Portfolio of compositions and commentary

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Awarding institution:
King's College London

Portfolio of compositions and commentary

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PhD

King's College London

Thesis presented in partial fulfilment of the requirements for the degree of Doctor of Philosophy

King's College London, 2022

Abstract

The eight works in this portfolio of compositions are concerned with the expressive use of techniques that aim to conjure up notions of linear continuity and discontinuity. Several works explore background directed motion through the use of cantus firmus and step-wise motions, and others explore discontinuity through fragmentation and interlocking patterns, as a means of engendering musical shape.

My ideas on continuity draw from contemporary conceptions of prolongation in post-tonal music, as expounded by Salzer and Schachter, Wilson, Travis and Kramer, among others, as well as the use of stepwise connection, as illustrated by Schoenberg in the *Harmonielehre*. The music of Ligeti and Xenakis provided models for linking sonic features with visual shape representations, and several works engage with Stockhausen's and Kurtág's practice of using moments and fragments that circumvent tradition linear relationships.

The first movement of the violin duo, *Even if it is Only a Whisper* explores continuity through the use of two-part contrapuntal backgrounds; the second focusses on interlocking patterns; and the third is a transitional piece, in which ideas on shape versus line were formulated and tested.

While the potential of stratified layers, as a means of articulating two-part contrapuntal backgrounds, is deployed in the first and fifth movements of *A Walk to the Sun* (for mixed quintet), its second, third and fourth movements are fragmented pieces, investigating the tension between composed continuities and fragment forms. Similar preoccupations are found in *Three American Songs,* for soprano and piano.

Where They Flocked, for mixed quintet, further explores the use of two-part background progressions, as well as pitch-centricity.

The second movement of the string quartet, *Meandros,* features the most explicit manifestation of Fuxian counterpoint backgrounds. Its other movements deploy interlocking

patterns in order to generate musical shapes.

The Strange World of Stillness, for solo viola, consists of two movements in which notes acting as tonal centres support non-linear surfaces. Some of the major concerns of my final work for chamber orchestra, particularly with regards to the use of 'pivot points', can be found in *Swarming,* for flute and guitar.

Finally, *Fluidity* (for chamber orchestra) represents a consolidation of many of the techniques explored in this thesis, namely the use of cantus firmus, stepwise motion and interlocking patterns.

List of accompanying material

This commentary accompanies a portfolio consisting of separately bound copies of the eight compositions. Audio recordings of all eight works are also included.

Scores:

Even if it is Only a Whisper (for two violins)

A Walk to the Sun (for mixed quintet)

Three American Songs (for soprano and piano)

Where They Flocked (for mixed quintet)

Meandros (for string quartet)

The Strange World of Stillness (for solo viola)

Swarming (for flute and guitar)

Fluidity (for chamber orchestra)

Audio recordings:

Even if it is Only a Whisper

Recorded by Madeleine Mitchell and Gordon MacKay.

Movement I

Movement II

Movement III

A Walk to the Sun

Recorded by members of Orchestra Vitae. Conducted by Pablo Urbina.

Movement I

Movement II

Movement III

Movement IV

Movement V

Three American Songs

Recorded by Susan Parkes and Mary Dullea.

Bring Me Little Water, Sylvie

Song of Myself

Amaze

Where They Flocked

Recorded by Andrew Sparling, Alexandros Koustas, Edward Brenton, Joe Zeitlin and Kiyomi Seed. Conducted by Jonathan Tilbrook.

Meandros

I, II and V are recorded by Madeleine Mitchell, Gordon MacKay, Bridget Carey and Joseph Spooner. IV is recorded by Iain Gibbs, Miriam Bergset, Mark Gibbs and Hannah Lewis.

* NB: There is no recording of movement III.

Movement I

Movement II

Movement IV

Movement V

The Strange World of Stillness

Recorded by Mark Gibbs.

Swarming

Recorded by Meera Maharaj and James Girling.

Fluidity

Recorded by Orchestra Vitae. Conducted by Pablo Urbina.

Acknowledgements

I am sincerely grateful for the Doctoral Studentship from the London Arts and Humanities Partnership, in collaboration with the Arts and Humanities Research Council, without which this research would not have been possible.

