Excursions through the Tonal Hinterland

Portfolio of Compositions

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ABSTRACT

This thesis and portfolio examine novel ways of combining tonal and atonal elements within a broad, inclusive harmonic language. Links are drawn between historical and contemporary precedents discussing how the methods proposed build on these and where they differ substantially. Particular attention is paid to how this approach to harmony may be used to articulate musical form and open up new expressive possibilities.

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Declaration:

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 in footnotes or the bibliography.

Acknowledgments

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Excursions through the Tonal Hinterland

Introduction

Tonality is a far vaster space than can be accounted for by any one theory, any one composer, any one practice—common or otherwise. It takes many guises, and sometimes disguises. It stubbornly resists definition, but it invites allegory and metaphor. Like the novel, it has been proclaimed dead, only to show up at its own funeral. It has long been the subject of discussion, debate and rancorous dispute.

Recent decades have seen a marked de-escalation of these disputes. 'The currents are many in contemporary music but the water at the moment looks calm, certainly by comparison with the foam and rush of the decades after 1945'[1] observes Paul Griffiths at the close of *Modern Music and After*. This welcome cessation of hostilities has given rise to the conditions for new, inclusive and all-embracing visions of tonality, and it is from this environment that the music presented in this portfolio emerges.

I want to be tonal, and atonal too. The only thing rejected here is any suggestion that these two apparently conflicting impulses are in any way incompatible. The music here is informed by a conviction that tonality and atonality are not discrete entities but opposite ends of a continuum.

Some of the compositions in this portfolio plot out their own space on this continuum. Others take

[1]Paul Griffiths, *Modern Music and After* (New York: Oxford University Press 2010), 424.

journeys through this space, exploring multiple regions. These tonally itinerant compositions display a quality which I am calling "mobility". Analogous to the movement between keys in common-practice tonality, the much greater distances being travelled here require more powerful engines than those afforded by the traditional toolbox of modulatory techniques.

Chapter 1 outlines some of the major theoretical approaches to tonality and proposes a set of criteria relating to these, criteria which I have used as tools in my compositional practice.

Chapter 2 discusses four shorter, small-scale compositions focusing on their unique tonal profiles.

Chapter 3 discusses three larger scale compositions with particular reference to their mobility, how this mobility is achieved, and how it is used to shape and articulate form.

Chapter 1: Tonalities

1.1 Tonality: A Clarification?

I should begin by clarifying exactly what I mean when I say "tonality", although, as shall be seen, there are significant obstacles to arriving at any concrete definition of the concept. Brian Hyer in his entry on "tonality" in the *New Grove Dictionary of Music and Musicians* lists no less than eight uses of the term, noting that 'perhaps the most common use of the term, [...] in either its noun or adjective forms, is to designate the arrangement of musical phenomena around a referential tonic in European music from about 1600 to about 1910.'[2] A similar definition is provided by Walter Piston in his textbook, *Harmony*:

> Tonality is the organized relationship of tones in music. This relationship, as far as the common practice of composers in the eighteenth and nineteenth centuries is concerned, implies a central tone with all other tones supporting it or tending toward it, in one way or another.[3]

Though these definitions are similar, they are not quite the same: Hyers' covers one hundred more years of musical history than Piston's, which implicitly excludes music from 1600 to 1700. The implication here is that, for Piston, late Renaissance modality and common practice tonality are quite separate phenomena, requiring discrete conceptualization and theories.

Of course, Renaissance modality and common practice tonality *are* different. They operate according to different procedures and principles, the difference being, Piston continues, 'tonality is synonymous

[2]Brian Hyer. *The New Grove Encyclopedia of Music and Musicians* (Oxford University Press, 2001) s.v. 'Tonality.'

[3]Walter Piston *Harmony* (New York: Norton 1987), 29.

with key, modality with scale'.[4] However, as Edward Lowinsky has shown, there are numerous examples of sixteenth-century music which 'do not fit into the traditional system of the eight modes, but show, often in an astonishing manner, prefigurations of tonal, and even atonal thinking.'[5]

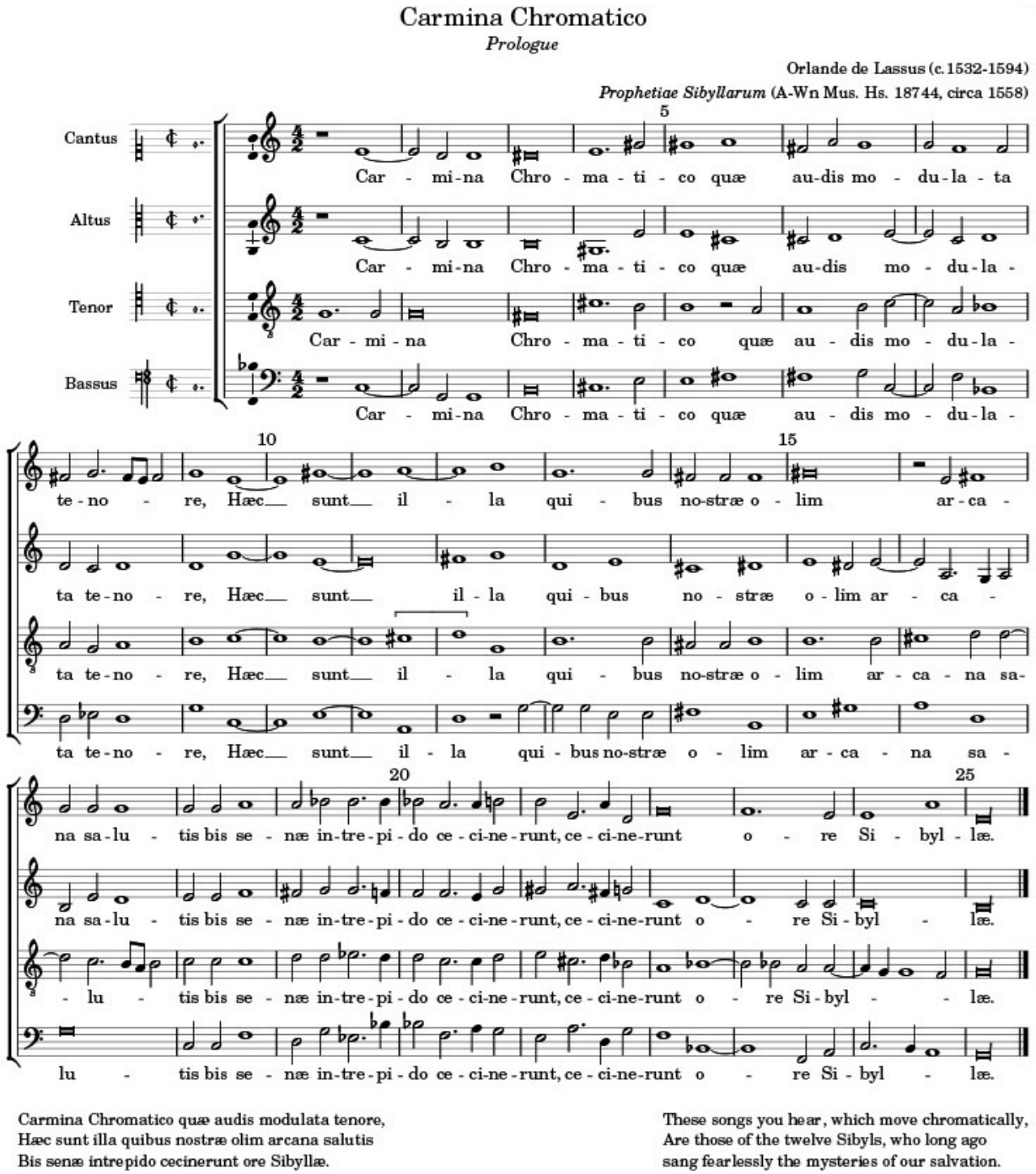

Figure 1: Orlando di Lasso, *Carmina Chromatico.*

[4]Ibid.

[5]Edward Lowinsky, *Tonality and Atonality in Sixteenth-Century Music* (University of California Press, 1962), 1.

In his review of Lowinsky's book, Claude Palisca takes issue with Lowinsky's use of the term "triadic atonality"[6] to describe the aptly titled *Carmina Chromatico*, the prologue to Orlando di Lasso's *Prophetiae Sibyllarum* (figure 1). Instead, he proffers a tonal understanding of the work, observing the frequent tonicisation of G and the use of more familiar tonal/modal cadences. 'To call a composition so organized "atonal" obscures the main point of it, which is to indulge in as many juxtapositions of remotely related chords as possible within a tonally centered framework'.[7]

Nevertheless, the presence of root position triads on all but one of the twelve notes of the chromatic scale (only A-flat is omitted, though G-sharps are present in the upper voices) in a composition this brief and of this time (1550s) is indeed astonishing. Lowinsky suggests that in 'rendering the Sibylline prophecies in chromatic style, the young genius probably implied that chromaticism was the music of the future'.[8] Whether one accepts Lowinsky's analysis or Palisca's, this music strains the idea that tonality is exclusively an eighteenth and nineteenth-century phenomenon. Furthermore, it suggests that the boundary between modality and tonality, if any such boundary exists, is decidedly porous. It is this porosity—that music might exist in and around such boundaries—that I seek to explore in my music.

[6]Ibid., 39.

[7]Claude Palisca, 'Review: 'Tonality and Atonality in Sixteenth-Century Music', *Journal of the American Musicological Society* 16, no.1 (1963): 84.

[8]Lowinsky, 39.

1.2 Fétis' Orders

The Belgian theorist François-Joseph Fétis (1784 -1871), proposed dividing tonality into four stages, which he called orders. These are as follows:

- **The Unitonic order**: Deriving from plainchant, this music consists of simple triads and is entirely without modulation.
- **The Transitonic order**: Ushered in single-handedly by Monteverdi, this is characterized by a move from modality to the major/minor system. The emergence of the dominant seventh enables modulation to a handful of related keys.
- **The Pluritonic order**: This arises when enharmonic re-spellings of one note of a diminished seventh enable modulation to remoter keys. Mozart is identified as the first exponent.
- **The Omnitonic order**: Further alterations of chords and more complex enharmonic re-spellings allow modulation to all keys. This was only beginning to emerge in Fétis' lifetime.[9]

It can be observed Fétis' orders roughly correspond with traditional textbook understandings of musical history. Irvine Godt points out that musicologists 'have quietly accepted the received notions—Medieval, Rennaissance, Romantic—and have made whatever chronological adjustments seemed necessary to fit the musical facts'.[10] Everything prior to the Baroque period is assigned to the unitonic order, Baroque music corresponds with the transitonic order, the short lived "classical" period to the

[9] My summary of Fétis' orders is indebted to those of Bryan Simms, ('Choron, Fétis, and the Theory of Tonality', *Journal of Music Theory* 19, no. 2 (1975): 125-133) and Mary Arlin ('Fétis' Contribution to Practical and Historical Music Theory', *Revue belge de Musicologie/Belgisch Tijdschrift voor Muziekwetenschap*, (1972): 111-113), both of whom cite François-Joseph Fétis, *Traité Complet de la Théorie et de la Practique de l'Harmonie* (Paris: Braudus, 1849) as their source.

[10] Irving Godt, 'Style Periods of Musical History Considered Analytically' *College Music Symposium* 4, no. 1 (1984): 34.

equally short lived pluritonic order, with the first rumblings of both the omnitonic order and Romanticism to be heard in Beethoven. There are significant problems, however, with Fétis' conceptualization of the first two of these orders. The idea that European music prior to Monteverdi did not modulate is exposed as nonsense by the Lasso example above (and in the extensive repertoire discussed by Lowinsky). Furthermore, the unitonic order spans centuries of significant musical development and seems rather over-broad. However, Bryan Simms has argued that 'his explanation of the last two of these, relating to music of his own time and to the future, is remarkable. It is one of the most perceptive conceptualizations of the [nineteenth] century'.[11] Mary Arlin would appear to agree noting that 'the *ordre omnitonique* has no other goal than the destruction of tonal unity in music, and in this respect Fétis is prophetic'.[12] She goes on:

> With the four phases of tonality, Fétis also acknowledges for the first time that tonality is not a property that is mutually exclusive with non-major/minor music when he discusses *unitonique*. Fétis did not fall into the trap of having tonality emerge suddenly in the Baroque era.[13]

For Fétis then, tonality is not "synonymous with key"; nor, by extension, is it synonymous with the procedures and idioms associated with the common practice of eighteenth- and nineteenth-century composers writing within the key system. Instead, this model invites us to view tonality as a cumulative process, played out over centuries. The transition from one order to another is initiated by innovations in modulation which allow each successive order to explore a broader range of tonal space. This increased mobility progressively undermines the authority both of the tonic and of the

[11]Bryan Simms, 'Choron, Fétis, and the Theory of Tonality', *Journal of Music Theory* 19, no. 2 (1975): 125.

[12]Mary Arlin, 'Fétis' Contribution to Practical and Historical Music Theory', *Revue belge de Musicologie/Belgisch Tijdschrift voor Muziekwetenschap*, 26/27 (1972): 112.

[13]Ibid., 113.

hierarchy of key-relationships held in place by the tonic.

It is this view of tonality which is important here. I am not using the term to refer to the technique and vocabulary of common-practice tonality in Walter Piston's sense. Instead, I am treating tonality as a phenomenon that exists in different guises (which, as *Carmina Chromatico* illustrates, are not nearly as easily separated as Fétis' orders would suggest), each with concerns, techniques, vocabulary and idioms particular to their time (and, indeed, place), but nevertheless displaying certain recurrent components.

1.3 Tymoczko's Five Components

Dmitri Tymoczko, in *A Geometry of Music* (2011), identifies five such components that, for him, imbue music with a sense of tonality:

1. *Conjunct melodic motion.* Melodies tend to move by short distances from note to note.
2. *Acoustic consonance*. Consonant harmonies are preferred to dissonant harmonies, and tend to be used at points of musical stability.
3. *Harmonic consistency*. The harmonies in a passage of music, whatever they may be, tend to be structurally similar to one another.
4. *Limited macroharmony*. I use the term "macroharmony" to refer to the total collection of notes heard over moderate spans of musical time. Tonal music tends to use relatively small macroharmonies, often involving five to eight notes.
5. *Centricity*. Over moderate spans of musical time, one note is heard as being more prominent than the others, appearing more frequently and serving as a goal of musical motion.[14]

[14]Dmitri Tymoczko, *A Geometry of Music*: *Harmony and Counterpoint in the Extended Common Practice* (Oxford University

These components, although interrelated, work independently of each other, and while the presence of all five components in tandem will all but preclude anything but a tonal hearing of music, none by itself is absolutely essential. To illustrate this, let us compare the opening statement of the theme of Rzewski's *The People United Will Never Be Defeated* (figure 2), with the opening of the first variation.

