played in one particular symphony orchestra differed from those of another who worked primarily in non-orchestral ensembles, and consequently they had divergent approaches to sound production and reed making. Their problem-solving strategies also reflected their experiences as performers, teachers and as former students – what Orning refers to as 'inherited skills and interpretations' (2014, p. 312). My technique, encompassing my approaches to sound production, embouchure, articulation, posture, reed making and so forth, reflects, in some way, the specific, personal preferences of those teachers, whose methods I use in my own practice. Importantly, I recall frequent use in lessons of practical demonstrations and verbal description that reflected the teacher's *subjective* understanding, based on their own experiences, of a particular problem space. Perhaps due to the internal, often invisible nature of many aspects of playing the instrument, oboe technique is, in my experience, taught as much through mimesis and metaphor as through explicit and physically-specific instruction. For example, teachers regularly explained to me through imagery or descriptive language how they experienced hidden technical phenomena, such as air support or tongue movements, in their efforts to communicate effective methods of playing. Therefore, my technique is not an objective realisation of how the oboe should be played, but rather is, at least in part, an aggregate of the subjective outlooks of my oboe teachers. Those subjectivities remain in my habitus, having contributed indelibly to my understanding of 'good' oboe technique, and diverging from these modes of playing feels transgressive. As Bourdieu suggests, the collective subjectivities of my teachers (whose status as successful professionals meant they were regarded with a certain reverence) contributed to the *objectivities* of the conservatoire field I inhabited – and those objectivities are still present in my habitus due to the force and duration of my engagement with them.

Beyond the explicit transfer of habitual knowledge through oboe lessons, other networks of social relations unique to the musical fields I have inhabited also exert influence upon

my instrumental technique. As Orning notes, 'the lessons, the concerts, seminars, auditions, chamber music sessions, orchestra rehearsals, solo practicing, *all* the music is absorbed into the body' (2014, p. 51, emphasis added). My playing goals and strategies, both broad and technically specific, did not develop only in my teachers' studios, but also in my experiences of concerts, practical workshops and engagements, encounters with teachers of other instruments and conservatoire disciplines, and in discussions with my peers. My sound production ideals, for example, as well as my techniques for achieving these goals, reflect my time in Sydney; my approach to oboe tone is largely devised to emulate that of Diana Doherty, the Sydney Symphony Orchestra's principal oboist. Fundamental aspects of this technique were learned in oboe lessons, of course, but my desire to reproduce this sound was influenced by a socially-supported understanding, formed through contact with friends and other oboists, that this was an especially desirable oboe timbre.[6] Furthermore, both a lack of exposure to, and a collective disinterest in or distaste of, repertoire and performance practices that lay outside of the common practice period canon helped reinforce the primacy of standard practice technique in my musical habitus.

I did not encounter contemporary repertoire often as a child; I cannot recall it being programmed frequently on the radio, and it was a rarity at the orchestral concerts I attended. When contemporary repertoire *was* performed, I remember hearing mixed reactions to it – when the West Australian Symphony Orchestra played a new work by Australian composer Ross Edwards, for example, I overheard a disgruntled concert-goer exclaiming that he wished they had not programmed Beethoven alongside 'this fifth-rate Australian rubbish.' During my undergraduate degree, contemporary repertoire was generally encountered only when participation was mandatory; playing in composers' and contemporary music ensembles to gain course credits, for example. Voluntary exploration of contemporary repertoire or nonstandard performance practices was at best seen as adventurous but unnecessary, and, as Orning (2014, p. 23) also describes, at worst something that would be detrimental to technique or even a detraction from more 'serious' musical aspirations, as is noted by Anna Bull (2019, p. 99). For much of my musical life, I have aimed for high levels of proficiency in playing standard repertoire, not just because of the function it served in my early, predominantly orchestral musical goals, but also, significantly, due to its place in the networks of social relations that have influenced me. These prevailing attitudes of my musical fields contributed to the solidification of standard modes of playing within my musical habitus.

1.6 Embodied affordances

[6] This particular sound was a frequent topic of conversation among peers and a tool for critiquing or complimenting oboe performance in this setting.

The conventional values described above are still prevalent in my relationship with my instrument. My practice has changed, but I am still using the same basic 'toolset' of oboe, reed and score that characterises my standard practice endeavours. My prior interactions with this toolset nuance the ways I relate to it now; holding the instrument, particularly with a reed inserted and situated in front of a score (and sometimes an audience) is transportive. Even as I ready myself to play new, experimental or highly complex repertoire, the muscle memory of shaping my body around the oboe brings about a subconscious anticipation of the type of standard practice with which I have so extensively engaged. As I feel the familiar grain of the wood under my thumbs and settle my fingers in place over the keywork, I am still struck, regardless of the repertoire, by how these actions evoke this history of scales, excerpts, recitals and auditions that has characterised the majority of my interactions with the oboe.

These evocations are, I would argue, a result of the *affordances* of my instrument – that is, the particular use my instrument lends itself to in my hands. The affordances offered to me by the oboe are shaped by the histories represented in my embodied habitus. My habitus may be shifting to accommodate diverse types of playing, but using the instrument inescapably conjures the potential modes of engagement cultivated by my experience, and these are overwhelmingly orientated towards standard practice. J. J. Gibson, whose concept of affordances[7] emerged through his theory of ecological psychology, emphasises that affordances are *relational* rather than animal-independent: they derive from the objective properties of an object or environment, such as size, shape, texture, and so on, but are inseparable from the subjective characteristics of an agent's modes of perception and engagement with their surroundings (their relative size or strength, for example) (1979, p. 128). A body of water, Gibson suggests, affords different things to different animals: it is 'sink-into-able' (p. 127) for most, but certain small insects may use its surface to walk on. As an extension to Gibson's example, water may also offer different perceptual characteristics to two individuals with similar organic attributes, but with divergent learned behaviours in relation to water: for a confident swimmer, water might afford recreation or exercise, whereas it is less likely to afford those things to someone who cannot swim.

The affordances of my instrument are similarly dependent on my learned modes of engaging with it. As Markus Tullberg (2022) notes, experts and beginners experience different affordances of the same musical instrument; the repetitive exposure to sensorimotor stimulus that cultivates an instrumental technique impacts the 'embodied, physical reality' (p. 8) through which one perceives their instrument, leading to divergent possibilities for interaction. It follows, therefore, that my perception of the properties of the oboe is influenced by my long-standing relationship with standard practice and is thus inseparable from the social and cultural contexts of my contact with the instrument.

[7] The concept of affordance has been extensively adapted in studies of player-instrument relations: in addition to those discussed below, see Godøy & Leman (2009), for example.

Involuntarily, I understand the oboe as, first and foremost, a tool for the production of standard repertoire; one which produces standard oboe tone, operates primarily within western tonal systems, and brings with it the requisite expectations of acceptable performative action that characterise this performance practice. This is often in opposition to what I perceive as its secondary function: the exploration of contemporary performance practice.

Of course, this does not result from any truly objective property of the instrument, despite it having being designed with western musical properties in mind (Windsor & de Bézenac, 2012, p. 108): in terms of tuning, for example, I do not find that the oboe especially lends itself more to standard repertoire playing than to, for example, multiphonics or microtones, with their use of half hole/vent fingerings. Indeed, these types of sounds often occur 'naturally' on the oboe before they are ‘trained out’ through extensive instruction and practice. When I taught school-aged oboists, I found myself regularly correcting the movements that led to these sounds, with the goal of *cultivating* a physical technique – and subsequently an afforded relationship to the instrument – that was conducive to the performance of standard practice repertoire. As is discussed in later chapters, much of my own practising of conventional classical repertoire has likewise been dedicated to the refinement of my technical mechanisms (and the removal of physical interactions that led to nonstandard sounds) in order successfully to embody a standard practice technique.

1.7 Embodying technique

The affordances of my instrument, for me, reflect these deliberate, subjective efforts at acquiring an embodied technique that is suitable for the performance of standard orchestral repertoire. This technique has been encoded in my body via deliberate practice and repetition, emerging during these acts as an epistemic force that guides my interactions with my instrument; it is, as Ben Spatz notes, ‘structured by and productive of knowledge’ (2015, p. 26). Like Bourdieu’s habitus, this view of embodied knowledge asserts that it is shaped by externality while *also* being a means of structuring one’s actions. I am drawn to particular modes of problem solving – what Spatz calls ‘reliable pathways’ (p. 26) – through the depth of knowledge, tacit and explicit, that I hold regarding the execution of so-called ‘good’ oboe playing.

This tacit knowledge is referenced extensively in this dissertation: through discussions of proprioceptive sensations of departing from the ‘correct’ means of forming an embouchure, for example, or an instinct to react to notation in particular standard practice ways both point to ways of doing and knowing that reside in my body and emerge in the act of playing. When I refer to an embodied technique here, I am

implying a mode of cognition centred on the potentialities of my body and instrument in practice, guided by sensorimotor feedback attained through action. These potentialities are located in what Evan Thompson calls ‘sensorimotor subjectivity’ (2005, p. 409) which are felt through the body, but, as Bull notes, they nevertheless reference the learned conditions of the social contexts in which my oboe technique has developed (2019, p. 73). My body, therefore, holds and produces these contexts as part of my embodied oboe technique. As is theorised elsewhere in this text, it is a site of histories – musical, social, cultural – that emerge as a specific mode of this ‘sensorimotor subjectivity’. Though at times I draw attention to moments during which my body feels objectified through extreme departures from typical modes of playing, most mentions of embodied experience in this text are referring to my body’s role as a subjective agent. As Laws suggests, my body is not simply ‘a vehicle for the realisation of cognitised musical intentions’ (2015, p. 133), but rather the primary lens through which I experience the act of playing the instrument that I have so carefully learned across multiple decades and social contexts.

In this embodied framework, my instrument is many things: it is a tool operated in practice, but it is also the object which convenes my socialised musical aspirations, and it therefore holds emotional, even moral, weight as I interact with it. Its ‘material agency’ (Pickering, 1995, p. 6) seems to ebb and flow with the tides of my technical proficiency, since it is, as discussed above, an instrument whose ‘natural’ tendencies are highly controlled in standard practice. In moments of fatigue or technical failing, or when returning to practice after a considerable break, these tendencies emerge as interruptions to ideal sound. Therefore, my instrument is also an externalised site of both the affordances and ideals carried by my embodied technique. The lingering presence of certain ‘pathways’ outside of a standard practice context is a by-product of the durability of the social contexts that catalysed their existence. Affordance intertwines with habitus to reinforce the dominance of standard practice ideals in my embodied musical experience, in spite of the expansion of my practice.

These complementary forces of socially-informed habitus and its manifestation in the affordances of my instrument constitute the conditions of my performative subjectivity: how my individuated, embodied dispositions mediate my engagement with music. The threads of my habitus – and my consequential relationship to my instrument – mapped out above form the understanding that underpins the following chapters. The practice research and its discussion aim to draw out various threads of this subjectivity, with a particular focus on the ways in which, as Laws (2019) notes, it is ‘co-constituted by other selves, materials, and contexts’ (p. 167).

1.8 Research Aims

In the following chapters, I discuss the ways in which my habitus, amplified by the affordances of my relationship with the instrument, resists the musical interactions prompted by each piece in my portfolio. In pursuing the types of resistant playing provoked by each work, I experienced sensations of friction that relate to both the mechanical digression from standard technique and the transgression of long-held, socially-deposited values surrounding ideal oboe playing and musicianship.

The portfolio – the practice research projects and the accompanying chapters – aims, in distinct but interlocking ways, to address the following questions:

- *How does resistance manifest in the embodied experience of performance?*
    - *How do I experience resistance during the act of playing (and in my anticipations of the act of playing)?*
- *What are the points of origin, in both musical action and habitus, of sensations of resistance experienced in musical performance of complex or experimental repertoire?*
    - *Where do the resistant sensations arise in the moment of playing, and what aspect of my habitus is resisting this mode of musicking?*
- *In what ways is resistance creatively productive?*
    - *How does it produce musical meaning, and how might it guide interpretive choices?*

This research is an investigation into the specific ways in which, as Cumming puts it, ‘the "outward" identity, of choices audible in sound, reflects a pattern of belief, desire, and inhibition that constitutes an “inner self”’ (2000, p. 11). Throughout, I demonstrate that the nuances of individual subjectivity – what Cumming calls ‘the ideology that governs me’ (p. 11) – encoded in the body through one’s personal musical histories can function as a catalyst for musical meaning in the acts of practising and performing. As noted earlier, this project focuses reflexively on my *own* subjective experience, contributing to extant understandings of resistance in performance in its explication of the ways in which resistance can be creatively productive. The specificity of the individual perspective is necessary: it highlights the structuring role of a musical habitus, and the ways in which

certain habitual contexts can remain embodied even outside of their original settings. In addition to the findings specific to each piece, emerging from this project is a broader understanding of some of the musical implications of what Tullberg (2022) refers to as the 'transactional space' (p. 3) between performer, instrument and score, in the context of the performative act.

1.9 The portfolio

The portfolio submission for this research comprises five practice research projects, accompanied by the written thesis which discusses these projects in the order in which I completed them. While most of the projects culminated in public performances,[8] the primary form of the portfolio outputs is filmed studio recordings, intended to be watched prior to reading the related thesis chapter. The exception is Alex Harker's *Drift Shadow*, for which the submitted video is of the work's premiere in 2021. This work has not yet been re-recorded due to the complexities of its performance (discussed in Chapter 3), along with individual circumstances that prevented us from re-recording within the timeframe of this PhD.

The portfolio is submitted in this produced video format – rather than, for example, recordings of live performances – for two reasons. Firstly, the videos aim to visually capture some of the resistances I feel when playing, derived from the ways in which I use my body to manipulate my instrument. The performances were filmed and edited by filmmaker Angela Guyton, with whom I was able to collaborate on the visual direction. Each film is a dynamic combination of my own artistic interests and research aims and Guyton's creative and technical abilities. Prior to filming, I briefed Guyton on important performative features that needed to be communicated in the videos, offering an overview of the type of visual language I imagined could be used in the film; for example, whether the framing should often be wide and static, or should involve close and mobile shots. The visual aspect of each film focuses on aspects of my oboe-playing apparatus relevant to the experience of performing that piece. In moments of vulnerability stemming from the unusually dramatic movements of my embouchure, for example, the camera tends to linger on close shots of my face and mouth. Certain modes of performance resistance that are not visible; they relate largely to cognition or modes of conceptualising my relationship to the instrument. From that perspective, drawing attention to some of the more conspicuous moments, through the approach to filming, lends support to my discussion.

The second reason for presenting the portfolio in this format is that the videos also aim to evoke in the viewer similar sensations of friction to those that I feel when playing these

[8] COVID-19 greatly impacted my ability to perform during this project due to the cancellation or frequent rescheduling of many intended performances of these works.

pieces. Resistance is, I think, a crucial part of the *essence* of these works, and producing some form of friction in the viewing experience was a conscious artistic aim in the filming process. The approach here is not unique: there are many examples of filmed contemporary performances which move beyond a visual documentation of the act of playing the piece, instead considering how the filming itself might reflect the nature and intention of the musical work.[9] In the case of these performance projects, this involves conveying some of the organic processes of bodily performance activity that are often minimised or hidden from the audience in concert situations – the movements of my mouth and tongue, my fingers trembling over the keys, the way blood rushes to my face in periods of cardiovascular duress, and so forth. This is in contrast to how audiences often experience classical music: rather than being in a formal, distanced setting,[10] the viewer is invited to experience the nature of the material interactions that occur as I play. The focus on these physical aspects of performance is therefore an attempt both to document how resistance manifests in my playing apparatus and also to instil a sense of friction in the viewing experience.

[9] For example, see the film of Maria Kapsali's improvisation using an electronic feedback system designed by Scott McLaughlin, titled *breathing dance* (2022). This video, also filmed by Guyton, uses mobile camerawork and hazy, shifting camera focus, complementing the reciprocal relationship between movement and feedback in McLaughlin's system.

[10] While this does not characterise *all* classical music consumption experiences, it certainly represents many of the more formal modes of concert structure. Furthermore, even 'intimate' concert experiences – solo or smaller chamber performances, for example – tend to still preserve a distance between performer and audience that precludes the perception of many physical nuances of performance.

Chapter 2: *iv 5*

2.1 Introduction

Mark Andre's *iv 5* (2012) for solo oboe was the focus of the first performance project of the portfolio. This piece was chosen because its characteristics facilitated the exploration of key research questions outlined in the previous chapter. *iv 5* utilises common extended techniques such as air sounds and multiphonics, often treating them in somewhat experimental ways, with embouchure manipulation or unusual reed techniques. *iv 5* provokes some of the same resistant experiences that sparked the research project as a whole, but to a lesser extent and perhaps with less intensity than in the subsequent projects. As such, it offered an approachable 'way in' to this exploration of resistance and habitus.

iv 5 presented two main areas of resistance. Firstly, the removal of the reed for the opening section of the piece significantly alters the way I interact with the oboe, undermining the internalised mechanical playing processes present in my habitus, and impacting both my ability to assess my playing and my conceptualisation of my role as an oboist. This is achieved through, for example, the decoupling of typically integrated physical mechanisms, such as fingering and embouchure actions, thereby destabilising deeply habituated movement patterns. These patterns are subsequently separated from the typical aural outcomes of the techniques, prompting a sense of tension when executing these aspects of the notation. This also occurs in *the green is or* by Aaron Cassidy, discussed in Chapter 5, which similarly but more extensively separates parameters that are usually intertwined in standard practice. Furthermore, *iv 5* includes sections in which one plays without a reed, and therefore without producing standard oboe tone; this constitutes the loss of a highly habituated reference point for evaluating the success or failure of my technique. The resistance that results from this is similar to that experienced significantly in playing Stephen de Filippo's *Spectral Breathing Apparatus* (discussed in Chapter 4).

The second broad area of resistance experienced in playing *iv 5* stems from the inclusion of sounds that are consistently difficult to replicate. This challenges my preference for a model of learning tailored to standard repertoire, undermining my ingrained preference for the performative repeatability that is characteristic of western common practice period composition (notwithstanding the detailed nuancing of dynamics, articulation, and so on). *iv 5* uses sounds that remain difficult to replicate at every stage of practice and performance. Sonically, therefore, resistance arises as a result of my reduced capacity to replicate and refine the sounds throughout the practice process, which transgresses core aspects of my habitual preferences surrounding repertoire preparation. This is discussed

further in Chapter 6 with respect to *Tegmark Variations* by Desmond Clarke, which employs a notational format that drastically alters the practice process. Resistance is also produced in *iv 5* by the continued susceptibility of these sounds to failure and fracturing, despite extensive practice, similar to Alex Harker's *Drift Shadow* (Chapter 3), in which the mechanics of sound production are frequently a source of friction. Importantly, these are all productive resistances; the sensations brought about through my interactions with the piece have helped produce a reading of *iv 5* that is subsequently useful in shaping the way I perform the work.

As the starting point for the practice research of this PhD, *iv 5* opened up various key understandings of resistance and determination by the underpinning habitus: the core concerns of this research. Playing *iv 5* helped clarify and expand on the sensations that seeded this project, offering ways of interrogating formerly unarticulated parts of my performative experience. These understandings are taken forward in the subsequent performance projects, both through the choices made in developing the collaborative pieces, and in my priorities for selecting the other extant work in this portfolio, Aaron Cassidy's *the green is or*.

2.2 Reed-related resistances

The passages of the opening page of *iv 5* take place 'off' the reed, with sounds generated by blowing specific vowel shapes directly into the instrument via the reed well (see figure 2.1). This feels unusual in several ways. For example, the absence of a familiar tone disrupts my reliance on internalised auditory feedback systems, revealing the degree to which I tend to rely on aural rather than physical feedback. Without the sound produced by the reed, my feedback mechanisms feel clumsy and unrefined. Decoupling vowel shape from register also produces resistance, since I am habituated to executing specific intraoral movements in order to preserve timbre and intonation in standard practice. Furthermore, while the alteration of my sound production mechanisms is disorientating, it

Figure 2.1: Bar 19 air sound passage, indicated by square note heads. To be performed using an 'i' vowel shape, as indicated below the stave.

is also a source of resistance due to the conflation in my habitus of the production of 'good' oboe sound and high-quality oboe playing. With the reed absent from the instrument during the opening of *iv 5,* I am unable to generate standard oboe tones, and this consequently removes many typical sonic ideals – both technical and conceptual – from my tangible performance objectives.

2.2.1 Aural feedback and the removal of the reed

The lack of standard oboe sound in the reedless passages of *iv 5* makes it difficult to track the activity of my fingers. The air sound technique used in this section (shown in figure 2.1) produces pitch patterns that are less familiar to me than those created when playing on the reed. Furthermore, in the process of shaping my sound production – forming my embouchure and shifting my tongue position – the perceptual characteristics of these patterns are more readily altered than when using standard reed-based technique. As a result, my typical modes of auditory feedback are disrupted. I am therefore more reliant on feedback received from proprioception to understand the degree of success with which my fingers have executed a gesture. Resistant playing experiences arise from this undermining of the typical modes of interaction with my instrument.

2.2.1.1 Standard modes of reed-based aural feedback

For much of my contact with any piece of standard repertoire, I rely strongly on listening to the sounds I am making to assess whether I am playing the piece 'correctly'. My standard mode of playing is typically characterised by the pursuit of a particular sonic outcome (consisting of pitch, rhythmic and expressive characteristics) rather than, for example, the physical state that achieves the desired aural result. My default means of monitoring my playing is to compare the sounds I produce to my internal aural model of the piece. Andrea Schiavio and Damiano Menin (2012) suggest this is a product of 'musical goal-directedness' (p. 210) when playing, in which the 'chains of actions' seek a musical outcome. The physical states carried out to achieve each sound are a consequence of this pursuit – as opposed to the inverse, in which the action is the primary goal and the sound the byproduct.

It is important to note that there *are* points during the process of practising standard repertoire in which I am attentive to my physical actions to the same extent as the sonic result – sometimes, even, to a greater degree. In order to build aural familiarity with the repertoire during the earlier stages of learning, I have to focus on proprioceptive feedback to ensure I am correctly executing the actions required by the notation. Knowing that my fingers and embouchure have carried out a gesture correctly helps me acquire an

understanding of how the notation sounds when played, and allows me to get the piece ‘under my fingers’; to fluidly execute the physical states in the piece with only minimal instances of high-bandwidth attention in difficult passages.

This physically attentive process of building a strong proprioceptive understanding of how to play a piece of standard repertoire is crucial for forming a reliable understanding of its ideal auditory characteristics. However, my capacity to react to aural feedback feels much more rapid compared to physical feedback. Problem-solving fingering issues solely by proprioceptive means often requires conscious reflection to identify mistakes or inefficiencies; when I am focusing on this type of feedback I typically pause and re-execute a pattern or a passage, possibly slower or with specific fingering sequences exaggerated, to locate and grasp the source of an error. This is especially true for fingerings and patterns involving more ‘local’ or ‘close’ fingering changes – changes in which it is primarily neighbouring fingers that move position, or where the difference between one fingering and the next is minimal – wherein distinctions therefore have the potential to become blurred at higher speeds when using only proprioceptive feedback. I can quickly feel whether I have played, for example, a G instead of an F, since there is a three-finger difference in their execution. In fast passages, however, pitches that are only one finger apart, such as a G and a G# or a Gb, feel harder to distinguish immediately through proprioception alone, and therefore require more lengthy reflection. In contrast, recognising the occurrence of an error via auditory feedback often feels virtually instant for well-learned repertoire in my standard practice.[11] This is obvious in the difference in feedback sensations between playing a familiar and somewhat rapid gesture ‘normally’ and practising ‘off’ the reed. Playing into the reed, I can immediately hear if I have skipped a pitch or made a fingering mistake, whereas mechanically executing the same phrase without blowing into the reed necessitates a pause and reflection to determine from proprioception alone whether I have made an error.

2.2.1.2 Aural feedback without the reed

This aural feedback process is disrupted in the opening of *iv 5*. During the reedless semiquaver passages at the beginning of the piece, I find it difficult to preserve a level of auditory familiarity that allows me to reduce my focus on physical feedback in a standard way. I am therefore more reliant on proprioception, and this is a source of resistance. The lack of a strong aural understanding of the piece is a result of two factors. Firstly, I am not used to the sound produced by this mode of playing and I find it hard to internalise how the passages should sound using this technique. Though the air sounds that result do have discernible pitch characteristics, they are very different to the framework of tones

[11] Though at times (depending on factors such as my familiarity with the repertoire, tonality, and so forth) locating the error might require some reflection.

and semitones that I have internalised in my standard practice: this obfuscates the process of learning the aural patterns in this section.

Secondly, the complexity of the air sound pitch characteristics is compounded by the fact that these sounds are easily altered by the vowel shapes I make with my mouth while playing. A fingering played with a highly constricted ‘ee’ vowel shape will have a different sonic result to the same fingering played with a slightly lower tongue position. The vowel shapes I produce inevitably vary slightly between iterations, due both to the unfamiliarity with the required movements and the process, discussed below, of relearning my ingrained associations between fingering and intraoral shapes. This inevitably impairs my ability to solidify my aural familiarity with these reedless passages.

Importantly, the lack of a strong auditory image of how these passages of *iv 5* should sound means that proprioceptive feedback has a more influential role at the performance-ready stage than in my standard practice. Proprioception continues to constitute the primary means of assessing my playing, persisting far later into the process and into a stage when it is usually far less prominent in my feedback processes. As a result, even having learned the sequences of finger movements, I continue to feel as though I have not progressed past the early stages of learning. As noted above, this level of attention to my fingers is usually reserved for slow practice, and the speed of these gestures in *iv 5* (which involve hemidemisemiquavers played at quaver = 66) feels strange; physical states pass by almost too rapidly for me to acknowledge them. I often feel as if I am trying to play the piece faster than I can (or should); as though I have tried to increase the tempo too early in the learning process. I typically have an understanding of how the gesture should sound as an in-the-moment point of reference for my playing, but here both reflection on physical feedback *and* comparison to the aural understanding often have to wait until a phrase is complete. I have to trust that extensive repetition during practice has worked: that my fingers will successfully execute the gestures on the page.

This is a source of friction when playing *iv 5*, since confidence in the quality of performance preparation is a key component of my musical habitus – as for most musicians who participate in similar performance practices. This discomfort is reinforced by the allocation, in my musical experiences, of capital to musicians who demonstrate proficient (and proficiently-prepared) performance. The resistance that arises in these off-reed sections reaches beyond the act of playing: it also is constituted as a friction between what I am required to do in the piece and those aspects of my musicianship that are trained to function differently.

This, then, is a resistance between the state that is habitually embodied in my technique and therefore feels correct, and the state I am in as a direct result of the parameters of this section of the piece. By at times removing auditory feedback as a reliable source of

in-the-moment monitoring, *iv 5* impedes my ability to know how my body is moving around the instrument – a crucial mechanism for facilitating reactions to errors and inefficiencies in my standard practice. Without access to these means of improving my playing, it feels as though a portion of the learning is incomplete. This is a transgressive experience: giving what seems (even falsely) to be an unpolished performance imparts a sense of vulnerability to the way I play the piece. Furthermore, as with the other aspects of resistance discussed in this chapter, the experience of this reedless playing further reveals the existence and nature of my internalised framework for playing the oboe; one that is attuned to a certain type of oboe playing and a specific pipeline of learning progression.

2.2.2 Decoupling fingered pitch from oral vowel shapes

iv 5 further disrupts my sound production processes through the dismantling of standard connections between fingered pitch and intraoral shape. The off-reed passages at the start of *iv 5* have vowel sounds assigned to each gesture, separating the typically intertwined mechanics of vowel shape and register that are part of my standard technique. As I play, even off the reed, I nuance the space inside my mouth in certain ways as I move up and down the instrument's range. This oral technique has been trained extensively through my standard practice, acting to stabilise airflow as the material resistances of the instrument alter with changing fingerings across registers. Some of these differences in vowel shape are situational, changing according to the reed or types of articulation: they are more reactive than reflexive. Others, however, are tied to constants such as the register or timbral characteristics of certain pitches; these are now automatic, such that as I move around the registers of the instrument with my fingers, I reflexively change the space inside my mouth. Higher pitches, for example, tend to require a narrowing or focusing of the air stream to prevent sagging pitch and timbre. For this register I raise the back of my tongue closer to my palate, so the air stream is more focused (like using a thumb to narrow the end of a hose). If I were to speak while using this mouth shape, the vowel produced would be an acute 'ee' or 'ü', whereas lower registers tend to sit somewhere in the spectrum of 'or' to 'ooh'. Some pitches have timbral properties that require particular attention: G, C and C# above middle C all have the tendency to either split or for the tone quality to be unstable, and the vowel shapes I make with my tongue form part of the library of techniques that mitigate this. These shapes are ingrained within my embodied technique to the extent that it requires more of my attention to resist executing them than to carry them out.

In the reedless passages at the opening of *iv 5* these mechanisms are decoupled. Though the reed is removed from the instrument, there is still a connection between the way my fingers move on the instrument and my instinctive oral reactions. The resistance

that comes from manipulating vowel sounds in unusual ways in *iv 5* is small, but like the friction produced by my reliance on proprioception rather than auditory feedback, it highlights the potential tension between action and habit. I move around my instrument in particular ways without thinking, not because this is the 'natural' or *only* way to interact with an oboe, but because I have learned through repetition and exposure to ideas about what constitutes good technique.

This reveals the biases of my oboe-related ideals; the traits of my practice reflect both the types of musicking that I value and those that I avoid. In this instance, for example, I am habitually drawn to compensate with oral manipulations for intonation problems or timbral discrepancies across the registers of my instrument. This stems from a preference for a uniformity of intonation and timbre across all registers that, through long-term engagement with standard practice methods and contexts, I have come to understand as desirable. With non-conventional approaches to playing such as those represented in this portfolio, these movements are redundant, but the extent of their internalisation is such that I have to consciously choose *not* to move in these ways. Resistance arises both as I attempt to recircuit a physically ingrained behaviour, and as I choose to reject a learned tenet of 'good' oboe playing.

2.2.3 The absence of standard oboe tone

The absence of the reed is a disorienting force in the opening passages of *iv 5* also due to the way I habitually relate to the act of playing the oboe. This was the first solo piece I had played to date with a significant number of off-reed sounds, and it became apparent that much of what constitutes my sense of identity as a musician stems from my ability to refine typical oboe sound for the performance of standard repertoire. Many of my fundamental priorities as a player, such as intonation, timbre, expression and embouchure, are dependent on the presence of a reed. In my standard practice, the majority of my time learning a piece is typically spent on conceptually mapping the use of my embouchure for intonation and endurance, nuancing my tone, and so forth. My oboe 'sound' and its contributing factors – such as reedmaking, embouchure refinement, air flow regulation – are the cornerstone of my identity as an oboist, and subsequently as a musician.

Part of the resistance I felt when learning *iv 5* was brought on by my inability to refine my oboe tone in standard ways, even though this aspect of my standard practice is not relevant to the opening part of the piece. I felt almost self-conscious at the prospect of performing this piece (especially since it is unaccompanied, and on the first occasion): the requirements felt distant from the type of oboe playing that I have internalised as desirable and competent. I could not, for example, demonstrate proficiency through tone colour or

control of the expressive faculties of sound production, and this was a source of friction that still informs both the way I feel about this piece and my playing of it. In addition to any externally-focused resistance, *iv 5* prompts resistance that is directed internally: I feel detached from the means by which I identify as a musician because I am not playing my instrument in a way that, through years of repetition, has come to feel intuitive.

The resistance experienced when playing without the reed highlights the fact that my concept of playing the oboe is inseparable in my mind from the act of placing a reed in my mouth, and without the preoccupation with the byproducts of oboe tone, my ways of engaging meaningfully with my playing feel limited. Realising this early in my contact with *iv 5* was useful, since it emphasised the fact that my habitus is attuned to a particular, contextually-determined form of oboe playing.

2.3 Contingent techniques

Resistance in *iv 5* also arises in playing new, highly contingent techniques that undermine my preference for predictability; techniques that are unavoidably unstable, since the aggregation of the variables present in their execution makes them difficult to replicate. The resistance experienced in this respect highlights the extent to which I habitually conceive of performance as a perfectible act that requires repeatability in order to be successful. The impossibility of a satisfactory degree of repeatability in some passages of *iv 5* contributes sensations of fragility and vulnerability to my reaction to the piece.

Some of the multiphonics and whistle tones used in the piece produce this experience. However, more potent is the deployment of what Andre terms ‘Ring Modulation’ multiphonics. These are produced by pulling the reed out of the reed well as far as possible, while still keeping it attached to the instrument with a degree of stability. The staple of the reed – the piece of cork and brass onto which the cane is tied – typically sits fully inserted into the reed well, with the opening at the base of the staple matching the diameter of the base of the reed well. Pulling it out disrupts the smooth connection between the bore of the instrument and that of the staple (see Figure 2.2), and introduces the possibility of playing multiphonics on certain unmodified standard fingerings. Multiphonics produced with this technique often sound similar to signals produced by a ring modulator; hence Andre’s term.