I would like to thank my supervisor, Prof. Silvina Milstein, for her invaluable support, insight, critique and advice.

For the many sacrifices that they have made to facilitate this research, and for their patience, love and encouragement, special thanks go to Roland, George and Josephina. I would also like to thank Litha for believing in me, and for the many phone conversations, PhD advice and support.

Most of all, I would like to thank my mother, who died unexpectedly in November 2021. I thank her for being by my side throughout all the difficult periods of my life, and throughout all the happy ones. I thank her for the endless love, support and encouragement that she has always shown. I miss her more than these words can express, and dedicate this PhD to her loving memory.

Contents

1. Introduction

Prior to embarking upon my doctoral studies, I spent many years creating multimedia stage shows, with artists from the fields of theatre, film, music and dance, in collaboration with organisations such as Kings Place, Arts Council England, Wellcome Trust and the Performing Rights Society Foundation, among many others. I created works that explored the phenomenology of psychosis[1] (for Kings Place), the rituals celebrating the Virgin Mary in early-medieval Spain[2] (for Handel Hendrix in London and Kings Place), and the crimes of Nero[3] (for Tête-à-Tête Opera), among many others. In these projects, my main artistic concern was to harness music, while dealing expressively with movement, the body and the spoken word. I relied heavily on a method of devising that aligned with Alison Oddey's observations of the practice.[4] Fundamentally, this involved improvisation, workshop and discussion to collate preliminary artistic ideas, before assembling the piece autonomously, using the discoveries from the different phases of development.

Having spent over ten years engaged in such work, I wished, for the sake of my compositional development, to focus my doctorate solely on the musical component of my artistic output. Related to this was a desire to re-familiarise myself with early techniques, such as cantus firmus and the principles embodied in the teaching of species counterpoint. But I also wanted my years of working in cross-disciplinary art to drive my research. My earlier works relied heavily on dancers' movement and theatre performers' words and gesture. The flow of the body, words and music on the stage was a principle factor that I found myself constantly grappling with, reworking and reshaping, as it was only when all of the components – gesture, words and sounds – manifested within a compatible temporal

[1] See *Parting* https://www.efthymiou.co.uk/stage-work/parting/
[2] See *Rituals to Mould Her With* https://www.efthymiou.co.uk/stage-work/rituals-to-mould-her-with/
[3] See *Fragments of Sun* https://www.efthymiou.co.uk/stage-work/fragments-of-sun/
[4] See Alison Oddey, *Devising Theatre: A Practical and Theoretical Handbook* (Oxford: Routledge, 1994), pp. 1 and 8-9.

framework that the collaboration became meaningful and effective. It is from this context that my interest in the intersection of musical flow and durational framework emerged.

The eight works in this portfolio explore aspects of continuity and flow involving the use of cantus firmus techniques and step-wise motion, and aspects of discontinuity and disconnectedness through fragmentation and interlocking pitch formations. Some compositions focus on a single concern, while others deal with two or more of these areas. The order in which I explored each topic was indiscriminate, but the fundamental question of how temporal structure is perceived is at the heart of each work.

One of the central themes that emerged is that opposing characterizations of musical flow, continuity and discontinuity are not clear-cut nor mutually exclusive – where there is continuity, there is also discontinuity and, where discontinuity dominates, continuity lurks. My fragmented compositions might, for example, be distinctly non-linear at a surface level, but display linearity at deeper structural tiers; and the continuity that dictates some of the works that use cantus firmus is undercut by inherent non-linear forces. The working of the human mind plays a fundamental role in constructing musical meaning in this respect. For example, the web of connections composed into the fragmented movements of *A Walk to the Sun*, are made explicit through the workings of memory, abstracting adjacent and non-adjacent connections cumulatively and retrospectively. Furthermore, the works that use interlocking patterns as a means of conjuring up notions of shape-perception, akin to Ligeti's sonic shapes, in pieces such as *Apparitions,* rely on notions of cognitive synthesising.[5] These exemplify how matters of musical flow, continuity and discontinuity must almost certainly interact with the fields of psychology and philosophy. This is tentatively alluded to throughout this commentary, but detailed considerations lie outside the remit of this study.