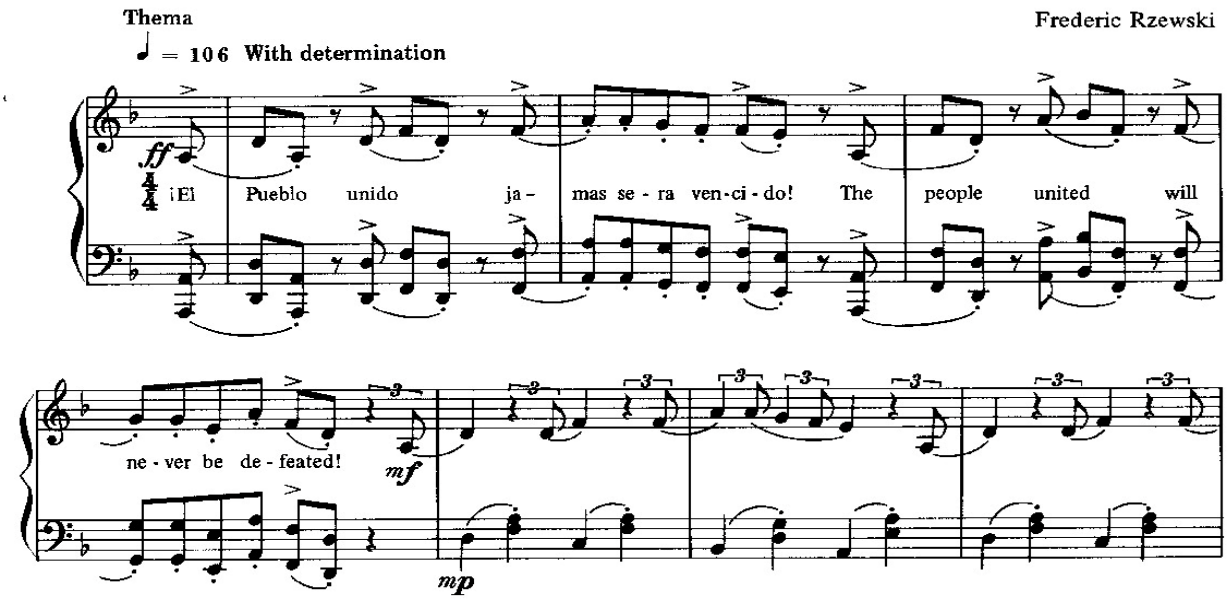

Figure 2: Frederic Rzewski, *The People United Will Never Be Defeated,* opening.

The theme displays all five of Tymoczko's components. The melodic movement is conjunct, mostly moving either by step or by arpeggiating a D-minor triad, implying acoustic consonance, limited macroharmony and centricity. Although the harmony is not explicit at first, the triadic and scalar construction of the melody nevertheless implies a consistent, triadic language, which is then confirmed in the fifth bar.

Press, 2011), 4.

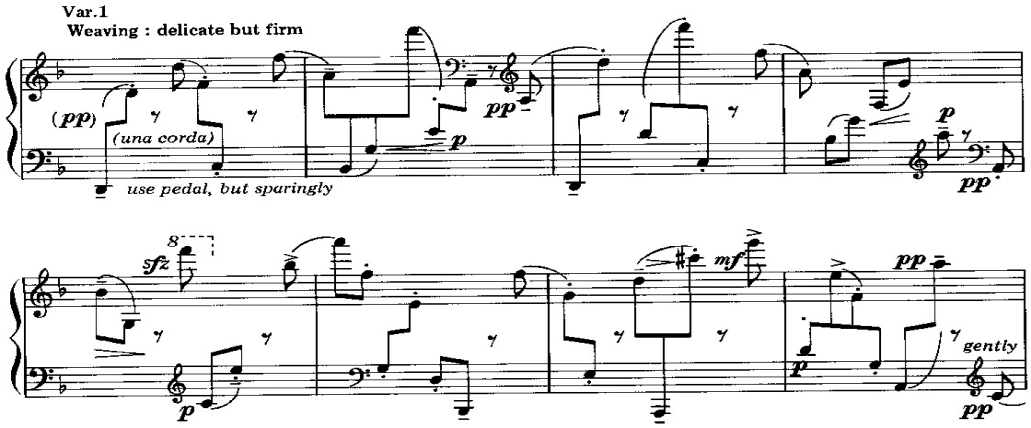

Figure 3: Frederic Rzewski, *The People United Will Never Be Defeated,* opening of first variation.

The first variation (figure 3) retains all but one of these components. The melody is now exploded across octaves and could hardly be less conjunct. This certainly acts as an agent of musical disruption, but (for now at least) the tonality seems safe enough. The withdrawal of one of the five components has not been sufficient to endanger a tonal understanding of the music, which is still readily heard as being in D minor.

For a composer with my interests, this conception of tonality holds two key advantages. First, it provides a framework for understanding how disparate, seemingly unrelated musical practices can be brought together under a tonal umbrella while still respecting their differences. Tymoczko states: 'The point here is not to police the use of the word "tonality" by setting strict limits on what may or may not be described with the term, but rather to replace the crude opposition "tonal/atonal" with a more nuanced set of distinctions'.[15] This nuance leads him to discuss music from Ockeghem to jazz and contemporary popular music, as well as folk music and some music from non-Western traditions (in a

[15]Ibid., 10.

limited discussion), often demonstrating that these musics have rather more in common than first appearances might suggest.

Second, and even more importantly for the purpose of this discussion, it suggests a means by which transformation can be effected in the tonal language of a composition. If a composition that heavily deploys all five of these components is strongly tonal, then conversely a piece employing none of them will be heard as atonal. Music that combines two or three of these features may therefore be heard as being somewhere in between tonality and atonality. Furthermore, none of these features are either on or off; they are all sliding scales. Each of the five components can decrease or increase gradually as a piece unfolds, thus effecting a gradual transformation in the harmonic language that decidedly shifts the music towards or away from perceptible tonality.

1.4 My Three Components

In the discussion of my music later in this thesis, I will use a similar but streamlined version of Tymoczko's five components. Tymoczko's components were devised by Tymoczko's ears, whereas my music is devised by mine—so naturally I will have my own views about what contributes to the tonality of my music. I retain centricity and acoustic consonance, but replace conjunct melodic motion, harmonic consistency, and limited macroharmony with a third component: hierarchical relationships between tones. My three components are therefore centricity, hierarchical relationships, and acoustic consonance, which I will discuss in that order.

1.4.1 Centricity.

The manifestation of centricity—a tonic—in common-practice tonal music is almost ubiquitous and

requires no explanation here. More complex, however, is the role it plays in music less clearly tonal. Stanley Kleppinger proposes 'that pitch centricity might best be regarded as existing along a continuum, manifesting to greater or lesser extents in various musical contexts via a constellation of perceptual features and tonal approaches.'[16] These manifestations of pitch centricity can take a variety of forms. Some composers have used a clear grounding pitch as an anchor, over which harmonies and melodies may unfold that may have no clear tonal relationship with this pitch, which acts in such cases like a drone. Kaikhosru Sorabji's nocturne for piano *Djâmi* opens with a pedal note A, reinforced by being presented in four octaves (figure 4). Complex harmonies then enter over this drone; and, although these harmonies are triadic in construction, the A-major triad is avoided, thus militating against tonicizing A. The drone reappears several times over the thirty-minute span of the piece (a miniature by Sorabji's standards), sometimes on C sharp, sometimes on D, returning to A in the final minutes, but it never quite achieves the function of a tonic in any traditional sense.

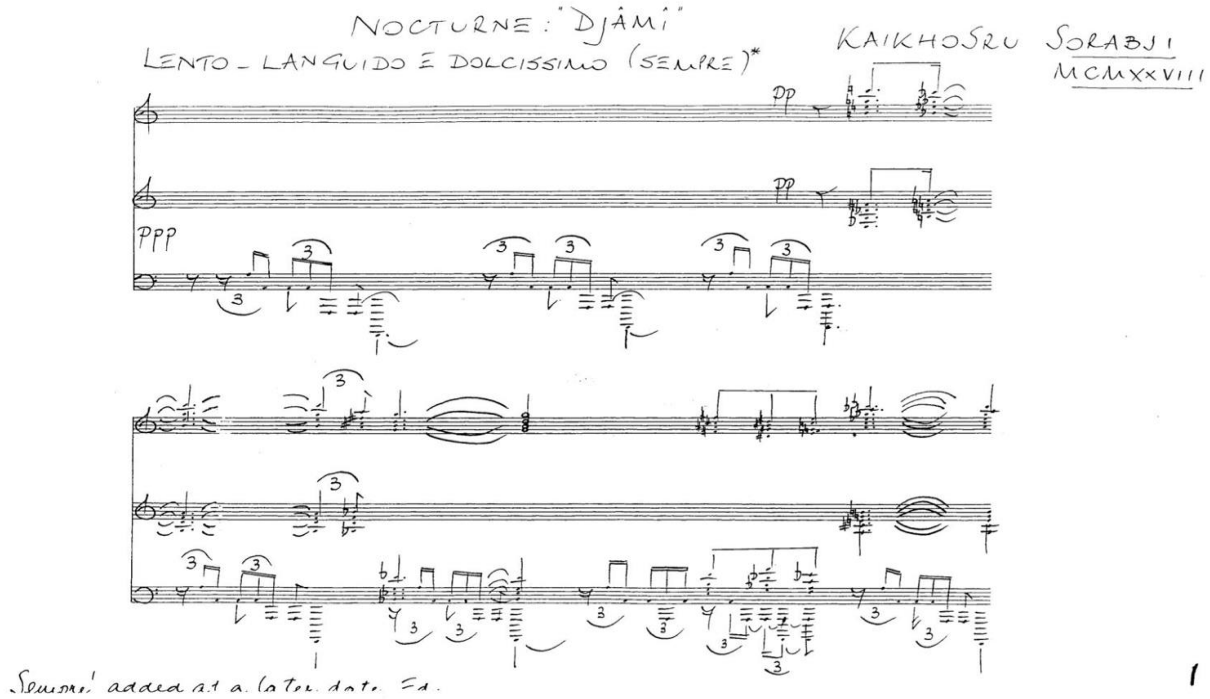

Figure 4: Kaikhosru Sorabji, *Djâmi,* opening.

[16] Stanley Kleppinger, 'Reconsidering Pitch Centricity' *Theory and Practice* 36 (2011): 66.

Another guise centricity can take is as the axis of vertical symmetry, as frequently employed by Bartók. Here a central pitch functions as the central point around which harmony and/or melody are inverted. This can either be made explicit through contrary motion, as in the ending of the first movement of Bartók's *Music for Strings Percussion and Celesta* (figure 5), or concealed, as in the same composer's *From the Island of Bali*, from *Mikrokosmos,* no. 109, volume 4 (figure 6).

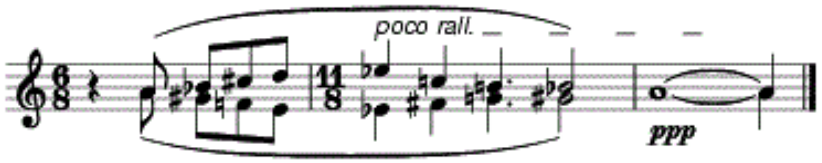

Figure 5: Bartók, *Music for Strings, Percussion and Celesta,* conclusion of first movement.

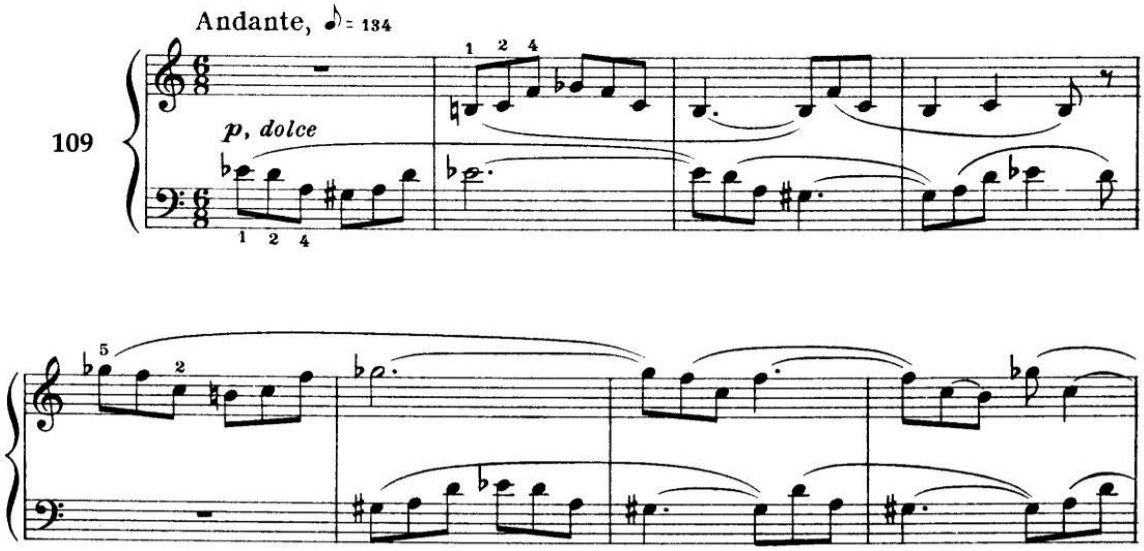

Figure 6: Bartók, *From The Island of Bali, Mikrokosmos*, opening.

In the second example, the axis of reflection is the C sharp one tone below the left hand's entry and one tone above the right hand's; it then moves up a tritone to G in the second line. Note that here neither of these notes actually appear, demonstrating that pitch centre can exert influence on music before the central pitch is heard or without it ever being heard.

1.4.2. Hierarchical Pitch Relationships.

The phenomenon whereby certain intervals (which we call dissonances) are perceived to demand resolution by efficient movement to the nearest consonant interval has long been central to tonal theory. Fétis described the augmented fourth/diminished fifth as "appellative" and the perfect fifth as having "repose".[17] In common-practice tonality the degrees of the scale (and the intervals they create with the tonic) can be arranged hierarchically from the most to the least consonant.

The interval between tonic and tonic—either a unison or an octave—cannot help but be in complete agreement with itself, so it is the most consonant and sits atop the hierarchy. As notes of the scale become progressively more dissonant in relationship to the tonic, they are placed successively lower in that hierarchy. Below the tonic, in order, appear the dominant (5^{th} degree), subdominant (4^{th}), mediant (3^{rd}), submediant (6^{th}), supertonic (2^{nd}), and finally the leading note (7^{th}), just one semitone below the tonic, demanding resolution more keenly than any other scale degree. In modes featuring both a flattened second and a flattened seventh, such as the Phrygian mode, the roles of the leading note and supertonic are reversed. In modes in which both the second and the seventh are a tone's distance from the tonic, as in the Aeolian mode (the "natural" minor scale), the seventh degree is commonly raised by a semitone when approaching the tonic, in order to preserve the important semitonal relationship that inheres in the leading note. Tonality then, as Kofi Agawu strikingly observes, can be 'understood as a hierarchically organized system of pitch relations animated by semitonal desire.'[18]

[17]Arlin, 107-108.

[18]Kofi Agawu, 'Tonality as a Colonizing Force in Africa.' In *Audible Empire*, ed. Ronald Radano and Tejumola Olaniyan (New York: Duke University Press, 2020), 334.

But what if the tonic is either drastically weakened or altogether absent? Can this feudal society of pitches survive decapitation? The aforementioned breakdown in tonal unity that heralded the culmination of the omnitonic order constituted just such a decapitation. Unshackled from a tonic, "semitonal desire" gives rise to an intensely chromatic tonal environment. It should come as no surprise that the topic of one of the first compositions to fully exploit this music of unbridled semitonal desire—Wagner's *Tristan und Isolde*—is untrammelled sexual desire.