These multiphonics are not necessarily difficult to play, depending on the conditions. They vibrate very freely when played at a medium volume or higher, and especially so when slurred together – once the reed and the oboe are vibrating in the specific way that is conducive to these multiphonics, the sounds can emerge easily. However, they are often difficult to produce when played with very soft starts, long diminuendos, or with rests in

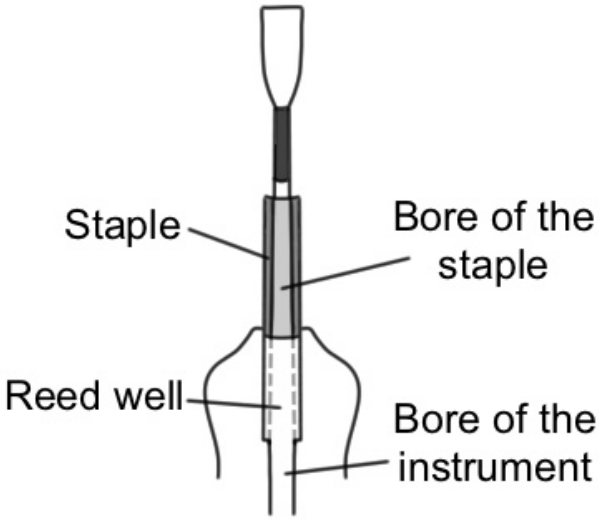

Figure 2.2: Diagram of oboe reed positioned for ‘Ring Modulation’ multiphonics, pulled out of the reed well. Line of dashes indicates the intended connection between the bore of the staple and that of the instrument, disrupted here by the altered position of the reed.

between; this is what is required for *iv 5*. The difficulty here is partially due to the typical differences in embouchure and air pressure between multiphonics, but also as a result of the unique parameters this technique introduces. The positioning of the staple high in the reed well creates an environment in which conditions can change, both while playing and between practice sessions. While typically the reed sits firmly against the lip of the bore at the base of the reed well, shifting it higher means that its exact position varies each time I insert it, and the reed is also liable to slide further into the reed well as I play (see Figure 2.3). Furthermore, when the reed is fully inserted into the reed well there is typically little or no variability in the angle between reed and oboe, but with this technique the reed has the potential to shift its angle, as is shown in Figure 2.4. All of these variabilities alter how the ring modulation multiphonics speak, and as they move concurrently, they contribute to the sense that this technique is difficult to produce consistently in mysterious ways.

The technique used for ring modulation multiphonics is one that is ostensibly ‘learnable’: it is possible to find a set of conditions that will always produce the same results, something that is not always the case in the pieces in this portfolio. However, certain contingencies remain difficult to control to the degree that it is required for this technique. For example, the cork on the staple softens over time and holds the reed less securely in the well. If it softens to the point that the reed slips around too much in the reed well, my learned positioning is rendered useless. Furthermore, the shifting parameters that determine the success or failure of these multiphonics are more numerous than those that contribute to the playing of standard tones: there are more opportunities for the multiphonics to be

destabilised. The process of learning this technique therefore felt highly obfuscated and difficult to perfect.

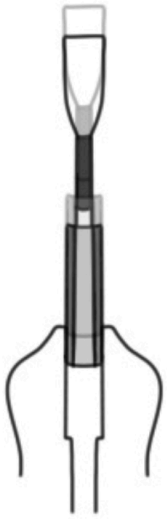

Figure 2.3 (left) and Figure 2.4 (right): Possible destabilisations of reed position during 'Ring Modulation' multiphonics.

Playing this section of *iv 5* reveals a conflict between the embodied knowledge that I have acquired over many years of learning the oboe and the techniques that the piece requires. The difficulty I experience in 'locating' these multiphonics is reminiscent of being a beginner oboist, when the operation of basic functions of standard technique felt similarly mysterious. In working on this section of *iv 5*, I recall the sensation of not having the embodied knowledge to replicate individual sounds reliably.

While the ring modulation multiphonics became easier to replicate as my time with the piece grew, even now they still have the tendency to fail seemingly spontaneously as conditions change in ways that are generally beyond my control. This prompts a further sense of transgression; I still find it difficult to feel as though my learning of the piece is completed to a performance standard, despite having performed it several times already. I would not typically consider a piece of standard repertoire to be learned or performance-ready if I am still 'hoping' for a technique or passage to work out. However, I find myself doing so when playing *iv 5*. This revealed, in practice, a core element of my habitus: the fact that I feel safest playing music in which I can achieve repeatability. When reaching such a state is compromised in *iv 5*, I feel a sense of resistance that impacts the way I play the piece, just as I did in the earlier reedless section.

2.4 Conclusion

Each of the channels of resistance in *iv 5* produce sensations of ‘unanchoring’. I am detached from familiar modes of interacting with my instrument and required to renegotiate some of the fundamental characteristics of my relationship to playing the oboe. This was ultimately a productive experience, as the vulnerability imparted by the resistances helped shape the way I interpret it. In performance, I aim to amplify, rather than overcome, the sense of fragility I feel when playing. I allow the frangible multiphonics to sit audibly on the precipice of failure like brittle vocalisations, and for the air sound passages to feel as if they are stuttered whispers. Without the experience of resistance that *iv 5* offers me, my performative choices might have been different: the multiphonics more strident, for example, or the off-reed passages more percussive rather than soft and tentative. Furthermore, exploring friction in the interactions between musical material and habitus became central to the repertoire choices for this portfolio.

The experience of playing *iv 5* prompted me to curate subsequent performance research projects that pushed the boundaries of my habitus in subversive ways. This is especially relevant to the three collaborations I undertook for this research project: I was encouraged by the resistance framework that *iv 5* revealed to me, and as a result pursued unusual techniques and modes of musicking that I might have otherwise avoided in favour of more normative types of oboe playing. Learning *iv 5* was a process of digging into the experience of resistance and interrogating its roots *through* practice. The performative understandings that arose from this provided useful insights that I carried through the subsequent performance research: however subjective the observations that result from this particular project, it uncovers the ways in which an individual playing identity is formed, and highlights how powerfully that identity shapes my modes of interacting with my instrument.

Chapter 3: *Drift Shadow*

3.1 Introduction

Drift Shadow by Alex Harker is a work for oboe and live electronics, developed collaboratively and premiered at the Dialogues Festival in Edinburgh in July 2021. It was commissioned for the Fluid Corpus Manipulation (FluCoMa) research project,[12] at the University of Huddersfield, which provides composers with tools for signal decomposition and machine learning. In this work I navigate an open-form score of harmonic and timbral clusters of multiphonics, Both what I play and my location in the piece are tracked in real time by the computer operating the electronics, which uses these parameters to determine the processing behaviour and subsequent electronic output. To track my playing, the electronics use a neural network trained on a corpus of recorded samples: as explained more fully below, I recorded all of the multiphonics given in the score several times, each with different gestural characteristics. These samples constitute the library from which the computer draws and manipulates its outputs; the different characterised versions allow the computer to identify what I am playing in real-time, as I follow the various performance instructions present in the piece, and to alter its responses accordingly. Therefore, the computer responds to my playing, but I can manipulate the behaviour of the electronics by experimenting with gestural shapes and – due to the open form – the ways in which multiphonics are ordered.

3.1.1 *Drift Shadow* overview

My role in the development of *Drift Shadow* was, at various times, collaborator and consultant, as well as performer. The piece extensively (and almost exclusively) uses multiphonics in both the live oboe part and for the material played back by the electronics. From its genesis, Harker and I worked together to understand the kinds of sounds that might be possible when novel sound production techniques and unusual gesture shapes, discussed below, were applied to a range of multiphonic fingerings. When Harker had established a harmonic framework, we looked in greater detail at the idiosyncrasies of each multiphonic and, over many meetings and discussions, consolidated the gestural material in the score. Throughout the scoring process, Harker would frequently ask for my opinion on the clarity of the notation and text.

Drift Shadow is a largely open-form piece. There are four major sections – Opening, Part I, Part II and Closing – most with smaller subsections, and these are rarely traversed linearly. Navigation of the musical material is guided by arrows that designate the

[12] For more detailed information regarding the project, see https://www.flucoma.org/

allowable pathways through the piece, shown in Figure 3.1. In many cases, there are multiple possible paths to choose from. For example, while playing the subsection '*Origin*' in Part I, I can move to any of three other subsections: '*Displace*', '*Ground*' or '*Push*'. At times these arrows also serve to limit the possibilities for progression by allowing travel in only one direction; for example, I can play '*Push*' after '*Displace*', but cannot return to '*Displace*' without first going back through '*Origin*'. Both Part I and Part II also have additional sections that can be inserted, called '*Clusters*' and '*Blocks*' respectively, operating outside of the arrow system. I can jump to these at any point, as a means of

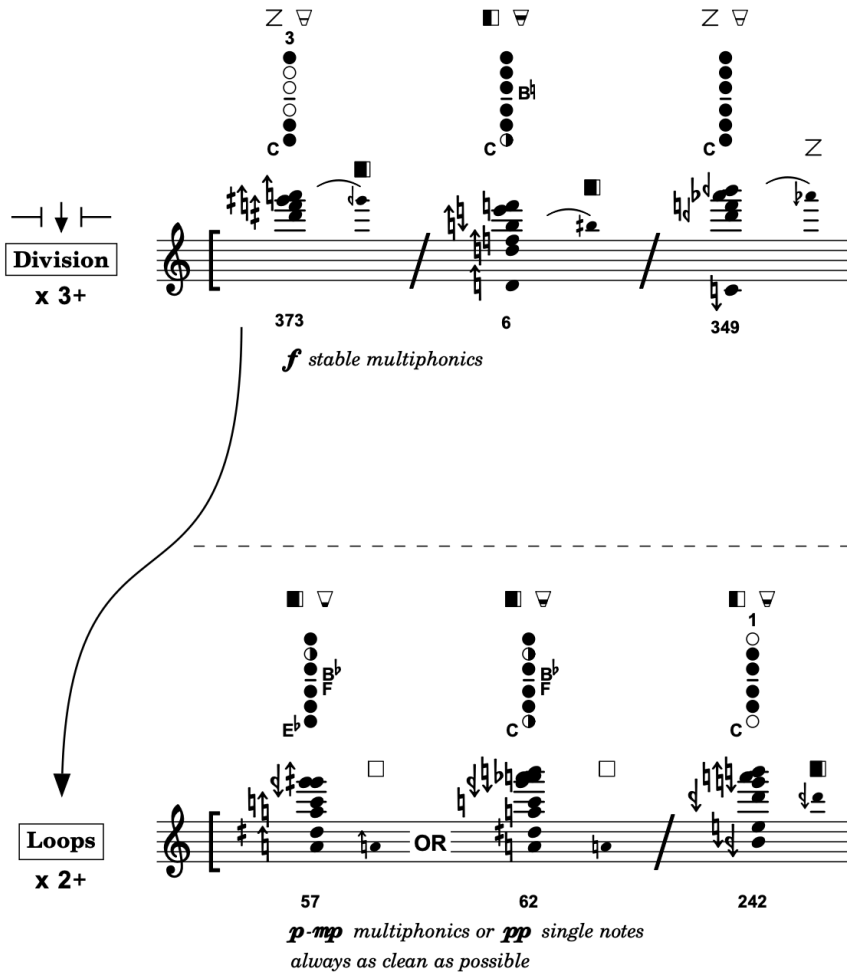

Figure 3.1: Arrows indicating possible one-way movement between '*Division*' and '*Loops*' in Part II.

shifting harmonic focus or introducing a different level of energy, and then return to where I left off or begin a new subsection when I am ready to move on. The names of the subsections are indicative: for instance, '*Loops*' is a subsection in which I select a sequence of multiphonics to repeat several times. In many cases the titles are also evocative: for example, '*Press*' in Part II, suggests to me a sense of urgency that might be communicated through elevated activity level or higher pitches, in contrast to '*Centre*', the preceding subsection.

Many multiphonics are notated in the piece, but the bulk of the instructional material is either textual or graphic. The staves are used only to indicate the intended pitch results of the multiphonic fingerings, and to denote the pitch ranges of single-pitch glissandi. In addition to the directional arrows, each subsection has three types of text 'modifiers': additional verbal performance directions. Firstly, for each subsection there is an indication of how many times I might return to it throughout the piece (see Figure 3.2), though Harker stresses that these should be seen as loose indications only, and often I take these to be somewhat relative. For example, in Part II the subsection '*Centre*' has a suggested number of 'x 4+', whereas '*Extend*' is only 'x 1+'; I generally try to return considerably more to '*Centre*' than to '*Extend*'. The exceptions to this are those subsections which can only be played once, marked ‘x 1’, such as ‘*Transition*’ in Part II, which serves to shift into the material in the Closing section, and is only to be played when I am finished with Part II.

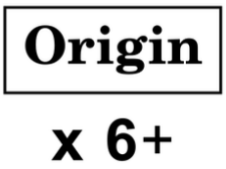

Figure 3.2: Subsection ‘*Origin*’, with an indication of the approximate times it should be played.

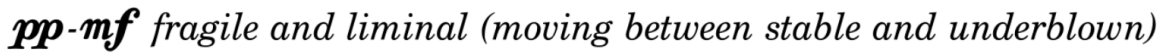

Figure 3.3: Subsection text modifier, from ‘*Unfolding*’, indicating ideal expressive characteristics.

The second kind of text modifier provides contextual information to characterise the sounds in the subsection, or their purpose: phrases like *'disrupting the flow'* or *'always as clean as possible'* provide an indication of the overall sonic ideal of each subsection (see Figure 3.3). The third type of subsection text, shown in Figure 3.4, is the most instructional: it indicates the microform of the subsection – *'move freely and slowly between fingerings'*, for example, or ‘*reorder freely, often rocking back and forth between pairs, hinting at short loops*’ – and gives a gestural framework for me to work with, through instructions such as *'fast pulsing/rearticulation'* or *'multiphonics with moderate to rapid pitch focus and dynamic inflections'*. These instructions are often applied across multiple subsections, the first instance of each supported by graphic indications of gestural shapes and activity levels. At times, these instructions also include larger-scale information about how a subsection might fit into the unfolding form of the piece: for example, indications such as *‘each time through increase intensity along with options and instability’* help guide the development of a subsection that is revisited several times. At any given point in *Drift*

Shadow I am selecting from a broad range of options as to how I might play the material in front of me, and making decisions as to how to navigate through the piece.

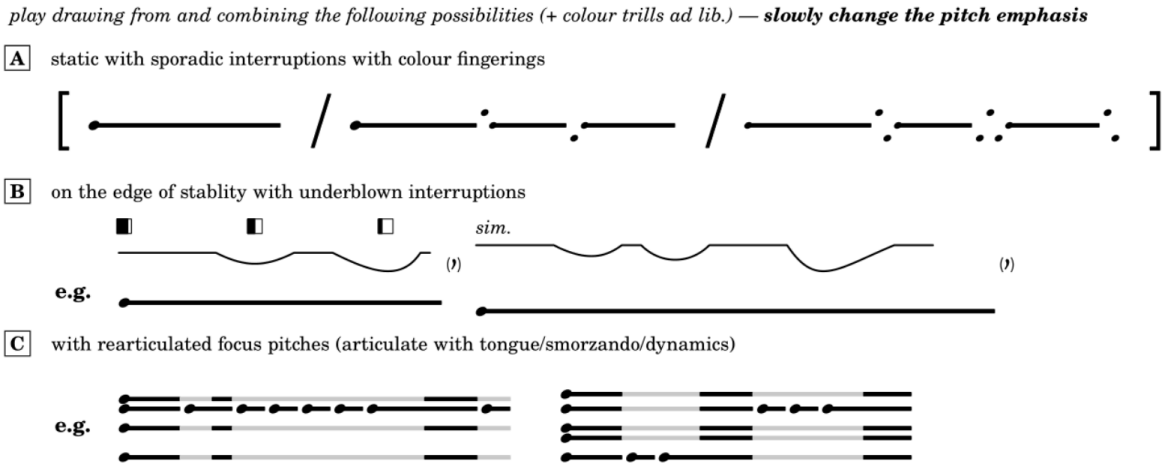

Figure 3.4: Text modifier, from '*Unfolding*', supported by graphic indications specifying gestural shapes and internal subsection form.

Through real-time tracking, the computer compares what I play to the recorded multiphonics in the sample corpus. It uses tools developed in the FluCoMa project for analysis and detection, in order to track changes in the spectrum and timbre of a sound. This enables the network to, for example, only 'listen to' the harmonic aspects of the input and discard the timbrally 'noisier' elements. This is useful in *Drift Shadow* when many of the gestural shapes notated incorporate some kind of distorted noise – where the harmonic properties of each multiphonic are relatively distinct from one another, this noise tends to sound similar across the various fingerings used in the piece.

The samples used to train the network comprise the one hundred multiphonics in the piece, played both 'statically' – out of context, without any of the sound production techniques or gestural shapes indicated in the score – and also in the various unusual ways included in the piece. The corpus also contains the small number of non-multiphonic sounds notated in *Drift Shadow*, such as timbral glissandi, 'tromba' tones and air sounds. The samples that are played back are chosen by the computer according to which subsection it 'thinks' I am in. They are processed in ways devised by Harker according to both my location in the piece, and parameters such as activity and noise that the computer measures from the input.

3.1.2 *Drift Shadow* as research investigation

The process of developing and performing *Drift Shadow* uncovered three broad routes of departure from my ingrained methods of interacting with my instrument and musical

materials. These are categorised in this chapter into the three areas of productive resistance they provoked in me. The first is an aesthetic resistance that arises from the ways the piece utilises many types of sounds that are steadfastly avoided in standard practice; those produced by techniques such as underblowing, spit and tongue interference, and wide jaw and embouchure movements. The resistance to hearing these sounds emerge from my instrument, particularly in front of an audience, is compounded by two ways in which I have 'ownership' over them – authority and agency, beyond their performance: firstly through my collaborative role in the discovery of compositional material, and secondly through the fact that in performance I am making choices about the temporal space they inhabit as I navigate the open-form piece.

The second resistance is bodily, produced by the introduction of novel and often delicate sound production techniques into the sphere of oboe playing: a performance practice that already involves the complex interaction of many variables. While the aesthetic resistance is a result of my reaction to the sonic outcome of a technique, this bodily resistance arises in the reaction to the *processes* involved in producing those sounds. Most of these processes are typically minimised within my habitus, with its classical, standard practice tendencies, and their deliberate use therefore often feels foreign. This sensation is made more potent by my reduced capacity to build repeatability in playing *Drift Shadow*, as many of the sounds and techniques used are fragile and difficult to execute reliably.

The final resistance arises from the interactions between player and electronics, stemming from the particular function of the computer within the open-form piece. The output of the electronics differs from section to section, and since the player navigates back and forth between the sections and subsections in a largely free manner, it is crucial that the computer can track where the player is in the score and react accordingly. The interplay between oboe and electronics is then constrained by the reliability of the tracking. This produces an avenue of resistance, as the computer is highly sensitive to the changes in intonation and timbre that typically occur, and therefore I frequently have to 'nudge' it to reach the right section by repeating multiphonics or changing their gestural shapes to something more easily recognised by the computer.

These forms of resistance in *Drift Shadow* productively nuance the musical meaning offered to me through my performative experiences. This is the crux of my research project: the idea that the threads of personal experiences connect at the meeting point of body, instrument, score and stage, and that these can inform an understanding of the aesthetic of a piece of music. *Drift Shadow*, through its deliberate departure from the 'beauty' standards and ideals of standard practice musicianship, has imbued my playing experience with sensations of vulnerability and fragility that now characterise the way I conceive of the piece. Crucially, these experiences of resistance are specific to the structures represented by my particular musical habitus, and therefore potentially differ

from those felt by someone approaching the piece from another musical background. An oboist who is more accomplished than me at improvisatory playing would perhaps not feel the same resistance as I do in accepting ownership of musical material, but might experience friction in, for example, the scoring or the rigidity of the electronics. The meaning derived through the point of contact between habitus and musical material therefore also potentially differs between embodied performer perspectives, as each habitus represents divergent musical histories. As discussed below, in *Drift Shadow* I lean into the vulnerabilities presented to me through resistant experiences.

3.2 Aesthetic resistances

There are three intertwined aspects of the aesthetic space that *Drift Shadow* inhabits that interact with my musical habitus to foster productive resistance. Firstly, the extent to which my own tastes have contributed to the development of the sound world of this piece engenders a sense of ownership that feels both novel and vulnerable to me. Secondly, and somewhat similarly, the agency involved in navigating the work exposes my aesthetic sensibilities in a way that is unusual in the context of my habitus. Finally, the brittle nature of the sounds and gestures in the piece conflicts with my habitual desire for stability in performance.

3.2.1 Resistance and creative authority in *Drift Shadow*

The sound world of *Drift Shadow* forgoes standard techniques in favour of the use of experimental sound production techniques that manipulate the multiphonics. Even standard *extended* techniques – those which are now thoroughly embedded in contemporary repertoire, including multiphonics played in certain ‘standard’ ways – are ultimately outnumbered in the piece by newer, less familiar ways of shaping sounds; methods that emerged from the process of experimentation Harker and I undertook in the early stages of collaboration, and which render the piece sonically different from anything I have played before. Furthermore, having devised the sounds collaboratively with Harker, there is also a sense of ownership over the piece that challenges my habitual relationship to the compositional material.

3.2.1.1 Development processes

From the outset, Harker and I worked closely together to catalogue sounds and gestures that he found compositionally interesting. As a resource, we used Peter Veale’s seminal text, *The Techniques of Oboe Playing* (Veale & Mahnkopf, 1994), which contains, amongst other information on contemporary oboe playing, 391 fingerings for multiphonics. The commentary on the fingerings notes the resultant pitches (including individual tones

which can be foregrounded by the oboist), as well as additional matters such as how difficult each multiphonic is to produce, air pressure requirements, embouchure positions and possible dynamic range, shown in Figure 3.5. Veale's book was intended for generalised use; hence these multiphonics were tested across several popular makes of oboe, in combination with each of the main geographic reed types, and only those fingerings possible across *all* combinations of reed and instrument were included in the

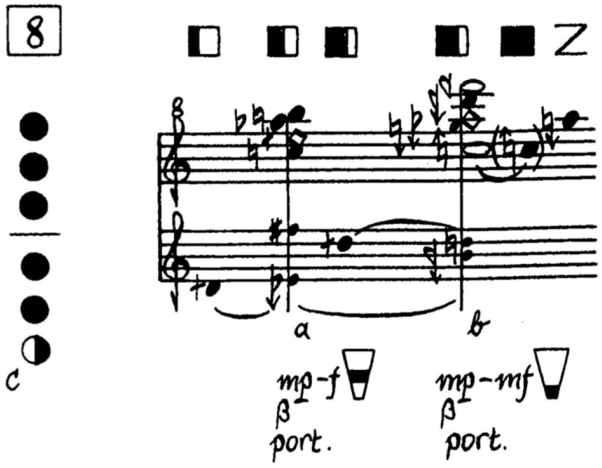

Figure 3.5: A multiphonic module from *The Techniques of Oboe Playing*. (Veale & Mahnkopf, 1994)

book. Therefore, while every fingering and marking in the book is theoretically possible on my instrument, there are potentially many more that will work only on my particular set-up. Many of the sounds we uncovered for *Drift Shadow* are, in this sense, 'off book'. All of the fingerings come from the text, but most of the techniques I apply to them in performance – glissandi, dynamic manipulation and pitch isolation – are either not listed, or exceed those possibilities.

Harker had concrete ideas about the types of sounds he wanted for the piece and our first explorative meetings were guided by these ideals. He wanted sounds that, while possessing the harmonic properties of multiphonics, lay outside the often strident multiphonic timbral world produced by robust airflow and embouchure, and instead were softer and less stable. To that end, we explored the sonic possibilities of many different fingerings with similar harmonic structures, guided by questions from Harker such as 'how softly can you play this?', 'what happens if you try to single out a particular pitch in this multiphonic fingering?' or 'how far up/down can you bend this multiphonic?' and then 'okay, what happens if you keep going past the "breaking point"?'.

This exploration of unknowns, aiming to expand the catalogue of sounds on my instrument, is, in the broadest sense, the opposite of my practice with an extant composition. Where, in my standard practice, I generally commence work on a piece with a solid concept of the types of sounds (and corresponding physical activities) required of

me, the process of developing *Drift Shadow* was excavatory, exploring the edges of sound production, expanding liminal sonic spaces and physical technique, uncovering interesting and desirable sounds along the way.

As a non-composer, I felt a sense of novelty at my degree of agency in helping develop the sound world of *Drift Shadow*. This was perhaps stronger because the particular sounds we gravitated towards are generally antithetical to the oboe playing ideals represented in my musical habitus. In the context of the open-form nature of *Drift Shadow*, and when combined with the complexities of sound production and navigation with the electronics, this formed a potent source of resistance: I am partially responsible for this sound world, and subsequently also for all its transgressive qualities.

The nature of the collaboration is also relevant here: it characterised my sense of agency, and hence the ways in which I experienced – and understood – this aspect of resistance. Though this was the first time we had worked together, Harker and I are friends, and as a result this collaboration was defined by the agreeable, often informal nature of our interactions. The shared collaborative space this created was welcoming to the inclusion of my tastes and encouraged the exchange of ideas beyond the scope of our standard composer-performer roles. This is somewhat different from the regular tenor of professional collaborations throughout my performing career, which tend to be more time-restricted and outcome-oriented[13] and thus have a generally concise and predictable flow of information. That is not to say that these professional collaborations are not creative, nor should it suggest that the process of collaborating on *Drift Shadow* was meandering or unfocused. These are two distinct paradigms, but they are both examples of the complementarity that Vera John-Steiner (2000, p. 48) uses to categorise a collaboration in which the participants have separate but reciprocal roles and labour divisions based on fields of expertise. In both situations, the composer-performer divide and the disciplinary knowledge that accompanies those roles is clear: the composer calls on my experience with the oboe to provide them with possible solutions to aesthetic goals, and in turn they use their experience as a composer to construct and notate their piece.

Collaborating with Harker, however, differed in the sense that our extended time working on the piece, as well as our preexisting rapport, allowed for situations where the flow of information was not only one-way. Where a composer might normally ask about the material conditions (such as fingering, dynamics and pitch range) under which I could achieve a particular type of sound, here there were times when, for example, I suggested sounds or combinations of multiphonics, unprompted, based on experimentation

[13] In my work in the new music ensemble Collective Lovemusic, our collaborations with composers tend to involve communication largely by email, with one or two blocks of rehearsals leading up to performance and/or recording. In this setting we are generally somewhat time-restricted. In contrast, Harker and I were able to dedicate considerable time to *Drift Shadow*, in terms of both the overall length of the collaboration, which lasted approximately a year, and the number and durations of individual sessions.

undertaken for the piece in my individual practice. Conversely, since we had spent time exploring sounds together, and I had sent various recordings over email, Harker was able to suggest ways to carry out his ideas based on things he had seen or heard me do.

This was a key part of the process of developing what Gorton and Östersjö (2017, p. 590) call the 'discursive voice'; the merging of individual artistic sensibilities into shared aesthetic ideals for a collaborative project. For example, Harker would email me a 'shopping list' of recorded sounds that he wanted, based on our conversations. Rather than sending him every recording I made for each list item, I would make a selection, based on how interesting I found them. Furthermore, I was largely responsible for providing mechanical solutions and technical vocabulary for ideals – often expressed with words like 'soft' or 'fuzzy' – that Harker put forward in texts and emails. This curatorial process, and the technical options I offered were often driven by my own idea of what sounded interesting, rather than by practical considerations of ease or stability. I did at times consider whether something would work across several fingerings or not, but in many other instances I would send through an untested sound simply because I was enthusiastic about its potential to contribute to an aesthetic that I enjoyed.

3.2.1.2 My musical habitus and creative 'ownership'

In my prior collaborations with composers, my suggestions have almost always been focused on practical matters of how best to realise their ideals on my instrument: fingerings, dynamics and explication of the limits of gestural possibilities. This is a common model that we referred to as 'try-outs' in my Masters programme; one characterised by what composer Mary Bellamy deems 'limited access' to performers, and therefore limited aesthetic *input* from performers, with much of the composition occurring without their contribution. In these types of collaborations, I provide practical aid to composers who draw on my instrument-specific knowledge to help them fulfil their sonic ideas. To me, within the context of my habitual understanding of my role in the process of 'musicking', this *practical* contribution is well-established as a 'legitimate' collaborative form.

While this type of contribution was certainly part of the collaborative process in developing *Drift Shadow*, my role extended beyond that of a practical assistant; Harker welcomed me as a partner in the discovery and selection of sounds, and I gave input into the compositional processes based on my own aesthetic ideals. Contributing my own musical preferences to a work in this way, and being active in the collaboration for reasons other than assisting in the efficient realising of Harker's wishes, is – however positive in many other respects – a source of friction in *Drift Shadow* due to the extent to which it deviates from my habitual performative roles.

Within the context of my standard practice habitus, I can happily accept ownership of a *performance* of a piece – it feels 'safe' to stand on stage and present the way I think I should play a composer's work, and pursue the expression of my own ideas for its interpretation within the framework of acceptable performance practice. Leech-Wilkinson (2012) acknowledges that this is something that is often desirable, particularly for young musicians 'seeking to be noticed' (para. 3.3). However, he also notes the rigidity of the borders of what is deemed acceptable practice. This rigidity, he suggests, is cultural and economic: conservatoires are inescapably incentivised to focus on training pupils for jobs that have standardised aesthetic ideals. Provocatively, he asks: 'where [in a conservatoire environment] is the incentive to innovate when maintaining tradition is the very focus of everyone's professional engagement with music?' (Leech-Wilkinson, 2012, para. 3.3). My research is not intended as a critique of conservatoire environments, but it is important here to acknowledge the existence of a cultural force in my musical experiences that emphasises a particular performative role. My training has contributed to my habitus a reluctance to traverse these boundaries of acceptable aesthetic ownership: doing so, as I have done in the process of developing *Drift Shadow*, engenders a particular sense of vulnerability.

3.2.2 Open-form navigation and gestural improvisation

This sense of exposure is augmented by the open-form nature of the piece, and the fact that in navigating the score I give aesthetic importance to some sounds by lingering on them, while quickly skimming over others. For example, if during one performance of the piece I prioritise exploring the softest and most brittle sounds in the score, I can easily change the aesthetic outcome in the next iteration by focusing instead on those multiphonics that are louder and more resonant. Furthermore, decision making about form requires a sense of larger structures and the passage of time; something not required in the pieces with predetermined form that make up the significant majority of my repertoire. The sense of transgressing my habitual role in this respect led to my frequently asking Harker during rehearsals to provide an 'itinerary' example for how I might move through a section, including information such as how much time to spend on each multiphonic, how to shape gestures, how to progress through a subsection and where to go next if there are multiple options. In this respect, the aesthetic sense of temporal relationships that I have developed in playing the piece was in fact shaped in relation to Harker's own ideals and his feedback: it is still predicated on 'composerly' ideals and often feels like something I defer to, rather than something I have internalised.

3.2.3 Transgressive sounds

Harker's preference for liminal oboe sounds means that brittle, breakable sound production techniques are integral to the aesthetic of *Drift Shadow*. As has already been discussed, this is antithetical to the type of robust repeatability that is cultivated in western classical practice. As percussionist Jennifer Torrence (2021) notes, 'drilling and repeating' (para. 2) in this context helps cultivate in a performer an intimate familiarity with the material tendencies of their instrument, in order to counteract the unwelcome intrusion of extraneous sound qualities into performative space. For example, I know that unless I take special measures with my air pressure and embouchure, the Eb above the staff will split and fail to speak on my instrument. Since that is generally an undesirable outcome in much of the music that I have played, I have 'drilled and repeated' so as to prevent it, to the extent that I now counteract it almost subconsciously when playing. However, *Drift Shadow* actively *requires* many instances of such 'failures': drastic shifts of intonation and sound quality, as well as the abrupt initiation and cessation of sounds, are integral to performing this piece. Regardless of the fact that these sounds were *chosen* by Harker and me, it feels jarring to stand in front of people and play in ways that are 'incorrect' according to my training.

The creative processes of developing and preparing *Drift Shadow* helped to uncover the ingrained ideals that prompt these sensations of transgression. Performing these particular choices of form and material pushed me to dig into the resistant forces at play, and as such, the aesthetic resistance provoked by *Drift Shadow* is a productive one. It helps me to foster an ideal of the piece that is appropriate to the 'discursive voice' Harker and I developed; one grounded in sensations of friction and vulnerability.

3.3 Bodily Resistance

The second broad category of resistance relates to the interactions between my body, with its shifting states, the oboe – itself an instrument with changeable characteristics – and the musical material of the piece. The sounds that I helped curate deliberately diverge from the stability and robustness of the sound production honed in my practice. As a result, any performance of *Drift Shadow* is highly susceptible to the fluctuations inherent to human performance on a temperamental instrument.

3.3.1. Unusual sound production in *Drift Shadow*

As Harker and I worked together to establish the sounds in the piece, I found myself becoming more curious about sounds that exist at the sonic boundaries of my interaction with the instrument, zooming in on the moments in which oboe sound begins and disappears, and lingering in those spaces. We ended up identifying and expanding the gestural possibilities of three of these liminal fields.

The first involved playing around the ‘edges’ of sounding air pressure and with the point at which sounds become underblown. Every note and multiphonic on any wind instrument has a required threshold of air pressure in order for the sound to speak, and an internalised knowledge of this pressure, as well as its maintenance and curation for the purpose of tone quality, is fundamental to learning the instrument. Since 'dal niente' attacks and decays are much more difficult on the oboe than wind instruments without a double reed, such as the clarinet or flute, there is an clear point during the reduction of air pressure at which the note 'falls off', often into air sounds or, in the case of most multiphonics and certain harmonic fingerings, into a softer timbral pitch. The trajectory to this precipice has an abundance of sonic possibilities, due to the range of contingent factors: the state of the reed, adjustment of parts of instrument such as the vents or octave keys, and different methods of decreasing the air pressure. The broad range of atypical fingering combinations employed in multiphonics also contributes variability: many different types of sounds might occur. These include slow, blooming transitions between the blown and underblown states [TRACK 1] as well as more rapid shifts [TRACK 2], stuttering and rhythmic fluctuations [TRACK 3] and wild trills and shudders [TRACK 4]. This process of underblowing is deliberately minimised in many aspects of standard practice training that aim to refine one’s control over air flow and pressure. As a result, navigating this space and playing with and *through* the sound’s failure to speak as intended feels novel, both sonically and physically.