[5]As exemplified in Christian von Ehrenfels' Gestalt theory. See: Barry Smith, 'Gestalt theory: An essay in philosophy', in *Foundations of Gestalt Theory* (Vienna: Philosophia Verlag, 1988), pp. 11-81.

2. Exploring background continuity and directed motion

A significant proportion of the works that comprise this portfolio deals specifically with issues of continuity and directionality. I have situated myself partly within the modernist trend of creating continuity and a sense of direction through non-pitch elements, as well as actively engaging with tradition, by building musical fabrics from cantus firmus and two-part contrapuntal backgrounds.

Continuity and directedness through cantus firmus and two-part contrapuntal backgrounds

My interest in creating directional music – in the sense of notes that seem to lead to others – and the awareness of motion, led directly to the study of Fux's species counterpoint and to the subject of prolongation in post-tonal music. In Fux's didactic method, the intricate network of relationships between the cantus and the counterpoint generates structures with highly developed notions of direction, continuity, climax and closure. Although this type of directed motion is problematic in post-tonal music,[6] I found that the application of principles derived from Fux's species counterpoint by composers of the 20th Century is, though scant, not entirely absent. It has been traced, via Salzer and Schachter, in the music of Scriabin (Prelude, Op. 39. No.2)[7] and Fauré (Après un Rêve);[8] and, in *Structural Hearing,* Salzer even offers prolongation analyses of post-tonal works by Stravinsky and Bartók.[9] Other analysts have purported to explicate large-scale prolongations in works such as Bartók's *Eight*

[6] Christopher F. Hasty explores this in 'On the Problem of Succession and Continuity in Twentieth-Century Music'*, Music Theory Spectrum*, 8 (Spring, 1986), 58-74.
[7] Prolongation reduction in Felix Salzer and Carl Schachter, *Counterpoint in Composition* (New York: Columbia University Press, 1969), pp. 464-465.
[8] Salzer and Schachter, pp. 462-463.
[9] Prolongation analyses of the first movement of Stravinsky's Symphony in Three Movements and seven works by Bartók can be found in Felix Salzer, *Structural Hearing,* 2 vols (New York: Dover Publications, 1962), II (1962), pp. 51-52, 76, 188, 198, 213, 234, 258, 296-298.

Improvisations on Hungarian Peasant Songs for solo piano, Op. 20 (Paul Wilson),[10] in Schoenberg's Op. 19, No. 2, in the second movement of Webern's Op. 27, and in the beginning of Stravinsky's *Rite of Spring* (Roy Travis).[11] Furthermore, in their individual analyses, both Kramer and Baker argue for a case for prolongation in the first of Schoenberg's *Six Little Piano Pieces*, Op. 19.[12]

Whilst my approach is heavily influenced by the prolongational readings of the works above, it is also aligned with the preoccupations of the composer Alexander Goehr, in his intentioned rethinking of Monteverdi's *seconda practica*,[13] though I explore different compositional methods and techniques.

Given the high degree of chromatic saturation, continual tonal flux and surface change in my music, transforming the elements of the species progressions into the fabric of my work required traditional notions of voice-leading to be altered significantly, and even largely abandoned, in favour of an approach that incorporates just enough of a Fuxian counterpoint background to create a sense of linear direction. Below I explain how I arrived at a personal method of abstraction of notions of prolongation, which I believe provides the more persuasive advocate for using such progressions as a worthwhile formal tool in composition. Fundamentally, I have focussed on balancing the goal-oriented motion that the intricate network of relationships between the notes in the species structures achieves, with a modernist approach to matters of harmony, form and texture. My intention was for this