On the other side of the breach between tonality and atonality, semitonal voice leading still plays an important role. In his analysis of the seventh song of Schoenberg's *Das Buch der Hängenden Gärte,* Neil Newton provides the elucidation shown in figure 7.[19]

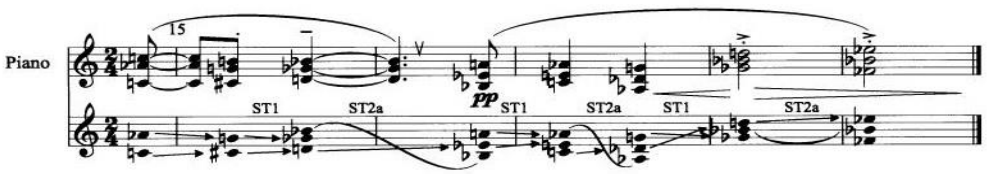

Figure 7: Schoenberg, *Das Buch der Hängenden Garten, no 7,* conclusion, with Neil Newton's analysis (lower staff)

Here, mostly using just two sonorities, an augmented triad and a tritone over a fourth, Schoenberg brings this song to a gentle conclusion through the use of chromatic voice leading. Tritones resolve inwards to major thirds, just as might be expected in tonal music. Newton notes that 'similar truncated versions of this progression exist earlier, but are derailed, further contributing to the feeling of

[19]Neil Newton, 'An Aspect of Functional Harmony in Schoenberg's Early Post-Tonal Music.' *Music Analysis* 33, no. 1 (2014): 20.

resolution offered by this extended progression'.[20]

My own approach is to treat the relationship between pitches not as an hierarchic set of obligations but as an entirely voluntary system of expectation management. The more one meets these expectations, the closer to the tonal end of the spectrum the music lies. The important thing for me, whether I'm meeting these expectations or not, is to remain keenly aware of their presence, and of how their presence affects the perception of the music.

1.4.3 Acoustic Consonance

The only qualifier I would like to add to Tymoczko's remarks about acoustic consonance is to stress the distinction between *relative* consonance and acoustic (or *absolute*) consonance. A triadic harmonic language will of course be acoustically consonant, but not (usually) devoid of the kind of *relative* dissonances outlined in section **1.4.2** above. Conversely, a dissonant harmonic language will often feature relative consonances, even if they are not particularly acoustically consonant.

1.5 Atonality

If the term "tonality" has been shown to lack consistency in its applied definitions, its antonym—"atonality"—is no easier to pin down with any degree of precision. Turning for clarification once again to *The New Grove*, we are this time presented not with eight but three possible definitions:

> [Atonality is] a term that may be used in three senses: first, to describe all music which is not tonal; second, to describe all music which is neither tonal nor serial; and third, to describe the post-tonal and pre-12-note music of Berg, Webern and Schoenberg.[21]

[20]Ibid.

[21] *Headlam, Dave, Robert Hasegawa, Paul Lansky, and George Perle. Oxford Music Online* (Oxford University Press, 2001) s.v.

Although I can fairly easily clarify which of these three senses I am using here—the first—the difficulty remains: exactly what does it mean for music to *not* be tonal?

In his *Theory of Harmony*, Schoenberg expresses scepticism, stating 'The word "atonal" could only signify something entirely inconsistent with the nature of tone. Even the word "tonal" is incorrectly used if it is intended in an exclusive rather than inclusive sense'.[22] Some years later, although maintaining his dissatisfaction with the concept, he nevertheless defines atonality as 'composition with twelve tones related only to one another'.[23]

1.6 Pitch-Class Set Theory, and Objections.

In 1973 Allen Forte's *The Structure of Atonal Music* was published, expounding the tenets of pitch-class set theory. Intended by Forte as an analytical tool to explain the pitch organization of pre-serial atonal music, pitch-class set theory places the role of pitch sets (whether expressed as motifs or chords) under the microscope of mathematical set theory. Forte explains how sets of notes can be manipulated by transposition, inversion, and permutation, how sets can be related to each other, and how these relationships can not only animate the surface of a piece of music but underpin a work as a whole.

To those unversed in this particular branch of mathematics (and I certainly would count myself among them) this text might seem intimidatingly rebarbative, and Forte's insistence on the avoidance of familiar ways of describing music certainly does not help. For instance, in a discussion of the

'Atonality'.

[22]Arnold Schoenberg, *Theory of Harmony*: 100*th Anniversary Edition.* (Berkely: University of California Press, 2010), 432.

[23]Arnold Schoenberg, *Style and Idea*: *Selected Writings of Arnold Schoenberg*: 60*th Anniversary Edition.* (Berkeley: University of California Press, 2010), 263.

opening movement of Stravinsky's *Rite of Spring*, the return of the bassoon solo is 'transposed with t = 11',[24] where you or I might prefer 'transposed down a semitone'. Forte's avoidance of established musical terminology is not without reason, however; terms such as "diminished seventh chord" (Forte's set $[0,3,6,9]$) inevitably carry with them functional implications associated with common-practice tonality that might be prejudicial to an atonal understanding of the work in question.

The problem here is that this prejudice works both ways. There are many occasions where blatant tonal content is either denied or left completely unacknowledged. In *The Harmonic Organization of the Rite of Spring*, Forte offers the following analysis of a passage from *The Ritual of the Rival Tribes* (figure 8),[25] accompanied by the comment that 'although the passage is not structured in terms of functional harmony, it does exhibit a considerable degree of homogeneity in terms of intervallically similar sets'.[26] Comparing this with just a cursory glance at the passage (or, indeed, a cursory listen) might immediately raise eyebrows: is this not some kind of B major?

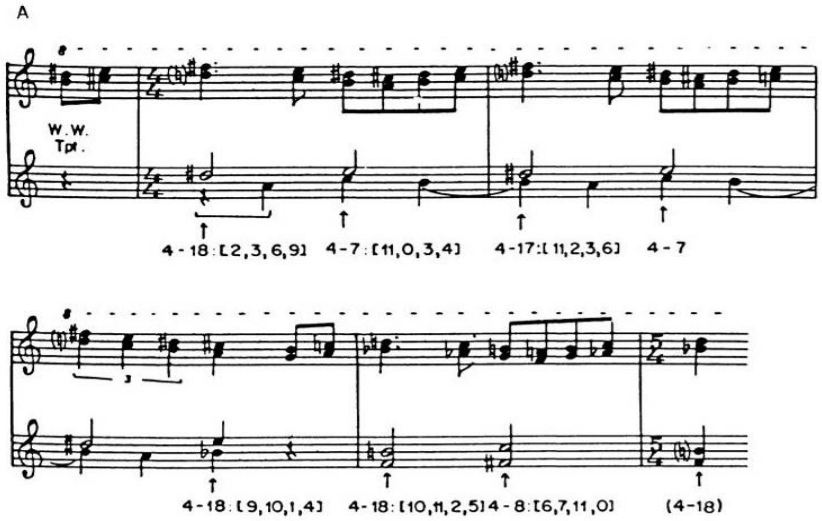

Figure 8: Allen Forte's analysis of a passage from *The Ritual of the Rival Tribes.*

[24]Allen Forte, *The Structure of Atonal Music* (New Haven, CT: Yale University Press, 1980), 33.

[25]Allen Forte, *The Harmonic Organization of the Rite of Spring* (New Haven CT: Yale University Press, 1978), 59.

[26]Ibid.

Richard Taruskin evidently thought so. In a critical (though not entirely unsympathetic) review detailing several objections to Forte's book, he suggests an alternative analysis of the same passage (figure 9),[27] countering 'if …one looks at the passage from the point of view of functional harmony …there is no problem. The combinations in the middle of measures one, two, and four are the result of linear functions (accented passing tones), with parallel doubling at the major third. …The shift of tonal centre, involving a progression to the submediant, is standard Russian fare.'[28] A more general criticism he makes of Forte's methodology is that 'where results are positive they are touted as "significant," but where they are negative no possibility of alternative modes of explanation is entertained, and the chord or passage in question is written off as inexplicable, sometimes with the implication that there has been a lapse on Stravinsky's part'.[29]

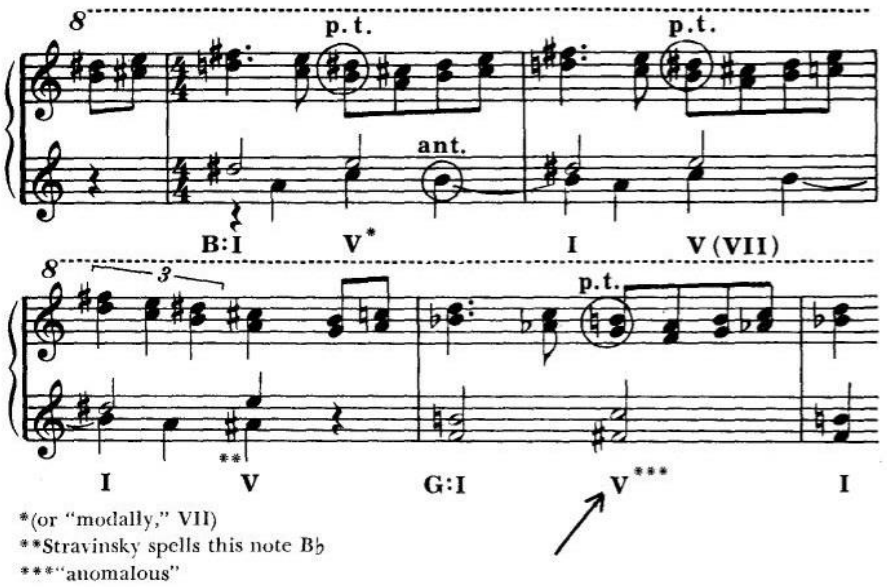

Figure 9: Richard Taruskin's analysis of the same passage.

[27]Richard Taruskin 'Review of The Harmonic Organization of the Rite of Spring.' *Current Musicology* 28 (1979): 123.

[28]Ibid.

[29]Ibid.,122.

Some years later, in an article ostensibly about the current state of set theory, Forte assembles his many critics for a dose of some opprobrium of his own. Will Ogdon is dismissed as 'a beleaguered and somewhat petulant tonalist,'[30] with Forte richly adding that he is 'extremely prone to irritation'.[31] However, those who admire his methods are praised: Robert Craft is described as 'a reviewer of perspicacity, judgment and taste.'[32]

Turning to Taruskin's tonal analysis (figure 9), Forte objects to first chord of the first bar being labelled a tonic chord, drawing attention to the presence of an added seventh, two types of thirds, and the absence of the root. He remarks that 'if we accept as valid this reading of "functional" harmony in *The Rite of Spring*, an important historical discovery ensues: that Stravinsky studied the wrong functional harmony textbooks'[33]—a comment that would appear to reveal the rigid conservatism of Forte's own view of tonality more than the 'ultraconservative stances'[34] of his detractors (who, if they really were 'ultraconservative,' would probably not have been bothering with Stravinsky, Schoenberg, and Webern in the first place).

Taruskin, not to be outdone, writes a letter of his own pointing out that 'Forte's implicit denial of any syntactic connection between the upbeat and the downbeat in the Stravinsky example is purely arbitrary, the more so as the note I call the root (B) is in fact present on the next downbeat (in every

[30]Allen Forte, 'Pitch-Class Set Analysis Today.' *Music Analysis* 4, no. 1 / 2 (1985): 42.

[31]Ibid.

[32]Ibid., 36.

[33]Ibid.

[34]Ibid., 42.

other respect identical to the first).'[35] He also expresses astonishment at Forte's assertion, 'tucked into a footnote,'[36] that 'nowhere in *The Harmonic Organization of the Rite of Spring* is it stated that the work is atonal.'[37] Arguing that Forte's classification of *The Rite of Spring* as atonal is implicit, Taruskin asks 'would it be reasonable to suppose that Forte would have chosen, for the first full-length application of his method, a work drawn from outside the repertoire the method was developed to elucidate?'[38] Forte supplies a further umbrageous reply, now characterizing himself as the 'fly in [Taruskin's] *bortsch*'[39] (standard Russian fare perhaps?) in which he further entrenches his position before lamenting: 'It is unfortunate, indeed, that scholarly discourse must be embedded in a polemical context such as the present one'.[40]

Unfortunate, unedifying, or amusing (depending on one's perspective) this fight over B major may be, it amply demonstrates that, when it came to tonality and atonality, the theoretical realm was no less riven by bitter dispute than the compositional realm. Tonality and atonality are once again seen to be split into two rival camps, combative rather than collaborative. It is tempting to ponder what might have been gained had Forte and Taruskin entered the discussion in a spirit of co-operation.

In my compositional practice I want to make the most of a productive ambiguity: is the music heard as tonal or non-tonal? That such an ambiguity is possible in music can readily be observed in the quarrel evidenced in Forte's and Taruskin's alternative analyses of *The Rite of Spring*. Setting the

[35]Richard Taruskin, 'Letter to the Editor from Richard Taruskin' *Music Analysis* 5, no. 2/3 (1986): 315.

[36]Ibid., 317.

[37]Allen Forte, 'Pitch-Class Set Analysis Today', 57 (footnote 23).

[38]Richard Taruskin, 'Letter to the Editor', 315.

[39]Allen Forte, 'Letter to the Editor in Reply to Richard Taruskin from Allen Forte.' *Music Analysis* 5, no 2/3 (1986): 321.

[40]Ibid., 336.

particular techniques of analysis to one side, what I observe as relevant in this (now classic) debate is that, while both strictly tonal and strictly atonal understandings of the music can be compelling, in their desire to claim the music for one side or the other, both camps miss what to my mind is perhaps the most important feature of this undisputed masterpiece: the music is *both* tonal and atonal, at the same time, and refuses to "snap into" one or other category. It is music of this richness and multi-valency that I aspire to compose.

1.6 George Perle's Twelve-tone Tonality

The American composer and theorist George Perle, taking his cue from Berg and Bartók, developed a compositional system 'that attempts to incorporate ...12-note ideas with some of the basic kinds of hierarchical distinction found in tonal practice, such as the concept of a 'key' as a primary point of reference.'[41] This system establishes symmetry rather than centricity as its foundational principle. Perle himself stated:

> Symmetry is as central to what I call twelve-tone tonality as the triad and the key centre are to the major/minor system, and the meaning I impute to the term "tonality" in "twelve-tone tonality" derives only from the presence of an analogously central and all-pervasive principle and not from any other shared properties of the two systems.[42]

Tonality, then, for Perle, requires an "all-pervasive principle"; and it is here where Perle and I part ways. Key centre and triad may well be all-pervasive principles governing common-practice tonality, but, as I think I have made clear by now, this is not my understanding of tonality. However enticingly labelled, Perle's system is only analogously related to something to which I'm not actually referring. Furthermore, I worry that overtly systematized approaches such as Perle's (and for that matter,

[41]Paul Lansky, 'George Perle', in *Oxford Music Online* (Oxford University Press, 2001).

[42]George Perle, *The Listening Composer* (Berkely: University of California Press, 1990), 190.

Forte's) give rise to closed systems and support a conception of tonality that views its various manifestations as discrete, segregated, hermetically sealed entities. This view is antithetical to my own compositional goals.

1.8 A Spatial View: The Tonal Hinterland

'The traditional metaphorical source for tonal relations is the solar system, where positions are determined relative to a central unifying element'[43] notes Richard Cohn, and, at the risk of adding to an already over-crowded field, I will venture my own heliocentric model of tonal space. Conventional metaphors place the tonic at the centre of their solar systems, an elegant way of visualizing the gravitational role of the tonic in the common practice. My metaphor attempts to visualize the continuum between tonality and atonality, which changes things somewhat.

My sun is powered by the fusion of various physical, biological, and cultural nuclei that give rise to the phenomenon we call tonality. Fétis' orders form an inner ring of planets, gradually less dominated by the sun the further they lie from it. The music of the early twentieth century forms the fractured asteroid belt that separates the inner solar system from the outer. The truly atonal lies outside the heliosphere, completely beyond the reach of the sun's influence. What lies between this and the asteroid belt is the tonal hinterland, encompassing much music hastily categorized as atonal, but lying at a distance so far removed from the tonal sun it appears as just the brightest of many stars in the sky.