The second liminal sonic space involved shifting the mouth around the reed, either by dropping the jaw or biting the teeth together, or by moving the reed further in or out of the embouchure, radically changing the resultant sound. Similarly to the transitional sonic states described above, dropping the jaw or decreasing the amount of the reed that is in the mouth often has the effect of the sound ‘falling off’, with a downward bend in pitch. Conversely, increasing mouth pressure or moving further down on the reed tends to shift the pitch upwards, and rarely results in the cessation of sound (except in cases of extreme pressure in which the reed aperture is almost entirely closed). Increasing the movement in either of these directions often culminates in some kind of ‘end point’ at which the sound cannot be further changed, except by reversing the movement. For single pitches, the effect is relatively predictable – usually consisting of the sharpening or flattening of the note – but multiphonics can be affected in a number of ways: they often snap between clusters, moving up or down from the set of pitches indicated for each fingering in Peter Veale’s *Techniques of Playing the Oboe* [TRACK 5], but might also narrow to a single pitch [TRACK 6] or cease speaking entirely [TRACK 7]. Again, exploring the boundaries of this field of movements was new to me; embouchure tends to be relatively fixed in standard practice, shifting very little, to accommodate extremes of dynamics, range, or certain articulations.

The final exploration of sound production focused on the point at which my tongue meets the reed. ‘Stretching out’ the micro-movements involved in my tongue touching the reed – slowing the movement right down and paying attention to each tiny change of state – reveals a great number of sounds made up of tiny whistles, white noise and rattles, as I blow through the near-meeting of my body and the instrument. These are difficult to control. Often, in the process of trying to amplify one type of noise I end up tumbling through many others. Like the first liminal sonic field of underblowing movements, which focused on the point at which I transition between sound and silence, here I again focused on a single brief frame of typical oboe playing, drawing out the sonic possibilities of micro-movements within ranges of motion that are a regular part of standard practice. However, this exploration of the tongue, like that of the mouth in the second field, involved exaggerated movement patterns that extend beyond those of standard technique. I drag my tongue across the aperture of the reed, for example, or my articulation patterns crest over the tip of my tongue to use its underside and edges. I also allow much more spit to enter the reed than normal, exploiting the resultant disruption to the air flow rather than covering it up, and embracing the unpredictable ways in which the air pressure makes my tongue bounce on and off the reed. We experimented with these sounds in isolation [TRACK 8] as well as inside larger multiphonic gestures [TRACK 9].

3.3.2 Complexity and instability in the physical execution of novel sound types

Despite their departure from standard modes of oboe sound production, I certainly aim for similar levels of control over these particular gestures compared to any aspect of standard technique. There is, of course, a difference between an intentional *sense* of sonic fragility, and an actual inability to execute the notated parameters of a piece. Though uncertainty and brittleness are an aesthetic feature of *Drift Shadow*, I do not think that Harker intends for the sounds I play to be *actually* failing.[14] I aim, as always, for the intimate familiarity with sound production that would afford control and flexibility. However, I am not always as comfortable with the multiphonic gestures in the piece as I am with more familiar types of oboe playing.

Multiphonics can be fragile. When trying to replicate a multiphonic in *Drift Shadow*, it often feels as if my perceptual capacity – the in-the-moment physical and aural feedback I experience when playing – is obscured from the mechanisms of change. When I adjust a single, ‘standard’ note on the oboe, the link between the movement and sonic outcome is quite clear: I drop my jaw and the pitch will go down; I cushion the reed better and the tone quality becomes less harsh; or I push the air out with greater velocity and the sound

[14] Indeed, the implementation of the electronics discussed below suggests that a relatively high degree of (at least occasional) accuracy to the notation is required.

becomes louder and more focused. Moreover, almost all of these processes are reversible, and I can slide between states experimentally, easily hearing and feeling the result. Many of the multiphonics in *Drift Shadow* are, however, brittle, particularly when played in the experimental ways that the piece demands. Their successful execution requires peculiar sequences of micro movements, which are often unidirectional: I can reach their notated pitch structures through *some* process of air and mouth contortion, but once I shift away from them I am unable to return to this specific sound. These physical patterns are difficult to subsume into muscle memory and therefore tend to remain uniquely frustrating.

Furthermore, human imprecision interferes with the exact execution of these sounds. A teeth tone like P.V. 349, for example, is entirely dependent on the combination of holding the oboe at a certain angle and aligning my upper and lower jaw correctly, so that the reed sits between my teeth in a specific way. My overall accuracy in executing these things improved over the course of the collaboration, but the threshold for successful execution of the teeth tone remains very narrow. When compounded with inevitable variations in air pressure, embouchure stability and levels of physical fatigue that might affect where and how steadily I hold the instrument, this multiphonic remains liable to false starts.

The exactitude required for this tone is perhaps the most extreme in *Drift Shadow*, but many of the sounds in the piece demand similar precision. When human error is factored in, the result is that the multiphonics, when modified by the novel sound production techniques used in the piece, often feel as mysterious as, for example, the process of producing consistent low and soft tones when I was a younger student. Moreover, in contrast to my experience as a beginner, surrounded by mentors and role models, with *Drift Shadow* I have no certainty as to whether these new techniques will eventually be more controllable: as a student, I *knew*, from observing others, that there was a way to develop the repeatability of certain techniques, but here my only guide is my own body, whose changing states (of attentiveness, memory, energy, enthusiasm, strength and so forth) significantly affect the sonic outcome.

3.3.3 Instrumental fluctuations and unstable sound production

Beyond bodily imprecision, the variations in the instrumental set-up itself impacts the sonic outcome of the piece. At times, this does not feel as significant as small changes in bodily position or embouchure. For example, the minor adjustments of vents and octave keys, required to set the instrument up for this piece, tend to vary between practice sessions, as they have to be repositioned to play other repertoire. Often, in the frequent adjustment back and forth, I lose some of the specificity – a third octave key might rise a

fraction of a millimetre higher, for example – with a resultant minor change to how certain fingerings feel.

In other ways the set-up of the instrumental apparatus has a more substantial effect, particularly with the fluctuations of reeds. It is impossible to ensure consistency of cane parameters such as density, hardness, cane diameter and gauge thickness from one reed to another. Furthermore, any reed can change on a day-to-day basis, as it ages and the environment changes. These minor effects are within the range of acceptable tolerance for the performance of standard repertoire, manifesting only in minor ways; for example as slightly more laboured articulation, or small but manageable intonation shifts. However, the impact is highly evident in *Drift Shadow*, often constituting the difference between a multiphonic succeeding or entirely failing to speak, or between having the flexibility to execute gestures fluidly or being limited to a gesture that feels brittle and constrained. During the period of performance preparation, I spent a great deal of time wondering why something that worked earlier in a session was no longer possible, and testing reeds that ostensibly felt very similar, only to find that several of them could not carry out a number of the required gestures and fingerings, or produced sounds radically different to those of a previous reed.

The complex interaction of the numerous components of body, oboe and reed – each with their own variabilities – is certainly a source of frustration at times, but it also contributes a further sense of instability and fragility to the performance. When playing *Drift Shadow* I surrender to what Torrence calls ‘a loss of the ability to pursue acts of self-preservation’ (2021, para. 2); the absence of the kind of performative acts aimed at achieving predictability and repeatability. The capricious interconnectedness is amplified in musical material that is liable to fail in the face of physical change. The vulnerability of inevitable failure becomes a source of musical meaning – a positive expressive force – and this emerges not only from the acceptance and integration of those failures into gestural material, but also in a broader sense of how I shape sounds based on these feelings of nakedness and vulnerability.

3.4 Electronics

These moving parts of body and instrument also have a significant impact on the application of the electronics to the piece, and this is the third resistance that is provoked by *Drift Shadow*. There is a complex dance between the way Harker envisaged the electronics would sound and function, and the practicalities of working live with unstable techniques on an idiosyncratic instrument. The significance of this force in the piece emerged as it progressed, rather than being planned in advance. It was not necessarily

unwelcome, but was at times logistically problematic, contributing a further sense of fragility to my experience playing the piece.

3.4.1 Behaviour of the electronics in *Drift Shadow*

The electronics develop a harmonic and timbral framework as I navigate through *Drift Shadow*. Their programmed characteristics (such as their timbral 'noisiness', dynamic and activity levels) differ between subsections. The subsection *Displace*, in Part I, has much more frenetic movement in the electronics compared to the *Coda* of the Closing section, for example. Furthermore, the pool of samples that the computer uses for the basis of its output at any given moment is restricted to those found in the subsection from which I am playing at that time. The computer must therefore track where I am in the piece in order to select and play material appropriate to my navigation through the score.

In our early tests of the neural network, the computer was capable of accurately identifying[15] multiphonics when I played them 'statically', at a medium dynamic and without gestural or timbral manipulation. However, when used in the more complex context of the piece, with diverse (and not always 'successful'[16]) gestural shapes – subject to bodily fatigue and shifting reed conditions – the computer had a reduced ability to recognise my playing. This was exacerbated by the harmonic proximity of several of the multiphonics selected by Harker: none of the multiphonics are repeated across the subsections of the piece, but some are especially close in frequency. When these proximal multiphonics were gesturally manipulated at this early stage of our collaboration, the computer often identified them erroneously, and as a result shifted to the wrong subsection. If this happens, the computer begins to draw its materials from the wrong set of multiphonics, bringing with it the wrong pitches, and different gestural and timbral characteristics than Harker had planned.

Harker came up with various solutions to this issue. 'Rules' were introduced to the patch to mimic those I was following, including specific allowable (and forbidden) routes between subsections, and designating certain key multiphonics that have to be played by me and recognised in order to transition to a new section. If the computer does not recognise that I have played P.V. 7, for example, it will refrain from moving to the following subsection, '*Arrival*'. Changing the electronics in this way improved some of the more extreme leaps made by the computer. However, without determining the materials and structure of the piece more completely and using only multiphonics that are relatively easily produced and recognised, it is impossible to prevent every potential mismatch.

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[15] 'Accuracy' in this setting is a human concept that relates to my performative intention to play a specific multiphonic, rather than the sonic characteristics of its execution.

[16] Gestures that 'failed' in the ways outlined above, for example.

3.4.2 Performative and instrumental variability

Harker experimented with increasing the threshold of 'confidence' required for the computer to label a multiphonic, hoping that this would prevent erroneous section changes in the electronics. This involved a complex negotiation of the forces at play, however: too low a threshold, and the computer would successfully identify the more harmonically unique of the complex and contingent multiphonics, but would struggle to distinguish between those with similar spectral structures. Conversely, too high a threshold for confidence meant the computer could *only* successfully identify a multiphonic if supplied with one of the recordings on which it was trained.

The difficulty of finding the right level of confidence for the computer was compounded by the variability that results from the interactions between the techniques used in the piece, my body and my instrument. Complexities arose, for example, from the spectral variability of the gestural shapes in the piece: although we had recorded many examples of possible gesture types, increasing the level of confidence required by the computer also increased the need for me to closely match those recordings. When I produced the kinds of unpredictable sounds described above, the electronics struggled to identify the multiphonic correctly.

Furthermore, it became apparent throughout the preparation of the piece that multiphonics suffer from susceptibility to shifts in reed conditions to a much higher degree than standard pitches. When the electronics were adjusted to require a higher level of confidence, this susceptibility to alterations meant that a change of reed negatively impacted the computer's ability to recognise what I was playing. However, changing reeds throughout the collaborative and performance stages of *Drift Shadow* was inevitable: the reed I used in recording the samples wore out soon after the process was complete, and I therefore had to use others for the subsequent rehearsal stages. The recording reed had very slightly different dimensions – though within a standard practice tolerance – to those used later in the process,[17] and as a result the multiphonic intonation was occasionally fractionally sharper, and its multiphonic timbre marginally different (with different frequencies more prominent, for example).

Though this variance was rarely significantly audible, the use of marginally different reeds between recording and rehearsal meant that the neural network was trained on samples comprising recorded sounds that are inevitably slightly different to those I have since produced live. In combination with an increase in confidence required by the computer, this further complicated the process of playing with the electronics. Despite many

[17] This reed was 71mm in length, rather than 72mm, and with a scrape that was closer to 9mm than 10mm, although in the vast majority of my playing I use these sets of measurements interchangeably without issue.

attempts, the complex interactions between parameters of reed making[18] have prevented me from recreating a reed similar enough to the recording reed, in dimension and conditions, to eliminate significant discrepancies.

3.4.4 Shifting modes of confidence

These interactions between my playing and the computer became a source of resistance in the piece. The only way to avoid changes of reed would be to re-record the samples, and retrain the network on those samples, for each new performance, ensuring the same reed was used for the samples and the live playing: this is not feasible. Instead, the electronics are in a fixed state of referencing an oboe set-up that cannot be replicated. This inflexibility in the electronics means that it is up to me to adapt to the particular framework of correctness, rather than the computer adapting to me. I am required to manipulate my playing so that it meets the threshold at which the computer will successfully identify a multiphonic. As a result, my internalised narrative has shifted over time from initially viewing the computer as 'incorrect' (and as a source of potential frustration), to seeing it as a source of 'objective' standards, to which I should adjust my playing – rather like a tuner.[19]

This change in the way I view the computer in *Drift Shadow* was involuntary. Now, as the recording sessions recede further into the past, the idiosyncrasies of my playing at that time have become less present in my memory. When the computer fails to recognise something I am playing, I tend to assume that something has lapsed in my *current* playing, and am liable to forget that the computer might have been trained on a sample that never constituted a clearly defined multiphonic entity in the first place – instances where it took several attempts to get the conceptualised multiphonic *nearly* right, for example, or where recording the sample was only possible through a series of pitch or timbral compromises. The tendency to consider my *present* self at fault in this exchange (rather than my previous self, who was responsible for recording these samples) is compounded by the change in my degree of confidence playing the multiphonics. During the recording process, I was unfamiliar with neither this approach to multiphonics, nor with the resulting extreme divergences in their execution and sonic result. Instead, I felt generally confident that the sound emerging from my instrument would be 'correct', as long as I accurately carried out the technical and fingering instructions indicated in the score. Now, I have far more extensive practical experience of the complexities and contingencies involved in playing multiphonics. While my ability to recall specific events in

[18] Beyond cane and reed measurements like diameter, centre-side ratio, length and thickness of the scrape, these parameters include the brand of cane (and therefore its growth location and drying duration), cane density, hardness, knife sharpness, staple type and condition and bind quality.

[19] In performance I have a monitor near my feet that displays the multiphonic that it is registering from my playing, as well as the section and subsection the electronics are playing from.

the recording process has waned, the memory of the confidence with which I went into those sessions endures: this contributes to my tendency to uphold those recorded samples as objectively 'correct'. Conversely, my current knowledge of the substantial potential for error renders me more likely to view my present playing as inaccurate. This juxtaposition – of prior confidence and current wariness – impacts the way I view the electronics, with my attitude towards them shifting to one of deference.

The electronics in *Drift Shadow*, firmly fixed as they are, therefore intuitively feel like a 'correct' entity in the context of Harker's compositional intentions, despite my contextual understanding of the nuances of their production and implementation. The computer is also, by nature, objective: if the patch identifies my playing of P.V. 48 as P.V. 53, it is because *objectively* I am producing a sound that is more similar to what the computer has been trained to recognise as the latter. This is often useful, as I do not have a developed aural memory of all of the multiphonics in the score, especially since many of them have several possible 'inversions', only some of which are stipulated in the notation: in this respect it is helpful to be able to see whether I am achieving the inversion that is recognisable to the neural network. However, as such, the electronics in *Drift Shadow* also represent an externalised assessment of my playing; they become, in many ways, a reified version of the 'correctness' that I have internalised for my standard practice.

As a result, they also carry with them the habitual feelings of transgression that come from *failing* to meet a high standard of playing. When the computer persistently mislabels the multiphonic I am playing, the frustration I feel is directed inwardly, rather than towards the electronics. Though the correlation is flawed, the result is a similar vulnerability to that of admitting to a failure in my playing: having to backtrack and 'nudge' the patch in the right direction by playing more recognisable multiphonics feels like the equivalent of having to attempt a phrase for a second time – an act that constitutes a transgression of the conventions of good practice.

However, as with the aesthetic and embodied resistances, the resistance that results from viewing the electronics as a corrective is a productive source of musical meaning. To me, this piece represents the fragility of exploring novel formats: while its navigation is relatively open, and its score encourages gestural experimentation, the constraints of working with the electronics viscerally draws me back to the rigidity of the practices represented in my standard practice habitus. These are understandings I aim to draw out in my performance of *Drift Shadow*, guiding the types of sounds I form and spend time exploring.

3.5 Conclusion

Even as my relationship to *Drift Shadow* develops, the friction I experience when playing is preserved by the layered nature of the channels of resistance present in the piece. Being able to predict the nuances of the electronics through more extensive familiarity with how the computer will react to my playing, for example, would not eliminate the embodied resistance caused by the obscurity of certain individual multiphonics. If I felt more secure in my multiphonic production, with a reed that allowed for control over the brittle parts of the piece, the specificity that is fundamental to the electronics would continue to pull me towards a version of correctness that is out of reach. Furthermore, the vulnerability that is integral to the interactions between my habitus and the aesthetic space of the piece would still persist as a source of musical meaning.

This process – one in which friction is deliberately provoked and explored in the interactions between my musical habitus and the performative paradigm of the piece – draws out the nuances of my particular embodied technique as productive resistances. These impart layers of musical meaning to the way I understand *Drift Shadow*, and therefore underpin my performance of the piece. My approach to forming gestures and sound events is fundamentally formed by the experiences I have playing the piece; I find that I often linger on ‘breaking’ sounds, for example, and while I frequently gravitate to the introspective, soft sounds in the piece, occasional abrupt or loud gestures feel like apprehensive, wild moments. These are performative choices that reflect the vulnerability I feel at transgressing habituated ideals surrounding oboe playing.

Chapter 4: *Spectral Breathing Apparatus*

4.1 Introduction

Spectral Breathing Apparatus by Stephen de Filippo is a piece for solo wind instrument (without mouthpiece) and electronics, first premiered at Perth's Audible Edge Festival in April of 2022. In 2020, I approached de Filippo with the proposal that we would work on a piece together, based on some of our shared musical and aesthetic interests. Since de Filippo splits his time between San Diego and Western Australia, and due to the COVID-19 pandemic, the collaborative stages of developing this piece took place online, through messages, meetings and shared recordings. During our initial meeting for this project, we discussed the sound worlds and compositional ideas that interested us. I had recently spent time with Harker exploring the possibilities of liminal sound worlds on the oboe, and I was keen to take that further. I was particularly interested in sounds that involved either using the reed in non-standard ways or removing it completely from the sound production apparatus. De Filippo suggested that part of the piece might take place without the reed and, as we sent each other material and as the piece grew, we decided that I would stay off the reed for the entirety of the piece.

In addition to the solo instrumental part, *Spectral Breathing Apparatus* uses both fixed media electronics and live digital signal processing (DSP). Both streams of electronics fit around the instrumental part with ease; I did not experience the resistance that I did while working with the electronics in Harker's *Drift Shadow*. As a result, the discussion below does not focus on the electronics but, rather, on different aspects of my role as a performer. The ease with which the electronics fit into and around my playing (despite the 'liveness' of the DSP) is largely due to the fact that the navigation of the form of the piece is already mapped out, generally to the millisecond; this is wholly unlike *Drift Shadow*. There are no time signatures in the piece; instead, each bar has a duration marking. These vary greatly – the longest bar is 65.55 seconds long, the shortest just 5.56 seconds. The variability of bar length is due to the fact that each is the container for a single broad gesture, corresponding to specific activity in the tape track and particular programmed characteristics in the live processing.[20] Within the durational constraints of each bar, I distribute material according to both the rhythmic indications (when given), and the relative horizontal positioning of the material within the bar. Occasionally, bars are punctuated by a second time indication, which occurs when a notated action needs to line up with events in either the tape or DSP.

[20] While the arbitrariness of bar length in this piece suggests the possibility of removing bar lines altogether, they are in fact crucial for my navigation of the score using the timer discussed below.

Navigating the ever-shifting and highly specific bar durations in *Spectral Breathing Apparatus* is aided by the use of a timer. De Filippo provides two options: the timer included in the Pure Data patch or a timer video made by de Filippo himself. I find this latter preferable, because it has larger numbers specifying the bar, and the video flashes when a new bar commences (see Figure 4.1) – this allows me to watch peripherally while remaining focused on the score. Furthermore, the format means I can play it from a phone on my music stand, rather than from my laptop, which tends to be to the side or behind me, operating the patch and plugged into an audio interface.

Figure 4.1: Timer video provided by de Filippo specifying bar number ('m. 1'), bar length ('10"') and 'location' in the bar in seconds.

The sound world of *Spectral Breathing Apparatus* is vastly removed from any characteristic aspects of conventional oboe sound production. It is a piece composed of hisses, swooping whistles, and squeaks, often employing techniques that amplify the sounds of liminal bodily actions. The electronics transform the sounds I make into reverberant sonorities, enveloping my playing in arcing, shimmering gestures, underpinned by clicks, glitches and even bird sounds in the tape track. To me, the *apparatus* referred to in the title relates to both my mouth and my instrument: I *breathe* through them, around and over parts of them and in doing so, I manipulate the spectra of the sonic results.

Spectral Breathing Apparatus presents a twofold challenge to my musical habitus. The lack of the reed drastically modifies my physical and auditory feedback processes and significantly alters my playing priorities. Secondly, the introduction of vocalisations, other oral sounds and facial contortions, in the absence of conventional oboe[21] sounds,

[21] For the sake of simplicity, the term 'oboe' in this chapter covers both oboe and cor anglais, since I have performed this piece on both instruments.

produces an intensified bodily presence; one that destabilises my understanding of my role in performance in creatively subversive ways.

4.2 Reedless oboe

Spectral Breathing Apparatus prompts a radical departure from my typical oboe habitus by removing the reed. Except for the use of key clicks, oboe sound production in the piece takes place entirely on or around the empty reed well. The renegotiation of my material interactions with the instrument brought on by the lack of reed creates a sense of loss of oboe characteristics, resulting from the 'unvoicing' of the instrument and the absence of the primary contributor to oboe sound production.

As discussed in Chapter 2, many of my most fundamental playing goals are contingent on the presence of a reed due to its constant presence in standard sound production techniques. The significance of reed-related preoccupations to my overall concept of 'good' oboe playing means that many of my technical goals and habits are focused on optimising my interactions with the reed. Though this is not necessarily the case for *all* oboists, for me, the vibration of the reed in my mouth, and learning how to react to it, is the most significant and enduring concern of my oboe playing, persisting long after I feel like a piece is 'under my fingers'.

The absence of the reed in *Spectral Breathing Apparatus* therefore removes a whole set of the usual mechanical preoccupations, as well as interrupting the process by which I monitor my musicianship. For the entirety of *Spectral Breathing Apparatus*, the oboe used is an *unvoiced* oboe: without the reed vibrating the air column, the formants that characterise the oboe sound are not produced. In standard practice, I am always thinking about my mouth, due to its key role in producing good oboe sound, and my standard embouchure is formed in order to satisfy the sound production goals that are defined by my habitus. I ensure my jaw is as relaxed as possible, since too much tension will restrict the freedom of my tongue to articulate with flexibility, and for my preferred 'dark' sound I tuck the corners of my mouth in towards the centre of my embouchure in order to cushion the cane of the reed.

The actions of my mouth are still my main focus in much of *Spectral Breathing Apparatus*, and the feedback mechanisms used for assessing the quality of its movements are largely the same as in my standard practice. Through proprioceptive and auditory feedback, I have developed a sense of how the changes in my embouchure while playing the piece affect the sonic result, just as I do when using a reed. However, these actions are not easily *appraised*: in this context there are no pre-established, internalised playing ideals. Instead, in *Spectral Breathing Apparatus*, I assess the success of nuances of movement

patterns for carrying out de Filippo's notation largely according to how interesting I find the sonic result.

In many instances, the notation leaves the detailed choices of sound production somewhat open: there are various possible ways to fulfil the notated instructions, meaning that in the process of learning the piece I was able to explore and choose sounds. This is especially so with the more loosely-notated gestures, such as bar 15, shown in Figure 4.2 and at 5:15, where the performer is instructed to explore 'different qualities of bubbles, squeaks and spit'. However, it is also the case in sections with more specific notation. In

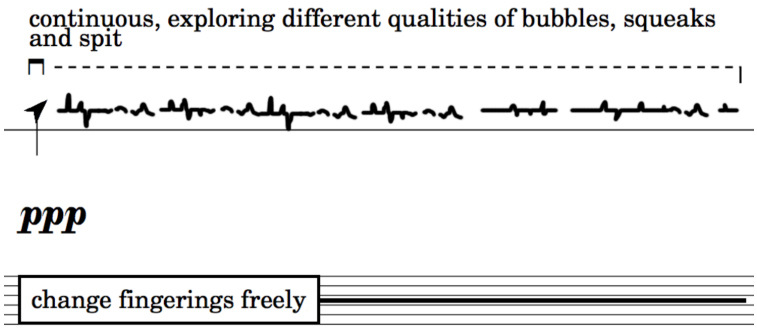

Figure 4.2: Bar 15.

bar 25 (Figure 4.3), for example, beginning at 8:45 in the film, certain parameters are carefully notated, but others, such as the ratio of whistle and air in the sound, the range of the glissandi and the timbre of the plosive consonants, are only loosely specified (if at all), and can be manipulated by changing the shape of my mouth during the gesture.

I evaluate my movements in these types of gesture subjectively, according to *my* interest in their sonic qualities, rather than by an internalised understanding of where they sit on the spectrum of apparently desirable oboe sounds. Though my framework for judging the sounds is surely impacted by my musical context – aesthetic preferences, however individual they might feel, are always formed socially and culturally – it is not tangibly tied to external concepts of good oboe playing in the same way as my assessment criteria for sounds made with a reed. The standard practice traits of my habitus therefore exert less

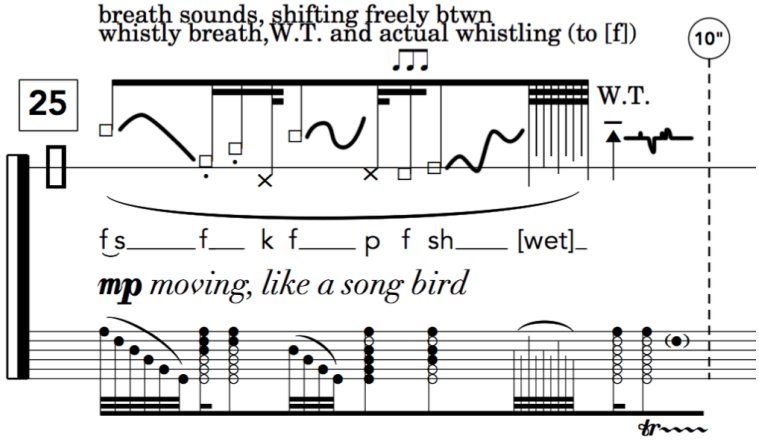

Figure 4.3: Bar 25.

of a centralising pull on my choices when playing this piece, even when compared to the experimental sound worlds of the other works in this portfolio; I am drawn to the characteristics of certain sounds, but, due to the total absence of the reed, deviating from those sound families does not feel like something that needs to be corrected.

4.3 *Reactive* and *generative* embouchures

In addition to altering my relationship to my reed-based feedback system and its associated values, the absence of the reed in *Spectral Breathing Apparatus* places a strong emphasis on the role of my mouth in the generation and manipulation of musical material. In standard practice, I see my embouchure as *reactive* rather than *generative*: my embouchure is not, here, directly responsible for *making* sound, but rather acts as a type of 'filter'[22] through which I stabilise and nuance the sound that is generated by the vibrations of the reed through the instrument. Once my embouchure is in place in this standard practice setting, its typical activities generally only have a relatively small impact on the sonic result: I can mitigate timbral discrepancies or facilitate certain dynamic shifts with my embouchure but, for the most part, it does not significantly contribute to the basic shaping of phrases through musical characteristics such as pitch, dynamic and rhythm. This is the case despite the fact that articulation occurs inside the embouchure: while tongued articulation is a rhythmic tool, in most cases, rhythm is determined by temporally coordinated fingering changes.

The standard practice embouchure, therefore, typically *reacts* to the conditions of the sound and acts to *mediate* the more significant characteristics achieved by other means. Conversely, my embouchure in *Spectral Breathing Apparatus* is often *generative* and takes a major role in producing sound and in manipulating their shapes. A significant number of the gestures in this piece are formed primarily by the actions of my mouth, through sucking, whistling and exhaling, rather than by the vibrations of any external agent such as a reed or an instrument. Unlike in standard practice, the characteristics of a sound – pitch shapes, rhythms and so forth – are primarily created by my embouchure through manipulations of oral shape: finger activity is less significant than that of my mouth.

4.3.1 '*Le tchip*'

[22] A useful analogy here is the linguistic source-filter theory, a two-step speech production model in which a sound source is generated and filtered by the vocal tract, shaping the phonemes that construct words (Tokuda, 2021). Though not a perfect analogy, I find this model similar to how I conceive of my typical sound production apparatus on the oboe: the sound source produced by the vibrations of my reed and instrument is *filtered* by the activities of my fingers (and to a lesser extent my embouchure) as they nuance the shape of the air column.

The most notable example of the expanded role of embouchure – and the reduced significance of the fingers – in *Spectral Breathing Apparatus* is de Filippo's extensive use of a technique he terms '*le tchip*', shown in Figure 4.2. De Filippo's technique is named for, and uses the similar methods of sound production as, the feature of non-verbal communication used in many West African cultures ('Tchip', 2023). This involves a type of sound production in which I set my mouth above the reed well, place my top teeth against my bottom lip and suck air through the small, remaining gaps between my teeth. It results in a squeaky, noisy sound with potential for relatively wide variations in pitch and timbre, achieved by changing the speed of suction via my tongue movements and manipulating the shape of the space through which the air travels. Noisy, timbrally diverse sounds are possible by pulling the lips back and baring the teeth, so that air can pass through several gaps at once. More pure sounds can be achieved by pouting the lips and narrowing the potential routes of air ingress.

In the context of this piece, *'le tchip'* is mostly unaffected by the activity of my fingers; generated and manipulated by the mouth, it is a sound that invites little input from any other aspect of the oboe-playing apparatus. This is unusual to me: I am habituated to the understanding that the actions of my fingers have a significant effect on the sonic result. As a result, when first trying this technique I consciously attempted to find ways to maximise the audibility of the notated fingering: I focused on playing sounds 'into' the oboe, with my lips as close to the reed well as possible, so that any sound produced in my mouth also reverberated through the instrument. This slightly increased the impact of fingering changes on the sonic result and, in doing so, reduced the friction I experienced when generating and shaping sounds almost entirely with my mouth – something that felt resistant within the context of playing an oboe (or woodwind) piece.

De Filippo discouraged this, however: though *fingered* pitch changes were more audible with this approach, placing my mouth in such close proximity to the instrument reduced the mobility of my lips and therefore impeded my ability to form gesture shapes *orally*. Furthermore, playing *le tchip* in this way drastically lowered the level of noise and interference in the sound, and decreased its overall possible volume. Instead, these sound gestures are performed over the reed well, 'out' to the audience rather than 'into' the oboe, with changes to fingering nuancing the sound only in a very minor way.[23] '*Le tchip*' is the most drastic example of the sonically generative role of embouchure in the piece – in the sense that it is so significantly removed from the actions of my fingers – but the majority of sound production techniques in *Spectral Breathing Apparatus* also use the embouchure in this way.

[23] The fingering changes in these passages are often heard as keyclicks rather than as pitch events.

4.4 Unvoiced oboe

Spectral Breathing Apparatus renegotiates many of my preconceived understandings of what oboe playing *is*. The significant change in the prioritising of fingering and embouchure activities in sound production, alongside the removal of the reed and the altering of my sound-related feedback mechanisms, means that much of the oboe-specific expertise that I have cultivated in my practice feels irrelevant to this piece. In many ways, I am fundamentally removed from some of the structures of my habitus relating to the production and shaping of oboe sound. Without a reed, I specifically cannot adhere to the ideals surrounding tone and embouchure use that pervade my standard practice, nor is my technical fingering ability especially relevant or impactful.

This is perhaps compounded by the fact that *Spectral Breathing Apparatus* does not have to be played on an oboe. The score specifies that the piece is for 'solo wind instrument without mouthpiece'. The use of tabulated fingerings as the primary means of indicating hand actions removes the need for instrument-specific knowledge of correlations between notated pitch and requisite finger movement. Even the most technical elements of this piece – the use of rapid and broad oral manipulations – diverge greatly from the types of actions my embouchure carries out on the reed in standard practice.

In this absence of oboe-specific knowledge and sound, *Spectral Breathing Apparatus* represents an 'unvoicing' of my instrument, both conceptually and literally. Removing the reed alters the sound source so drastically that its characteristic instrumental sound – its voice – disappears. This literal unvoicing is akin to the loss of a human voice: the instrument no longer produces, with a reed, a sound with a periodic waveform, like a human voice, instead mostly amplifying and filtering 'turbulence' – sounds that occur in human speech as unvoiced phonemes or whispers. As Aaron Cassidy (2013) notes in his discussion of vocal noise practice, voiceless sounds largely remove the identifiable connection to the resonant body producing them (p. 48).