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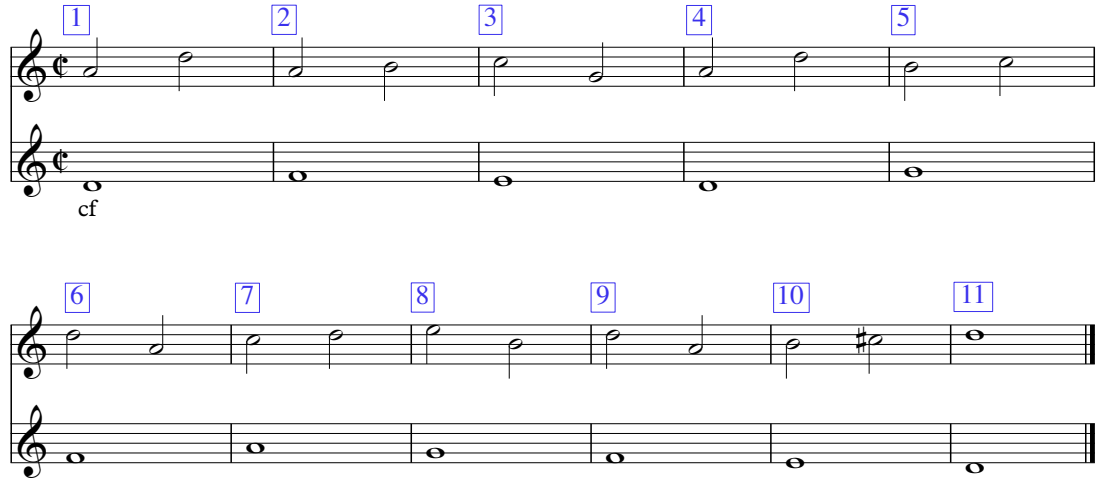
[10] See Paul Wilson, 'Concepts of Prolongation and Bartók's Opus 20', *Music Theory Spectrum*, 6 (Spring, 1984), 79-89.
[11] Analyses of pieces by Schoenberg and Webern in Roy Travis, 'Directed Motion in Schoenberg and Webern', *Perspectives of New Music,* 4.2 (1966), 85-89.
[12] Analysis by Jonathan D. Kramer is in *The Time of Music* (New York: Schirmer Books, A Division of Macmillan, 1988), pp. 171-183. Analysis by James M. Baker is in 'Voice Leading in Post-Tonal Music: Suggestions for Extending Schenker's Theory', *Music Analysis,* 9.2 (July, 1990), 177-200.
[13] Silvina Milstein outlines some of these concerns in relation to *Schlussgesang* in 'To Speak as it Were Through Various Voices: Tonal invention in the first movement of *Schlussgesang',* in *Sing, Ariel: Essays and Thoughts for Alexander Goehr's Seventieth Birthday,* ed. by Alison Latham (Aldershot: Ashgate, 2003), pp. 119-139 (p. 121).

working method to imbue the music with solidity and a sense of forward motion, even if perhaps only evident intersubjectively.

Even if it is only a Whisper, first movement

The first movement of *Even if it is only a Whisper* was the initial piece to emerge from my investigations into continuity and directedness. My process began by selecting a progression on which to base my piece. I settled on the below by Fux[14] (see Fig. 1). Fig. 1 shows a cantus firmus with a second species counterpoint set above it. Two minims are pitched against the single semibreve of the cantus firmus. Each bar of the counterpoint contains stable notes (the first minim of each bar) and weaker passing notes (the second minim of each bar).

Fig. 1: Second species counterpoint by Fux



Knowing that I would not, of course, rely on a Schenkerian mode of musical thinking, my ambition was to simply move through the progression, note by note, without alluding to a functional harmony, tonal ideas of prolongation or *Urlinie*. I simply aimed to exploit the inherent stability and instability of the progression, through a process of emphasising the