The following chapters will discuss the music of this portfolio. The order in which these pieces were

[43]Richard Cohn, 'As Wonderful as Star Clusters: Instruments for Gazing at Tonality in Schubert'. 19*th-Century Music* 22, no. 3 (Spring 1999): 213.

completed is as follows:

Autumn 2017: *Three Unrelated Incidents*

Winter 2017/18: *The Matelotte, The Gigue,* and *The Pavane and Galliard* of the *French Suite*

Summer 2018: *Orpheus in The Underworld*

Autumn 2018: *Dark at Teatime*, The *Sarabande*

Spring 2019: *The Feathered Hour*, part 1

Summer 2019: *I Am*

Autumn 2019: *The Feathered Hour,* part 2

Autumn 2020: *Scrumpy*

Spring 2021: *Go and Look at The Moon,* further revisions and additions made to the *French Suite*

The COVID outbreak unfortunately derailed some of my plans. A performance of *The Feathered Hour* was cancelled, and a second orchestral piece—a concerto for oboe and orchestra—was in the initial stages of development. In this piece I had hoped to apply some of my harmonic thinking to orchestration; different orchestral timbres were to be treated somewhat like keys. My intention was to use the orchestral oboes and bassoons as a concertante group alongside the oboe soloist, and this particular combination of sonorities was to behave something like a tonic. I was very disappointed that this had to be abandoned.

Chapter two will look at the shorter pieces in this portfolio. These pieces feature limited mobility and are more focused on charting out areas of tonal space, using different configurations of my three tonal components.

The third chapter discusses three longer pieces that all feature varying degrees of musical mobility.

Chapter 2: Short Pieces and Multi-movement Works

The first three pieces in this chapter are cartographic in nature, charting out their own territory in tonal space. The last attempts to move but cannot.

2.1 *Three Unrelated Incidents*

As suggested by the title, these three miniatures for String Quartet should be considered as a collection of discrete compositions rather than as a single musical argument divided into movements. The first and last are derived from sketches composed in the first few months of my PhD; the second is a re-working of material initially intended for *The Feathered Hour*, but ultimately rejected for inclusion in that work. As such, nothing is to be lost by considering them entirely separately; the only relationship between these three pieces is the relationship artificially bestowed upon them by anthologizing them into a single work.

2.1.1 *Look Behind You*!

This was the first completed piece of the PhD. It is also the least satisfactory in terms of achieving my general objective; with its collage-like construction, it wears a degree of polystylism on its sleeve, which elsewhere I mostly avoid. It is both over- and under-ambitious—over-ambitious in its attempt to coherently include at least four ideas in a piece of this length, and under-ambitious in its attempt to reconcile these disparate elements.

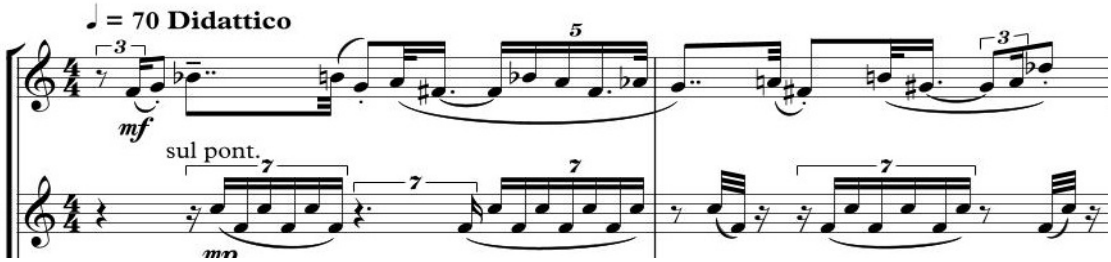

Figure 10: *Look Behind You*! First idea.

The first idea (figure 10) features a melody with snapping, dotted rhythms that consistently avoids repeating the tonic from which it embarks. The tonic and dominant are supplied by the second violin, in rapid alternation. The result of this is that centricity is invoked but immediately destabilized by the melody's persistent disagreement.

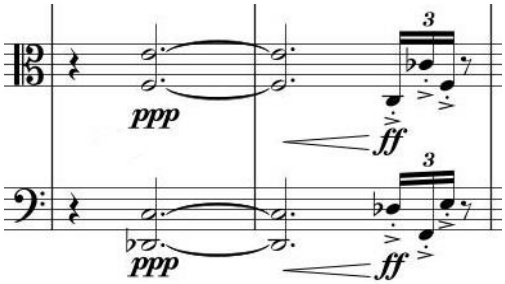

Figure 11: *Look Behind You*! Second idea.

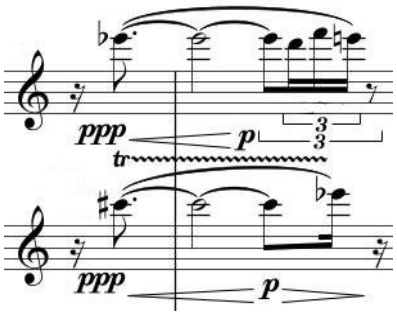

Figure 12: *Look Behind You*! Third idea.

The second idea (figure 11), in contrast to the first, is vertical in nature, and consists of a four-part

chord: two major sevenths, respectively in viola and cello, separated by a perfect fourth. A crescendo leads to an angular rhythmic motif. The third and fourth ideas are less important than the first two. Where the first and second ideas are expanded upon, the third and fourth stand apart from this process, as either spectator (figure 12) or punctuation (figure 13).

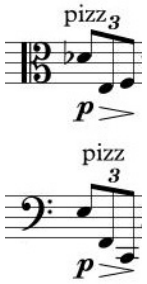

Figure 13: *Look Behind You*! Fourth idea.

The piece is structured in three stages. In the first of these stages, all four ideas are presented in a collage-like manner, with rapid alternation between the ideas. The F centricity of the first idea re-appears as D, and, by the end of the first stage, the second idea's components have been separated from each other. The crescendoing chord now leads to its own restatement with *jeté* articulation, and the angular triplet semi-quavers have taken on their own identity.

The second stage is taken up entirely by an expansion of the second idea, with the major sevenths now replaced by major sixths. A chromatically rising progression is built from these chords, culminating with a return of the angular triplet semi-quavers, which now continue the harmonic movement of the smoothly stated chords. A return of the commenting and punctuating third and fourth ideas leads to the last stage, where the first idea is finally given space to be fully expressed, now reconfigured as a barcarole, with the cello providing a firm tonal centre on C. A brief restatement of earlier fragments ends the piece.

2.1.2 *On Reflection…*

In contrast to *Look Behind You*!, the second of these pieces is stylistically focused and explores tonal ambiguity through a restricted palette of voice-leading relationships. The middle voices (violin and viola) move either stepwise or by minor third; the cello moves entirely stepwise, except at one crucial moment (between bars 13 and 14), where it moves by a tritone. New voices enter on notes that always conform to these relationships—they are either a semitone, tone, or minor third (or their inverted equivalents) away from a note that is already present in the harmony. Over this, a freer melody for first violin strongly suggests at first F minor and then C-sharp minor. C-sharp major then acts as a pivot into a descending diminished triad on D, which points towards the eventual B-flat major/minor conclusion by spelling out a dominant seventh (G sharp—E sharp/F—D—B flat). At this point in the music, the viola, through octave displacement and the use of harmonics, "invades" the first violin's space. Rather than fighting against this invasion, the first violin takes up the space vacated by the viola and, importantly, the role as well. There is no more melody; the first violin's role is now the same as that of the second violin and the viola, though the first violin immediately expands the voice-leading palette by introducing a major third to the scheme.

The ambiguity lies in the relationship between the harmonies implied by the melody and the extent to which the lower voices confirm or deny those implied harmonies. The tritone in the cello line is crucial, because it actively intervenes to prevent the confirmation of C-sharp minor. Until this juncture the cello has only moved down in major seconds. Had it continued to do so it would have moved from E flat to D flat/C sharp, unambiguously forming the root of the C-sharp minor triad above it. By moving to A, this confirmation is avoided, but a consonant relationship with the B sharp and C sharp of the violin melody is maintained, nudging the music gently in a different direction. Figure 14

presents a reduction of the whole piece. In the lower voices, all intervals larger than a major second are indicated with brackets, except for the violin melody, whose implied tonality is indicated. It can be seen that the harmonic language of this piece (which hovers on the edge of tonality) is entirely the result of these voice-leading considerations.

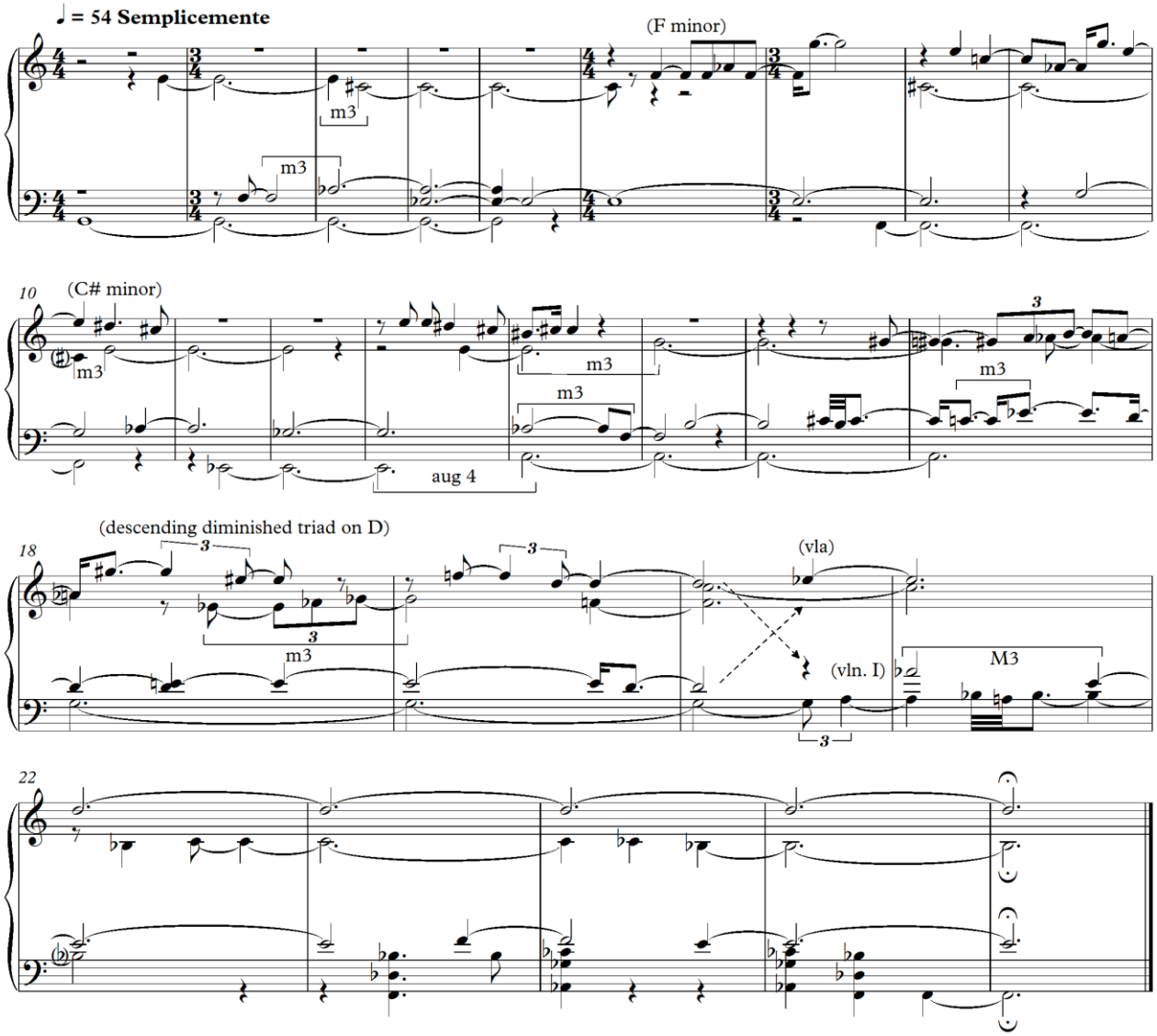

Figure 14: *On Reflection...* reduction.

A somewhat similar atmosphere is found in the opening of the final scene of George Benjamin's *Into the Little Hill* (figure 15). This also features a sparse texture and a pared down set of voice-leading relationships, and it subtly suggests rather than affirms tonality. I have often turned to passages like this in Benjamin's music for advice in achieving the suspended, almost empty sound world he creates here. This is something I have often struggled with in my own writing, which is sometimes prone to hyper-activity.

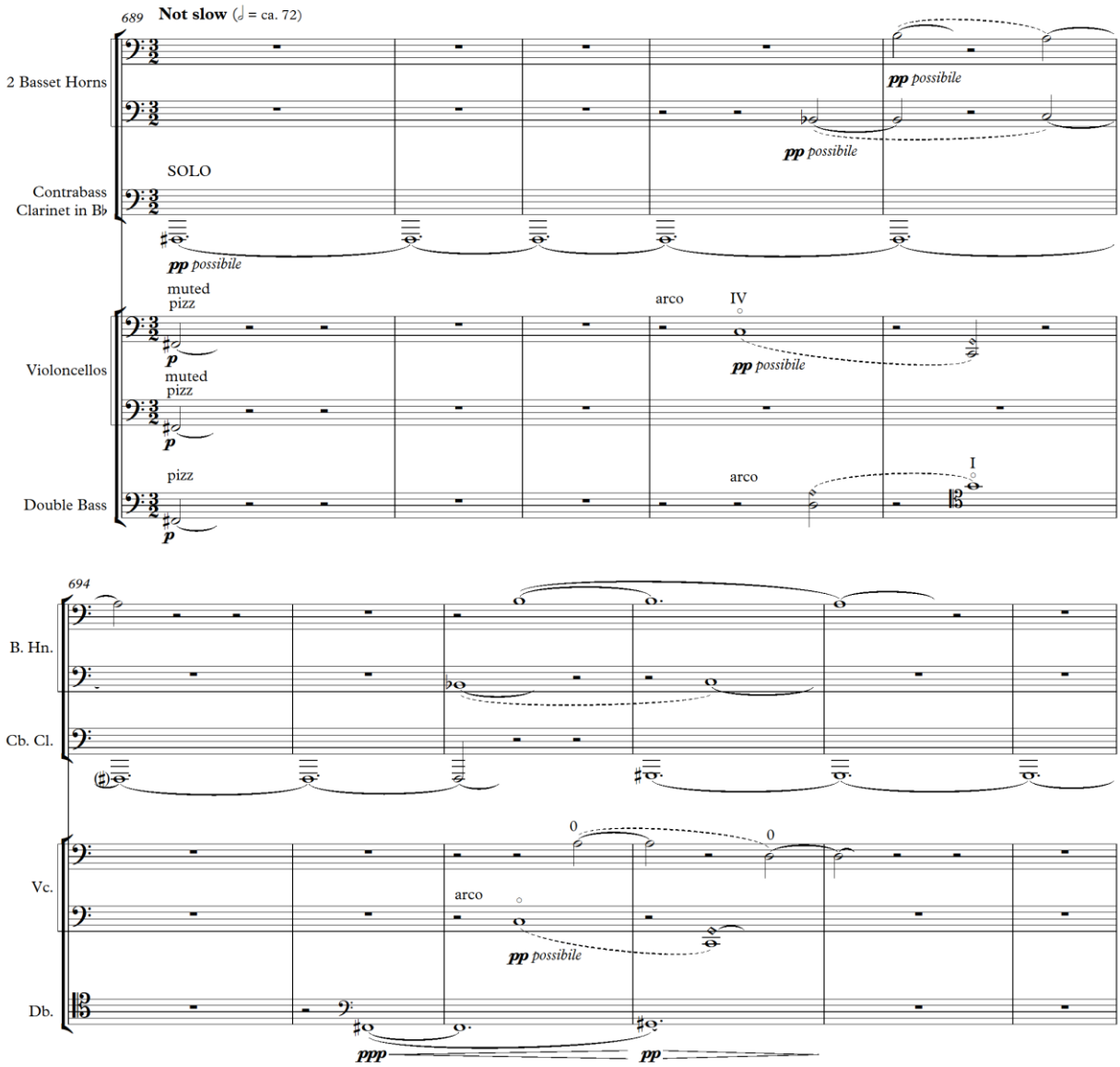

Figure 15: George Benjamin, *Into the Little Hill*, opening of final scene.