Although Cassidy is specifically referring to the transgression stemming from the unvoicing of a *human* resonating body, his observations are useful in the context of *Spectral Breathing Apparatus*. Much of what I experience playing this piece originates from the absence of the reed and the subsequent *conceptual* loss of the oboe 'voice', in the wider sense of its identity – as an assemblage of physical, sonic and cultural properties. For Cassidy, the '"voiceless" space' (2013, p. 50) of this aspect of vocal noise practice is characterised by its transgression of human speech conventions; the voice shifts away from its role as 'identifier of individuality, of one's particular person-ness,' confounding our ability to relate to the person making these sounds. Though it is devoid of the communicative capabilities of human speech, I experience the 'unvoicing' of the oboe

as a similarly subversive act. In these terms, my core association of an ability to produce 'good' oboe sound with my self-perception as a musician is understood as the projection of the oboe's 'voice' – or perhaps the projection of my own sense of having a musical 'voice' via my ability to produce a particular oboe sound. In *Spectral Breathing Apparatus* I no longer relate to myself as a musician in the same ways that I do when playing on a reed.[24]

Beyond this, *Spectral Breathing Apparatus* creates a particular performative dissonance between the removal of the instrument's characteristic 'voice' and the conventional embodied state evoked by holding the instrument. When I hold an oboe, its affordances are inescapable: I am drawn to interact with it in ways that I have internalised over decades of touching it. My fingers curve over the keys in a familiar way, and the thumb rest settles into the groove it has formed in my hand. Significantly, I feel the urge to play familiar sounds: a desire that is impossible to fulfil in *Spectral Breathing Apparatus*.

I experience this impossibility as an *erasure*, rather than simply an absence. Since I am holding this instrument, I expect certain interactions with it: it pulls me into a sphere of musicality and invokes personal musical histories that are then undermined by the fact that I do not operate the instrument in even fundamentally typical ways.[25] Therefore, although the techniques used when playing the piece are not oboe-specific – and although I could surely translate the techniques to a different wind instrument without difficulty – there is nevertheless a particular experiential quality in executing them on the oboe. Holding the oboe – which is unvoiced, but not absent – provokes a kind of self-erasure in *Spectral Breathing Apparatus*; it is the oboe and all of its related musical histories that constitute my musical self. I am first and foremost an *oboist*, not an instrumentalist or performer, and this is made plain to me in my experience of playing this piece.

This sense of losing my habitual musical identity is often useful in the context of playing this piece. It helps extract me from a performance scenario in which my engagement with nonstandard sounds is restricted by long-held ideals surrounding oboe playing. The inability to produce familiar oboe sound and to adhere to sonic ideals opens up a space in which I can commit to interacting with my instrument in new ways. Unlike other pieces in this portfolio, I am no longer producing sounds that are undeniably 'of' the oboe but in ways that feel transgressive. This was apparent in the previous chapter, for example, where I discussed my performance of Harker's *Drift Shadow* as informed in part by the

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[24] For a detailed discussion of the idea of the performative and instrumental 'voice', see Laws et al. (2019).

[25] It is perhaps worth noting that I see the absence of the reed as a 'removal'– although I never put the reed in, and therefore it is never *literally* removed in this piece, it is so integral to my conception of the oboe as an instrument that I conceive of this as if the reed has been taken away, rather than having not been inserted to begin with.

resistance I feel as I treat the reed in unorthodox ways and exceed the boundaries of my internalised reed-based ideals surrounding ‘good’ oboe playing.

Spectral Breathing Apparatus does bring about some of the same resistant sensations arising from the undermining of habit, but it is further removed from familiar terrain, resulting in the liberating condition of recognising that there is no in-the-moment possibility of ‘correcting’ my playing. When the reed is in my mouth, I am compelled to move and breathe in ways that are encoded in my habitus. Without the reed I observe the feeling that this oboe ‘voice’ *should* be present, but also accept its departure as an inevitability. I can be a tourist in my own performing body, while exploiting the strangeness I feel in not conforming to standard playing conventions.

4.5 Voiced body

While the oboe feels ‘unvoiced’, my body becomes ‘voiced’ in particular ways as I play *Spectral Breathing Apparatus*. Rather than a linguistic voicing, this is constituted by the presence of my body – its becoming known, both to me and the audience, in ways that are not usual in standard classical concert practice.

For much of the piece I am acutely aware of the activities of my face and mouth, which are more obvious, both visually and audibly, than in conventional oboe playing. My attention is drawn to the sensations of these behaviours, but also to the fact that these activities are highly noticeable to the audience. This level of bodily self-consciousness is novel in the context of my practice: although I often observe and monitor my activities while playing, my body (and how it looks) is rarely the *main* object of my attention. I am typically more concerned with the sonic outcome of bodily actions than the particularities of their execution, which I generally aim to relegate to the territory of muscle memory. *Spectral Breathing Apparatus* undermines these typical modes of embodiment by making them a primary musical and performative focus. There are three aspects to this: the foregrounding of material bodily sounds from, for example, intraoral movements and the manipulation of saliva around my mouth; the introduction of quasi-phonetic vocal sounds produced without the oboe; and the use of techniques that require the contortion of my face and lips.

4.5.1 Bodily materiality

Many of the gestures in *Spectral Breathing Apparatus* contribute to a feeling of bodily transgression when playing. ‘*le tchip*’, for example, often involves the deliberate introduction of saliva into the oral cavity through which air flows. This is explicitly notated in bars 9 and 15, where I am instructed to ‘explore’ the results of saliva interfering with the

air stream, but it is also a factor in many of the other ways that '*le tchip*' is shaped. For example, part of the strategy I arrived at for rapidly shifting from 'pure' to 'noisy' sounds involves pushing saliva into my teeth to interfere with the ingress of air. Additionally, the sound of saliva moving into the air stream during '*le tchip*' is an unintentional byproduct of rapid pitch manipulations in these phrases, as my lips move over my teeth – the same also occurs in gestures in which I am instructed to shift the instrument against my lips, such as in bar 7, seen at 2:12.

'*Le tchip*' is not the only gesture used by De Filippo that purposefully exploits the material functions of the mouth. For example, I am instructed to produce 'wet mouth sounds' a number of times in the piece, including at the end of the bar in Figure 4.3: I loudly move my tongue around my mouth, emphasising the sounds produced as it shifts against my hard palate and teeth. I place particular emphasis on sounds that occur as a result of the saliva present in this action, but also increase the volume by inhaling or exhaling around these movements. This reveals aspects of my body that are rarely apparent either in performance or in day-to-day life. The use of saliva, in particular, is challenging to me: a form of abjection is apparent in the externalisation of these internal biological functions. Similarly confronting is any obvious intrusion of the workings of my mouth and tongue in any way that isn't directly related to producing oboe sound. These moments – snatched and noisy inhalations, the shifting of saliva around the aperture of the air stream, or its subsequent extraction – are typically things that happen *between* the notes; they are usually extraneous, minimised so as to not protrude into the flow of the musical sounds being produced.

4.5.2 Vocalising the body in *Spectral Breathing Apparatus*

At times, it is the implications of the sounds in *Spectral Breathing Apparatus* that contribute to the resistant sense of my body erupting into the musical surface. Unvoiced phonemes are used in various configurations throughout the piece: in rapid clusters, such as in bar 19 (7:20), as larger phrases like those beginning in bar 25, and as a means of achieving various air sounds (shown in Figure 4.4). These techniques seem to suggest attempted vocal communication in a performative space where my voice is rarely heard. In particular, the articulation of phonemes without semantic meaning seems to imply that I am trying and failing to communicate.

The qualities of these phonemes vary considerably in content and affect. Some feel relatively familiar and are similar in either sound or execution to aspects of extended oboe technique: for example, long air sounds using an 'f' or 's' consonant are quite common in new music. Likewise, those consonants that I play almost entirely 'into' the oboe, such as the palate click 'k's in bar 8, seen at 2:50, feel closer to typical modes of playing my

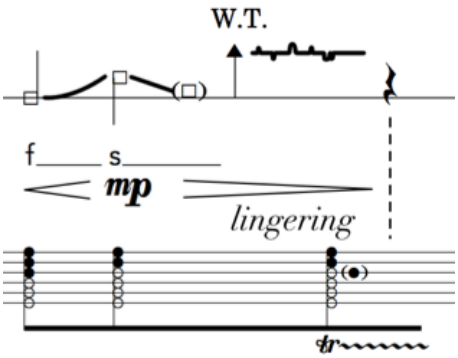

Figure 4.4: Unvoiced phonemes used in bar 16 to manipulate air sound gestures.

instrument than those that are entirely ‘off’ or ‘over’ the reed well; in these moments, the sounds activated by my mouth are sufficiently filtered by the instrument to avoid the sense that my voice is intruding into the performance space. Conversely, quick bursts of phonetic activity off the instrument sound like urgent attempts at whispering but without content, and the extended passages of linked consonants feel as if I am speaking a language nobody understands. Here, there is no oboe between my mouth and the audience (or between my mouth and my ears); the way these gestures are formed is determined not by the movement of my fingers and the resonance of the instrument, but by my oral physiology and my habitual use of language.

Again, my body protrudes, here, into the music: the use of phonemes suggests apparently communicative material, yet any communicative meaning in the sounds is absent. I am, in a sense, a *spectre* made of residues of the paraphernalia of speech – extraneous verbal articulations – where the lack of meaning instead foregrounds the materiality of their production. I am therefore present as a bodily entity and an object to be perceived in ways that violate the borders that normally constrain my performative activities.

4.5.3 Facial contortion

The affective impact of the bodily materiality and unvoiced phonemes is compounded by the extreme ways in which my face often has to move in order to carry out the requirements of the notation. Several techniques in *Spectral Breathing Apparatus* require a extended movements of my cheeks, jaw and lips. In ‘*le tchip*’, for example, timbral and pitch changes are achieved through wide manipulations of my mouth shape. This is also the case with nearly all other types of gestures with glissandi, such as the whistle tone in bar 5 or the sweeping song bird passages beginning at bar 25, and some of those with rapid repetitions of single consonants, like in bar 8. These oral manipulations and their resulting facial movements are far more extensive than those typically necessary in standard practice, but in the absence of the reed this is somehow *less* strange and

challenging: with a reed, and thus a more usual playing context, the movements would feel *more* contorted, *more* excessive. Instead, the impact here arises from the ways these movements seem to mimic communicative (non-oboe playing) facial expressions and from the theatricality of the more extreme contortions. This commences early in the piece: in bars 4 and 5, for example, my lips shift quickly and dramatically between being pursed and curled back over my teeth. My cheeks are pulled up and my eyebrows alternate between frowning and being raised as if in surprise. These passages do not create coherent strings of facial expressions or narratives of facial reaction, but rather seem to flash through random combinations of discrete expressions.

Such deliberate, *visible* bodily gestures like this are rare – if present at all – in my standard practice. Although they are a byproduct of the execution of notated techniques in this piece, their presence often feels unfiltered and theatrical – antithetical to the 'restraint' that, as Bull notes, is present in standard practice ideals (2019, p. 94). This is the case with both long, drawn-out movements – such as in bar 39, when my lips transition slowly from bared to tightly pursed, seen at 14:08 – as well as during rapid sequences of techniques that require facial contortion (such as those in bar 25). The novelty of these gestures leads me to focus disproportionate attention on them, to the extent that I think of them as lasting longer and involving more grotesque and distorted movements than is actually the case – something that became more apparent watching the film footage. Furthermore, I am cognisant of how these facial contortions – inflated as they are in my mind – might be perceived by audience members in typical western art music settings.

4.5.4 Bodily *visibility*

My body is, of course, always *present* in playing the oboe, but its activity is typically aimed towards the production of oboe sound, and its audible and visible intrusions into performance are not usually foregrounded, but rather minimised. Highlighting sounds produced by my body, rather than mediated by my instrument, obviously shifts the object of focus to the site of sound production – my body, and in particular my face and mouth. The activities that are highlighted through this shift (and their resultant sounds) feel more personal than those belonging to sound production mechanisms in standard practice. They belong to *my* body, rather than to an instrument that I am holding: the majority of sounds I make in this piece are shaped not by the physical properties of an external agent (and one made by other people for a specific type of music making) but by my own organic 'substance'.

Importantly, *Spectral Breathing Apparatus* deploys aspects of the body that are often potent agents in the expression of self: my face, manipulated and contorted in the piece ways that render it highly visible, is a symbol of my identity, and my voice, even in

articulating unvoiced phonemes, is a signifier of both my relationship to language – an important form of self-expression – and of my physiology. Similarly, though less *identifiably* 'me', the recognisable use of spit and the tongue – interior to the mouth – conveys an intimate sense of the materiality of my body that feels exposing and vulnerable in the context of a performance.

These features of playing *Spectral Breathing Apparatus* highlight the crux of this experience of transgressing the boundaries of oboe playing, and of musical performance more generally: discomfort at what seems like the prominent 'insertion' of my full, bodily, agential self into the performance. As discussed throughout this dissertation, I have a clear concept of my role as an instrumentalist, and part of this involves the ingrained belief that a faithful realisation of the music involves my body and self not being *too* present in the performance. This perception of my role as an instrumentalist, and more specifically as an oboist, has been constructed through prolonged immersion in certain musical environments with particular values, as discussed in the Introduction to this thesis. This includes a particular understanding of my physical interaction with the instrument: my concept of ideal performance is informed by a desire for physical efficiency, such that I equate good playing with, among many other things, a focus on preserving energy and tone by minimising extraneous movement. Over time I have come to understand this as 'getting out of the way': it often feels like a process of stripping away or confining the *natural* tendencies of my body in performance, in order to create a streamlined apparatus, whose movements are focused as much as possible on sound production. This internalisation of acceptable performative actions creates a type of proprioceptive feedback wherein I intuitively know whether a movement lies acceptably within the boundaries of this playing apparatus, or should be classed as extraneous and therefore avoided.

Other aspects influencing this concept stem more tangibly from the fields in which I have studied and performed music. I have absorbed a more general idea that I should aspire to 'let the music speak for itself', which implies that there are features I could bring into performance that would obscure the communication of the composer's musical goals. I am aware, for example, of the extended discourse surrounding concert dress (particularly that of female soloists), in which clothing that 'distracts' from the music is regularly criticised (see Lebrecht, 2021, for example). Such commentary tells me that my physical presence has the capacity to be perceived as a distraction. Similarly, I have often witnessed performance – my own or that of my peers, as well as more broadly – being criticised for weakening 'the music' by 'doing too much': for there being too much movement, rubato, ornamentation, and so forth. The legitimacy of these critiques is not strictly relevant; instead, the point is the extent to which the concept of 'letting the music speak for itself' without, as Bull notes, 'putting any bodily expressivity in the way of the sounds' (2019, p. 99) has entered into my habitus and informs my understanding of my

role. Finally, this conveys a particular ontological understanding of ‘music’ as, above all else, sounds conceived of by a composer; a framework in which my job is to be faithful. I find the enduring persistence of this in my habitus slightly surprising; it was no doubt a feature, even subconsciously, of my ideas of musicianship when I was younger, but I have not actively thought of music that way for some time. However, it seems to live on as a memory in my body that is present in many of my interactions with my instrument and in my relationship to performance.

Many of the kinds of actions found in *Spectral Breathing Apparatus* transgress the boundaries of this concept. I am undeniably *present* in this performance, in the actions of my face, in my vocal utterances, and in other sounds originating in my body. If the removal of the reed constitutes a kind of extraction or erasure of a self predicated on good oboe sound as an indicator of musicianship, the insistent presence of my body is an insertion of a different, more material self. This is a version of me that is continually hidden in performance; a reminder that I am an *organic* body with idiosyncratic ways of functioning – a body that *matters*, in Judith Butler’s (1993) terms – rather than a polished, ‘practised’ musician. Playing *Spectral Breathing Apparatus* feels alien, not just through the types of techniques it uses (which are by now very familiar to me), but through a nagging awareness of the foreignness of how I am presenting myself in performance. This is a useful tool for forming an understanding of the piece, whose sound world feels gritty and animalistic, and this sensation of Otherness informs the ways I carry out the notation.

4.6 Filming resistances

The filmed performance of *Spectral Breathing Apparatus* aims to draw attention to the external focal points of the resistance I experience when playing this piece. Therefore, the film follows the actions of my face and fingers, inviting the viewer to focus on the physicality that produces the unusual sound world of this piece. Two types of shots are used in this video: a close, static shot that frames my face, and more mobile panning around my hands and mouth. The performance is filmed close to my body: viewing it is, for me, an uncomfortable experience. I am viscerally aware of the unconventional ways I am using my body to produce sound and, furthermore, of the visual foregrounding of those parts of my body for the viewer. This was, of course, an intentional choice: I want the viewer to experience the intensity of the facial contortions and other physical aspects of playing *Spectral Breathing Apparatus* – even to feel, in what might be a strange or even uncomfortable viewing experience, something of the transgression that I experience when playing.

4.7 Conclusion

Playing *Spectral Breathing Apparatus* is often a resistant experience, departing significantly from the modes of oboe playing modes that form my fundamental musical habitus. This imparts a sense of alienation – of being Other – to my understanding of the piece, which I then aim to draw out in performance. Without a reed, I am bereft of some of the key touchstones of my musicianship, while the techniques used in the piece often feel transgressive, both in their execution and their sonic result. This alienation is a novel experience: while vulnerable, it is also *liberating*. The absence of the reed prevents me from aligning my playing with internalised sound production ideals. While performing some parts of *Spectral Breathing Apparatus* feels frantic and fragile, from a sense of the loss of my oboe voice, other moments feel like a wild, even ecstatic, exploration of sounds that belong to a novel paradigm.

Chapter 5: *the green is or*

5.1: Introduction

the green is or (2003) by Aaron Cassidy is a piece for solo oboe, one of three works that is 'extractable', in the composer's terminology, (Cassidy, Program Note, para. 1, n.d.) from the septet *the green is either* (2002-03). It was chosen for this research project because of the productive resistances brought about by its unusual notation style. The piece is an example of Cassidy's decoupled notation, which splits apart parameters of the sound production apparatus that normally are integrated on a single stave of standard notation. For the majority of *the green is or,* the activities of the hands and mouth are notated on separate staves. The top stave contains information pertaining to my embouchure and air flow: articulated rhythms and other extended tonguing techniques, lip glissandi, dynamics and vibrato (only to be used when notated) are all on this stave. The bottom stave has pitch instructions, including rhythmic pitched gestures, fingered glissandi and ornamentation such as trills and mordents (Figure 5.1).

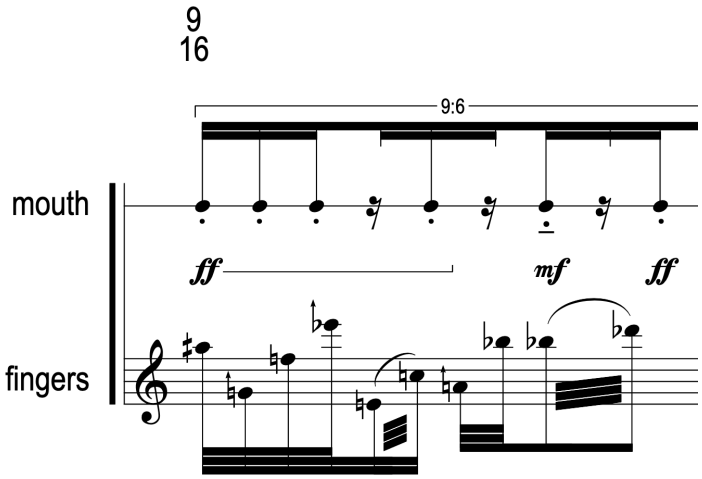

Figure 5.1: The opening of *the green is or*, showing the notational division of parameters. Page 1, line 1.

Other pieces by the composer that utilise this notation style are similarly bifurcated: in Cassidy's *String Quartet* (2001-02), for example, the left and right hands of each player are notated on separate staves. In general, this is a notation style that divides the mechanisms that determine pitch from those that sustain, articulate and otherwise nuance sound. This parametric notation is dense, rhythmically complex and highly specified in its pitch indications. In *the green is or* Cassidy notates complex subdivided rhythms in both staves, and uses both quarter tones and 'slightly sharp/flat' indications for the fingerings (and all of these must be discrete fingerings – that is, distinct fingerings for each pitch

indication, rather than employing approximated pitch variations by means of embouchure manipulation or other techniques). This differs from Cassidy's more recent style of parameter notation, which is more graphic and does not use specific pitch or rhythm indications. Works such as *The wreck of former boundaries* (2016) and *A way of making ghosts* (2010) employ Cassidy's 'non-geometrical' rhythms (Cassidy, 2015) – a notation style in which duration emerges '*from the event itself*' (p. 12, emphasis in original), through indications of resistance and velocity that are interpreted by the performer, rather than through the relative duration by which musical events are typically mapped in scores.

Unlike the other pieces in this portfolio, the bodily activities undertaken in playing are often distinct from their sonic result. The sounds that my instrument makes throughout this piece are rarely the direct result of what my body is doing; the separation of the actions of my hands and mouth onto different staves means that the relationship between any of the contributing physical actions and the aural outcome varies considerably and is very different to that in standard oboe practice. While the staves share tempi, time signatures and bar lines, for the majority of the piece they occupy separate rhythmic worlds.[26] The frequent use of different complex tuplets in each stave means that vertical connections between the staves are rare. There are three distinct musical forces at play: the actions of my hands, those of my mouth, and the aural component of the piece. The latter is, as Cassidy (2004b) notes, 'gesturally unique' (p. 44): the rhythms and pitches in the staves frequently intersect to create sounds that are distinct from what is written in either stave. I might be fingering a specific pitch, for example, while the activities of my embouchure greatly distort the note so that it speaks arrhythmically and/or no longer corresponds aurally to the written pitch.

This division provokes two kinds of productive resistance to my habitual modes of interacting with my instrument and notation, further discussed below. Firstly, resistance arises from reading and learning a piece in which the mechanisms of my performing body are separated and rendered polyphonic. *the green is or* so drastically renegotiates my interactions with the oboe that initially I did not know how to approach the piece. It was difficult to comprehend how this notation would map onto my body, and as result, the learning process was disconcertingly slow and required that I reconsider my practice strategies and develop new approaches.

Secondly, a sense of resistance has persisted beyond the learning stage, in how the experience of division is sustained as I play *the green is or*. Even having learned the bifurcated choreography, and having performed the piece, the experience of the

[26] This portfolio contains one other piece with dual-stave notation: *Spectral Breathing Apparatus* by Stephen de Filippo. However, there the staves share event relationships; they are separated to allow for the notation of novel oral techniques, but they are tied together rhythmically, which makes it feel vastly different to play compared to *the green is or.*

disintegrated body still breaks through the apparent competence. This arises, for example, as a result of the aural component of the piece remaining unfixed and still always liable to change in unusual ways, and also when I have to curb my embodied instinct to refine and join together the divided activities of my hands and mouth. Furthermore, the types of sounds produced as a result of the separation of parameters – squeaks, squawks, underblown sounds, and so forth – subvert my standard practice habitus and emphasise the division of parts of my body that I have, until recently, worked to unite in my wider performance practice.

These experiences of friction are brought on by the confrontation of my embodied oboe habitus, with its classically trained ideals and beauty standards, and the ways I am required to play my instrument in *the green is or*. Alongside the processes involved in preparing this piece, the concurrent uncovering of the resistances that arise exposes the nature of those internalised ideals, along with the ways in which particular modes of musicking are deeply ingrained in my musical habitus. Furthermore, the process of interrogating these resistances has more broadly revealed the extent to which this experience of resistance – whether specific to *my* habitus, or another performer's – can ultimately shape an understanding of the musical meaning of the work. This is a fundamental aspect of the experience of playing the piece: the resistance that arises in my interactions with my instrument and the score while learning forms a layer of meaning in *my* understanding of what *the green is or* is 'about', and has become part of what *is* in performance.

5.2 Learning *the green is or*

The choreographic decoupling of hands and mouth in *the green is or* deviates significantly from my typical ways of interacting with my instrument and notation. Before learning this piece, the actions of my body while playing have always been orientated towards realising a single stream of notational activity. This is a factor of my relationship to standard notation that has shaped the way I conceive of my physical interactions with the instrument. It is therefore challenging to read a piece like *the green is or* and attempt to process the mapping of the divided notation into bodily movement.

5.2.1 Decoupled notation and ease of learning *the green is or*

I think of the components of my body that contribute to playing the oboe as an interwoven collective of elements contributing to a single sonic goal, rather than as separate streams of activity with individual physical outcomes. This is similar to what Matthew Ratcliffe (2013) calls 'unitary tactual perception', which one encounters in the experience of multiple points of bodily contact with an object without this necessarily amounting to

'phenomenologically separable touches' (p. 141). I usually experience my playing apparatus as a coherent perceptual unit. A collection of notes in a gesture feels like a set of holistic physical states; like tangled units of the mechanical operations that contribute to sound production – a discrete sequence of finger movements aligning with a sequence of embouchure movements, and subsequently with another parameter of activity, and so forth – rather than several concurrent sequences of separate bodily movements. In the act of playing, it therefore feels impossible to, for example, extract the actions of my tongue from that unit and desynchronise them from those of my fingers and lungs. This cohesion is partially a function of interacting with the standard, monophonic notation that has constituted the significant majority of my experiences with the instrument, and is therefore fundamental to my internalised relationship to the oboe. My instinct when I pick up the instrument is to play in ways that are geared towards this single-stave-based intertwining of physical states.

the green is or, however, requires near-constant decoupling of mechanical operations. It is, as Cassidy notes, a 'strangely monophonic polyphony' (2002, p. 159); the outcome of this notation style on wind instruments is, of course, ultimately monophonic, yet it feels polyphonic in the ways I am required to think about the notation and to use my body. The single unit of actions described above is split, creating two sets of physical states, rather than one, that contribute to a single sonic outcome. My fingers are divorced from the activities of the rest of my sound production apparatus, and there is little rhythmic congruence between the two staves; events and gestures are very rarely aligned, to the extent that the staves feel like two separate horizontal streams of activity.[27]

This departure from internalised modes of mapping notation to action introduced a significant and novel challenge to the process of learning the piece. It necessitated the addition of a learning stage focused on *reading* the notation and understanding how I might attempt to bifurcate my body, in order to carry out two simultaneous but not overtly related sets of instructions. This is a stage no longer required in my standard practice, since I am familiar enough with the relationship between oboe technique and standard notation that I can read a piece of standard repertoire without first having to engage in what Cassidy refers to as 'a certain translation in … mapping from notation to instrument' (2015, p. 3). I understand, at this point as if innately, how each note on a standard stave translates to a physical interaction with my instrument. *the green is or* effectively re-introduces this stage of information parsing, and in a very different form: this felt confronting, and presents a memorable degree of novelty that persisted beyond the learning process.

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[27] This is in contrast to De Fillipo's *Spectral Breathing Apparatus*, discussed in Chapter 4, where vertical relationships are preserved despite having two staves. While my bodily actions are still divided in *Spectral Breathing Apparatus*, I experience them as cohesive contributions to a unified sonic outcome, rather than as entirely distinct processes like I do in *the green is or*.

5.2.2 Learning strategies and priorities

Initially, the only way to map the staves to bodily action was to play them separately. Consolidating them required devising methods of simplification that were effective but did not strip the piece of the performative and aesthetic interest created by the bifurcation of hands and mouth. To that end, I discarded any approaches that involved substantial re-notation or reconceptualisation of the divided staves. For example, I rejected the strategy of analysing the rhythmic content of both staves and combining them through extensive score annotations prior to commencing practice for the first time; a kind of vertical analysis that performers of complex music often undertake (see, for example, Schick, 1994). This approach might have enabled the merging of the streams of information into a single set of action sequences, minimising the sense of the divided body from the outset. However, as Cassidy notes in his discussion of *metallic dust* (1999), a piece with similarly decoupled notation, this would often have been effectively impossible. In many instances in *the green is or*, like in *metallic dust*, the complexity of each stave is such that the information cannot always be condensed into a single stream of notation in a way that would simplify the experience for the performer. Where overlaps in the vertical relationships – moments of rhythmic or metrical coincidence between the staves – are apparent in the score, they are frequently undermined by what Cassidy refers to as 'polyphonically-created instability' (2004a, p. 153): diverse techniques that disrupt the pitch and rhythmic properties of the sonic result, often in several concurrent ways.

Furthermore, parameter separation was in fact highly productive in my creative engagement with *the green is or*, and therefore I did not wish to reduce it through a process of re-notating. The division brought about by the decoupled notation was valuable to my experience playing the piece, emphasising one of the fundamental research areas explored through these performance projects: the extent to which I have internalised one particular type of music making on my instrument. The sensations that arose from the resistance between this aspect of my oboe habitus and the notational requirements of *the green is or* is central to how I understand and perform this piece.

Maintaining this important division of activities while still successfully learning the piece was difficult. As noted above, my first step was to learn each stave separately: I attempted to memorise the actions to be undertaken by my fingers, in isolation and without embouchure activity, and also, conversely, the notated activities of the embouchure stave without incorporating any fingering changes. I then often tried to 'overlay' the gestures of the two staves, once they were both learned at tempo, playing the material of the gestures together, as two concurrent horizontal sequences but without further clarification of their exact vertical relationship. This was rarely effective; focusing concurrently on my hands and mouth as discrete horizontal activities in *the green is or* was possible only for very

short bursts, and inevitably the myriad rhythmic and technical complexities of each stave pulled my attention in different directions, in ways that interrupted the flow.

Two approaches enabled me to proceed with learning *the green is or*. The first was to find extant vertical meeting points between the staves and emphasise these with score annotations. These were minor, shorthand markings on the score, rather than the kind of extensive rewriting strategies discussed above. Single event overlaps – an articulation and a pitch event that occur at the same point in a bar – are generally already indicated by Cassidy with a line of dashes connecting the staves (see Figure 5.2), but there are others

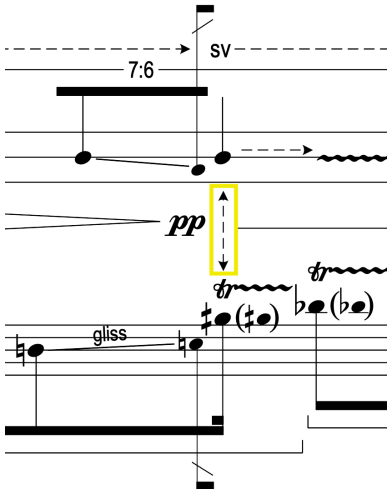


Figure 5.2: The second bar of *J*, with line (highlighted) indicating alignment of events between staves. Page 3, line 4.

that I have annotated myself, shown in Figure 5.3. Furthermore, there are other types of overlaps that can usefully be identified but that Cassidy does not notate. These include moments when sustained activity in one stave corresponds to a specific range of actions in the other, such as lip glissando covering a fingered gesture (see Figure 5.4), and near

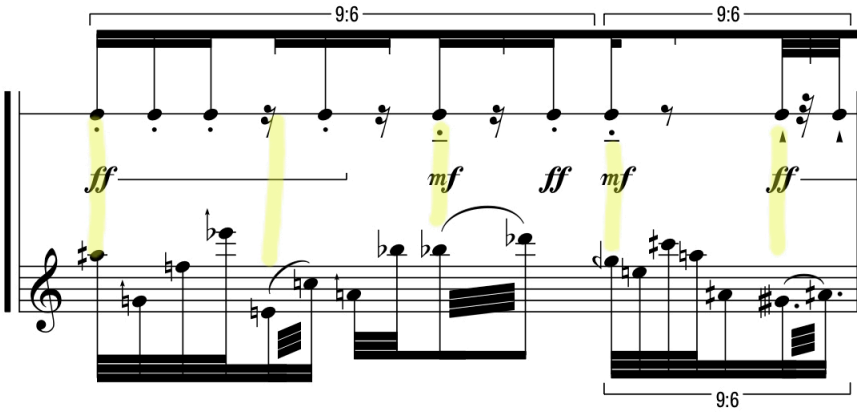


Figure 5.3: Bar 1, with annotations showing rhythmic overlaps between staves. Page 1, line 1.

overlaps – what Cassidy calls ‘a change of direction’ (2015, p. 3) in the activities of the staves – where often isolated actions in one stave occur close enough to an action in the other to form a memorable rhythmic sequence, shown in Figure 5.5. Annotating these meeting points helped in making the score more ‘readable’; they assisted in anchoring me

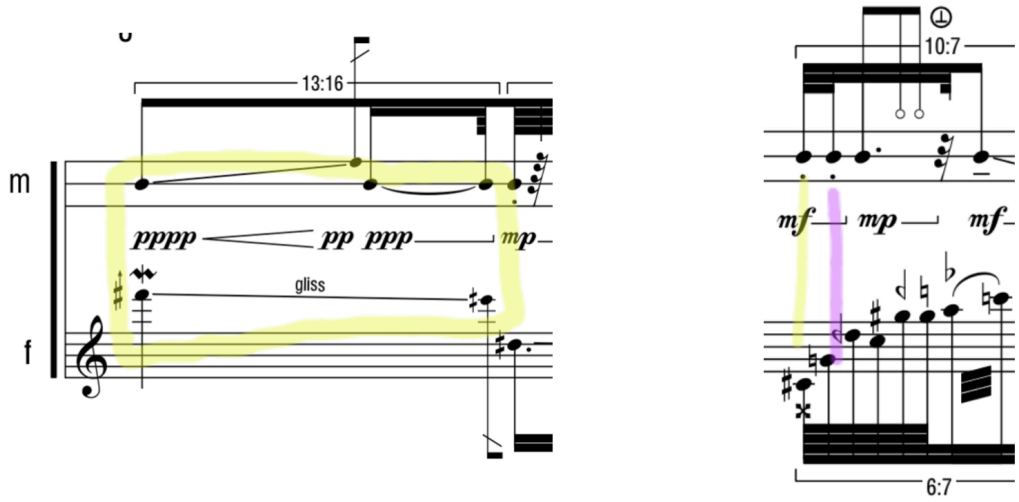


Figure 5.4 (left): Annotation from the first bar of *I* highlighting rhythmic overlap in longer gesture. Page 3, line 1.
5.5 (right): Annotation indicating exact (yellow) and near (purple) overlaps, from one bar before *E*. Page 2, line 2.

to specific occurrences of comprehensible physical states throughout the piece, creating instances of that familiar unit of joined physical actions, which helped orient me in a sea of information. It provided something to ‘aim for’ – I could practise moving from anchor to anchor in bursts of split attention.