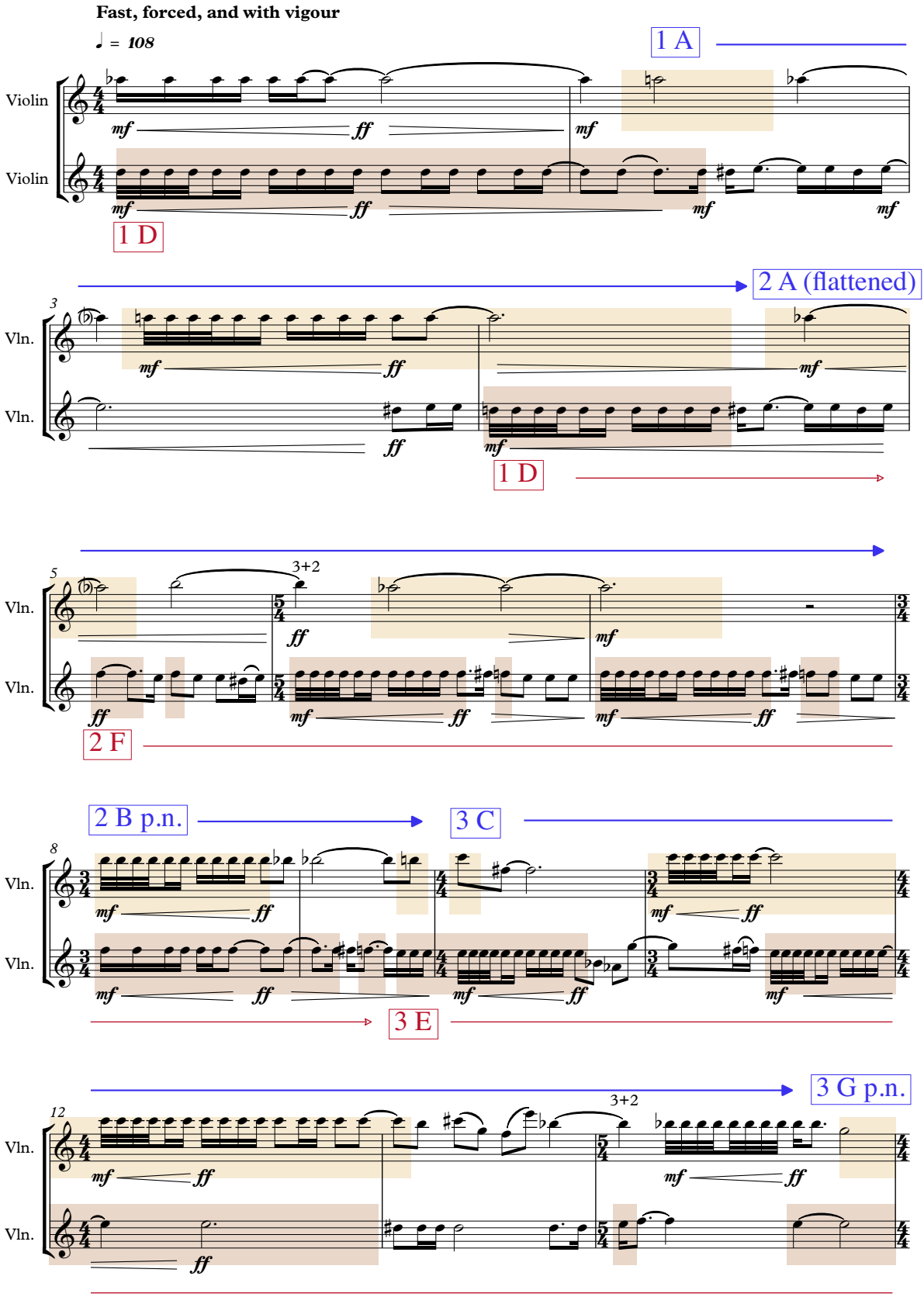
[14] Second species counterpoint by Fux, featured in Salzer and Schachter, p. 50.

notes of the motion in the order that they appear, being careful to balance this with my modernist approach to texture and harmony, which I explain shortly.

Fig. 2 shows how a portion of the progression in Fig. 1 maps onto bb. 1-27 of the first movement of *Even if it is Only a Whisper*.

Fig. 2: Species mapped onto bb. 1-27 of *Even if it is Only a Whisper*, first movement

The blue boxes correspond to the bar numbers and notes of the counterpoint in Fig. 1.
The red boxes correspond to the bar numbers and notes of the cantus firmus in Fig.1.
'P.n.' denotes passing note.