2.1.3 *Whoosh*!

Whoosh!, like *On Reflection...*, employs a similar mix of freedom and rule-based methods in its construction. To the notes of an implied melody (initially made explicit by being "doubled" in the viola) are added tremolandi that encompass notes either a tone, a minor third, or a major third above. These tremolandi persist for a few beats before fading out. There really is not much more to it than that! The two violins in the middle section eventually take turns adding a "descant" melody to this idea that itself contains the same type of tremolandi added to the implied melody, which helps bind the two melodies and the harmony together.

Though used here as a self-contained musical toy, I feel this principle has considerable potential for application as a modulatory technique or motivator of harmonic mobility. The implied melody, taken on its own, begins in a clear B minor, with the Bs and Ds implying chord I, and the B flats and Es implying either chord VII or a dominant seventh of chord V. As the melody unfolds it moves to A-flat minor (bar 18) and then takes on a progressively less tonal character before returning in bar 46 to the B-minor with which it began. After quickly retracing its steps, it loses its tonal character once more and climbs upwards ending with an alternation between E and D sharp, a major seventh apart. The effect of the tremolandi is to disguise this mobility. By producing harmonies with a very limited palette of intervals a high degree of harmonic consistency is maintained, despite the considerable tonal distortion to which the underlying "cantus-not-so-firmus" is subjected. I haven't actually returned to this technique elsewhere in this portfolio—I am often disinclined to repeat ideas when I am satisfied with how they turned out the first time, and I do enjoy this piece. Unlike the other two pieces in the set (the first is too discursive and unfocused; the second feels unfinished, as if it were the first two minutes of a larger piece), I feel the balance of content and size of container works well here.

2.2 *French Suite*

At over twenty minutes this piece can hardly be considered short; in fact it is the longest work in the portfolio as a whole. However, its four movements are quite simple formally; all are constructed in some sort of binary form. The first movement is a straightforward binary form with coda, while the second and fourth add a trio section before the reprise. The third movement is the most complex in construction: a palindromic (AA'B'B) binary form with episodes (which themselves are in binary form) separating the four "limbs" of this containing structure. The title, with its apparent reference to Bach, is something of a red herring. Bach is not being invoked here; what is invoked are Baroque and pre-Baroque dances—in spirit, rhythm, and form—as well as a pianism evocative of French music, with echoes of Fauré, Messiaen, and others.

Each dance has its own quite particular set of tonal circumstances, with considerable distance between the most obviously tonal areas (the *Matelotte*, the third episode of the *Gigue*) and the least (the *Pavanne and Galliard*). Although the formal similarities between the dances certainly help create cohesion across the suite, the cohesion is also supported by other factors. To be sure, the harmonic language of each dance contrasts sharply with the others, but there is always some quirk in the system created. Thus, the tonality is never quite straightforward—there is always a "but". Similarly, the more atonal moments still make some use of tonal materials, even if these are ultimately rejected. Furthermore, there is one instance of cyclically shared materials—in this case a figure similar to a Landini cadence—that creates a direct thematic link between the *Gigue*'s third episode, which is mostly modal/tonal, and the second phrase of the *Pavanne*, which absolutely is not. Thus, the two furthest poles of the piece are tied together. The lack of any other shared material underlines the importance of this.

2.2.1 *Matelotte*

This piece was prompted by the realization that, despite my embrace of tonality, bare, unadorned major and minor triads had until now been rare occasions in my music. In an attempt to address this, *Matelotte* consists of nothing but major and minor triads. However, traditional tonal voice leading is entirely absent; the tonicisation of E is achieved through repeated emphasis rather than through functional relationships.

Instead, the roots of each triad are arranged in alternating minor thirds and semitones, freely cycling through this pattern, in either direction and in different transpositions. The A section uses major triads only. The B section introduces minor triads quite suddenly: where another big E-major chord is expected (bar 18), the Es are replaced with D sharps. Now using just minor chords, the relationship between the roots is altered; the roots move by minor thirds, with strategically placed tones and semitones preventing the roots from staying in the same diminished seventh chain for long. The result of this is to break down the strong centricity of the A section—the new pattern of root relationships does not circle round to the same note like the first one did. Major triads are reintroduced in bar 26, though they retain the new root relationships. The original order is restored just before the repeat mark of section B. The coda features the only six-note chord of the piece, itself an A-minor triad superimposed over an E-flat major triad.

This piece quite consciously recalls passages from Messiaen's piano music, such as the following from *Regard de l'ésprit de joie*, number 10 of the *Vingt regards sur l'Enfant Jésus* (figure 16). The *Matelotte* is constructed quite similarly, with a punchy, rhythmic theme grouped in fives, which is answered by

descending figuration in even quavers (in the Messiaen, these are semiquavers). The harmonic language is simpler in the *Matelotte*, although not by much; Messiaen's chords here are triads plus one extra note. What is considerably simpler is the pianism; the *Matelotte* is not easy, but pales in comparison to the Messiaen.

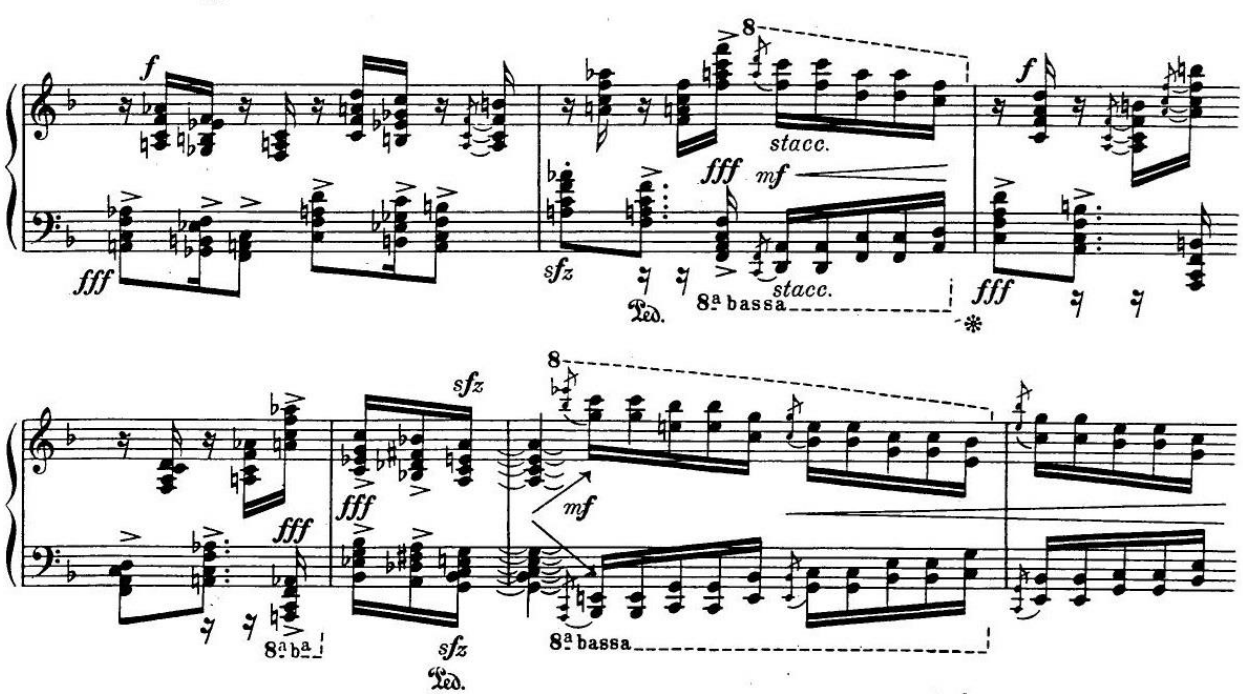

Figure 16: Messiaen, *Regard de l'ésprit de joie.*

Another piano piece that applies major and then minor triads in a cyclically repeating pattern is Ligeti's étude *Fanfares* (figure 17). Here, the notes of the pattern can be any note of the triad, not just the root. And Ligeti's repeating pattern stays the same throughout the piece, whereas mine is subject to change. This example underlines the importance of emphasis in turning a centricity into a tonic. Ligeti's piece is clearly centred on C, but this C never becomes a tonic the way E unmistakably does in the *Matelotte* because it is never given any preferential emphasis.

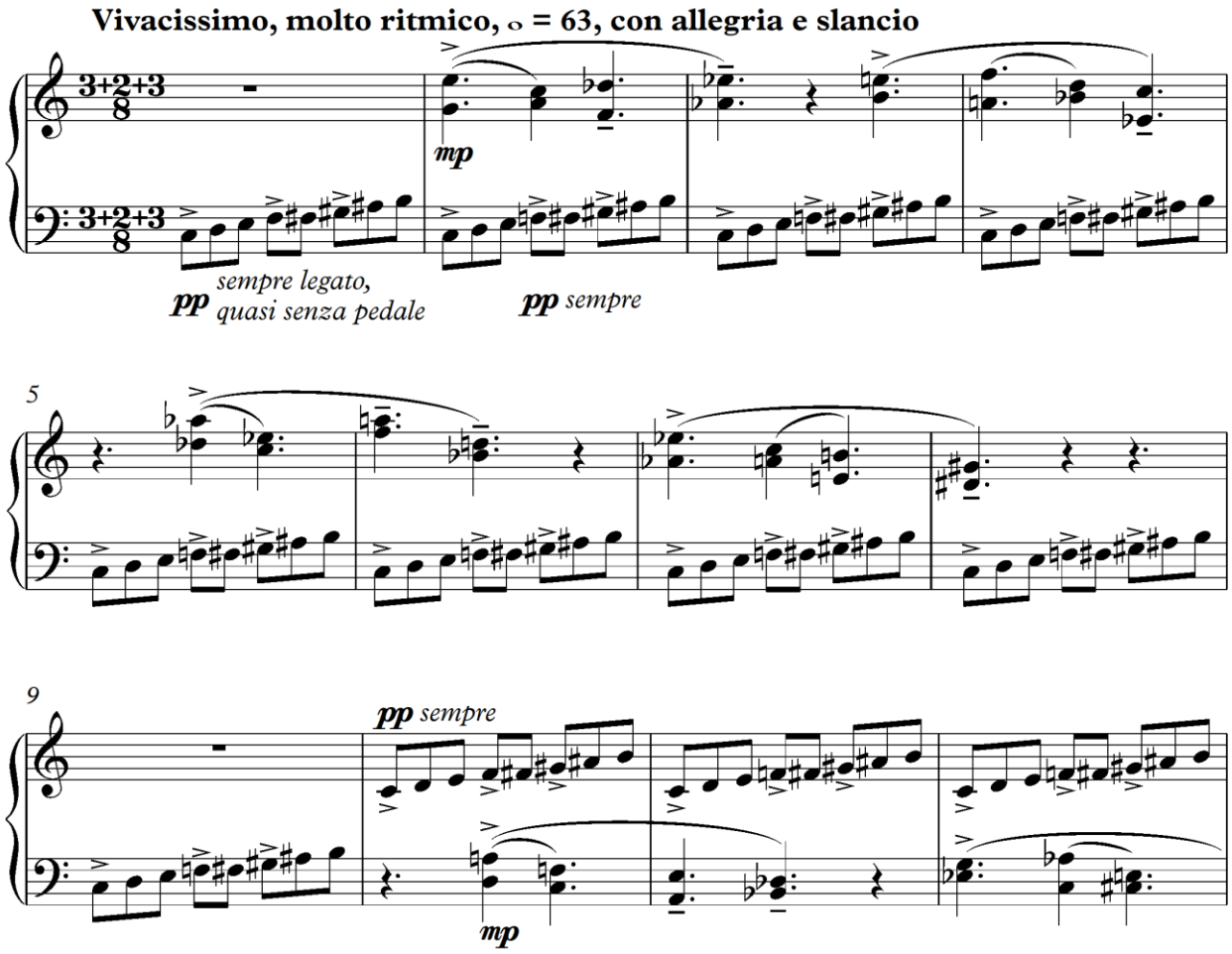

Figure 17: reproduced from Ligeti, *Fanfares* (*Etudes book* 1).

2.2.2 *Pavanne and Galliard*

Starkly contrasting with the previous movement, the *Pavanne* is slow, set in unadorned three-part polyphony, and rejects the consonant, triadic language of the *Matelotte*. Indeed, in terms of my three tonal components, this piece is in fact the polar opposite of the *Matelotte*. The one tonal component absent from the *Matelotte* is the only one present to any great degree in the *Pavanne*. Whereas in the *Matelotte,* acoustic consonance and centricity were strongly evident, there is no centricity in the *Pavanne,* and the harmonic language is dominated by minor ninths and major sevenths. On the other hand, the individual voices of the *Pavanne* follow familiar voice-leading patterns—that is, they tend to move by step and use small collections of notes that suggest modes or scales.

The rejection of the *Matelotte*'s language is made explicit in the second phrase (figure 18), where the three parts converge on an A-sharp minor triad in first inversion which introduces the previously mentioned Landini-like cadence to B minor, also in first inversion. Although at first this might make it seem as if the music is moving to a more tonal terrain, it is revealed to be an aberration. This brief hint of triadic tonality soon recedes, and the phrase returns to the dissonance from which it emerged.

An element of hidden centricity is provided by the *Galliard*, which uses the material of the *Pavanne* in mirrored inversion, reflected around an axis (middle C sharp). The highest note of the *Pavanne* is middle C, so, conversely the lowest note of the *Galliard* is the D above this. As a result, the C sharp is never played at all, despite exerting a strong influence on the pitch organization.

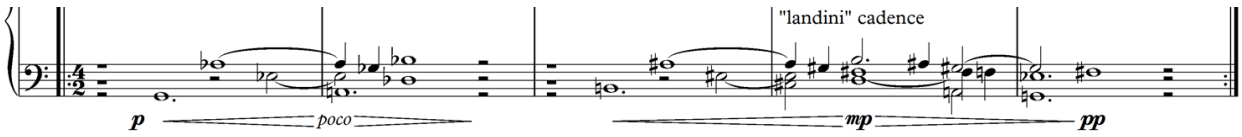

Figure 18: *Pavanne,* first phrase.

2.2.3 *Gigue*

This is the broadest, most discursive movement of the suite. The form is A(CCDD)A'(EEFF)B'(GGHH)B(Coda). The B section is an exact retrograde of the A section. The first two episodes make heavy use of a harmonic progression first used in *Look Behind You*! (chromatically rising major ninths, filled in with perfect fourths and major sixths, which swap positions with each new chord). This is hinted at in the A section.