The second approach was to sometimes consciously direct my focus to one stave rather than the other, using further score annotations to indicate moments where this was useful. There are a number of passages in *the green is or* which are – at least for me – too complex to carry out with equal focus on each stream of activity. During the early stages of learning, it was often readily apparent that in some places the activities of one stave required more attention than the other. Noting this in the score assisted the learning process because it provided an attentional choreography for these moments which, though not continual, helped structure my navigation through the piece. Rather than feeling adrift with two demanding sources of notational instruction throughout the piece, I was instead able to orient my focus as the piece progressed.

This did not especially diminish the productive division of parameters discussed above, but instead served to guide my playing in moments of otherwise overwhelming complexity. A similar shift in focus is something that also occurs in standard practice; even though, as explained earlier in this chapter, I conceive of the actions of my bodily parameters as a single inseparable ‘unit’ when playing, I can nevertheless direct my attention to a single

component of my playing apparatus as a means of ‘checking in’. However, this is rarely planned as extensively as in *the green is or*, and is often only indicated with a small mark that reminds me to pay attention to a particular aspect of the playing. *the green is or*, in contrast, contains multiple entire gestures during which I allocate my focus to the activities of either my hand or embouchure, and this is mapped quite formally with my annotations.

The gestures to which I applied this strategy are those where I can designate one of the staves *active* – highly complex and requiring much of my attention – and the other *passive* – simpler, and learned to the point of being almost automatic (see Figure 5.6). For this strategy to be effective, one of the staves needs to be sufficiently straightforward for the actions to be internalised effectively and carried out without significant attention. This

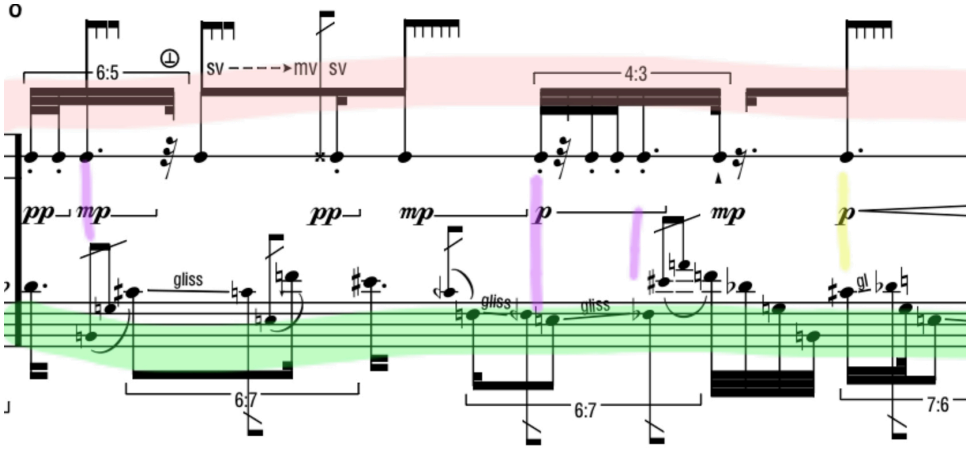


Figure 5.6: The first bar of *C*, annotated to show, among other things, the mouth stave (highlighted pink) is *passive* and the finger stave (highlighted green) is *active*. Page 1, line 3.

meant that the strategy was not used particularly frequently, since for much of *the green is or* both streams of activity are highly complex. However, where this *was* possible, focus annotations, like the overlaps discussed earlier, assisted by providing structure that I could hold onto as I learned to play this piece, choreographing my navigation between bars and gestures.

5.2.3 Novel learning trajectories in *the green is or*

Strategies that helped coordinate my navigation through the score were essential for learning *the green is or*, since conventional learning methods were rendered less effective by the unique challenges posed by this piece. The use of a metronome in practice, for example, had to be adapted for passages in which the staves rarely have common beats. Ordinarily, I use a metronome both for larger divisions of the bar (minims in a 4/4 bar, for example) and subdivisions of the main beat (such as quavers in a passage of semiquavers). A metronome was occasionally useful for practising *the green is or*, but generally only for broad divisions of the bar; the subdivisions of a beat were rarely the

same across the staves, and so the metronome could only be used for subdivisions when the streams were played separately. Likewise, repetitive, slow practice with incremental tempo increases is typically a staple strategy for learning technically-difficult standard repertoire, but it functioned very differently while working on this piece. For me, this type of practice is usually a process of both developing a level of muscle memory for a piece and building an aural ideal of how things should sound. As I increase the tempo, I focus less on the actions being carried out by my body, and more on checking the sonic outcome against that aural image.[28] However, in *the green is or*, the nature of the relationship between the embouchure techniques and fingering patterns frequently means that the sonic outcome is different when played slowly to that at the correct tempo. I found that gestures such as glissandi often dropped off or stuttered when played slowly at the notated dynamic and embouchure position, but sounded more seamless when played faster [*figure: bar before K E to F gliss with long diminuendo drops when done slowly, but is more likely to stay sounding when done faster*]

Additionally, there are several unusual trills, glissandi and other pitch sequences in the piece that require the selection and use of atypical fingerings. Early on in the practice process, I often chose fingerings based on how well they produced sound *only* at the very slow tempo at which I was initially practising. I frequently found that I had selected fingerings that worked easily when played slowly, but did not have time to 'speak' when sped up and instead came out (usually) as an underblown timbral air sound. In some parts of *the green is or*, I accepted how notes changed throughout the practice process, understanding it as a byproduct of the split notation style; this was especially so in passages with fast transitional or disruptive embouchure techniques (glissandi, tongue stops and so forth), where the pitch would anyway be rapidly distorted or rendered inaudible. In these gestures, I kept the originally selected fingerings. However, despite the disjunction between playing activity and sonic outcome and the many composed-in instabilities of tone, pitch does often matter: writing about *the green is where*, the chamber work from which *the green is or* is extracted, Cassidy indicates that the pitches that emerge from the notation are important, noting that they often have harmonic implications even if they 'were initially generated through physical rather than harmonic impetus' (2008, p.19). Therefore, in some cases, such as those sustained notes or gestures without significant embouchure disruption, it seemed apparent that the particular notated pitch could be achieved. Here, then, I could not simply stick to the fingering that *only* worked at the slower speed, but would change to one that could realise that pitch more effectively at tempo. This was often to the detriment of the progress I had made on the passage: I would then have to go back to a slower tempo and relearn the new fingering. [*figure: four before J, E slightly flat to D sharp– changed fingerings for the E flat to one that spoke at a faster tempo. Since this was an unarticulated passage it felt*

[28] For further discussion of this, see Chapter 2: *iv 5*.

worthwhile in order to have this pitch included in the gesture.] Adapting to this phenomenon often had the inverse effect; when I preemptively selected fingerings whose pitches worked effectively at a faster tempo, I often found they did not sound the same way when played slowly. [*figure: fingering I chose for G to E gliss at F– has a tendency to 'snap' down when played slowly, but shifts more smoothly when played fast*].

Throughout the learning process, therefore, the sonic outcome of my physical actions often shifted in ways and to an extent not usually experienced in my standard practice. In conventional practice, of course, the pitches produced early in the learning process are generally – ideally – the same in performance. My goals in practice usually have as their basis a predetermined sonic outcome made up of specific pitches and rhythms, whether notated in a score or existing as an abstract concept, like a scale or arpeggio. In *the green is or*, however, the final aural component was often only revealed towards the end of my practice process, once I could execute the notated actions at tempo, reconfiguring the embodied experience of learning the piece.

This deviates from habitual ways of conceiving of my actions in relation to the notated piece – my own, but also those integral to conventional western classical practice. Tim Rutherford-Johnson (2011) suggests that each note in a conventionally notated score 'conveys a historically sanctioned idea of the correct and the beautiful that the performer has been taught to read and strives to reproduce' (para. 2). While a sonic ideal concerning instrumental performance comes with requisite physical states belonging to each note, these do not usually constitute the primary criteria that I aim for in practice; rather, they are a consequence of attempting to execute the notation, and are something to be refined with the goal of successfully producing specific notes. In much of western classical performance practice, instrumentalists are, according to Rutherford-Johnson, seen as 'intellectual interpreters rather than manual laborers' (2011, para. 4): the bodily activities of playing are undertaken in service of the reproduction of the sound conveyed by the notation, and this reproduction takes precedence over the physical actions considered alone. This is what Menin and Schiavio (2012) call 'teleomusical acts' (p. 210): goal-directed actions, in which a musician's embodied motor knowledge is informed by the pursuit of a sonic outcome rather than the physical action itself. An intentional acoustic object was absent from the particular process of learning *the green is or*, and I therefore had to rely on other strategies and forms of feedback to orientate my goals when practising.

5.2.4 Bodily 'intrusion' in the learning process

My history of learning the instrument has been built on the conceptual relationship between notation, sound and action that characterises classical performance. As a result,

I habitually conceive of practice as a process of refining the actions of my body until an ideal sonic outcome is achieved, something that is likely true for many performers whose practices are focused on standard repertoire. As well as learning the sequences of the physical states that make up a piece, practice also crucially involves eliminating the *intrusions* of my body into that sonic outcome. This is the case on an individual, piece-by-piece basis – I practise to prevent piece-specific sonic interferences from erroneous finger movements or inefficient oral shapes, for example. However, it is also a broader theme of my years learning the oboe: a persistent aspect of my work in practice rooms and in lessons has been the minimising, and ideally the elimination of, the repeated, unwelcome interventions of my body in sound production, by working on weaknesses of technique brought about by, for example, the structure of my mouth or the shape of my hands.

The learning goal most strongly internalised in my habitus involves learning to *contain* the material tendencies of my body and instrument in order to produce the written notes. In *the green is or*, however, without a notated sonic outcome to which I might configure my body, it is inevitable that my body and its relationship to the instrument becomes responsible, at least at times, for determining the aural result. This is especially so in the case of the more fragile and contingent transitional techniques, such as glissandi, rapid articulations, or wide fluttering trills. My fingers move in nuanced ways which, in conjunction with the way my lungs vibrate the reed and the instrument, produce sounds that are likely to be unique to my own physiology and movement patterns. In these moments, the essence of how my specific body is playing the instrument is revealed in the sonic result of my actions – the way *my* mouth shape allows for a pitch to split at a certain point, for example, or how *my* tongue articulates on the reed under unstable airflow. These abject tendencies are typically polished away in my standard practice in order to better serve what Suzanne Cusick refers to as the '*mind-mind* game' of western classical music – the erasure of the performing body that might hamper the seamless transfer of composer intention to the listener. Here, however, the practice processes for *the green is or* increasingly revealed the material qualities of these interactions, particular as they are to my performing apparatus.

The role of my body in shaping the sonic artefact as I was learning the piece was confronting. I felt vulnerable in committing to memory the shape of a physical choreography that was not referenced against anything except my own ability to carry out the complex notation instructions. There are other pieces in this portfolio in which my physiology has a similar impact on the aural outcome – especially those by de Fillipo and Harker – but these were developed collaboratively and learned with consistent feedback from the composer. *the green is or* was composed long before I began to practise it; I persistently felt it possible that the particular material qualities of my interactions with my instrument were producing sounds that were 'incorrect'. I understood that Cassidy was intentionally undermining the typical function of notation as a written representation of

sonic outcome, but the very fact that *the green is or* is an extant composition elicited for me the possibility of 'wrongness'. This persisted throughout the learning process: the feeling that my body was intruding into the sonic artefact in potentially unwelcome ways infused my experience of the piece with a sense of exposure and uncertainty.

The significant deviations from my habitus that characterised the processes of learning *the green is or* are still present in my experience of playing the piece. Two aspects of this experience – the novelty of being unable fluently to map the notation onto my body, and the sonic component of the piece only emerging towards the end of the practice process – imbued my time with the piece with a sense of vulnerability. Paradoxically, in some ways the learning process also felt somewhat liberating because it allowed for new modes of sound discovery. Focusing on the interstices between the activities of my hands and mouth in this way, and learning to separate the two rather than integrating them, was novel and interesting. Likewise, though I was mindful of the occasions in which a particular pitch result might be intended by Cassidy, in the practice process I often did not feel tied to a singular aural idea of what I had to achieve in order accurately to play the piece; often, I could explore the sounds revealed by the actions, without judging them according to ideas of sonic accuracy. When I play the piece now, I 'lean in' to the sonic instability that results from the physical desynchronisation – the same instability that I felt so resistant to in the learning process – as a way of conveying the sense of fragility and novelty that it brought about; this becomes part of the expressive content, rather than a personal experience that remains internal and hidden. For example, when my embouchure position is incongruous with the fingered pitch, I allow the sound to fracture and split rather than attempting to preserve the tone. Instead of finding ways to 'polish' the tones, I preserve the stuttering, often chaotic nature of the gestures.

5.3 Playing *the green is or*

As I became more familiar with *the green is or*, the initially irreconcilable streams of decoupled information inevitably became more frequently combined into a physical choreography that felt more unified. Over the learning process, the interface between notation and action became somewhat consolidated into familiar modes of information flow. Now when I play the piece, what once felt divided is more unified into a choreography of vertically-aligned landmarks and areas of focus: patterns of physical movements are woven together into a navigable flow. However, resistance is preserved through the numerous ways in which I continue to experience my body as decoupled. This occurs through the still-shifting aural component of the piece, for example. The sonic result of the overlaps of finger and embouchure movements is often contingent and susceptible to change as the conditions of my reed and body are altered, re-asserting the distance between both the actions of my hands and mouth, and between those actions

and the sonic result. This is further emphasised by the enduring challenges of committing to the physical polyphony necessitated by the score. I have to resist the habitual urge to refine movements in ways relating to more standard monophonic playing, especially since the types of sounds that result from my actions in *the green is or* are often ones that I have explicitly worked to train out of my oboe playing.

5.3.1 Continuing sonic instability

Despite an improved understanding of the aural component of *the green is or*, its performance remains an unstable, unpredictable experience, and this has implications for the ontological status of the piece and subsequently for my experience of resistance. While much of its sonic world now remains relatively similar every time I play the piece, there are regular moments in which the sound is frangible enough to be slightly different, according to the conditions of my reed or the slightest variation in the movements of my body. This is especially the case in gestures that involve what Cassidy calls 'transitional movements' (2015, p. 2), such as glissandi, dynamic changes and shifts in embouchure state. These alterations in aural outcome between iterations feel significant due to the way that they alter the pitch and rhythmic characteristics of the sonic result. As my reed becomes more brittle over time, for example, pitches are liable to drop off more quickly into air sounds, and the slightest difference in the degree to which the air pressure increases in a crescendo can cause sounds to jump around registers and timbres. While variations in conditions of course occur in the scope of my broader practice, these are relatively minor and do not typically impact the sonic outcome of a piece in such a drastic way. In *the green is or*, however, despite feeling like I have the same level of physical specificity and control over my actions as I do for any performance-ready piece, the sonic result is ever-shifting.

Physical predictability for the sake of sonic repeatability is a core feature of my standard practice, and is typically a crucial part of feeling as though I have reached a satisfactory conclusion to learning a piece.[29] Therefore, a particular resistance arises here between my ontological understanding of the musical artefact and Cassidy's notational foregrounding of physical gesture over pitch, which invites the performer to make material sonic contributions to the piece via the inevitable fluctuations in the conditions. As Rutherford-Johnson (2011) suggests, the physical activities undertaken by performers are typically in pursuit of a specific sonic goal, but in *the green is or* they are *themselves* the source of musical material. Therefore, these physical gestures constitute a significant part of the musical artefact – the 'music' here, as I understand it, is both the collection of notated actions undertaken by a performer, and the bespoke sonic result of these physical activities.

[29] For further discussion of this, see Chapter 3 in regards to *Drift Shadow.*

The requisite uniqueness of any individual performer's interactions with their instrument contributes significantly to the aural outcome since the techniques of the piece are highly susceptible to alterations in conditions. Playing the piece with a constantly shifting sound world – especially one that shifts according to the conditions of my body and my playing – feels in many ways incorrect; within the ontological framework of my standard practice it is not my intent as a performer to uncover the sound world, or to contribute extensively to its morphology. Instead, as discussed earlier in this thesis, my socialised understanding of my performative role is that I am to achieve a sonic ideal that is largely already extant in my mind, and often too in the collective consciousness of my peers.

The very situation of holding my oboe and reading a score with notated pitches and rhythms locates me in a sphere of musicking in which my unified, monophonic body is 'supposed' to achieve a predetermined sonic ideal. Simultaneously, the shifting sound world of *the green is or* reminds me of the decoupled nature of my body as I execute the notation. There is, therefore, a resistance between my internalised understanding of the hierarchy of actions and sounds in performance and their relationship in this piece. In the context of my musical habitus, it feels difficult to conceive of a way in which it is acceptable that I contribute this much, through the nuances of my performing body, to the aural component of the piece. Importantly, this sensation of transgression helps shape the way I play *the green is or*. I try to play in ways that draw the vulnerability I feel into the expressive essence of the piece, maximising moments that flutter and audibly fracture. This resistant decoupling also feels novel and often uninhibited, and as such it actively helps me commit wholly to the occasionally wild indications for both expression and dynamics.

5.3.2 Resisting the urge to unify

In playing *the green is or*, my attention is often drawn to the ways in which I have to resist the subconscious tendency to unify the decoupled components of my sound production apparatus. A habitual preference for the experience of cohesion, especially between the activities of my fingers and embouchure, is deeply embedded in my instinctive ways of playing the oboe. In my standard practice I am always aiming for seamlessness in the connection between the very parameters that are separated in *the green is or*.[30] This characterises many of my typical practice goals and performance ideals, and I have dedicated innumerable hours to forming and preserving an innate connection between playing parameters through dedicated repetitive technical work. *the green is or* dismantles much of this cultivated cohesion – the 'smoothed' interface, in Evens' terms (2005, p.

[30] This is, of course, one of the reasons that Cassidy separates these parameters: to undermine received notions of the possible correlations between gesture and sound that are built into a performer's technique.

153). This continues even now that I am past the challenge of learning separate staves. The polyphony of action that I felt throughout the learning stages is preserved through the discrete rhythmic worlds each stave inhabits, and thus the streams of activity still form distinct entities, despite each having been successfully mapped onto my body. This often results in the unintentional reorganising of the carefully choreographed and decoupled movements of my hands and mouth; I regularly find the two moving closer together towards the unification that is so crucial in my standard practice habitus.

This urge to refine and unify gestures in these ways is pervasive: it affects different types of activity in *the green is or*. In moments where hand- and embouchure-focused events occur in very close succession, for example, I am frequently tempted to streamline the unstable rhythmic units that result from these overlaps, forming gestures that employ my hands and mouth in ways that are more comprehensible from the perspective of my standard practice habitus. I am compelled to polish the sometimes chaotic combinations of finger movements and embouchure actions (such as articulation and glissandi) into the neat gestures I would typically hope to create. Additionally, when extremes of register are notated in the fingering stave, they are often accompanied by an embouchure position that would be incongruous in my standard practice. As my hands carry out the fingering, I often actively stop myself also adjusting the space inside my mouth. [figure and time stamp] The extent to which I expect my fingers and mouth to work in a synchronised manner is also foregrounded in gestures where my fingers are active but my embouchure is not. The preface to the score states that for these types of gestures the notated hand movements should be carried out with ‘utmost sobriety’ (2003, p. iv). However, my reflex is to cease all gestural activity as soon as my embouchure is inactive, removing the oboe from playing position and resetting my fingers and mouth for the next sound. To carry out fingered gestures without also producing oboe sound (even in the fractured and unstable ways that sound is often produced in *the green is or*) feels strangely disembodied.

This is a curious sensation that often arises when playing this piece, especially when resisting the urge to streamline the actions of my hands and my mouth: while experiencing the heightened bodily awareness that comes from my unusual degree of attention to physical action, I nevertheless often feel as though my body is operating in ‘incorrect’ ways, or that these actions belong to a playing apparatus and an embodied musical habitus that is not mine. I am consciously departing from many of the tenets of ‘good’ oboe playing that have long formed the foundations – and default practices – of my musical habitus. Although the choreography of the piece is finely wrought and precise, I feel almost clumsy and tongue-tied in moving my hands and mouth in their separate rhythmic ways, as though I am tripping over myself.

This sensation is emphasised by the types of sounds that result from the ‘misalignment’ of my body when playing *the green is or*. In dismantling the cultivated link between hands

and mouth in the sound production apparatus, the piece invites many of the types of blips, squeaks, air sounds and honks that I would typically try to avoid. Hearing these noises and intentionally resisting the urge to avoid them feels transgressive since measuring control over my sound production is integral to my perception of success as an oboist. Though these sounds are not the result of a lack of control in *the green is or*, I cannot help but experience something of the sense of failure they would represent in my standard practice. These transgressive feelings are creatively productive, however; the interactions between my habitus and the performative requirements of the piece impart to the playing experience a layer of vulnerability that informs my understanding of *the green is or*. This influences the ways in which I draw out the expression of performative resistance, through, for example, the emphasising of 'breaking' or otherwise typically unwelcome sounds. Lingering in these sonic spaces helps to highlight the departure they represent from my habitual and comfortable modes of playing my instrument.

5.4 Films

The filmed performance of *the green is or* draws attention to the modes of resistance I experience when playing the piece. In many of the shots, both my hands and mouth are visible, displaying some of the ways in which they are decoupled. Though the visual cues for this division are sometimes difficult to decipher, particularly for a viewer who is unfamiliar with oboe playing, there are many moments where they are more obvious: at 2:36, for example, my fingers are clearly moving on the keywork while my mouth is off the reed. At other points, such as 00:36, my extensive oral movements are clearly visible when they are altering the sound. Some of the modes of resistance offered to me in playing *the green is or* stem from invisible aspects of the performative experience – even though fundamentally caused by the division of the playing parameters onto separate staves, I cannot easily communicate through film the frictions of the learning process, for example. However, Guyton at times lingers on features of my playing that are erratic or *perceivably* nonstandard. At 1:27, for example, I am executing multiple consecutive trills and my hands, fluttering over the keywork frantically, are the focus of the shot. Likewise, when my fingers are moving rapidly and heavily at 1:56, the reed is in focus, visibly jostled around my embouchure.

Though the evidence of the polyphonic body is relatively subtle, it is rendered especially visible through the proximity of the camera. As in some of the other films in this portfolio, Guyton and I chose to frame the shots to show in detail the activities of my hands and mouth. This is not an especially unusual choice of framing for filmed oboe performance – those of oboists Olivier Stankiewicz (Classical Experience, 2014) and Celine Moinet (Les Productions des Verger, 2016) take a similar approach, for example – it is particularly effective at drawing the viewer into the physicality of the performance: we can see the

bodily actions far more clearly than when attending a conventional concert (or indeed in a performance filmed from the audience perspective). Both the density and diversity of activities are visible through this framing: the viewer sees the many successive movements of my fingers and embouchure, while also experiencing the polyphonic negotiations between the multiple types of actions, in which I slide, press, squeeze and stretch around my instrument with both my mouth and hands.

5.5 Conclusion

The decision to focus one of the performance projects on the process of learning *the green is or* stemmed from an understanding that it would prompt a substantial renegotiation of my relationship to my instrument, and would push me to reconsider how I conceptualise that relationship. These processes proved to be creatively productive. For all the musical specificity of the notation, the focus on the mechanical operations of my playing apparatus, rather than a fixed aural outcome, allows the piece to be determined by the nuances of my bodily action to a larger extent than in conventional western classical practice. This is occasionally liberating while playing: it allows for a highly exploratory approach to potential sonic results. It is also, however, a source of resistance: in altering the way I relate to the notation, *the green is or* also changes how I measure successful performance, shifting from the sonic repeatability that is characteristic of classical practice to a less familiar focus on a corporeal mastery, relatively detached from aural outcomes. Significantly, this piece also dismantles a carefully developed (and deeply habituated and idealised) cohesion between the parts of my playing apparatus. This caused disruptions to the learning process but also, in my ongoing playing of the piece, an enduring sense of friction, as I am continually reminded of my bodily misalignment.

The resistances that arise in my encounters with *the green is or* surface in my playing at the level of expression and meaning. The sense of disruption – even transgression – that I experience emerges in the way I play the piece: trills, for example, are wild and fragile; the articulation is momentarily tentative, then harsh or jarring. Furthermore, I am often able to either restrain or emphasise how nonstandard sounds – whispers, squeaks, raucous multiphonics, and so forth – emerge from the notated choreography, according to my in-the-moment sense of the required expression. As a result of these expressive nuances, *the green is or* splutters and squeals alongside the reconceptualisations of my musicianship that are prompted by the musical material of the piece.

Chapter 6: *Tegmark Variations*

6.1 Introduction

Tegmark Variations is a piece for solo oboe developed in collaboration with composer Desmond Clarke. The premise of this collaboration was to produce a piece that grew from the alignment between my research aims and playing interests and Clarke's compositional and aesthetic preoccupations. This piece exhibits a deliberate and radical resistance to repeatability, and in this, along with its particular approach to graphic notation, it diverges significantly from both my standard modes of interacting with my instrument, and from earlier works in my portfolio. In creating a piece that aimed to embrace the performative resistance that is the focus of this research, Clarke and I were mutually drawn to the idea of a format that removed the possibility of conceding to my deeply habituated need to refine and perfect my playing. To this end, *Tegmark Variations* comprises multiple scrolling video scores, intended to be played only once, generated by a Python script composed by Clarke. These videos should not be practised nor refined in any way: just played once. Practice sessions for this piece therefore involved single play-throughs of multiple scores as I acclimatised to the process of realising Clarke's notational style. When a score has been played once, it is removed from the folder of playable videos and will not be used again. The generative nature of *Tegmark Variations* means that it is possible to continue to produce new scores as required; while the submitted portfolio includes nine iterations of the piece, I have played many more of these scores over the course of this collaboration.

Each video score for *Tegmark Variations* is relatively short: most last between 1.5 and 2.5 minutes. As the score scrolls, notational elements pass through a vertical green bar, indicating when they should be played. The piece uses a form of graphic notation that Clarke has employed in several earlier pieces, such as *Transcendental Strains III* (2017) and *Strange Beast* (2020). Similar to *the green is or*, this type of notation focuses on the decoupling of traditionally intertwined musical parameters. In this piece, as in Clarke's other works for wind instruments that utilise this notation style, fingering is separated from embouchure: this, as Clarke notes, creates the possibility of 'a wide range of sounds allowed by the instrument but disallowed by traditional notation.'

Tegmark Variations employs graphic notation to express most of its musical material (see Figure 6.1), though Clarke does use a stave and conventional noteheads to indicate fingered pitches which are then manipulated to produce variable sonic results. Many other components are shown via nonstandard or graphical means: for example, Clarke uses three symbols in the work to express processes of finger modification to the notated

pitches. Standard trill and mordent symbols are used, although unlike in standard practice, which generally has conventions surrounding the pitches (and hence fingerings) used in ornamentation, the finger or fingers used to execute these are entirely up to the performer. Furthermore, Clarke has created a finger glissando symbol (shown inside the red box in Figure 6.1), which indicates a duration over which an unspecified key is to be evenly raised or lowered. In addition to these finger modification symbols, a coloured band shifts

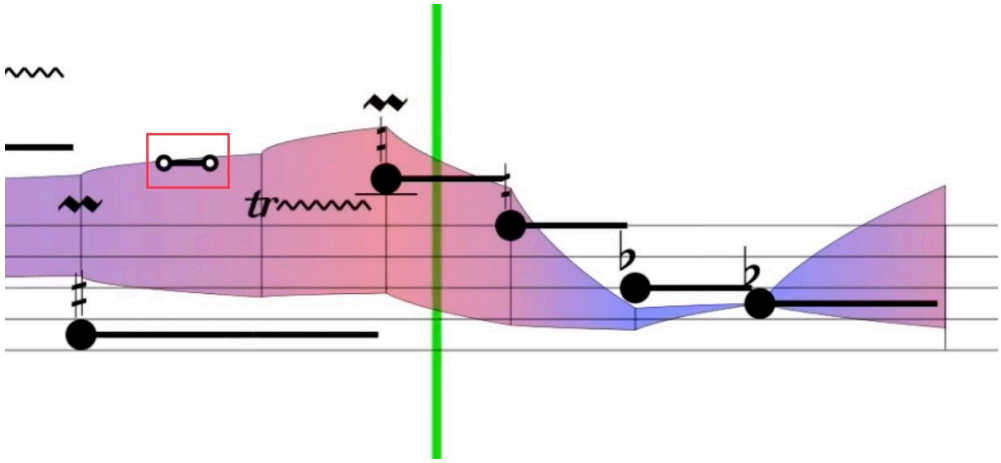


Figure 6.1: Excerpt from the score of *Tegmark Variations 2*.

around the stave, weaving between the noteheads. This band smoothly changes width and colour to signify changes across the spectrum of possible levels of air pressure, the extremes of which are expressed as wide and red (high air pressure) and thin and purple (low air pressure). The vertical position of the band indicates the embouchure manipulation to be carried out. Clarke suggests that the exact nature of this manipulation is up to the performer, since there are various ways of shifting embouchure position, including lip and jaw tension and the position of the mouth on the reed. In playing *Tegmark Variations*, I tend to interpret the location of the band as an indication of embouchure strength, and as a result combine both tension and position in my attempts to execute this musical parameter. In playing a high band position, I move the reed further into my mouth and tighten my lips and jaw around the cane. Conversely, when the band is lowest on the stave I generally attempt to have my embouchure as loose as possible and to pull the reed out of my lips slightly.

6.3 Resistances in the interface between performer and score

Tegmark Variations creates performative resistances in several ways. Notably, we deliberately curated complexity in the interface between performer and score in order to cultivate an unconventional playing environment. It is inevitable, for example, that errors occur while I play this piece because of the tempo that is set by the scrolling score and the density of actions within that context. The speed at which the score progresses in each

video means there are frequent passages of rapid activity in which I have a heightened awareness of my inability to successfully execute all of the notated pitches and techniques. Clarke and I often discussed the optimal intersection of scroll speed and density of notated activities, acknowledging the need for a legible notation, while also aiming to preserve the types of unconventional interactions that can be prompted by this format. We had to balance the need for a functional score to which it was possible to react, with a desire for the aesthetic interest offered by the complexity of high-activity passages.

Both extremes were explored while developing *Tegmark Variations*. We found that a scrolling speed that was too slow and, with low activity, dampened the effects of not knowing what was to come by allowing me ample time to read ahead and prepare for future gestures. While errors still occurred, they were less frequent and the frenetic excitement of a faster pace was less evident. Conversely, when playing a high density score that moved too rapidly it became impractical to strive for any notational accuracy and the realisation tended to unravel into pure improvisation. We opted for a combination of scrolling speed and notational density that allowed for both moments of technical respite as well as more frenzied passages. These intense gestures can be either concentrated (TV 6, 2:08) or more protracted (TV 8, 00:20), and contribute both to the inevitability of errors, and consequently to the sense of resistance I feel as I play *Tegmark Variations*.

6.3.1 Signs and symbols

Clarke's graphic notation includes unconventional symbols and signs. The lack of familiarity here, makes the signs difficult to process at speed, even after playing many different scores, and this further exacerbated the experience of resistance. The absence of repeatability in the piece distinguishes it from experiences such as that with *Spectral Breathing Apparatus*, whose graphic notation felt familiar and legible by the end of the practice process. While *Spectral Breathing Apparatus* has a number of complex visual elements in its score, its more standard and linear developmental process of preparation afforded me the space to accustomise myself to the symbols during practice. In *Tegmark Variations*, I could learn only the notational paradigm – that is, the potential ways in which shifting notational parameters might be indicated – rather than one trainable instance of the notational model. As a result, though I have improved at rapidly recognising what I am being instructed to do in the piece, its lack of repeatability nevertheless is a source of complexity in the way I interact with the score. This is particularly evident to me in passages of higher intensity when many actions are occurring within a relatively short amount of time – I am used to reading the distribution of information particular to standard

notation, and reacting swiftly to its repositioning in *Tegmark Variations* is a persistent challenge.

Clarke retains standard noteheads and staves to indicate pitch in *Tegmark Variations*. This is at times useful for anchoring my playing, but it can often be a further source of resistance. In dense passages, my long-term familiarity with standard notation means that these pitched noteheads are processed more rapidly than the other parameters, which are obfuscated slightly by the use of graphic elements. As a result, my in-the-moment priorities therefore tend to be focused more on accurately producing the written pitches than on realising a broader composite of the notational information, which includes things like dynamic changes, embouchure shifts and transitional finger movements. This discrepancy is a source of resistance; I have actively to curb this prioritising tendency in *Tegmark Variations* because it has the potential to result in an unsatisfactory performance that lacks full characterisation: one that is flat or timid, and lacks the explosive energy that performances of this piece might need. Furthermore, in providing precise pitches to aim for (rather than, for example, ranges of possible pitches), Clarke introduces a level of specificity that I regularly fail to achieve, and this feels transgressive in relation to the expectations of my role as performer. I am keenly aware of any pitch errors, and often have to resist the urge to backtrack – to restart gestures that are still visible onscreen, or even to pause and rewind the video – to correct my lack of accuracy. *Tegmark Variations* is strongly characterised by this combination of notation forms: a system that was less specific in terms of pitch would not invoke to the same extent my habitual tendency to conflate accuracy and successful playing, and would subsequently not cause the same ebb and flow of resistant experiences.