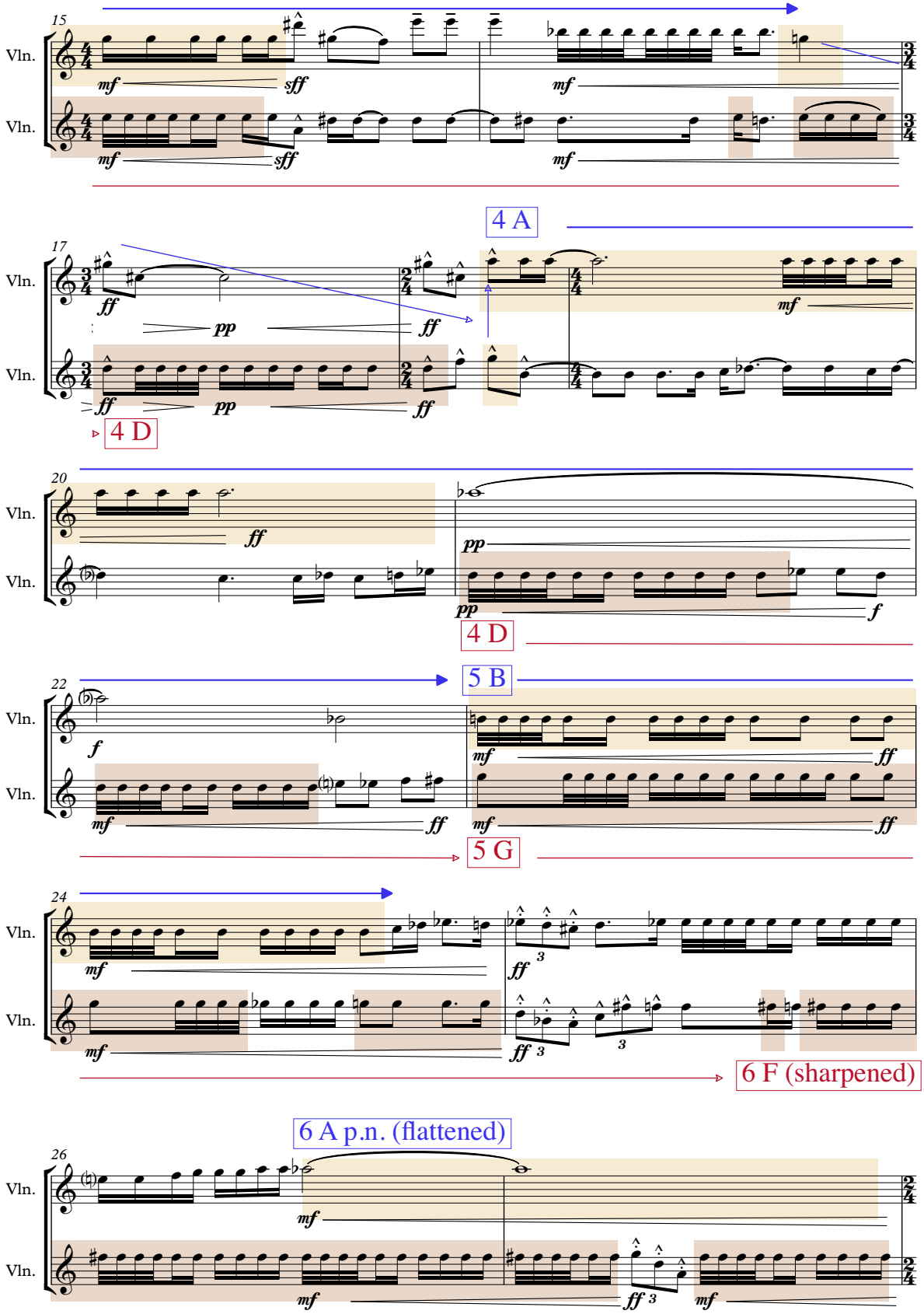

15
Vln.
Vln.
mf
sff
mf
sff
mf
4 A
17
Vln.
Vln.
ff
pp
ff
mf
ff
pp
ff
4 D
20
Vln.
Vln.
ff
pp
pp
f
4 D
5 B
22
Vln.
Vln.
f
mf
ff
mf
ff
5 G
24
Vln.
Vln.
mf
ff
3
mf
ff 3
3
6 F (sharpened)
6 A p.n. (flattened)
26
Vln.
Vln.
mf
mf
ff 3
mf

Fig. 2 shows how I have mirrored the movement of the notes of Fux's progression in the upper and lower-most registers of my duo. This has been achieved through the careful placement of the notes of the progression in my score, making sure that their presence is not overshadowed by the dissonant notes and rhythms that are entirely independent of the progression, but are central to the surfaces of the music.