The last episode (figure 19) instead takes up the modally inflected three-part polyphony of the *Pavanne*, though now the three parts are in consonant agreement and the harmony is triadic. The Landini cadence occurs as the A section repeats. The second time it is re-interpreted and moves instead to E-flat minor.

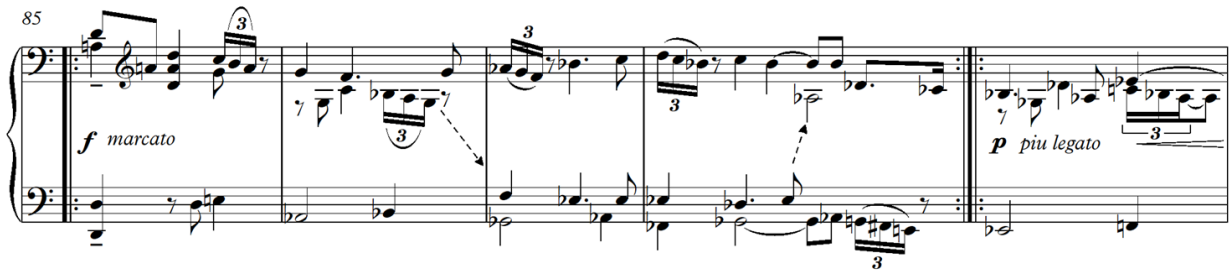

Figure 19: *Gigue,* A section of third episode.

2.2.4 *Sarabande*

This piece, like *On Reflection...,* is an attempt at writing gentle, calm static music, although here the movement is a little faster and less still. The piece makes use of vertically symmetrical harmony, disposed around A3. This type of harmony assists the feeling of suspension here. Any dissonance in the upper strand of the harmony will be counterbalanced by a dissonance pushing in the opposite direction in the lower strand, thus creating a palpable harmonic equilibrium. The coda strips away the upper layer of this harmony, replacing it with the persistent repeated B that featured in the Trio section. This causes a stark change of mood.

2.3 *Two Songs*

This was my contribution to the Leeds Lieder Festival's Poets and Composer's Forum in 2019. This involved a "speed-dating" session at which poets and composers were paired up to collaborate on new songs for performance at the festival. Barry Fentiman-Hall and I quickly gelled, sharing similar tastes in off-beat science fiction novels and the writings of Angela Carter. This also gave me the opportunity to work with a good friend, Catherine Fahy, who premiered the first of the two songs at the Festival, with myself at the piano. The second song was composed later, after Barry supplied me with further poetry.

Following Barry's prompt, I wanted to create a harmonic language for these songs that lies somewhere between the jazz club and the concert hall. The use of key signatures in this work already makes it evident that these are among the more tonal compositions in the portfolio. Using both tonic and scale allowed me to explore non-triadic configurations while still staying rooted in a tonal language. Having said that, this piece still makes use of two complementary sets (figure 20), a technique deriving from atonal music, here expressed as a bitonality, in which the scales of each key have no notes in common.

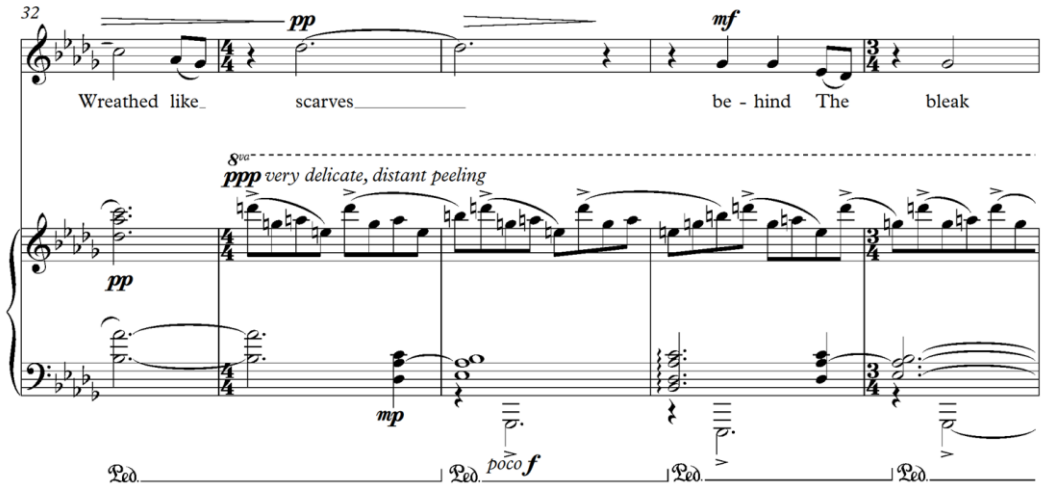

Figure 20: *Two Songs,* complementary sets.

2.4 *I Am*

This piece sets John Clare's celebrated poem, *I Am*, for unaccompanied choir. Responding to the poem's theme of strained identity, the harmonic language takes on an increasingly strained relationship with its own tonic, G, to which it nevertheless continues to return. There is no intention here that this effort should be in any way affirmative. The music wants to change, to move somewhere else entirely, to transform itself, but is continually thwarted in its attempts to do so.

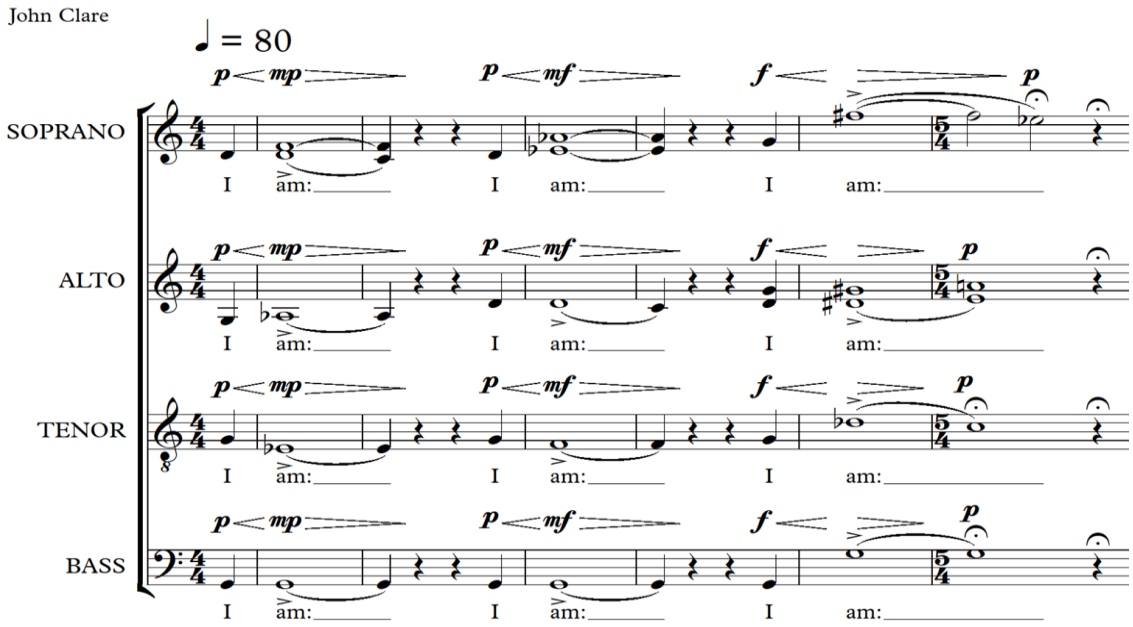

Figure 21: *I Am,* opening.

The brief introduction (figure 21), in which the first two words of the poem are repeated three times, like a *Sanctus*, expresses this idea in microcosm. There are echoes of the English choral tradition here, and, perhaps surprisingly, a direct reference to Prokofiev's extraordinary opera *The Fiery Angel*, in which, in a particularly hair-raising scene, a group of nuns become possessed by demons, all the while obsessively repeating a short, mantra-like ostinato (figure 22).

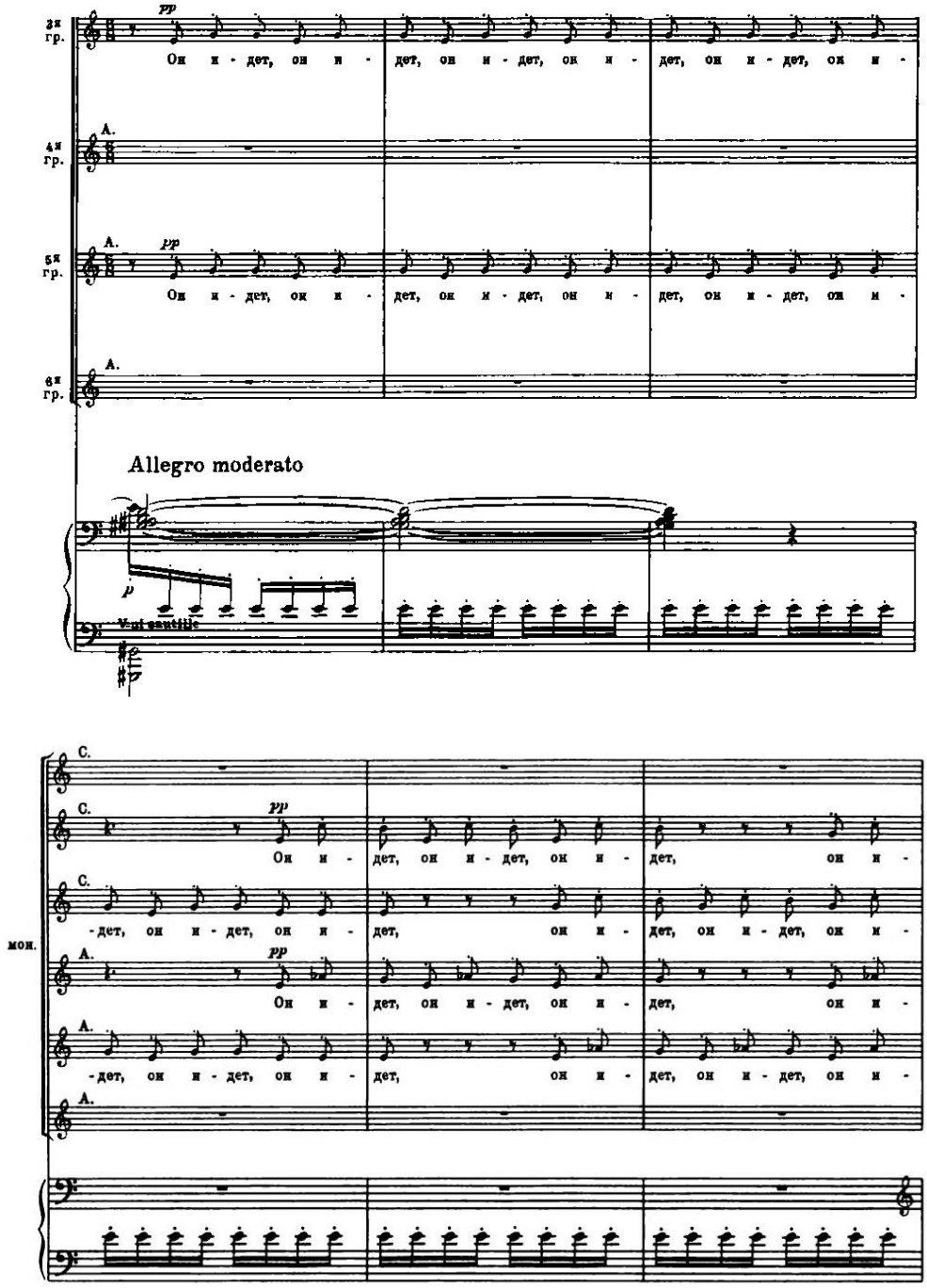

Figure 22: Prokofiev, *The Fiery Angel,* possession scene.

After the most forceful attempt to defy the tonic, the final stanza of *I Am* collapses resignedly, once again, onto G minor. The final stanza sees the altos and tenors repeat a similar mantra to the words "I long for sleep" (figure 23).

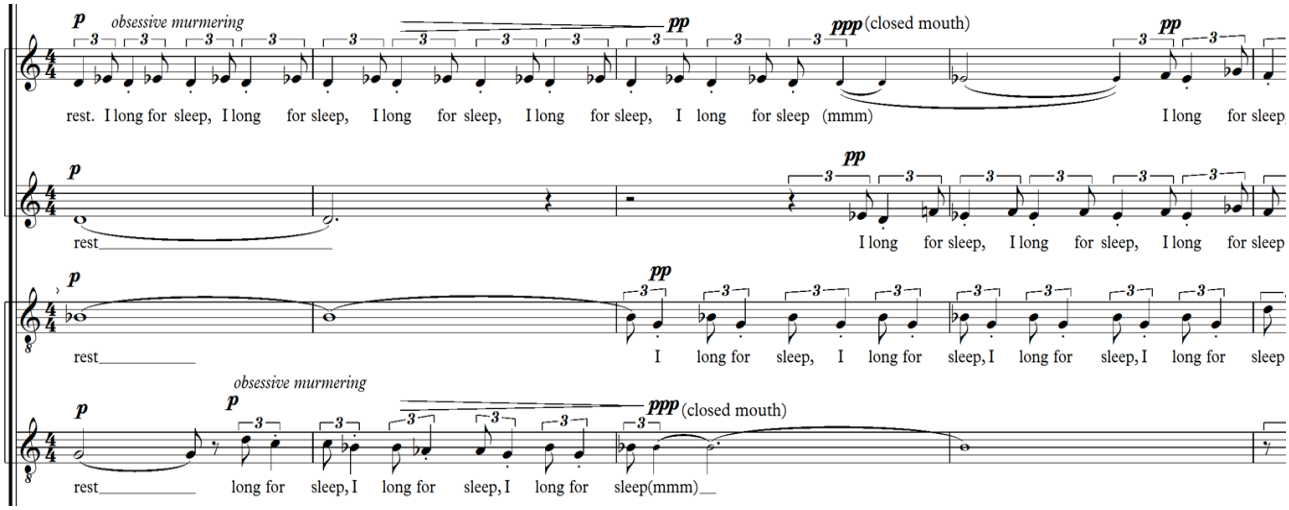

Figure 23: *I Am*, alto and tenor mantra.

Chapter 3 Larger Works

The works discussed in this chapter set out on their own unique journeys across tonal space.

3.1 *Orpheus in the Underworld*

Orpheus in the Underworld is composed of five sections, following the four stanzas of the text, with an interlude between the second and third stanzas. The first, second, and final stanzas are essentially atonal, while the interlude and third stanza, although never affirming a specific tonality, utilize a warmer, more triadic harmonic language. The vocal line is frequently written in short, clipped phrases, almost like recitative; in fact the most "songful" moment of the piece is the interlude, when the baritone is entirely silent. The piece begins and ends in a cold, austere language from which attempts at a more full-blooded, Romantic mode of expression are continually thwarted.

The cold austerity is created by the use of a restricted palate of intervals, with the piano limited to cycling through two circles of fifths, the first starting on a low F, in bar 2, the other on C sharp in bar 4. A distinctive sonority—two intertwined circles of fifths—characterizes much of the piano part in the outer sections of the piece. The string parts are no less confined, using mostly semitones and minor thirds deployed in narrow, claustrophobic phrases. In contrast to this, no such restrictions are placed on the vocal line, which floats impassively above the trio. To create the impression of a human character surrounded by the harsh, alien landscape described in the first stanza, it was important to provide a clear distinction between the baritone and the piano trio.

3.2 *The Feathered Hour*

This is the longest and most complex single movement in the portfolio, a setting of David Gascoyne's *The Cage*, for soprano solo, oboe solo, and small orchestra. This discussion will focus on the selection of materials, the tonal structure, and novel modulatory techniques, all of which play a crucial role in enabling the mobility this piece exhibits.