6.3.2 Unconventional and unpredictable sounds

Each iteration of *Tegmark Variations* tends to involve many unconventional sounds. In addition to the multiphonics that often emerge from the finger modification techniques, (figure and time stamp), the wide embouchure position and dynamic ranges used in the piece introduce the possibility of sounds which lie outside of those that I am used to producing. These include squeals, underblown air noises, unsupported sounds of nonspecific pitch, and sounds with uncontrolled timbre, as well as further multiphonic sounds. These often feel somewhat subversive to produce, since they deviate significantly from the controlled sound that dominates my standard practice, and that therefore correlates with ‘good’ oboe technique in my habitus. This is a phenomenon that is discussed extensively in earlier chapters – my tendency to equate only a specific type of orchestral oboe timbre with high quality oboe playing is a product of both the culture and the learning outcomes of the environments in which my technique was formed. *Tegmark Variations* is the last piece in this portfolio, filmed nearly four years after I first began

playing *iv 5*. Certainly, after long periods of immersion in this world, my habitus has very gradually adapted to the performance modes discussed in this research: the sense of transgression that I felt when producing unconventional sounds in *Drift Shadow*, for example, is somewhat less potent here. Nevertheless, though dynamic, the durable influences on my habitus continue to assert those collective attitudes towards acceptable modes of musicking that prompted the productive resistances of the earlier doctoral projects.

Unconventional sounds were a feature of *Tegmark Variations* from very early in the collaboration, due to Clarke's implementation of embouchure manipulation, for example, or my inevitable fingering errors leading to strange hand configurations that produce nonstandard aural results. Appreciating the variability these unconventional sounds added to the work, we intentionally expanded the means by which they are achieved in the piece. For example, we included quarter tones, which have fingerings that are often less stable than those for the twelve semitones: the sounds are therefore more likely to split in unpredictable ways when manipulated with wide embouchure or dynamic shifts. Additionally, as the collaboration progressed, Clarke introduced the transitional finger vent technique, which specifies the raising or lowering of a key of my choice while playing. In these moments I deliberately aim to open or close keys that will not result in a 'complete' fingering – rather than transitioning to another pitch, I prefer to move in a way that will 'break' the previously fingered pitch and result in a multiphonic or similarly unconventional sound. This is evident, for example, at 00:35 in *Tegmark Variations 5*, where I am holding a Bb fingering and trilling with a half-hole G (see Figure 6.2) – a 'non' fingering – rather than trilling to an adjacent pitch. Even in passages in which I do not deliberately select a 'breaking' fingering, the sometimes lengthy duration of the transition (particularly when combined with other techniques such as embouchure movement or trills) can cause the sound to drop off into silence or noise, or shift in unusual ways. These types of techniques contribute a resistant element to the sound production in *Tegmark Variations* through a marked departure from standard priorities surrounding sound production on my instrument.

I am generally unable to predict the nature of the unconventional sounds elicited by the notation of *Tegmark Variations*. This inability to easily or accurately predict how a notated element might sound is a result of Clarke's use of graphic notational elements that specify physical movement rather than a desired sonic result. The band that designates embouchure position does not explicitly express the intended sonic output, and while some correlation between embouchure position and pitch is to be expected, this is often warped by the integration of air pressure variability into the action. A very low embouchure position, executed with high air pressure, sounds vastly different from the same position played with low air pressure, for example. Similarly, vents, trills and mordents are

deliberately notated without indicating which finger is to be used for the technique.[31] The execution of these techniques has a significant impact on the overall formation of musical gestures in a way that is not discernible from the notation, due to the large degree of sonic variability that results from the possible combinations of parameters. This diverges from the way notation tends to function in my standard practice in which I anticipate pitch and rhythmic content before having executed it on my instrument. Like in *the green is or*, in *Tegmark Variations* the elements of physical choreography mapped into the score intervene in the relationship between notation and sonic outcome. I cannot predict exactly how a sound might be altered by a transition to a different embouchure position or as a result of 'breaking' fingering changes – whether it will 'fall off' into air sounds, produce a squeal or a multiphonic, shift to a different pitch, and so forth.

This lack of sonic specificity in the notation intersects with the singular iteration of each video score, with the result that I am regularly surprised by the sounds that emerge from my instrument. Unexpected sounds in this piece cannot be catalogued and practised as in other works, and so I cannot build a reliable understanding of the correlation between pitch, embouchure, dynamic and expression variables in the notation and the resulting sound. Additionally, with no designated sonic outcome in the score, quite how these physical elements are executed is at my discretion: the width of an embouchure movement, for example, is not determined by the necessity of achieving a specific pitch, but rather by my own sense of its relative distance from my standard embouchure.

In the absence of a particular sound to aim for, the choices that I make in the execution of these techniques are informed by factors such as my level of fatigue or my desire or ability to experiment with new combinations of movements. Since their execution changes according to context, two instances with very similar notational parameters might diverge significantly in how they are carried out; different fingers might be used for trills, for example, or at different times my capacity to execute oral manipulations might vary. This can be confronting, since it undermines my habitual desire for sonic predictability discussed in previous chapters, and particularly Chapter 3 with respect to *Drift Shadow*. As a result, I often feel strangely distanced from my interactions with my instrument, as if I have taken on an unusually distanced, observational role.

6.4 Resistance and the singular score

Beyond these complexities relating to the execution of *Tegmark Variations*, the piece represents a fundamental mode of resistance to my habitual practice in its restriction of my capacity to practise and refine my performance. This diverges substantially from my

[31] Clarke is also an oboist and therefore could, if he wanted, presumably indicate with exactitude the physical actions required to achieve a desired sound in this context.

typical modes of interacting with a piece. Despite the full understanding that the notation functions in a different way in *Tegmark Variations*, the presence of a score nevertheless prompts my habitual desire to practise and refine my playing. Being prevented from doing so by the format of the piece, and having to discard each iteration of the score before my standard threshold for accuracy is reached, is a source of resistance.

6.4.1 Habitus and fidelity to the score

My understanding of notation as an artefact to which I owe a certain degree of fidelity derives from my being habituated to treat the score as a representation of a fundamental part of the work's musical material.[32] As Leech-Wilkinson (2012) suggests, in western classical music scores are often upheld as complete representations of the composer's ideals. This view, which Leech-Wilkinson argues is often perpetuated by performers (para. 1.2), and is in opposition to how many contemporary composers view their work, reinforces the desirability of executing the demands of the notation with a high degree of accuracy. This is especially so, considering the allocation of capital in musical fields to any performer who seems to have, as Leech-Wilkinson notes, 'penetrated deep into the true nature of the work' (para. 1.2) by faithfully expressing the musical meaning apparently inherent in the notated artefact. As Ian Pace (2009) says, this is an 'essentially *positivistic*' view of the role of notation: through this lens, notation is understood to instruct the performer 'in essence *what* to do' (p. 152, emphasis in original).

A view of the score as 'the music' is not an ontological position to which I actively or deliberately subscribe, but it nevertheless has been persistently reinforced in my standard practice habitus over the years through the somewhat passive absorption of the circumstantial discourse surrounding performance during my formative musical years. This is a reflection of what Nicholas Cook (2001) calls 'the grammar of performance: a conceptual paradigm that constructs process as subordinate to product' (para. 5). Through this, Cook suggests, performance is positioned as auxiliary to the musical artefact ideated by the composer and contained in the score. When performance is always 'of' the music, he notes, it is logical that fidelity to the notation is seen as a 'performer's only legitimate aspiration' (para. 5).

Much of my practice has therefore been orientated towards a certain degree of fidelity to a score as a baseline for success. This is the case even in my contemporary practice and in situations where the score is used less conventionally. In *the green is or*, for example, the division of physical parameters onto separate staves creates a situation in which the sonic artefact is relatively unstable, and therefore the piece lacks the generally transparent

[32] As noted above, the nature of this representation is, of course, relative to my personal context and classical training: standard notational symbols that *to me* represent sound and subsequent action are not likely, of course, to represent the same for someone who does not read music or play the oboe.

correlation between sign and sound that is present in most of the repertoire that I have played. However, I am still able to successfully pursue the aim of accurate reproduction in my realisation of the physical choreography implied by the notation, and therefore the concept of fidelity to the score is upheld, albeit under unconventional conditions.

6.4.2 'Fidelity' applied to *Tegmark Variations*

As a result of this internalised preference for fidelity in my performative habitus, I am compelled to treat the score of *Tegmark Variations* in the same way, and to view my ability to faithfully render its notated parameters such as pitch, dynamic, and embouchure position, as a hallmark for success. This is a source of resistance when playing the piece, since I am rarely able to achieve a degree of accuracy that would be considered satisfactory in many professional contexts. Moreover, as a collaborator, I am aware that the notation deliberately serves a different purpose, but this knowledge conflicts with the transgressive experience of the impossibility of preparation and the subsequent likelihood of error.

I therefore experience a resistant disconnection between my habitual mode of perceiving the score as a repeatable, generally perfectible artefact, and how it functions in this piece. In playing the piece I am overtly aware that I only have one possible encounter with each score. This is an occasionally paralysing thought: if I do not play the score well, I never will – unless I 'cheat' and undermine the premise of the collaboration. This is even more the case in higher-stakes environments, such as when performing or filming, and it creates an unusual playing experience.

Interrogating the extent and nature of this disconnection is revealing. Designed deliberately to push against the values embodied in my habitus, *Tegmark Variations* elicits further insights into the ways in which internalised ideals, unique to one's personal musical histories, are externalised in the act of performance. Working with and through these resistant experiences uncovers the degree to which certain normative behviours are ingrained: despite my intimate knowledge of the performance paradigm of *Tegmark Variations*, I am nevertheless, in certain ways, beholden to a very different musical world I inhabited years ago.

The absence of repeatability or predictability is a source of resistance that is discussed regularly in this research: in particular, *Drift Shadow* (Chapter 3) and *the green is or* (Chapter 5) also prompt such resistances, with sonic variability stemming from the challenges presented by the technical execution of the notation. However, in *Tegmark Variations* the single-use score format adds to the unpredictability of sonic outcome: the impossibility of repeatability is more pronounced than in either of those pieces. Moreover,

beyond the simple fact of each video score running only once, *the* friction relating to its non-repeatability is made more potent and unusual by the temporality of the scrolling score. Unlike with 'static' notation, here I am privy only to a small section of musical material at a time. As a result, *Tegmark Variations* is not only non-repeatable, but also feels rushed and constrained. My capacity to read ahead and plan, as in *Drift Shadow*, for example, is limited, as is my ability to reflect on what I have played and assess my accuracy.

This impacts the way I navigate through the piece and subsequently influences the affective experience of playing. As I attempt to anticipate what might come next, my eyes tend to jump back and forth between the scrolling edge on the right-hand side of the score and the material under the scrolling bar, in the hope that reading it as soon as it is on the screen will aid accuracy. As a result of this apprehensive (and often almost dizzying) reading process, I experience a sense of skittish energy – it feels as though my playing apparatus is tightly coiled in preparation for leaping into action. I do also experience this sensation, at times, with repertoire that is prepared in typical ways; there are passages that require this kind of anticipatory attention. However, the absence of preparation in *Tegmark Variations* means that I am in a perpetual kind of fight-or-flight mode for the duration of each video. This is a resistant experience but one that is useful, creatively; the piece feels infused with an explosive intensity which I then use to shape my reactions to the notation. Passages with long durations and low density of activity feel expectant or nervous, while high intensity gestures seem to erupt from my fingers as I spring into action.

6.5 Creatively productive resistance in *Tegmark Variations*

As with each work in my portfolio, every aspect of *Tegmark Variations* that is resisted by my habitual modes of playing the oboe contributes to an understanding of the potential ways I might perform this piece. I cannot finesse a relatively repeatable 'interpretation' of the score, as I can for most of the earlier pieces in this project, but throughout the development of the piece and its playing I have nevertheless gained an increased familiarity with the performance paradigm represented by the work. As discussed above, this familiarity does not necessarily translate to immediate accuracy when realising each iteration of the score, but it does help me to anticipate the type of musical material that might be prompted by the scrolling notation.

Consequently, I have used the resistant experiences provoked by the piece to develop a conceptual 'library' of interpretive strategies for the various gesture types that potentially occur in *Tegmark Variations*, used to nuance my reaction to the notation as I read it. I

know, for example, that any single video score might well include pitches held for a very long duration, which will often be manipulated by trills, finger glissandi or other ornamentation. I am also likely to encounter some relatively rapid fingered gestures, generally accompanied by fast embouchure movements. Despite the deliberate limiting of performative agency through the narrowing of attentional focus toward the basic act of reading and translating notation, the piece nevertheless contains many opportunities for expressive interpretation. Only pitch, relative duration, dynamic, embouchure position and accessory finger techniques are notated; within the limits of my in-the-moment attentive capacity, I am able freely to explore the interpretive impact of expressive elements such as accents, vibrato, limited rubato or timbral changes. These allow me to manipulate the sound in many impactful ways that are informed by the way I feel when playing the piece.

Clarke asserts that each iteration of *Tegmark Variations* is to have as unique an aesthetic identity as possible, but he also acknowledges that 'the medium and notation of the piece will also give rise to a largely recognisable overall sound world.' I would add to this that my experience playing each iteration of the piece has produced relatively similar sensations of resistance that, through their impact on my interpretations, productively contribute to the consistency of this sound world between iterations. I adhere as much as possible to the ideal of distinctiveness each time I play the piece, and it is particularly exciting to observe and respond to the prompts in real time and to try to form unique and locally cohesive interpretive identities out of material that is so ephemeral. Nevertheless, I notice that these iterations of *Tegmark Variations* often share similar explosive, energetic qualities, perhaps lacking a more diverse array of characteristics that might include, for example, more timid or fragile performances.

This is partially due to Clarke's compositional choices: the piece often erupts into high-impact gestures which lend themselves to this type of energy, and the elastic embouchure movements and wide range of dynamics create a highly mobile sound world. However, it is also a result of the felt experience of playing *Tegmark Variations*. Despite my habitual tendency to strive for a high degree of fidelity to the score, the resistance I experience at frequently failing to succeed at this goal is, here, not overwhelmingly vulnerable. I am very aware that striving for accuracy is part of the intended performative experience, and to an extent embrace the understanding that failing in the pursuit of accuracy is both inevitable and expected here. This is quite liberating, and, as discussed above, distinct from earlier performance projects: I cannot prevent a feeling of resistance when I fail to produce what I think of as an accurate response to the notation, but the performance paradigm is so far removed from other features of my standard practice that I do not experience the same sense of vulnerability. Instead, I am struck by a sense of novelty or curiosity, which manifests in interpretive choices that are often focused on the acrobatic nature of *Tegmark Variations*. I aim for springy leaps with accented, energetic attacks, and high intensity long notes that anticipate possible upcoming actions. When nonstandard sounds emerge, I

tend to allow them to develop organically, rather than preserving, for example, single pitches.

This creates a playing experience that feels fluid and pliant: the resistance facilitates an agile kinetic energy rather than something more brittle. I can, however, allow these more brittle sensations to surface in the interpretive choices I make whenever I feel an increased friction from the experience of inaccuracy, or in moments of higher sensitivity to the precarious experience of playing this piece. Then, I am able to shift my playing into something slightly more jagged – my articulations feel sharper, I transition between sounds in a more rigid way, or I allow embouchure fatigue to be heard in the timbre of the sounds produced, rather than masking it.

6.6 Films

Much of the resistance experienced when playing *Tegmark Variations* stems from internal conflict between musical ideals and the playing paradigm. Nevertheless, the films of my performances were produced with these forms of friction in mind. In discussion with Guyton, I suggested the prioritisation of close, mobile shots that foreground the detail of bodily activity in performance, while also using angles that capture the activities of both hands and mouth. Other framings and film formats were considered: for example, I initially thought about creating videos that used only the more static framing, but which also showed the scrolling score. This would have been a means of representing the complete performative perspective of *Tegmark Variations*, with all visible aspects of my playing apparatus on display as I attempted to execute the notational demands of the piece.

Ultimately, however, I chose not to include the score, and to introduce those closer shots. While the notation is certainly the locus of *my* resistant experiences in the performance of *Tegmark Variations*, the musical meaning generated by this friction *within* and *on* my body holds more significance, I think, than the exact nature of the notation. Focusing in on my wide (and often somewhat uncontrolled) embouchure movements, for example, as seen at 1:01 in *Tegmark Variations 1*, or the tentative readjustments of my fingers over the keywork as I anticipate and comprehend the incoming score activities (visible at 2:15 in *Tegmark Variations 5*), provides a more relevant experience of the performance than any in-the-moment comparison with the notation. Moreover, even if the viewer could see the scrolling notation, it would be devoid of its crucial additional contextual information – the guidelines that nuance the score format. While superficially providing a more complete representation of the piece, drawing attention to the relationship between notation and performance would undermine the aims of filming the performances.

6.7 Conclusion

As a bookend to this research, *Tegmark Variations* successfully captured many of the core areas of resistance in performance practice that these projects were intended to explore. Like other projects in this portfolio, this piece exposes the prevalence of standard practice values in my musical habitus; values which remain potent even in the context of divergent modes of playing. In its use of generated scores intended to be played only once, *Tegmark Variations* fundamentally reveals and undercuts a core tenet of my musical habitus, wherein repetition and accuracy are considered essential for high-quality playing. While a lack of repeatability is a frequent source of resistance in this research project, it is intensified in this piece as a result of the scrolling score format, which enforces temporal restrictions on my contact with the musical material.

The resistances that stem from this score and performance format are productive. Interrogating the ways in which the piece prompts feelings of friction reveals the extent to which certain playing modes are internalised in my habitus, and exposes those deeply-held beliefs which persist beyond the environments in which they were first encoded in my performing body. At the same time, *Tegmark Variations* presents a performance paradigm that intentionally departs significantly from those embedded in my habitus. While the discrepancies between performative action and habituated ideal are generally transgressive, the ways in which the piece prevents me from fitting into any of those internalised performance modes is also liberating, and these sensations – of resistance and liberation – are embodied in performance, manifesting in the affective layers of musical meaning.

7. Conclusion

The research contribution of this portfolio submission is twofold. The practice research led to artistic outcomes in the form of new performances and films of five complex, virtuosic works for oboe. Three of these are new pieces – by Clarke, De Filippo and Harker – instigated by myself for the research and developed in collaboration with the composers. The two extant pieces, by Andre and Cassidy, are rarely performed; indeed *the green is or* has only been performed four times since its premiere 2002 (Cassidy, Performance History, n.d.). The second contribution is the understandings of habitus and resistance in performance that arise out of the practice research and its critical interrogation, manifested in the thesis.

The performance research projects of this doctorate each present avenues through which I experience 'resistance' when playing the oboe. Fundamentally, this resistance results from an incongruity between the ideals of oboe playing that are internalised in my musical habitus and how I interact with my instrument in the project pieces. This research identifies three avenues by which resistance can arise when playing. While this dissertation explicates my own *subjective* experience with these sensations, the categories described below are applicable much more broadly to performers in general, since performers of all disciplines surely have their own internalised expectations about their role and their activities that relate, as mine do, to their position in a sociocultural setting.

Role resistance is a conceptual resistance to the ways in which my role as a performer diverge from my standard practice expectations. Although experienced through the body as, for example, a sense of physical tentativeness when playing, this resistance relates more to a more abstract perception of my musicianship. This occurs when partaking in broader *types* of practices that are beyond the typical standard practice performance roles enumerated earlier in this text. Improvisation, for example, discussed in Chapter 4 (often referred to in this chapter as 'aesthetic resistance' due to the nature of the compositional choices that led to this resistance), produces a sense of friction when, as Bull notes, 'the entire ethical and practical framework of making a sound is removed' (2019, p. 84) for me as a standard practitioner by the departure from extensively notated scores.

Practical resistance is experienced in relation to particular aspects of the operation of my instrument in a piece. Cassidy's *the green is or*, for example, decouples parts of my technical apparatus that are intentionally (and often automatically) linked in standard practice, leading to a sense of friction as I grapple with an unfamiliar mode of playing. This is a resistance that I experience strongly *in* my body, often as a sense of being tongue-tied or tangled as I play – in the reedless passages of *iv 5* I tend to feel as though my fingers are 'tripping over' their intended configurations, for example. Often this is also

accompanied by a more abstract sense of disorientation, or even loss, at the negation or complexification of parts of my embodied technique that make me feel competent or proficient at my instrument.

This dissertation also discusses *performative resistance* to specific performance acts that transgress some aspect of my concept of acceptable musicality. In *Spectral Breathing Apparatus*, for example, the overt activities of my facial muscles contravene the ideals of restraint that are significant in my standard practice habitus. This particular friction differs from practical resistance in its distinct sense of *aversion* to the specific techniques that produce it; while the former relates primarily to a complexity surrounding a more general mode of engaging with my instrument or a piece of music, the latter can be pinpointed to particular *actions* that diverge from my standard practice habitus in a transgressive way. Performative resistance often directly arises when markers of proficient standard practice technique are contravened or removed: the unusual sound production techniques in *Drift Shadow* tend to produce the kinds of broken and unstable sounds that I am specifically trying to avoid in my standard practice, for example, leading to a sense of resistance while playing.

The various (and often overlapping) ways in which these resistances manifest for me – whether as fragile vulnerability, for example, or a sense of liberating novelty – is then also discussed in the thesis. Despite the distinction between these categories of resistance, there are nevertheless several shared characteristics that contribute to the creative productivity of its presence, allowing the friction I experience when playing to feed into the performances.

First, while resistance can offer me many different emotive cues while playing, these are always accompanied by the experience, while working in this experimental territory, of being drawn back – in different ways and with different degrees of urgency – to standard modes of interacting with my instrument. As I execute unusual techniques or experience new modes of performance interaction, I feel a tangible pull towards the standard practice methods and ideals that are deeply internalised in my playing apparatus. This sometimes registers physically, in a tendency to push back towards more conventional playing. In *the green is or*, for example, I find myself having actively to refrain from ‘correcting’ the split, polyphonic approach to the oboe-playing body into something more coherent and familiar. Other times, when the possibility of taking ‘corrective’ measures is removed – with the absence of a reed, for example – resistance manifests in the sensation of friction from the marked absence of familiar playing cues.

The second trait of resistance shared by the projects is its traceable origin in my musical habitus. The specificity of this differs from piece to piece. In *Drift Shadow,* discussed in Chapter 3, for example, I experience resistance at the level of aesthetic responsibility, in

the novel aspects of my role as a collaborator and improviser. This diverges from the more constrained conventional role of the performer in western classical music with its relatively defined boundaries and expectations, and the particularities of this experience of resistance expose the nature and extent of habituated practice in this regard. Often, the pieces produce more than one of the forms of resistance outlined above, as they probe different parts of my musical habitus. For example, in addition to the frictions of creative authority in *Drift Shadow*, this piece shares with the others a resistance brought about by producing nonstandard oboe sounds. In some of the works discussed, such as *iv 5* and *Spectral Breathing Apparatus*, this is exacerbated by the removal of the reed, whether temporary or absolute. In transgressing conventional sonic boundaries I sometimes also undermine what had seemed core identities: of self, of performer (deliberately distinct from composer), or of the 'work' as a stable entity with repeatable sounds.

Finally, the resistance discussed in this research is not resolvable by standard means of performance preparation. While I experience certain resistances when working on standard repertoire – awareness of technical weaknesses, for example, highlighted by difficult gestures and playing requirements – these are usually diminished by the practice process as my technical facility improves. Resistances in this project, however, endure beyond the practice period, even when they arise specifically out of the learning process, such as in *the green is or*. Instead of being mitigated by repetition and gradual learning – overcome by virtuosic 'mastery', in the ways that are valorised in classical practice – they are caused by types of playing that are more fundamentally incongruous with the standard practice goals represented in my musical habitus. This resistance cannot be reduced through greater familiarity with the repertoire, since these types of unconventional playing are not altered by the practice process.

Using Pierre Bourdieu's theories of habitus, field and capital as a framework in this project has allowed me both to identify manifestations of deeply-held musical ideals and goals in my interactions with the oboe, and also to conceptualise those ideals as internalisations of the social contexts in which I operate as a musician. My habitus reflects the influence of the collective values of my musical surroundings – I form a particular embouchure, for example, because it facilitates sounds that conform to the timbral goals I shared with my peers while learning. Bourdieu's particular approach to habitus acknowledges both malleability and durability. My habitus slowly adapts to new stimuli and new situations; something that is noticeable in the growing ease with which I execute contemporary techniques and inhabit new playing modes. However, it nevertheless retains deeply embedded, often reinforced features from my formative musical years, which were dominated by the pursuit of standard practice excellence. When playing the works discussed in this project, I am often still experiencing them in terms of their distance from those ideal conventions of practice upheld by my habitus. Furthermore, I understand the continued, subconscious presence of standard practice values in my musical habitus to be

a function of the affordances encoded in the oboe by the nature of my long-term interactions with it. Every time I play – or even hold – my oboe, it offers me a spectrum of possibilities that represents the efforts I have made to cultivate technical capability within the musical contexts I have experienced. Since the majority of my musical experiences, durationally speaking, have taken place in standard practice contexts such as schools, conservatoires and orchestras, many of my 'default' ways of thinking about, touching and operating my instrument are also 'standard' in nature.

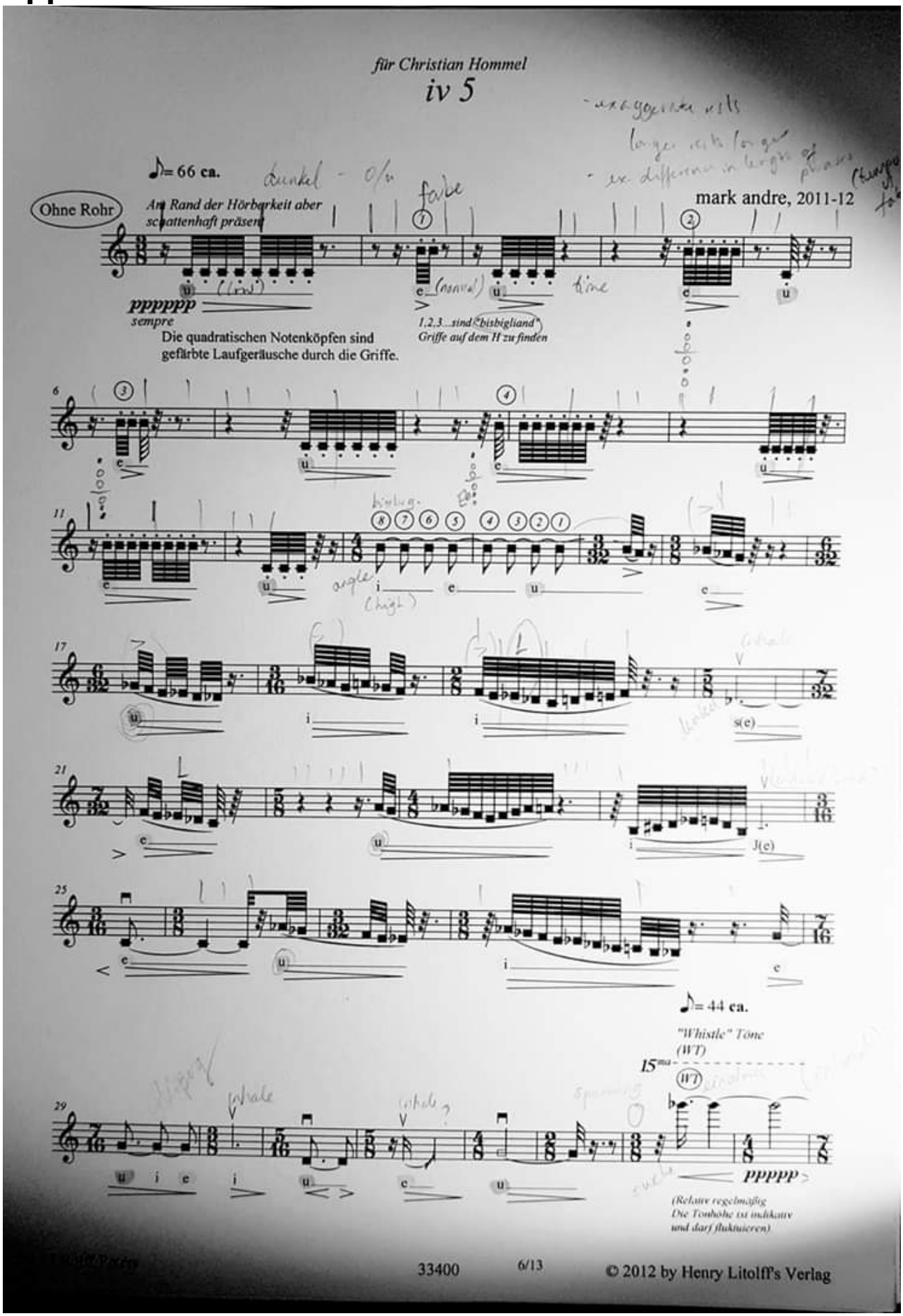
Crucially, the resistance I experience when playing the pieces in this project is a positive creative force; it is artistically productive, in the sense that it informs my performance of each piece. Its influence manifests differently according to the performative context and the nature of the resistant sensations: *Drift Shadow*, for example, remains a work that feels relatively vulnerable and my ability to carry the experience of fragility into my interpretation is complemented by the brittle sound world occupied by the piece. On the other hand, the resistance I feel playing *Tegmark Variations* results primarily in a sense of unanchored novelty, and its generally agile nature is helpful in producing an interpretation that conveys a springy kinetic energy.

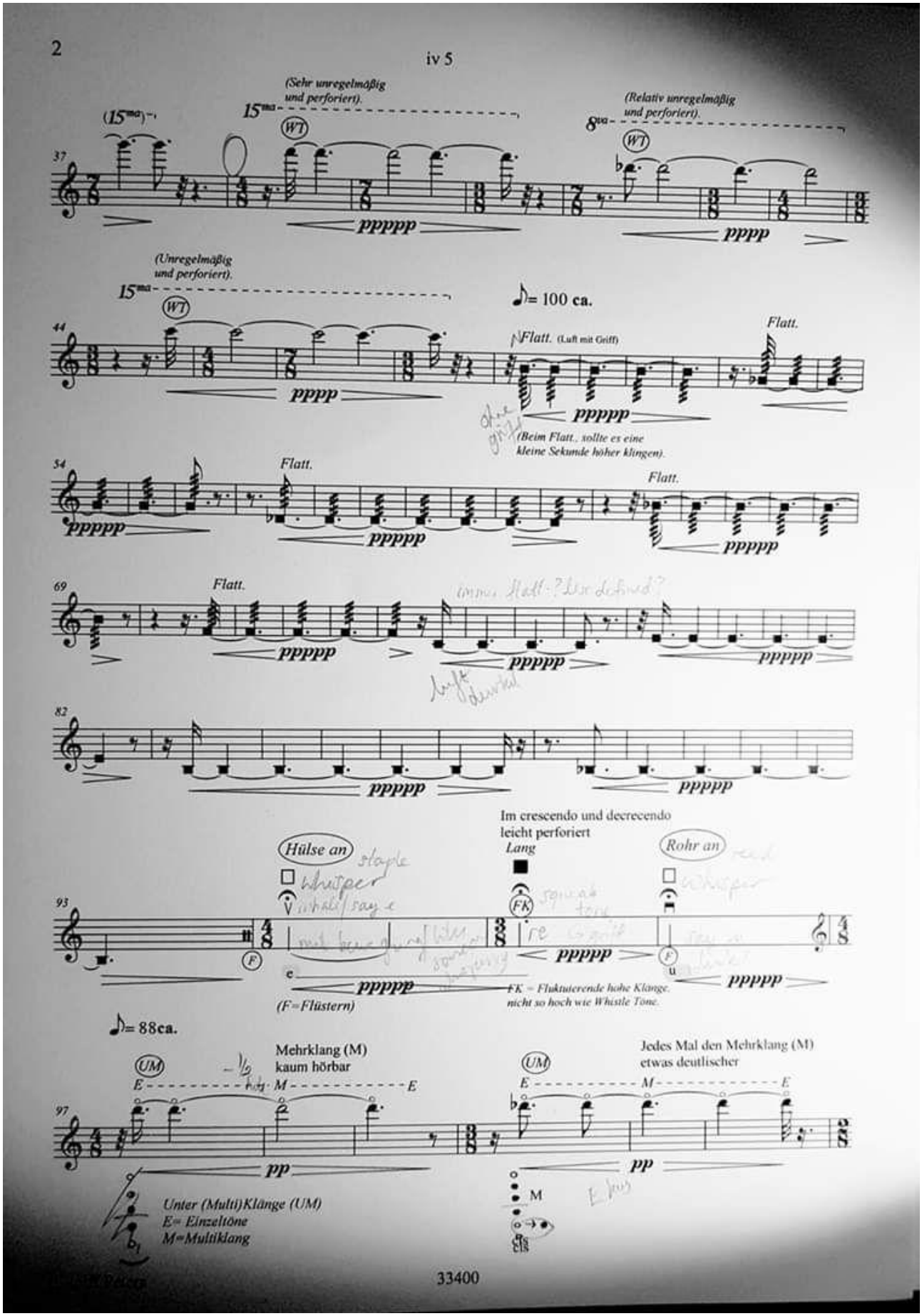
The role of my own particular musical habitus – the unique imprint of my personal musical histories and contexts – in shaping the nature of the resistance that I experience suggests that diverse musical backgrounds can produce diverse resistances. For example, an oboist who has internalised different timbral preoccupations than mine may not feel the same sense of transgression in diverging from standard tone production ideals, and may therefore not experience the same resistances. Instead of feeling friction at the inclusion of improvisatory elements, a performer with more experience making significant creative decisions might instead feel resistant to the level of specificity in some of the pieces, and so forth. The impact of resistance on my 'reading' of these pieces subsequently suggests that performers can produce distinctively nuanced interpretations based on their individual playing experiences. This type of resistance is therefore interesting to investigate, since examining its origins and outputs illuminates the prospect of avenues of performative agency that are relatively unique to the individual performer, and are tied largely to interior experiences rather than performance convention or perceived compositional intention.

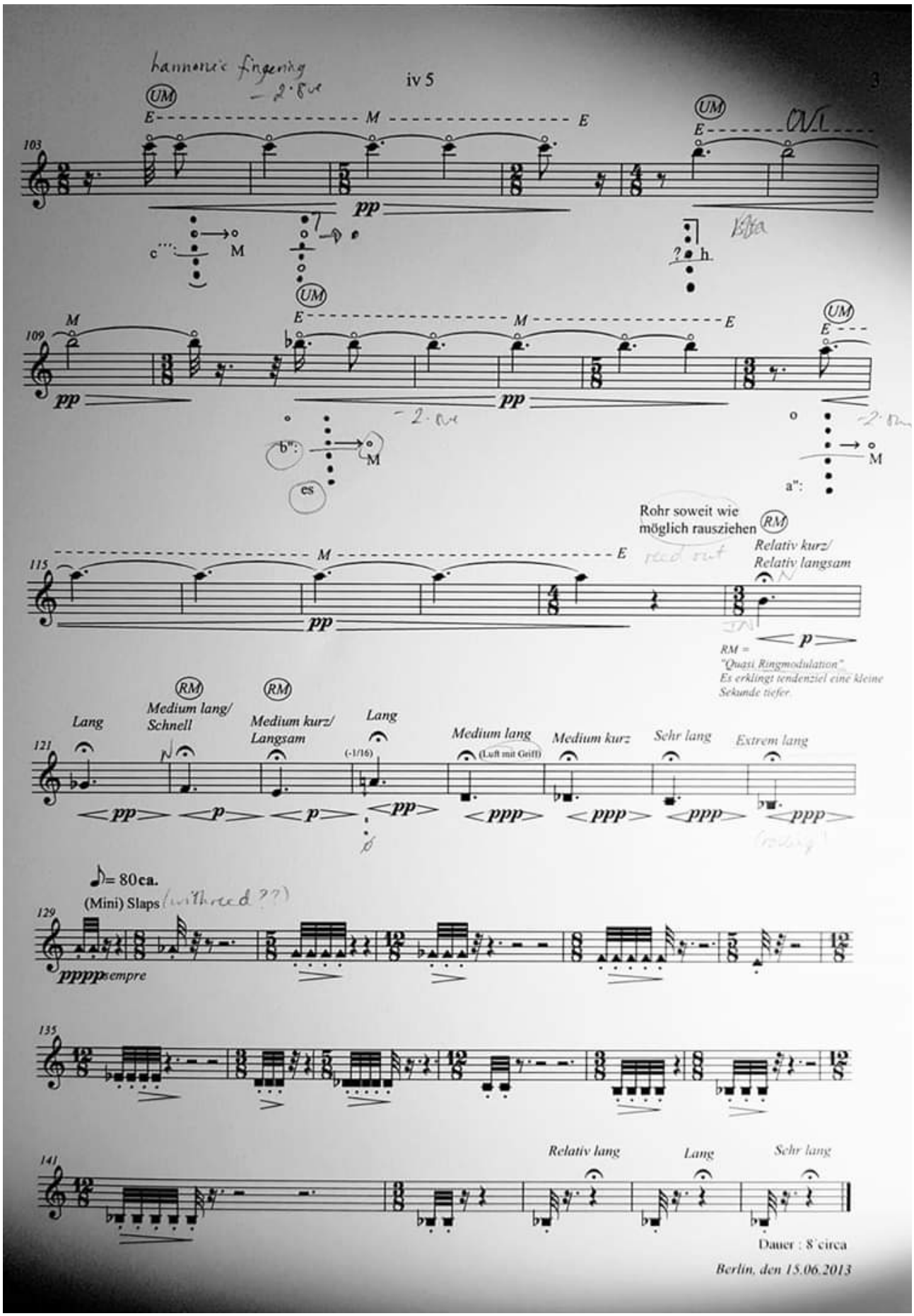
The common thread between the pieces discussed in this project is that, whether intended as part of the collaborative process or contrived through extant musical material, I have found musical meaning in the meeting point between the types of performance practice that is prompted by the works discussed, and my internalised concept of ideal musicianship. The insights offered in this research are, of course, limited, since the scope of this project is necessarily restricted to my own perspectives and embodied musical histories. It is an investigation of the nature and impact of subjectivities and interiority on the experience of musical performance – an exploration of 'what it is to be "me",' as

Cumming notes (2000, p. 11), in the context of the performance projects discussed here, and the influence of the particular characteristics of my habitus on my interactions with the musical material present in this portfolio. While this research represents only the perspective and origins of a single musical habitus, it also highlights the potential for further exploration from performers into the role of their internalised modes of ‘musicking’ in shaping both performative experience and interpretation. Furthermore, in closely discussing my encounters with repertoire containing divergent types of oboe playing, this research shows some of the ways in which what I have long considered to be ‘default’ or ‘correct’ oboe playing is socially constructed. This discussion of my resistant experiences is not intended as a critique of the systems that have produced my oboe habitus, but rather as an exploration of a potential source of interesting musical interactions in the type of repertoire present in this portfolio, between constructed ‘defaults’ and intentional contraventions of these internalised ideals.

Appendix A: *iv 5*




2
iv 5
(Sehr unregelmäßig und perforiert).
(Relativ unregelmäßig und perforiert).
(Unregelmäßig und perforiert).
= 100 ca.
Flatt. (Luft mit Griff)
Flatt.
(Beim Flatt., sollte es eine kleine Sekunde höher klingen).
Im crescendo und decrecendo leicht perforiert
Lang
Hülse an
Rohr an
(F=Flüstern)
FK = Fluktuierende hohe Klänge, nicht so hoch wie Whistle Töne.
= 88ca.
Mehrklang (M) kaum hörbar
Jedes Mal den Mehrklang (M) etwas deutlicher
Unter (Multi)Klänge (UM)
E= Einzeltöne
M=Multiklang
33400


harmonic fingering
iv 5
UM
E
M
pp
Rohr soweit wie möglich rausziehen
RM
Relativ kurz/
Relativ langsam
RM =
"Quasi Ringmodulation".
Es erklingt tendenziell eine kleine Sekunde tiefer.
Lang
Medium lang/
Schnell
Medium kurz/
Langsam
Medium lang
(Luft mit Griff)
Medium kurz
Sehr lang
Extrem lang
= 80 ca.
(Mini) Slaps
pppp sempre
Relativ lang
Lang
Sehr lang
Dauer : 8' circa
Berlin, den 15.06.2013

Appendix B: *Drift Shadow*

Drift Shadow

for Oboe and Electronics

by Alex Harker

co-created with Niamh Dell

Notation of Techniques

The piece is based primarily on multiphonics, which are notated in terms of fingering, air pressure and reed position. Additional experimentation may be needed to fine tune positions, embouchure etc. in order to cleanly play the multiphonics as written. Many of the techniques employed also require production that does not aim to create a static, blended chord, but create timbral variation upon a single fingering.

Dynamics are often given as a range which can be explored freely. Not all fingerings in a given block may be equally flexible in terms of dynamic, and at times the dynamics marked will imply underblowing, creating an unstable result. The written directions should be used alongside experimentation to interpret the written dynamics.

Possible trills/glisses between adjacent fingerings are indicated, but further colour fingerings are requested at various points. These should not alter the fundamental pitch material too radically, but should inflect the multiphonic differently in terms of timbre or microtonal details.

Whilst common notations are indicated here, further graphical notations are used in the score and explained in context. Graphical elements should be interpreted as indicative, rather than literal in terms of timing and gestural shaping.

left to right - low to high air pressure

indicates strong lip pressure

teeth tone
produced by biting the reed

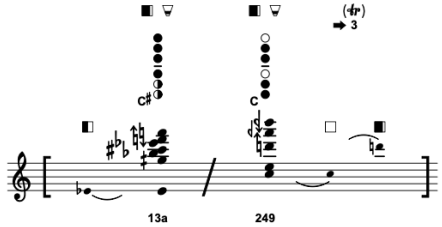
noise burst
produced using breath and/or tongue constriction

left to right - reed position outwards to inwards
(as indicated for normal reed contact)

left to right - reed position outwards to inwards
(as indicated for teeth tones)

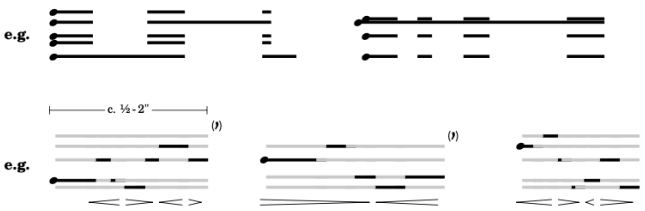
T

timbral fingering
(a significant deviation from normal tone production)



For multiphonics fingering, air pressure (or indication of a teeth tone) and reed position are all given.
Where specific single notes are also an option these are indicated (with a suitable air pressure alteration, or teeth tone indication).
Ties indicate that single notes may be used slurred to the multiphonic and you may use the multiphonics, single notes or combination ad lib.

The notation on right-hand side shows an option for colour trills on the single notes



Throughout the piece two approaches to multiphonics are referred to: ***selection*** *and* ***focus.***

The upper notation indicates ***selection*** *in which the aim is to isolate single pitches from a multiphonic as far as possible.*
The lower notation indicates ***focus*** *in which the multiphonic should be maintained, but the balance of pitches adjusted.*

Note that in the latter case it is desirable for dyads to result (if possible) but the notation indicates prominent single pitches for simplicity.
In both cases experimentation will be necessary to find the changes of embouchure and pressure that acheive best results.
According to the fingering some changes may create audible glisses or changes in tuning, which should be embraced.

Key

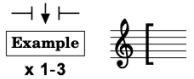
Overall Form

*The piece is in four main **parts**, indicated in boxes at the top left of the relevant pages. Each part starts with the material immediately under the heading. After playing this **section** you may navigate as you wish within each part, as long as you follow the indications and arrows. However, the four main parts must happen in order, and you may not return to earlier parts in the piece after progressing onwards.*

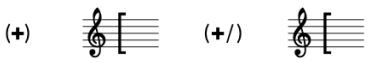
*Each section or **block** (staff within a section) has specific instructions to the right of the notiation which should be followed. In the case of sections containing multiple blocks, additional instructions about form / shaping are given as boxed text. With the exception of 'insert' sections (explained below) arrows are used to indicate which sections can follow one another. These are directional, so you may only travel in the direction(s) indicated by the arrowheads. Arrows may be between passages of musical notation directly, or to a boxed section name when the section that follows is on another page.*

It is important to note that examples (marked with boxed letters) are indicative of a playing style, and should not be reproduced as written each time, but used as a starting point for exploration.

Notation of Form

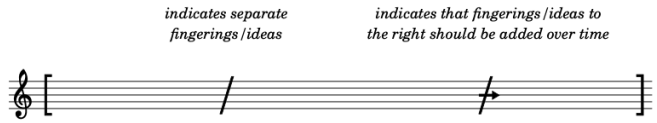


Section names are indicated within a box with repeat indications to indicate how many times that section is to be traversed in a performance.
Sections with the downwards arrow within two lines are 'insert sections' which can be used at any point within the part they belong to.
After finishing an insert section you should return to the section you came from, or the start of the part you are within.

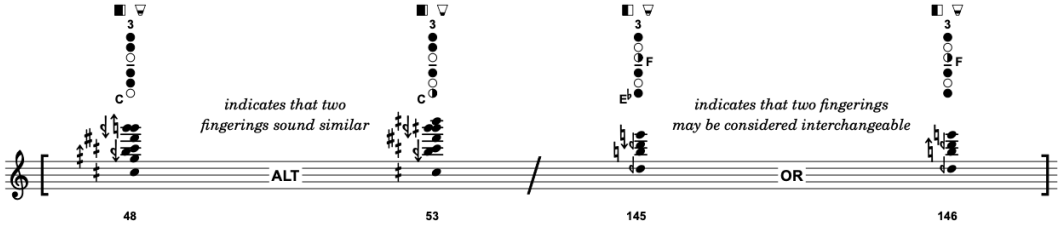


These blocks are additional to the main block for the section
Those marked (+) must be optionally used alongside the preceding block.
Those marked (+/) may be used alongside or instead of the preceding block.
Blocks are generally separate temporal entities but there may be additional directions about how to use specific blocks.

dashed lines help separate 'insert' sections visually from other music



Square brackets indicate a set of ideas that an be ordered freely.
Slashes with arrows indicate when ideas should be introduced over time.
Otherwise sections may be started at any item.

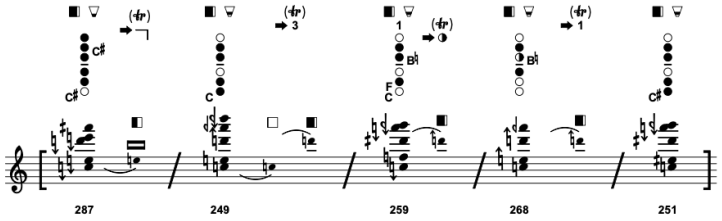


OR and ALT symbols indicate similar sounding multiphonics.
This is to aid planning of order for contrast or similarity.

(Displace)

Arrival

x 2-4

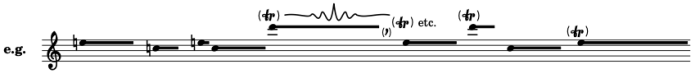


p*-*mf *with stable tuning to maximise consonance*

play interspersing A *and* B *in blocks (+* C *ad lib.)*
elecs double and track activity

A multiphonics with moderate to rapid pitch focus and dynamic inflections

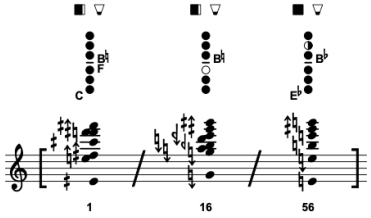
B single notes with optional 'breaking' trills as hairpins (irregular but with a vague sense of pulse)



→ Origin

C noise clouds/bursts (breath + keys + tongue constriction as needed)

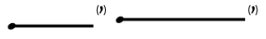
(+)



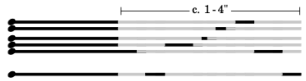
mf*-*f *underpin the harmony (tune consonantly)*

play one or more multiphonics changing infrequently
elecs complete harmonic field
use only once per instance of this section

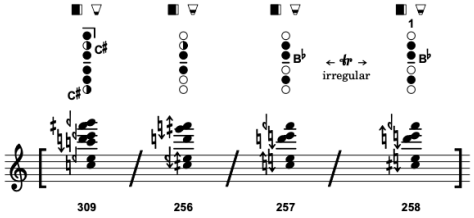
A stable sustains



B sustains + occasional slow wide pitch focus inflections (low)



(+)

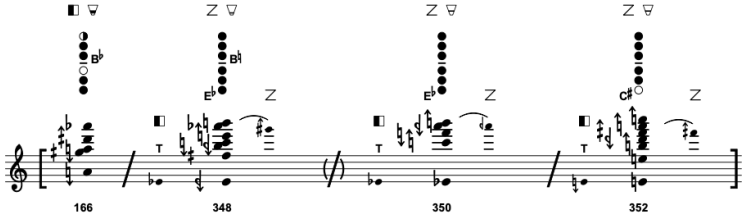


p*-*f *messy and gestural, pushing against the established texture*

play as **Displace** *but build messiness sensitively over time*
embrace tuning clashes, but also subtle dynamics
continue to insperse with noise clouds
elecs adds further displacements to the core **Arrival** *harmony*
use to add complexity or to dissolve/end this section

Cluster 1

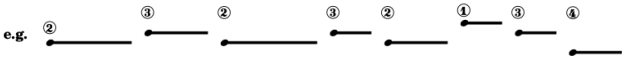
x 1-3



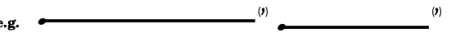
mf*-*f *stable multiphonics (reduce louder ones as much as possible)*

play either as A, B *or* C *or intersperse in blocks —* ***reorder freely, often rocking back and forth between pairs, hinting at short loops***
elecs track speed / levels of activity

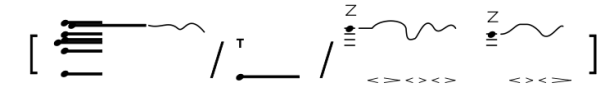
A uneven slow rocking patterns



B long separate sustains (allow elecs to complete harmonic field)

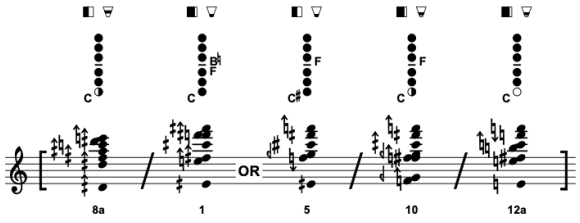


C intersperse multiphonics slurred to high notes (+ wobble), timbral low notes and high smorzando teeth tones wobbling between partials



Cluster 2

x 1-3

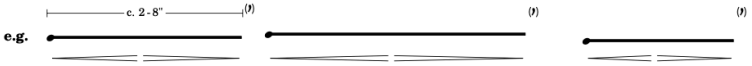


mp*-*f *stable multiphonics (as quiet as possible)*

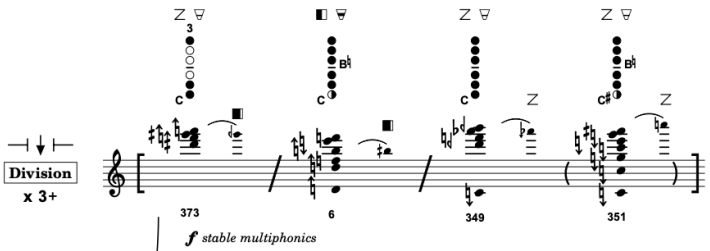
play either as A *or* B *or morph between the two —* ***continuously reorder avoiding close repetition/looping***
elecs track speed

A slow swells w/ occassional small pockets of faster change + accent

B v. slow swells w/ occassional extremely long notes (till elecs responds)



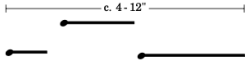
Part II



f stable multiphonics

statement (+)

1-3 multiphonics pure/strong
prefer to end the statement section low (esp. on C♮*)*

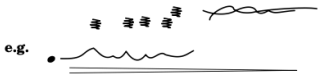


play as **statement** *+ optionally* **A**, **B** *or* **C**
elecs complete harmonic field with added filtering
each instance a surprise

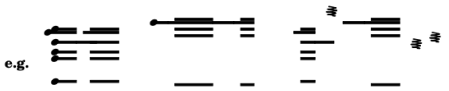
dissolve

(keep multiphonic static or change infrequently)

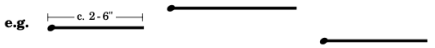
A dissolve into noise (+ constrictions) through unstable lip and key trilling/wobble



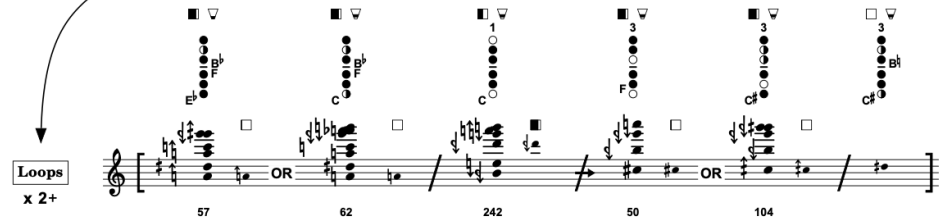
B switch between multiphonics and high tones w/ optional breath noise



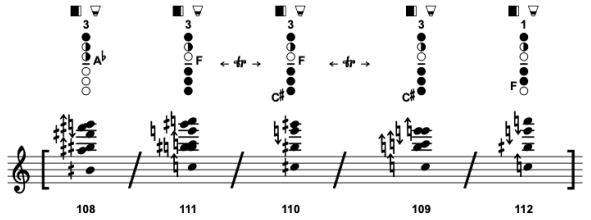
C very slow changes between stable multiphonics



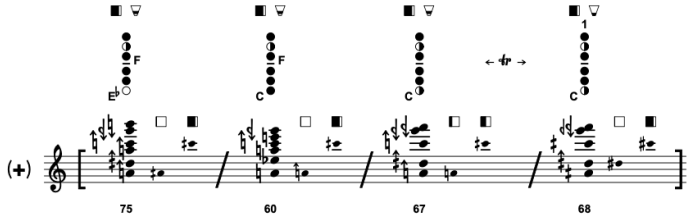
→ **Centre**



p-mp *multiphonics or* ***pp*** *single notes*
always as clean as possible

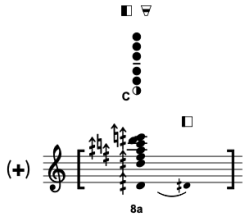


pp-mp *ethereal and floating,* ***interspersed with noise bursts***
allow moments of stability but mostly underblown with pitch focus inflections



mp-mf *(underblow if needed) messy and gestural, pushing against the established texture*
use within loops but also to break looped patterns

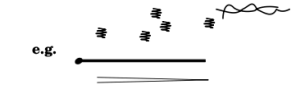
play as the core material + techniques from **Displace**
use techniques to inflect individual notes/multiphonics
elecs will add multiphonics to the core set from **Loops**



mf-f *stable*
ground the harmony

play as ***sustain + optional dissolve*** *as below*
pitch/multiphonic ad lib.
use ideas individually or in combination
elecs doubles and then tracks ending

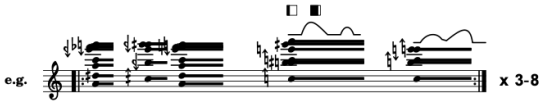
A dissolve into noise



B upwards gliss

the core material should be short loops from the two upper core harmonic blocks
alternatively play freely using only the first block
in either case use the lower displacement and grounding options to create interest
elecs tracks individual ideas

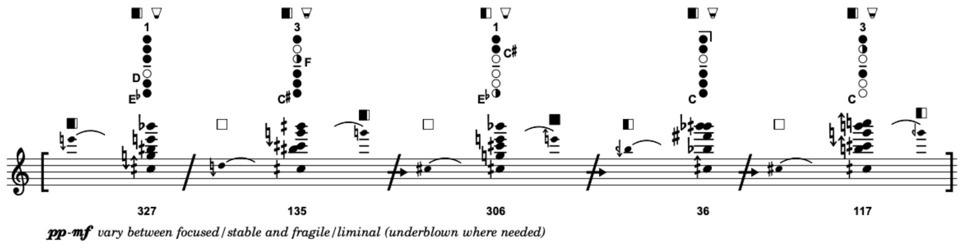
make loops from **1-3** *multiphonics from the first block followed by* **0-3** *multiphonics from the second*
loops should have a loose sense of pulse often emphasizing a short-long rhythmic pattern
repeat loops ***several times*** *before developing mostly slowly (small additions / switching out short segments)*
keep loops as consistent as possible, even when using inflections



→ **Centre**

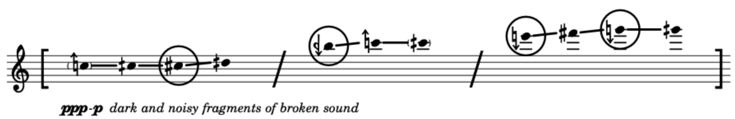
(Loops)
(Division)

Centre
x 4+



play primarily as multiphonics in **Origin** *(+ colour trills ad lib.)*
as multiphonics are added over time introduce techniques as in **Displace**
vary the level of stability and focus (in terms of number of multiphonics)

→ **Loops**

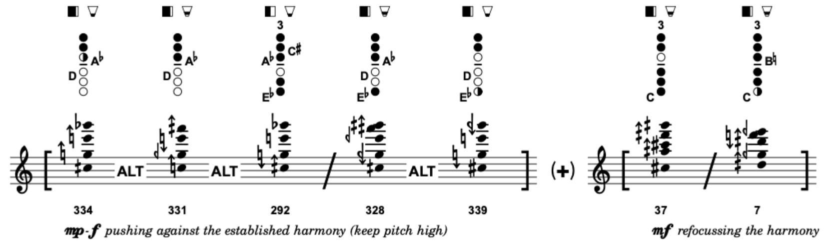


play as in glissandi/microtones in **Origin**
break into breath noise ad lib.
to start focus on circled pitches
widen the pitch ranges over time

intersperse multiphonic and glissandi/microtones into varied phrases
elecs tracks speed/levels of activity/attack points/space and follow changes of section/idea

increasing blur the distinction between glissandi/microtones and multiphonics
create strong moments of focus, but also explore other materials in **Part II** *as indicated*
each time through try to make something new

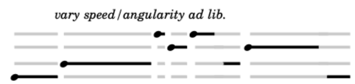
Press
x 1-3



*play the **first block** using* **A** *and* **B** *and the **second block as clean sustains emphasizing low partials***
elecs double and track activity

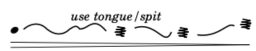
A rearticulation with changing pitch focus each attack (and sometimes within attacks)

e.g.

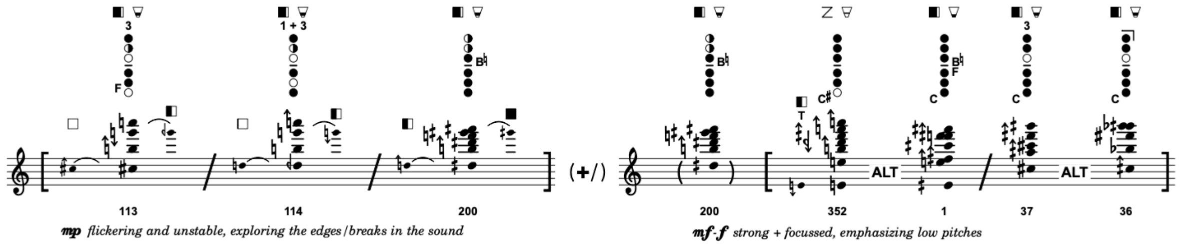


B add gliss/breaks with noise to the end of sustains

e.g.



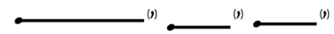
Extend
x 1+



play using the ideas below freely combined
elecs track which blocks are in play and levels of activity and fill in harmony
use briefly as a route elsewhere or a field to inhabit

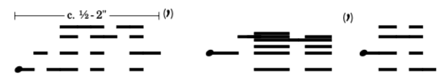
A stable sustains with **either block** (+ noise bursts for **second block** only)

e.g.



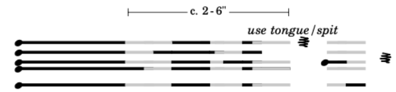
B rapid flickering pitch selection with **first block** (+ occassionally stable moments)

e.g.



C sustains + wavering pitch focus + noise bursts with **second block**

e.g.

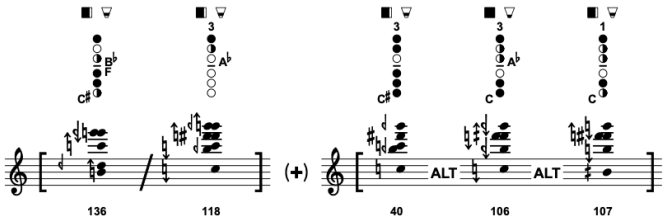


→ **Transition**

(Extend)

Transition

x 1

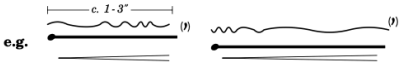


mf-f *strong sustains*

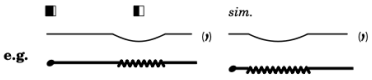
mf *stable but dissonant slabs of sound enmeshed within the texture*

play as ***sustains*** *(+ flz. ad lib.) or* **A** *and* **B** *as relevant to the block*
elecs fill in harmony

A **first block** - sustains, each one with a crescendo, varying speed of beating ad lib.



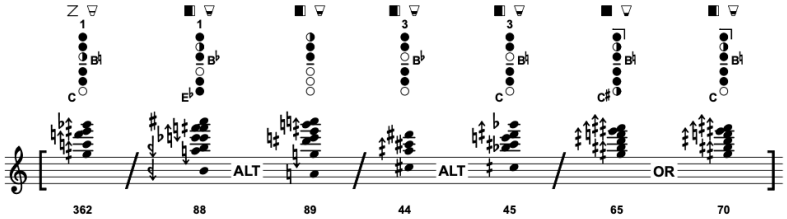
B **second block** - sustains with flickering from underblowing



→ **Closing**

Block 1

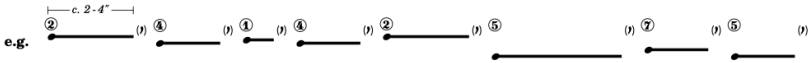
x 1-3



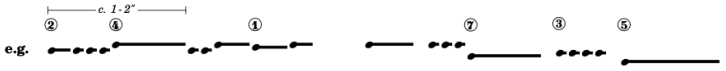
mp-mf *stable/angular sound complexes (blend into the texture)*

play with either **A** *or* **B** *or move between them (both + flz. ad lib.) —* ***move slowly between groups, focussing on just a few fingerings at a time***
elecs track activity and fill in the missing harmony

A long sustains

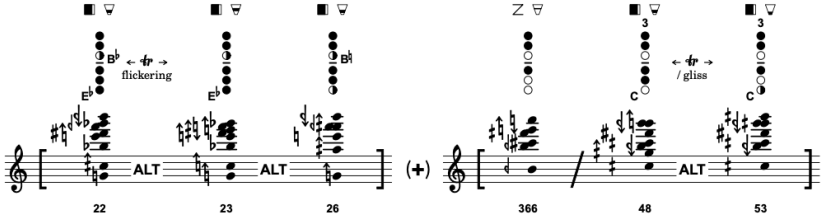


B obsessive angular rearticulated patterns



Block 2

x 1-3

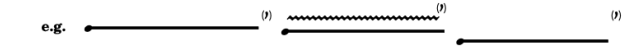


mf *stable but dissonant slabs of sound*

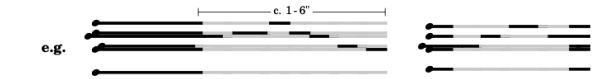
p-mp *within the texture (underblow if needed)*

play using any combination of **A**, **B** *and* **C** *to create a dense texture*
elecs fill out texture (filtering materials from the second block)

A **first block** - long sustains + flickering trill / flz. ad lib.



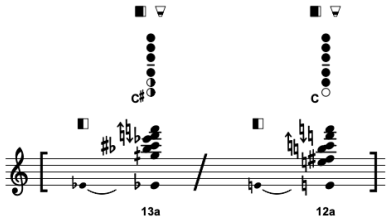
B **second block** - moderate to slowly varying pitch focus, maintaining multiphonics but emphasizing higher partials



C **second block** - quiet swells (allowing underblowing at the ends of each swell)

Closing

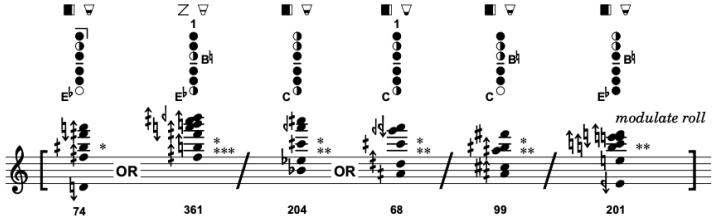
Coda



first time through remain suspended here for a long time

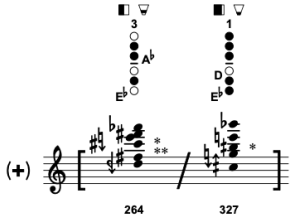
mf*-*f *strong low + high partials*

(+)



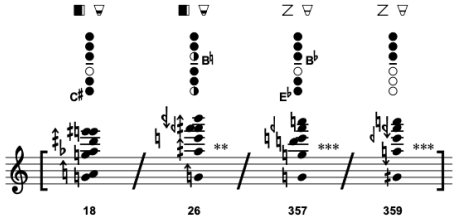
mp*-*mf *constant and well-blended*

(+)



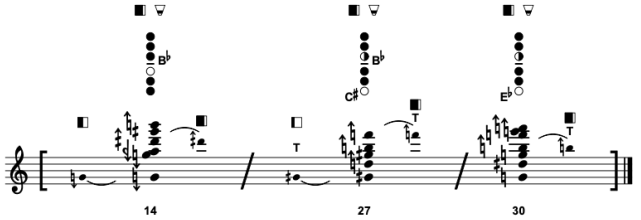
mf*-*f *disrupting the flow*

(+)



p*-*mp *refocussing on a new fundamental*

(+)



pp*-*mp *quietly displacing the stablity*

starting with only the first block, loop around the material, each time progressing as far as before or further through the blocks
aim to play some multiphonics from each block, but not necessarily all, each time
when moving back to loop you can return to the first block or something further on ad lib.
play the final block only on the last repeat
elecs track progress and shadow the harmony

*play as **sustains** or using the ideas below as relevant*
elecs doubles and fills in the harmony, tracking progress

- A dynamic swells **(where marked *)**
- B free pitch focus and/or selection **(where marked **)**
- C teeth modulation **(where marked ***)**
- D specific notes selections **(as notated)**

gradually more and more still and fragile

Appendix C: *Spectral Breathing Apparatus*

Spectral Breathing Apparatus for solo wind instrument (w/o mouthpiece) & electronics

Stephen de Filippo | 2022

vers. 6/3/22

Spectral Breathing Apparatus

Stephen de Filippo | 2022

for solo wind instrument (w/o mouthpiece) & electronics

Duration: 16'00"

-

for Niamh Dell

Performance Notes

General

- This work can be performed on any six-holed woodwind instrument, without mouthpiece.
- Measures are proportional to their respective system. Each system has a different duration. For instance, m.8 and m.33 are both 14" in duration, but the visual length of each measure is different, only proportional to the measures that are in its system.
- The box above each measure displays the length of the measure in seconds. The electronics display the progression of each measure on-screen as to guide the performance. The durations of the measures often synchronise with an aspect of the electronics, so precision in the length, timings, and placement of musical gestures are paramount as to occur alongside the electronic component.
- Internal markers, second durations in bubbles, give proportion to gestures within a measure. These internal markers are less strict than the measure durations, and are used as a general guide of a particular measure.
- The score depicts gestures, but they are to be interpreted. For instance, m.8 depicts a rallentando of palate clicks, but the stems do not necessarily specify the amount of clicks in the gesture. Although there are 9 stems, an interpretation of m.8 could contain more or fewer clicks as part of the gesture. So, the measures depict a more general direction of a gesture.