3.2.1 Materials

There are three basic materials used in this piece. The most important of these, the generative cell (figure 24), is an ascending D-major triad harmonized in B-flat major. The lower voices all move a tone away from their starting position before returning; the tenor does this completely unadorned, but the alto and bass utilise a passing note and an auxiliary note respectively.

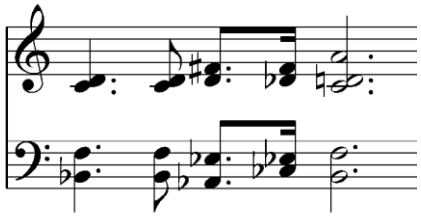

Figure 24: *The Feathered Hour*, generative cell.

This immediately suggests that, in addition to the major triad, the whole-tone scale is an important building block of the piece. And, indeed, the opening section of the piece is saturated with melodic lines that vacillate between two tones or move up and down one of the whole tone scales; both of the soloists enter this way, the Soprano humming (figure 25).

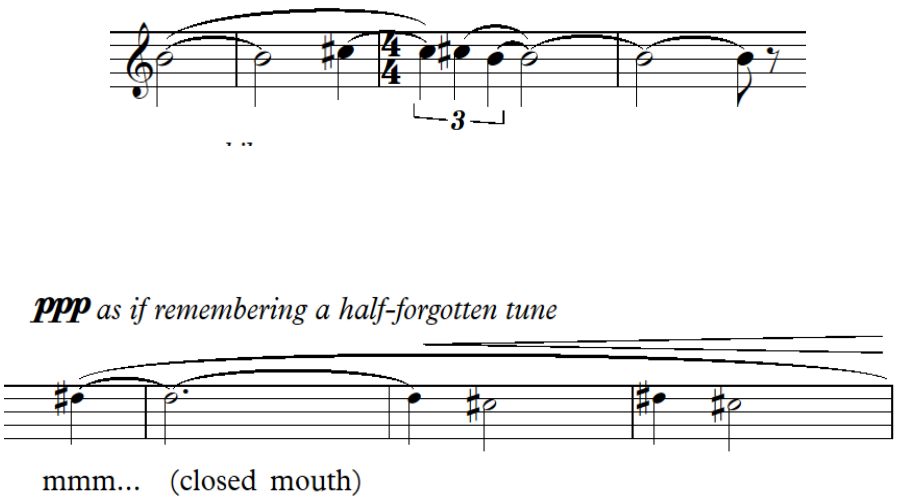

Figure 25: *The Feathered Hour,* Oboe and Soprano first entries.

Vertical sonorities also reflect a tendency for pitch to be organized in terms of the whole-tone scale. In sum, the harmony of the lower three voices of the generative cell (figure 26) produces three major seconds, with the middle second belonging to one whole-tone scale, and the outer seconds belonging to the other.

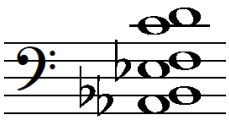

Figure 26: *The Feathered Hour,* sum of lower voices, generative cell.

This general harmonic structure, in which tones from one whole-tone scale are presented alongside tones from the other, is predominant in this piece, in both the most tonal moments and the least. Sometimes there are just two layers present, as with the chord (figure 27) that begins the modulatory, transitional third stanza (rehearsal mark J); this, owing to the delayed entry of the D, initially sounds like C-sharp minor. At other times this principle is used to build up large sound masses, stratified into

whole-tone layers, such as the big washes of harmony created by the combination of vibraphone, harp and celesta at rehearsal mark P. Figure 28 shows the combined harmony created by those instruments in the first two bars of P (omitting the final beat), first altogether, then with the whole-tone scales separated to make the interlocking stratification more visible.

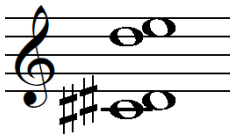

Figure 27: *The Feathered Hour,* rehearsal mark J.

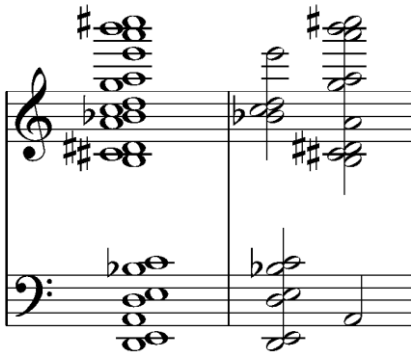

Figure 28: *The Feathered Hour,* Vibraphone, Harp, Celesta, rehearsal mark P.

By treating the generative cell as a source not just of motifs and chords but also of general organizing principles, implications are revealed that go far beyond the tonal language that it immediately suggests. This idea is crucial to achieving the mobility that this piece displays.

In addition to the generative cell, two other materials are used. The first is a "twitching" gesture on flutes and xylophone (figure 29) that immediately elicits a response from bass clarinet and bassoon.

As shall be seen, this motif plays an important modulatory role in the composition. The other is a motif first sung by the soprano to the words "(di-)solve in the shadow" (figure 30). This appears only twice in the first part of the composition, but it plays a more important role in the second part.

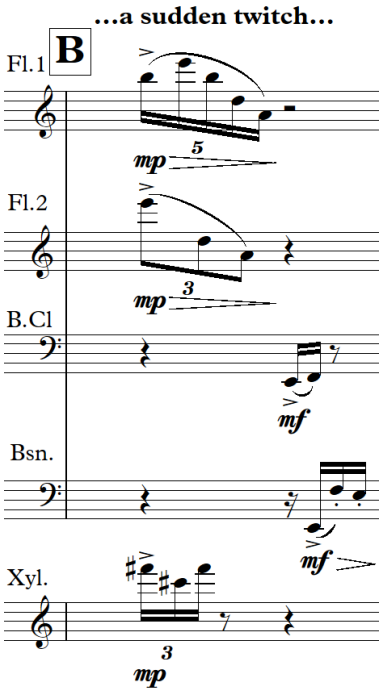

Figure 29: *The Feathered Hour*, Rehearsal Mark B, the "twitch".

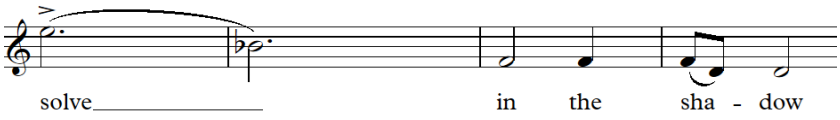

Figure 30: *The Feathered Hour,* Motif, bar 108.

These secondary materials, unlike the generative cell, do not give rise to further materials, and they are only developed to a limited extent.

3.2.2 Tonal Structure

The composition is structured in two counter-balancing parts, separated by a transition (the third stanza of the poem). The first of these two parts is centred on B flat and the second, on E. Particularly noteworthy is that these centricites are registrally locked. In the first part, the B flat is always in the bass (B flat 1, B flat 2), which is not so surprising; but in the second part, the E after rehearsal mark N is shifted to the treble, at first E5, then E6.

There is a palindromic relationship between the overall structure of these two parts. The first part starts off in a state of tonal ambiguity, then moves away from tonality, before returning to a much less ambiguous statement of B-flat major. Conversely, the second part begins in a completely unambiguous E minor and is then wrenched away from tonality before making its way back to the tonal ambiguity that began the piece.

The shorter second part exaggerates the differences between these three tonal areas, which in the first part are more subtle. The E minor at the opening of the second part is not confused by the clouds of opposing harmonies that characterise the B-flat major that closes the first part. On the other hand, the contrast between this clear E minor and the following grinding dissonance is stark, whereas the B-flat tonality of the first part is only undermined, rather than completely denied.

The tonal ambiguity which begins the piece stems from a confusion between two potential tonal centres: B flat and D. The tonal ambiguity with which the piece ends suggests the potential for three or possibly four tonics (E, E flat, A flat, and possibly B flat), which are now in a dissonant relationship to each other. E has the strongest claim, as it has been the tonal focus for much of the second half of

the piece. The oboe soloist's repetition of the figure 30 motif further reinforces this E, and in its final appearance the motif is truncated to this E alone. Tonic status is claimed by A flat because of the final A-flat major ascending triad sung by the soprano (albeit undermined by the consistent association of ascending triads with a tonic lying a major third below the root). The final E flat of this triad is sustained and used by harp and celesta as a root upon which to build harmonies. The oboe's repeating motif, taken on its own, might suggest a B-flat tonal area; however, in the presence of the E flat, the descending B-flat major triad is suggestive of a dominant. E flat is the only note allowed to ring on after the final attack of the piece.

3.2.3 Modulations

Two modulatory techniques are used in this piece for the first time in my music. The first takes its cue from the famous "jump cut" in Stanley Kubrick's 2001: *A Space Odyssey* (figure 31)[44]. Here a bone is

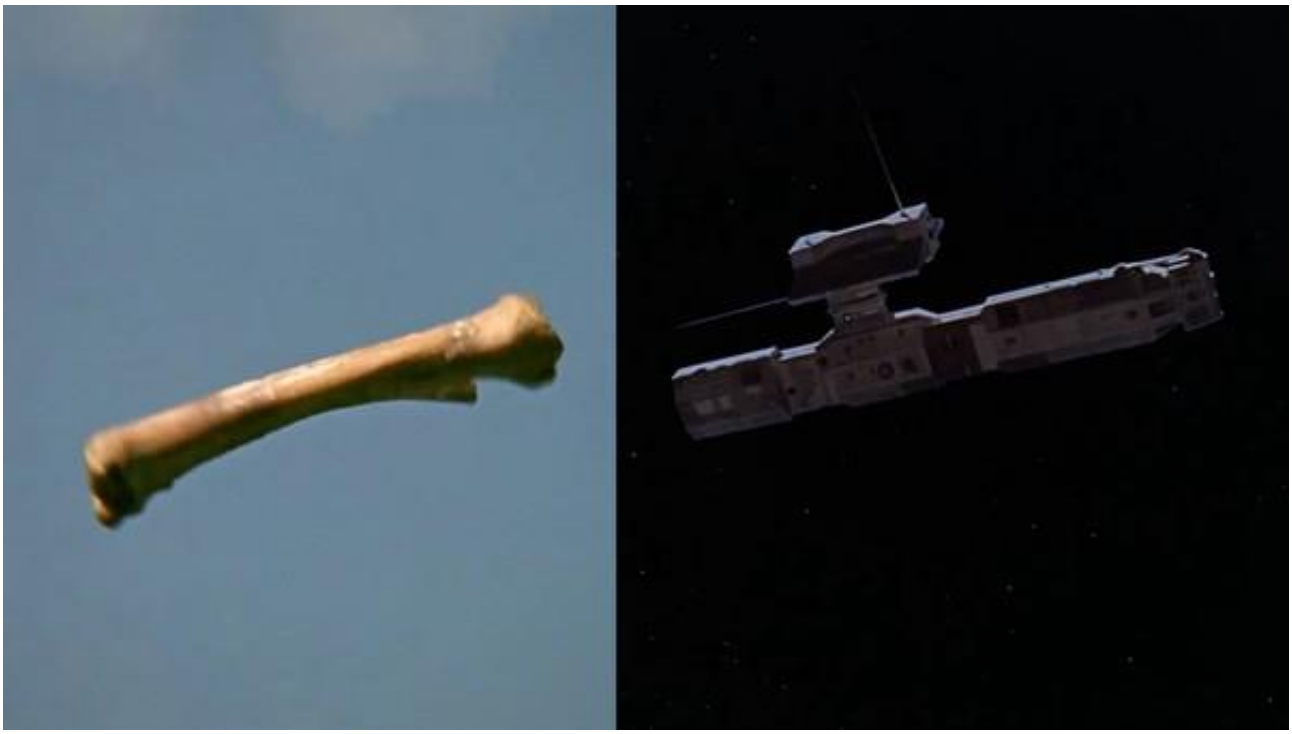

Figure 31: Jump cut from Kubrick's 2001: *A Space Odyssey.*

[44] Two side-by-side stills taken from 2001: *A Space Odyssey*, directed by Stanley Kubrick (Metro-Goldwyn-Mayer 1968), film.

thrown into the air at the dawn of humanity, whereupon the scene cuts to a space station, exactly where the bone was in the previous shot.

The most prominent example of this in *The Feathered Hour* is the sudden change of harmonic language in the second part of the piece: at rehearsal mark N, triadic harmony is suddenly jolted into a much more dissonant, aggressive language (figure 32).

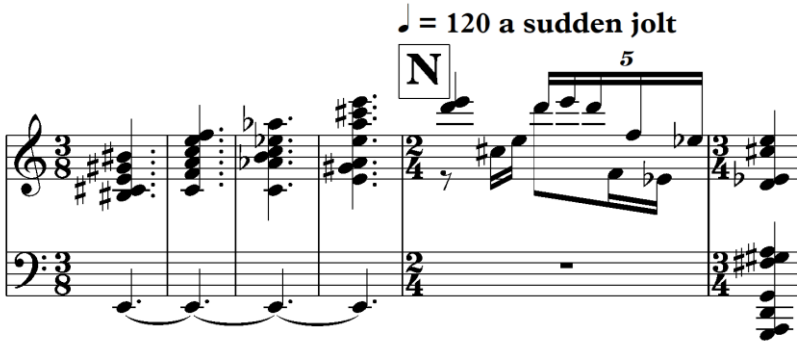

Figure 32: *The Feathered Hour,* reduction of jump cut modulation.

At this moment everything changes—everything that is, except for the prominent E, which takes the role of bone and space station in this analogy. Prior to the jump, E acted as a tonic; after the jump it is the highest note of a chord completely alien to the preceding music. The distinctive, penetrating sound of the violins' open E strings played pizzicato emphasises this alien quality. To suddenly change all but one feature of the harmonic language, though undeniably dramatic, is of course rather a blunt instrument and has been used sparingly. However, the inverse—in which everything stays the same, except for one feature—can be, and indeed has been, used much more subtly.

The "twitches" of the first part of this piece play a similar role to the "jolt" in the second part. They motivate minor changes in the music. Sometimes these changes are not harmonic; the first twitch, at rehearsal mark B, passes the melody from oboe to soprano, and the second prompts the soprano to

stop humming and start singing. The third, however, changes the harmonic language. The B-flat centricity disappears (temporarily) and the music takes on a less tonal character. Further twitches introduce a foreshadowing of the high E centricity that characterises the second part.

When the music does move back to B-flat major, it does so by another modulatory technique. This passage is an attempt at writing a modulation not from one key to another, but, more broadly, from atonality to tonality (figure 33). Chords comprised of a major second and one note from the opposing whole-tone scale (derived, as previously discussed, from the generative cell) are laid over an extended version of the motif in figure 30. The note from the opposing scale is a major sixth apart from the second; and, by changing that interval to a fifth, everything converges in a quite natural way on a B-flat major chord with an added second. The D, C, and F are completely in keeping with the sonority—a major second plus a note from the opposing whole-tone scale—that characterises the staccato chords. In addition to this, the voice-leading between the last two of these chords moves entirely by semitones, further contributing to the smoothness of the harmonic movement.

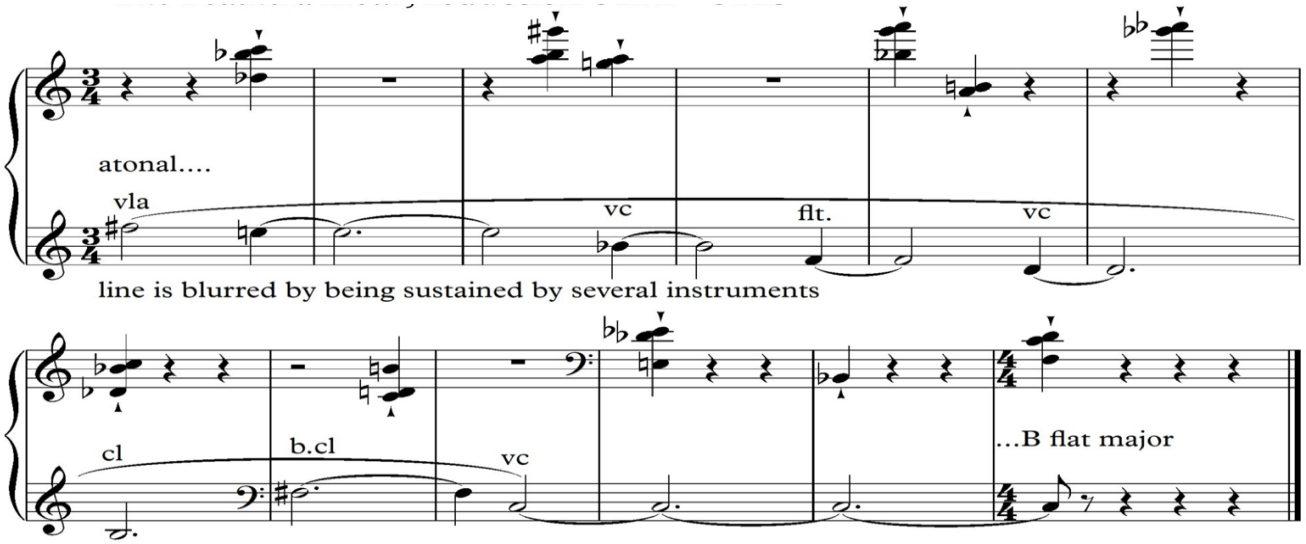

Figure 33: *The Feathered Hour,* atonal to tonal modulation, bars 112-123.

3.3 *Scrumpy*

Artists should always reserve the right to contradict themselves, and in this string quartet I approach the topic of this thesis from a completely different angle. Instead of incorporating a broad, diverse set of harmonic environments together in one composition, this piece features a largely unyielding harmonic consistency with a very limited palette of sonorities. Of the works presented, only the *Matelotte* of the *French Suite* uses a more limited chordal vocabulary. Unlike, for example, *The Feathered Hour*, in which atonal materials are extracted from the tonal generative cell, only the same six building blocks are used throughout *Scrumpy*. In spite of this, there is considerable mobility at play here—although, because the harmonic language is so static, one might say that the piece summons tonality and atonality to its side as it remains stationary.

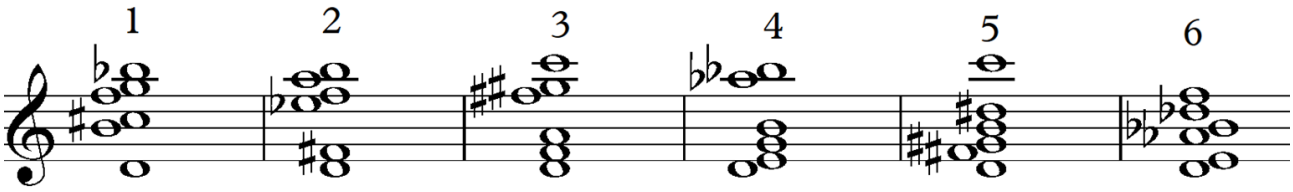

Figure 34: *Scrumpy,* rotations of hexachord.

The six building blocks are six rotations of a hexachord (and all transpositions thereof; figure 34). This chord was carefully chosen: to achieve my goals here, it was important that the chord should contain enough tonal connotations to allow the music to appear to be tonal but with enough internal dissonance to call that tonality into question. This technique is used frequently in the music of Oliver Knussen. A point of departure between Knussen's and my use of the technique is in the creation of melody. Where Knussen's melodies are frequently horizontal expressions of these rotations, my melodies are more often built from voice-leading relationships between these chords; or they are so brief that they fit comfortably in any of the chords (see, for example, the falling major third motto

that begins the piece and features heavily throughout).

In such a harmonically homogenous environment, relative consonance and dissonance are quite hard to achieve. Because the acoustic consonance remains static—somewhere near the middle of the spectrum—centricity and voice-leading have to do the heavy lifting here. Atonality is suggested in a number of ways. After the introduction, the first theme of the main section of the piece (figure 35) features a very fast harmonic rhythm (a change of chord on each beat); and while there is some semitonal movement in the outer voices, the inner voice-leading is deliberately awkward. These two features hinder any tonal understanding of the music.

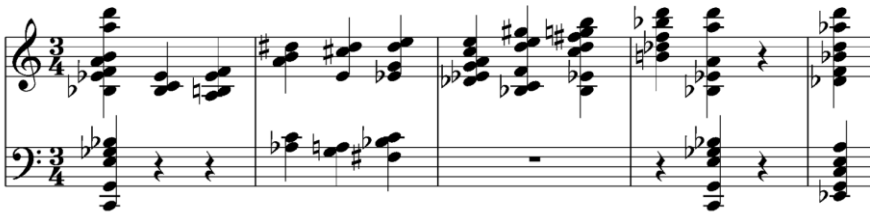

Figure 35: *Scrumpy,* Harmonic reduction of first subject.

In addition to this, the harmonies are expressed as broken chords, distributed into texture. The playing techniques feature frequent changes of bow position, bowing technique, and glissandi, further contributing to the disorientation.

Conversely, the second subject employs a much slower harmonic rhythm, with harmonies lasting for one or two bars each and with the viola melody tracing a path between the chords through smooth, sequential voice leading. Open strings are often used to emphasise centricity, most prominently at the end of the piece, where the whole quartet's array of open strings is used as a framework around which the chords are arranged.

The structure of the work reflects a long-held desire to re-purpose sonata form in the service of my tonal thinking. Where traditional sonata form states a tonality at the outset, destabilises it, and then re-establishes it, the goal here is to achieve—or perhaps retrieve—tonality from atonality. Once tonality is achieved, the music then proceeds to have fun with it. The stern, aggressive character of the first half of the piece gives way to a series of miniature character pieces, all with a somewhat comic demeanour. Oddly enough, the characterful episodes follow a tonal scheme (figure 36) that is itself analogous to sonata form, though this was entirely unplanned and only discovered some months after the piece was completed.

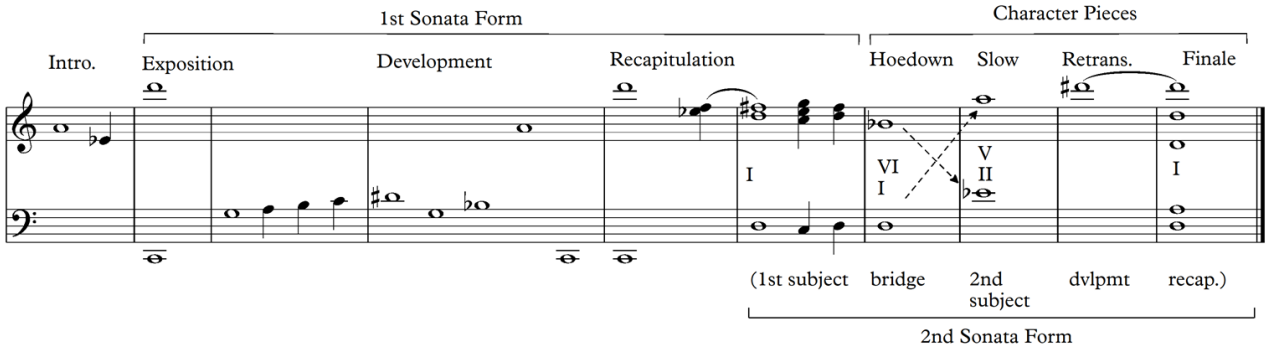

Figure 36: *Scrumpy,* Tonal Scheme.

At just over nine minutes in length, this complex formal scheme is highly compressed, with many sections lasting less than a minute (the first sonata form's second subject is only nine bars long). The exposition consists of an atonal first subject; rather than employing centricity, it stays within two extremities—C and D—moving outwards from the centre to these two points in three wedge shapes. These extremities are re-established in the recapitulation and recontextualised horizontally by the second subject. The D is revealed to be the tonic, and the C an alternative, mixolydian dominant.

Two bitonal episodes follow. The first, a hoedown, tonicizes both D and, above this, B flat. The slow

section (the only slow music in the piece) sees the D move upwards by a fifth to its dominant and the B flat move downwards by a fifth to its subdominant, the two tonal strands crossing over in the process. The retransition moves back to D by prolonging a high F sharp which, further emphasising the importance of the falling major third motto, falls to D.

Conclusion

Much of the music discussed in chapter 2 began life as studies either for *The Feathered Hour* or for *Orpheus in the Underworld*, which, setting poetry by the same poet, was in some ways a "practice run" for *The Feathered Hour*. Not wishing to turn up to my PhD empty handed, *The Feathered Hour* was in fact started a few months before my official enrolment. I worked on it slowly and painstakingly over three years, with most other compositions in the portfolio being composed concurrently with it. Other pieces in Chapter 2 explore what it can mean for a piece of music to be tonal or atonal; the tonality of *Matelotte* is a very different beast to the tonality of *I Am*. Similarly, the *Pavanne* is atonal in a very different way *to Whoosh*!

A gradual but marked change in my attitude towards combining different areas of tonal space is evidenced by comparing the compositions discussed in Chapter 3. In *Orpheus in the Underworld*, the materials can be quite neatly divided between "tonal" and "atonal", and the different states of the composition are produced by entirely discrete means. This is still evident to some extent in *The Feathered Hour*, with a blatantly tonal generative cell and the atonal "twitch" motif. The third motif,

upon which the oboe fixates in the final minutes, lies somewhere in between the two. However, much of the atonal material of the composition is derived not from these secondary elements, which are not developed to any great degree, but from the extrapolation of principles enshrined in the generative cell. The derivation of atonal material from tonal voice-leading procedures establishes a principle that has become of fundamental importance to my composition: techniques deriving from tonal theory can be employed fruitfully in the writing of atonal music, and vice-versa; see, for example, the complementary sets that feature in *Two Songs*.

The only piece in the portfolio to have been started after *The Feathered Hour*'s completion, *Scrumpy* derives all its materials, both atonal and tonal, from the same six-note chord. This marks the culmination of the portfolio's drift towards harmonic monothematicism (*harmonic* monothematicism, it should be stressed; *Scrumpy* balances this with a generous proliferation of motivic and melodic ideas). While the foregoing discussion of the portfolio has not been chronological, by convenient coincidence the portfolio is bookended by a pair of string quartets that do represent the first and last completed pieces of the PhD and show in sharp relief the stylistic journey undergone.

The collage-like construction of *Look Behind You*! has quite clearly been abandoned in *Scrumpy* for something altogether more organic. What I feel is important is that the narrowing of source materials has not gone hand in hand with a commensurate reduction in harmonic variety. On the contrary, *Scrumpy*, despite using only six closely related chords, displays perhaps a greater profusion of contrasting harmonic environments than even *The Feathered Hour*, reaffirming that tonality—which is to say our *perception* of tonality—is driven by context rather than the inherent properties of any

particular combination of tones. My three components of tonality (or Tymoczko's five, if you prefer), seen in this light, become the tools with which context can be manipulated.

Of course, my topic is vast and deliberately open-ended, and there are almost infinite ways in which the ideas espoused in this thesis could be further explored. Of most immediate interest to me is the application of my ideas to the construction of large-scale forms. The tonal schemes of *The Feathered Hour* and *Scrumpy* strike me as being at least somewhat reminiscent of the progressive tonality of Carl Nielsen's symphonies and the related emergent tonality of Robert Simpson's symphonies and quartets.

Of course, in Nielsen and Simpson, we are presented with a "clash" of two or more key areas, whereas in my music this "clash" is between different regions of tonal space. I place "clash" in scare quotes because, though an appropriate enough word to describe Nielsen and Simpson, titanic struggles are not really part of my compositional aesthetic; I am far more interested in enlisting these different harmonic environments as colleagues rather than as opponents. However, I am keen to realise, through a more focussed engagement with the examples of these two composers, how my ideas might inform the construction of large, symphonic (by nature, if not necessarily by name) forms and how they might represent a significant innovation in this area. The registrally locked tonics of *The Feathered Hour* also suggest potential for further exploration and could play a potent role in the construction of long-range tonal schemes.

As previously mentioned, due to COVID a further orchestral piece had to be cut from this project. In the oboe concerto I proposed I was intending to apply harmonic thought to other musical

parameters—in this case instrumental timbre was to be used analogously to key, with the double-reed timbre representing a tonic. I remain very attracted to this idea, and my strategy for writing any concertante work would be to use a small group of orchestral instruments similar or identical in timbre to the soloist as a go-between, uniting orchestra and soloist. An example of this I find particularly attractive is Ligeti's *Hamburg Concerto*, where the (valve) horn soloist is supported by prominent, obligato writing for the four orchestral (natural) horns. In so doing, Ligeti has written a concerto that is *about* the horn as much as it is *for* the horn. My proposed oboe concerto would have been *in* oboe as much as it would have been *for* oboe, and as much as Strauss's oboe concerto is *in* D major.

Similarly, the use of metric modulation in *Scrumpy* suggests a means by which tempo can contribute to the presentation of a work's tonal journey. Particular harmonic environments could be firmly associated with particular tempi—although, it should be stressed, this does not happen in *Scrumpy*, where there are no established relationships between harmony and tempo. These associations—between harmony and tempo, or harmony and timbre, or, for that matter, any combination of musical parameters—need not be permanent but could be subject to or play an active role in the development of the musical argument.

Re-interpreted as a set of principles and strategies for the combination of apparently contradictory, disparate elements, the ideas underlying this thesis are applicable to any musical parameter. Even if I were to lose interest in harmony, or were asked to write a piece for unpitched percussion ensemble, there are still ideas here that could be of valuable assistance. Let us suppose that addition and division represent two apparently incompatible governing principles of rhythm in much the same way that

tonality and atonality represent two opposing systems of harmony. Just as there are components of tonality that can be manipulated in a way that guides the listener's perception of the music towards one of these two poles, I would argue that syncopation—or, rather, the extent to which accent and beat align—can play a similar role in shifting one's perception of the rhythmic language of a piece of music.

I am of a generation of composers born in the 1980s who, unlike their older colleagues, were only rarely told to compose in a specific style. Unlike our younger counterparts, however, the music we studied in our composition classes was almost exclusively atonal—a strict diet of Pierre Boulez, Elliot Carter, and Anton Webern. Tonality, when it did appear, came safely nestled in quotation marks, in works by Schnittke or Berio. I wanted to study more tonality—not the common-practice tonality I was taught in harmony and counterpoint classes and not the caged, arms-length tonality that inhabits Schnittke and Berio, but the living, breathing, modern tonality I heard all around me in contemporary popular music and, increasingly, in contemporary "classical" music too.

This was not motivated by a desire to repudiate or rebel against atonality itself; my love for that music was and remains every bit as sincere as my love for tonality. What I share with early atonal composers is a desire to be free from the straight-jacket of common-practice tonal orthodoxy. Where I differ is in my aversion to replacing that straight-jacket with another one devised by Schoenberg, Boulez, Perle, or indeed, myself. What is presented here is neither compositional system nor theory, but instead a set of tools for breaking down barriers between these apparently closed systems—tools that I have found hugely beneficial in the creation of an open, eclectic, stylistic language and which I believe show potential for a considerable breadth of application.

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