Staves

Material is notated on two rhythmically independent staves, connoting the mouth and fingers. For the "mouth" staff, noteheads that appear on the line should be performed in a typical manner, with notes above and below the line referring to raising or lowering the pitch through changing embouchure. Lines exstend from noteheads as to depict the continuation of a gesture, these lines represent movement in pitch and the general quality of the gesture unfolding – lines may become fragmented and dotty, or smooth and continuous.

Symbols


Tap instrument on lips

With vibrato.


Re-articulate.


Ingressive or inhaled.

Noteheads


Alla tromba. The notehead on the line represents tromba embouchure resulting in the 'most natural' tone (as close as possible to the fingering). Anything above or below the line represents a glissandi above or below.


Unpitched percussive vocalisations.
Sometimes, the term 'palate click' accompanies the note head, which indicates create a percussive sound by clicking your tongue on the roof of your mouth.


Whistle tone.


Breath sound, sometimes accompanied by a syllable to suggest mouth shapes.

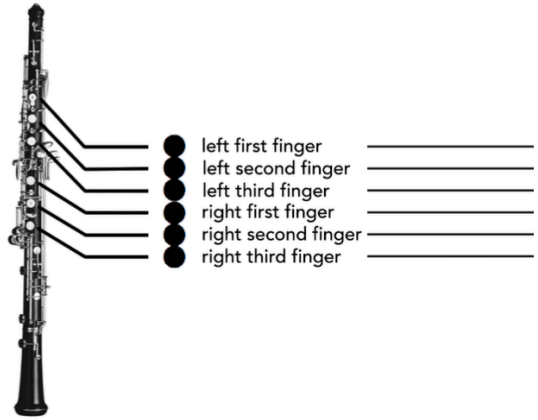

Kissing sound.


Extremely liminal tromba, creating very light squeaks in the instrument.

Fingering

The second staff refers to fingerings, depicted as a kind of tablature. Black noteheads represent depressed keys, and white noteheads depict lifted keys. Often, fingerings are represented with all keys displayed, but sometimes white or black keys will be depicted as part of a gesture, signifying the compression/release of a single finger.

A key chart can be seen below (displayed on an oboe):




Suck through teeth, inhale.

Ie tchip - This squeak sound can be achieved by placing your front teeth on your bottom lip and attempting to suck air through your teeth. There is little resonance from the instrument, the sound primarily comes from the squeak of air passing through the teeth to the mouth. Difference in pitch can generally be achieved through pouting — pushing your lips out to lower the pitch, and receding them to raise and lower the pitch.

tromba – a more traditional tromba sound, but inhaled and less stable.

Electronics Setup/Technical Requirements

- This work is written for solo instrument, live electronics, and stereo fixed media. The work can be performed with a single input, and a stereo speaker set-up.

Spectral_Breathing.pd instructions

To run this patch, the user must have a working version of Pure Data. The PD application functions on both MacOS and Windows, and can be downloaded for free at: https://puredata.info/downloads/

A link to this composition's PD patch can be found at www.stephendefilippo.com, on the Spectral Breathing Apparatus page. This patch was created by Rand Steiger, with edits and additions by myself.

1. Open Spectral_Breathing.pd
   this will open the patch. You will then be presented with 4 windows: Spectral_Breathing.pd, band, mixer, and player. Connection to hardware can be configured in PD's "audio" settings.
2. Press "open_FM", then load Fixed_media.wav. This will load the fixed media component.
3. Enable "cues".
4. Press "play" in the player window to begin the piece.

Note:

- Pressing "stop" or "reset" in the patch will require you to reload the fixed media (step 2).
- You can use the "next" button or "jump" box in the Spectral_Breathing.pd window to jump through the electronics cues of this piece. This will allow you to hear the electronic processing of a particular measure. However, the timer will not work.
- The timer can only play from the beginning to the end of the piece, you cannot start the timer from a particular measure. However, you can use the timer.mp4 file, which is a video version of the timer window included in the electronics, to support your practise.

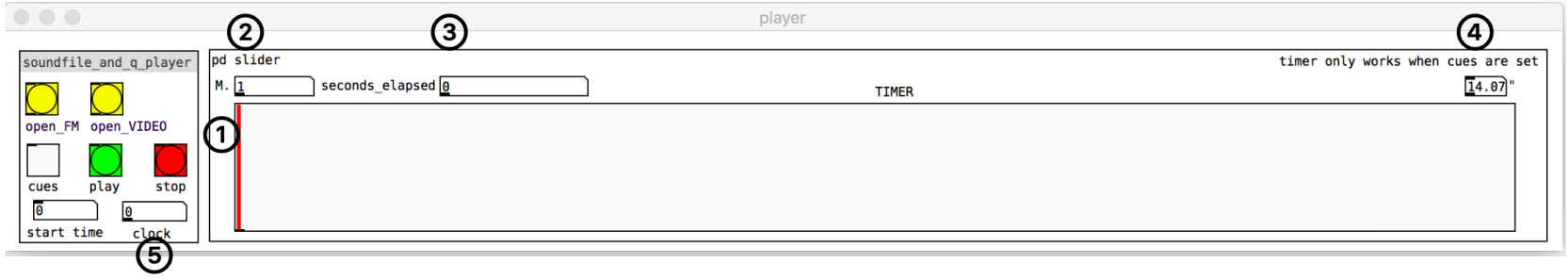
Microphone placement

Because of the prominence of ingressive musical gestures and key sounds in this piece, it is suggested that the microphone input is positioned as to capture the liminal sounds of the mouth. So, it may be more appropriate to position the microphone closer to where the mouthpiece of your instrument should be, as opposed to the bell.

Electronics in performance

The player window helps synchronise performed events with the fixed media. Below highlights the components of the player box:

1. The scrollbar will move from left to right, giving a visual cue of the length of each measure.
2. This box will depict the current measure #.
3. This box depicts in milliseconds the time that has elapsed so far in your current measure
4. This box depicts the duration of the current measure.
5. This clock counts the length of the performance in seconds.



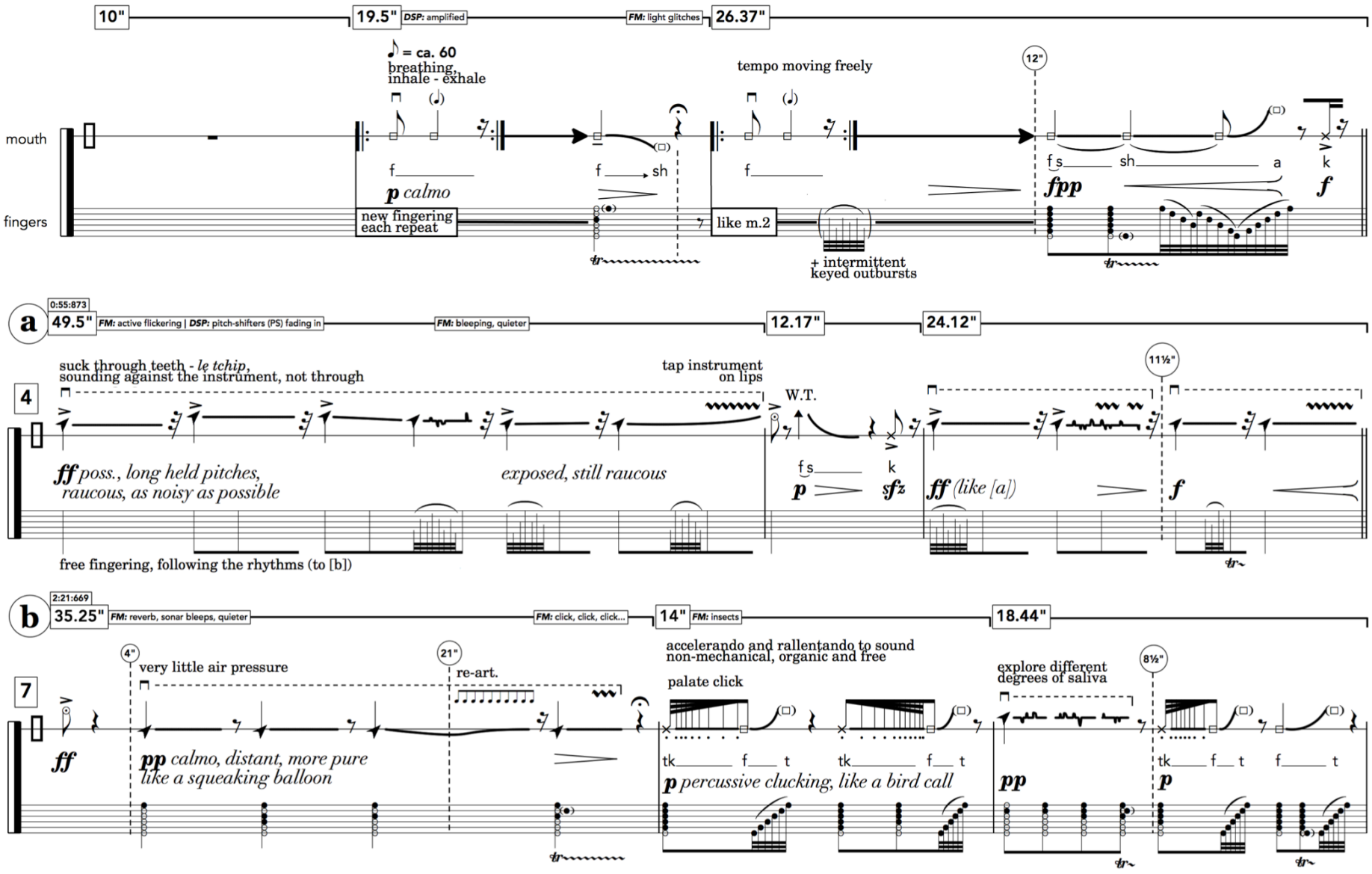
Spectral Breathing Apparatus

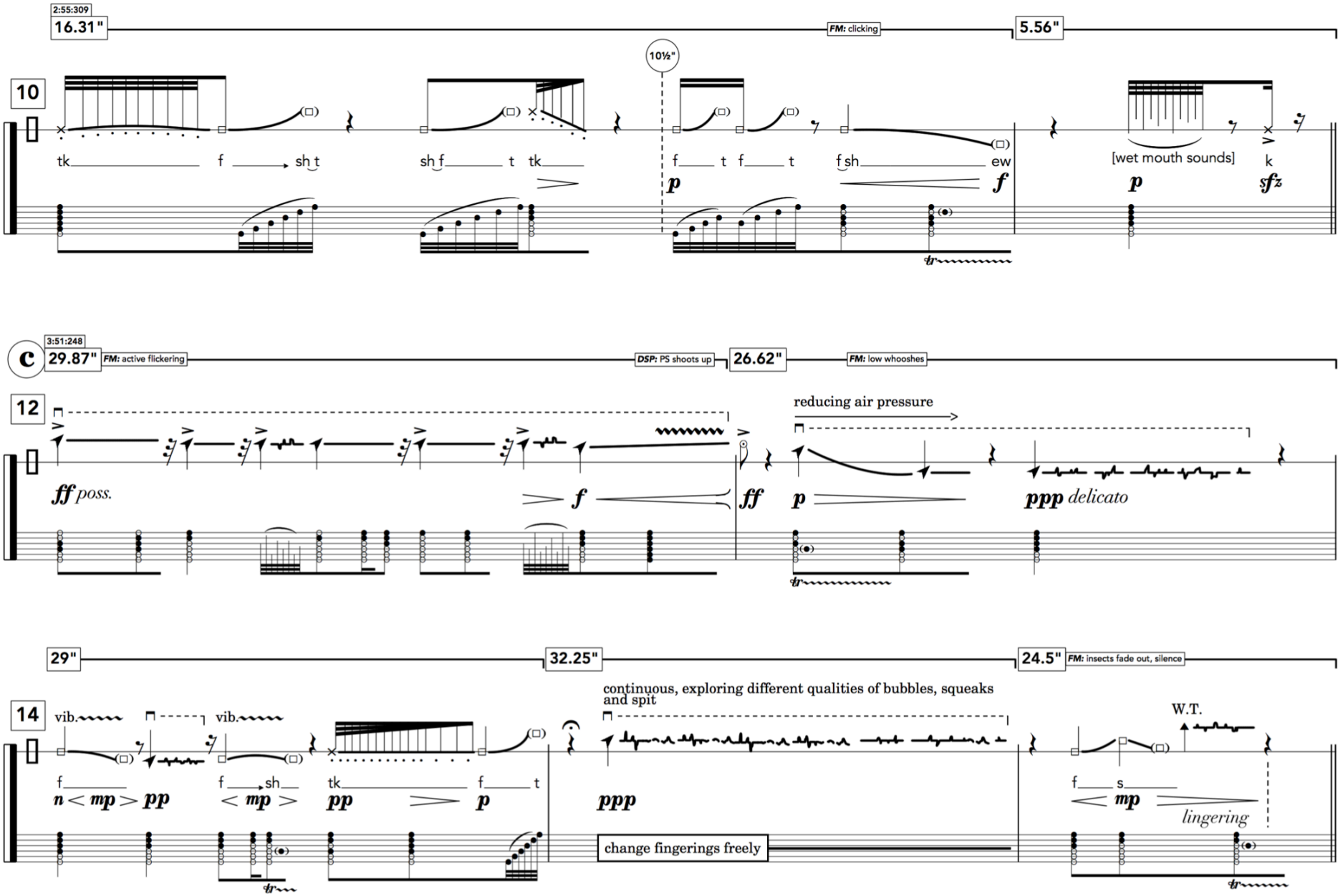
for solo wind instrument (w/o mouthpiece) & electronics

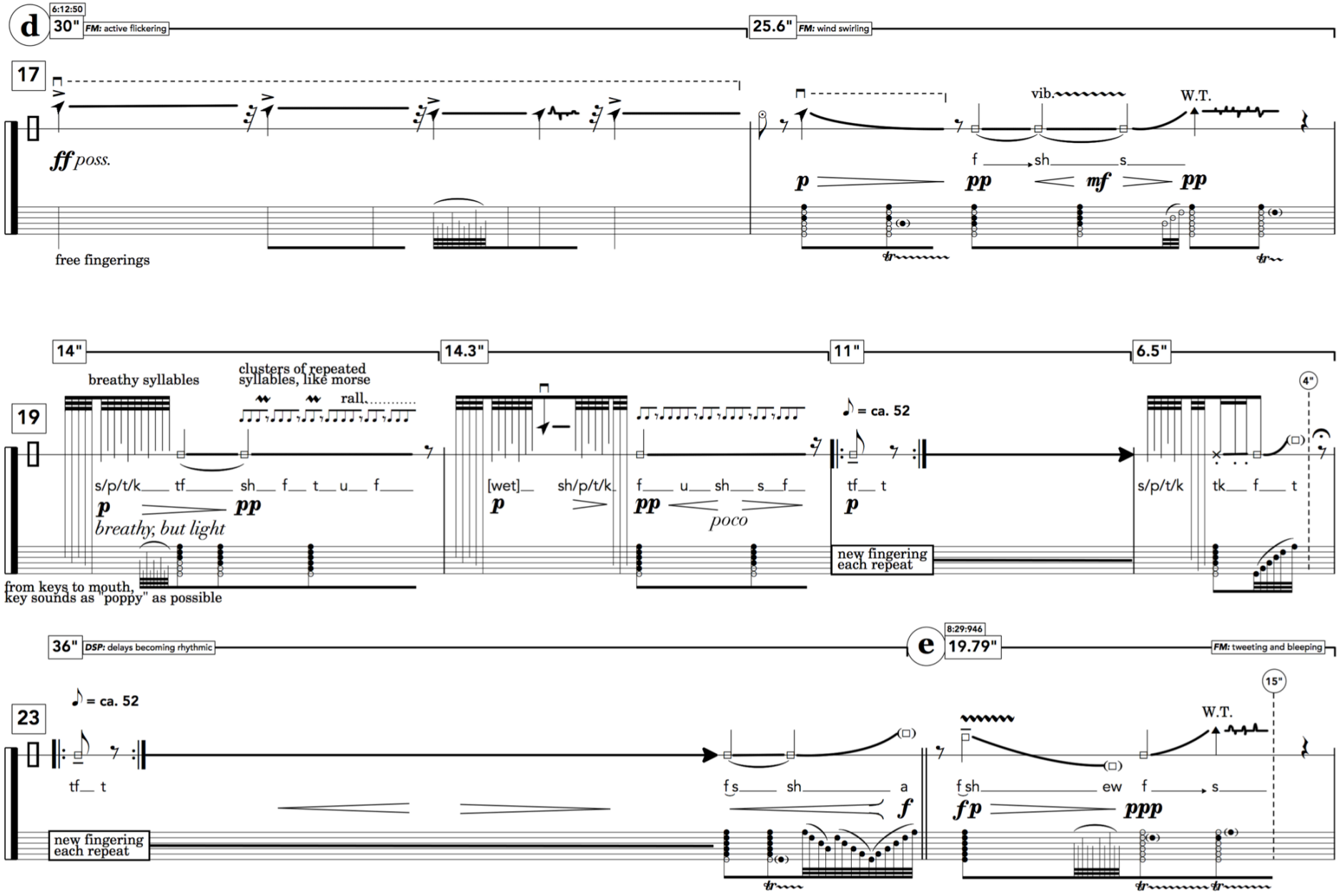
Stephen de Filippo | 2022

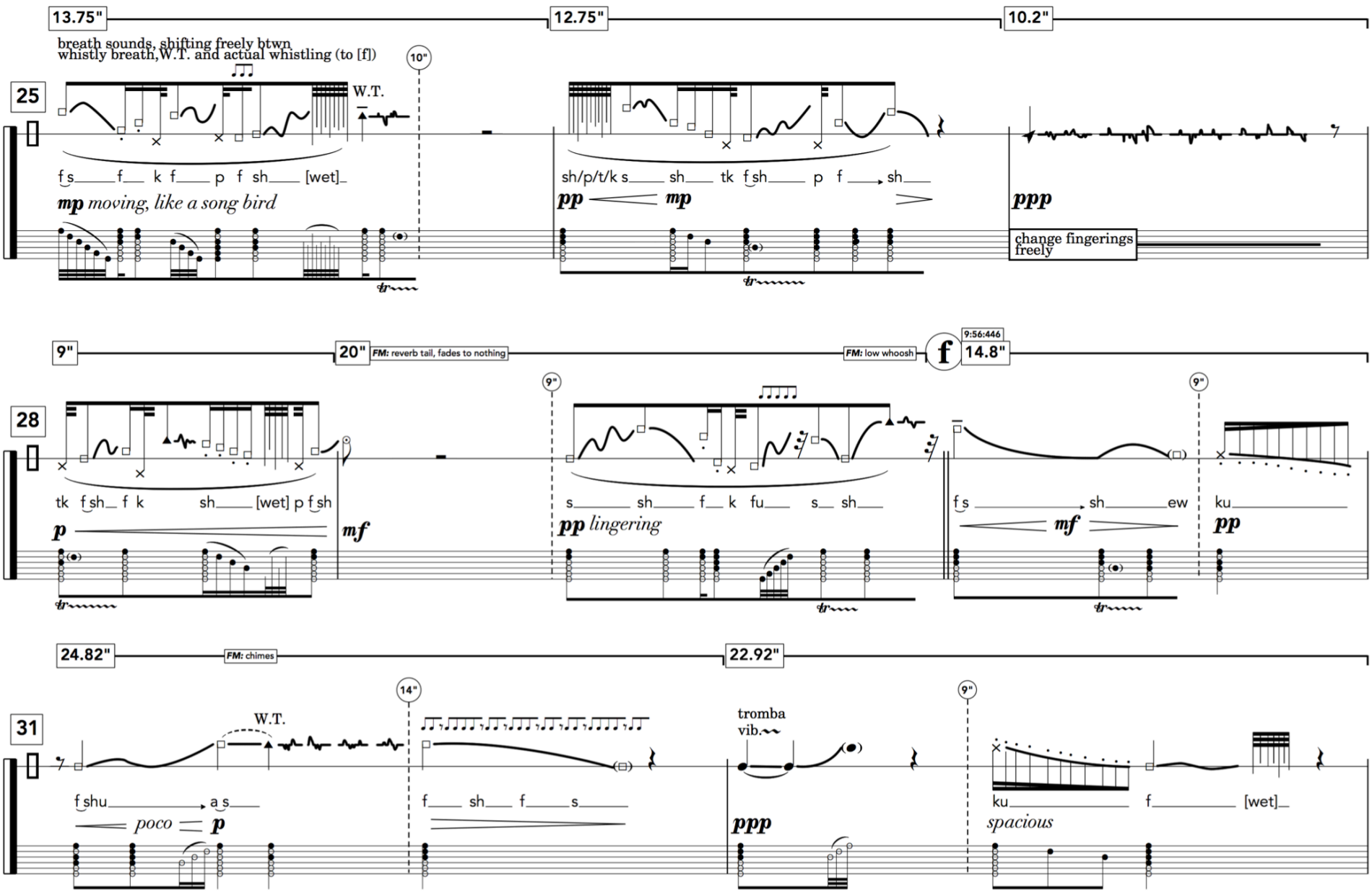
General Notes

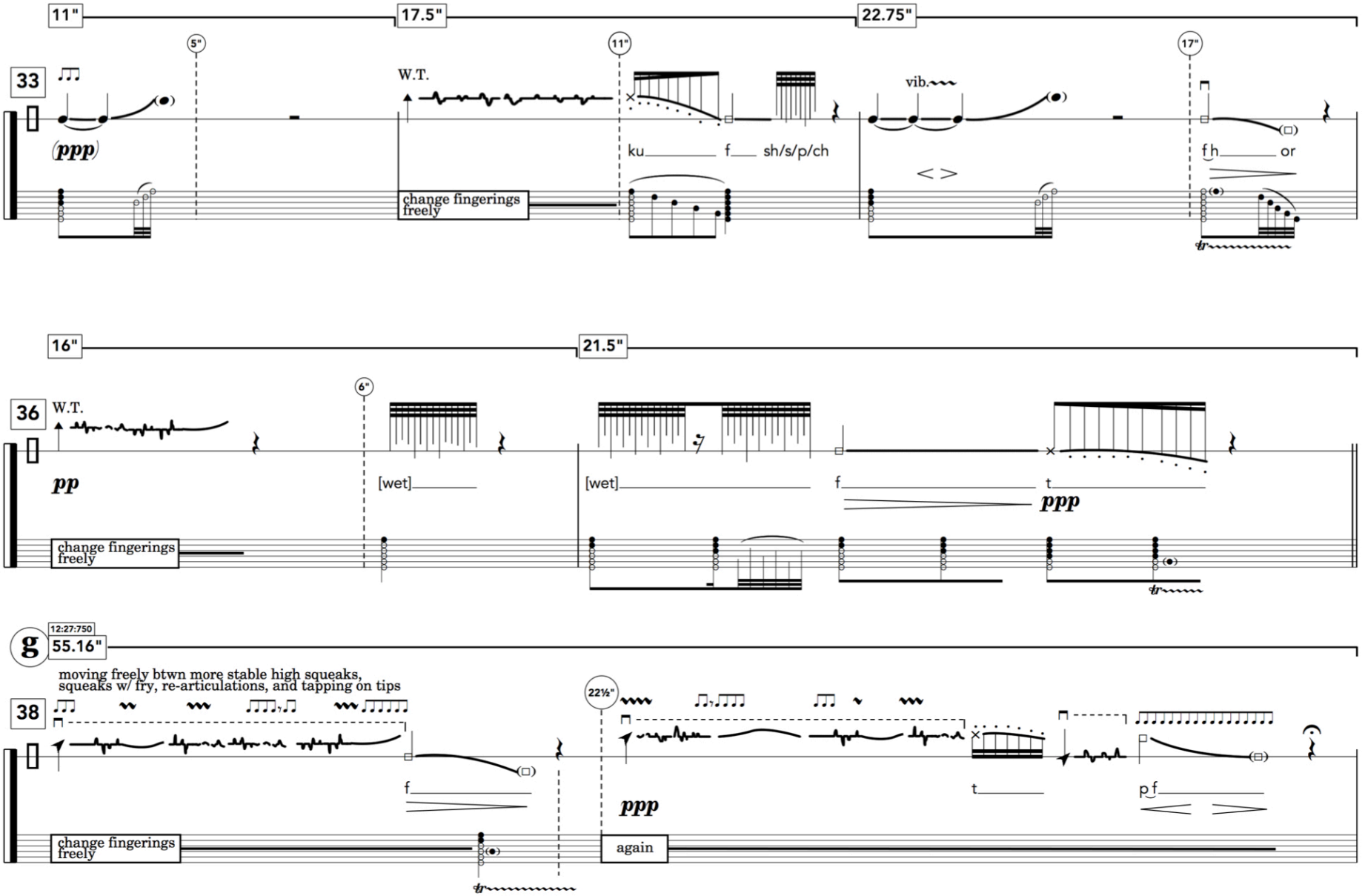
Measures are proportional to their respective system. Each system has a different duration.
Each measure [boxed duration] is guided by the scrolling displayed in the patch.
Circled numbers can be synced to the milisecond clock, these are not strict

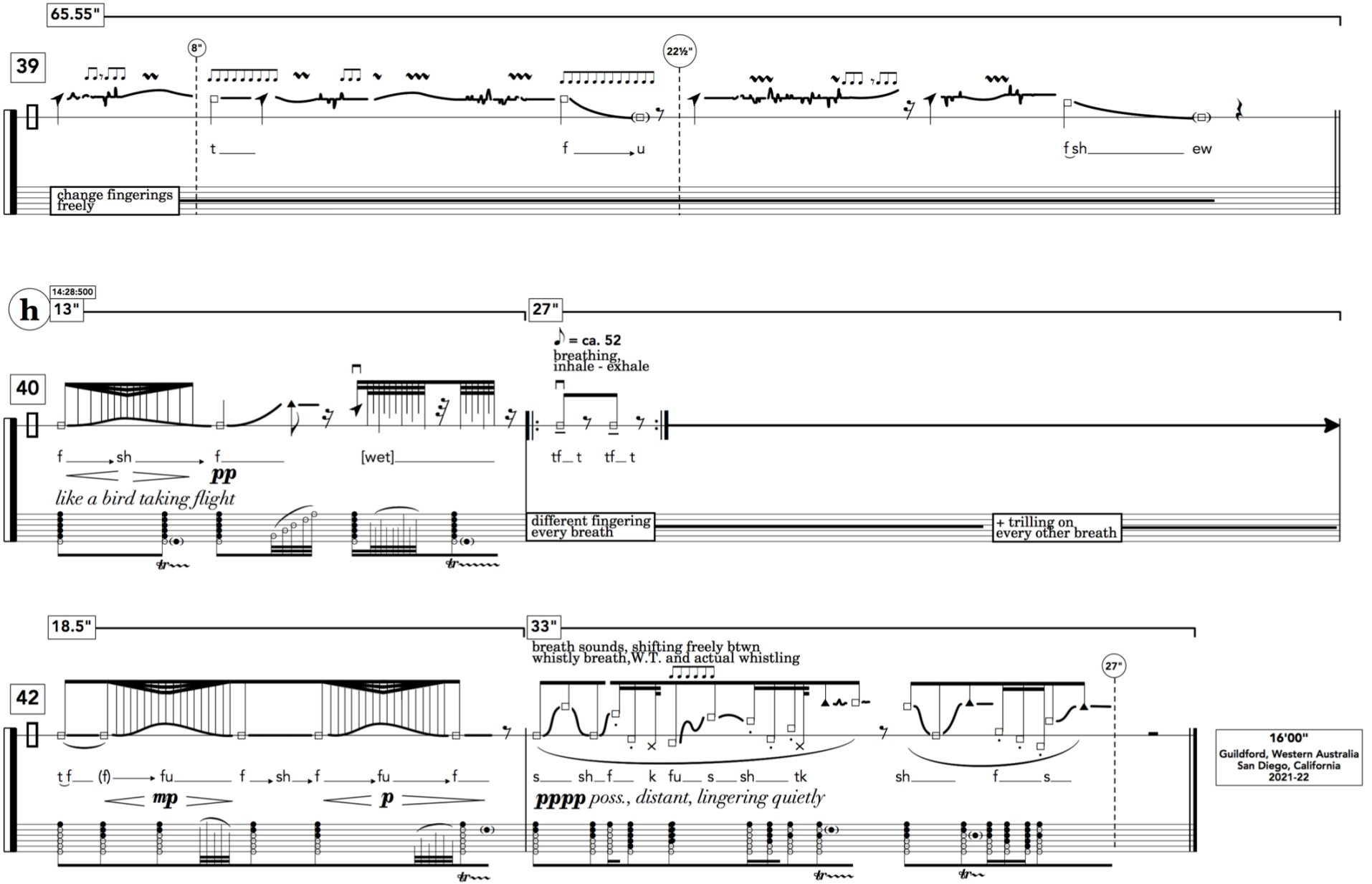



2:55:309
16.31"
FM: clicking
5.56"
10½"
10
tk f sh t
sh f t tk
f t f t
f sh ew
[wet mouth sounds] k
p f p sfz
3:51:248
29.87"
FM: active flickering
DSP: PS shoots up
26.62"
FM: low whooshes
12
reducing air pressure
ff poss. f ff p ppp delicato
29"
32.25"
24.5"
FM: insects fade out, silence
14
vib. vib.
continuous, exploring different qualities of bubbles, squeaks and spit
W.T.
f sh tk f t
n < mp > pp < mp > pp p ppp
f s
mp lingering
change fingerings freely


d
6:12:50
30"
FM: active flickering
25.6"
FM: wind swirling
17
ff poss.
free fingerings
vib.
W.T.
f sh s
p
pp
mf
pp
14"
14.3"
11"
6.5"
breathy syllables
clusters of repeated syllables, like morse
rall.
19
s/p/t/k tf sh f t u f
p
pp
breathy, but light
from keys to mouth, key sounds as "poppy" as possible
[wet] sh/p/t/k
p
pp
f u sh s f
poco
♪ = ca. 52
tf t
p
new fingering each repeat
s/p/t/k tk f t
4"
36"
DSP: delays becoming rhythmic
e
8:29:946
19.79"
FM: tweeting and bleeping
23
♪ = ca. 52
tf t
new fingering each repeat
f s sh a
f
f sh ew f s
fp
ppp
W.T.
15"


13.75"
12.75"
10.2"
breath sounds, shifting freely btwn
whistly breath,W.T. and actual whistling (to [f])
10"
25
W.T.
f s f k f p f sh [wet]
mp moving, like a song bird
sh/p/t/k s sh tk f sh p f sh
pp mp
ppp
change fingerings
freely
9"
20"
FM: reverb tail, fades to nothing
FM: low whoosh
9:56:446
f
14.8"
28
tk f sh f k sh [wet] p f sh
p
mf
9"
s sh f k fu s sh
pp lingering
9"
f s sh ew
mf
ku
pp
24.82"
FM: chimes
22.92"
14"
31
W.T.
f shu a s
poco p
f sh f s
tromba
vib.
ppp
9"
ku f [wet]
spacious


11"
17.5"
22.75"
33
5"
11"
17"
W.T.
vib.
(ppp)
ku f sh/s/p/ch
f h or
change fingerings freely
16"
21.5"
36
6"
W.T.
pp
[wet]
[wet]
f t
ppp
change fingerings freely
g
12:27:750
55.16"
moving freely btwn more stable high squeaks, squeaks w/ fry, re-articulations, and tapping on tips
38
22½"
f
ppp
t
p f
change fingerings freely
again


65.55"
39
8"
22½"
t
f u
f sh ew
change fingerings freely
h
14:28:500
13"
27"
40
= ca. 52
breathing, inhale - exhale
f sh f
pp
like a bird taking flight
[wet]
tf t tf t
different fingering every breath
+ trilling on every other breath
18.5"
33"
42
breath sounds, shifting freely btwn whistly breath,W.T. and actual whistling
27"
t f (f) fu f sh f fu f
mp
p
s sh f k fu s sh tk
sh f s
pppp poss., distant, lingering quietly
16'00"
Guildford, Western Australia
San Diego, California
2021-22

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APRA AMCOS Art Music Fund

-

www.stephendefilippo.com

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