The pink areas expose the movement of the cantus line, beginning with the note D, the first note of the cantus (refer to Fig. 1). This D is emphasized, through repetition, in bb. 1-4 of violin 2 and, after only slight moments of deviation through chromatic tangential notes, moves to the second note of the cantus (F) in b. 5. The F continues, relatively unhindered, until b. 9. Here we await a response, an explanation. This is provided by the analogously repeated E in bb. 9-16, which represents the third note of the cantus (refer to Fig. 1). Violin 1 is meanwhile responsible for providing the notes of the counterpoint. This part begins with an A flat that eventually steps up to A natural (b.2, violin 1), the first stable note of the counterpoint. The music then bypasses the first passing note of the counterpoint (that is, D – see Fig. 1) and instead settles, in bb. 4-7 of violin 1, on a flattened version (A flat) of the second stable note of the counterpoint. The passing note, B, is then sounded in bb. 8 and 9 of violin 1, before the 3rd stable note (C) of the counterpoint is heard in bb. 10-13.

Without further comment, it is plain to see, via the pink and yellow shaded areas, that the progression continues to move through the music via a similar process of emphasis, through reiteration. This method elevates the perceptual prominence of the notes of the species above all others, allowing the listener to mentally group them together and cumulatively understand them as being connected to one another. As this context begins to define itself over the course of the movement, the notes of the progression can be retrospectively understood as being structurally important, despite the non-tonal surface of the music. However, incorporating this framework was just the beginning of the process. It is

in the delicate treatment of the contrapuntal background, in relation to how I have exploited the inherent motion of Fux's progression within a modernist framework, that the integrity of this method lies.

As I had intended for the motion in this movement to clearly derive from Fux's progression, I was cautious of radical revisions of the notes of the progression, and of saturating the piece with too many tangential notes. I decided to set a simple rule in this respect: note deviations were allowed for motivic interludes (for example, in bb. 13, 15, 17-18 and 25) and for step-wise deflection, to provide momentary respite, only. In terms of revising the notes of the progression, I allowed myself three chromatic alterations: the A of b. 2 of Fux's progression became an A flat in my music (cross reference bb. 4-7 of duo, Fig. 2, with the counterpoint of b. 2, Fig. 1); the passing note, A, of the counterpoint (in b. 6, Fig. 1) became an A flat in my music; and the 6th note of the cantus (F) became an F sharp in my score.

The strategy of using only the limited deviations, above, gave rise to certain unchanging principles of permanency that grew to characterise the entire movement. One such feature is the largely unchanging dense texture, comprised of repeated semiquavers and demisemiquavers, born directly from my desire to emphasize the contrapuntal model through limiting note deviations. From this texture, small cells of melody grow, repeat and permutate, but do not develop. The texture thus became an assertive force in the music, dominating the score and possessing a singularity of purpose that seems to imbue in the music a paradoxical sense of non-linearity, undermining the teleology created by the contrapuntal background. I have exploited this texture throughout the whole of the movement, using both the single-note repetitions from the start and double-stop variations. These are either built from the notes of the progression (for example, the augmented 4th dyad in bar 36, violin 2, and the minor third dyad in bar 43, violin 2, that mirror the motion from A to G of the cantus firmus in Fig. 1) or

feature in parts of the music where the progression does not. Crucially, this cohesive textural framework provides a set lexicon from which the underpinning borrowed contrapuntal structure can emerge and disappear, giving it a workable context within a modernist framework.

This first foray into creating continuity was deliberately single-minded, exploiting the clearly delineated lines of the 'duo' in order to more-easily integrate the two-part progression, and imposing stringent limitations on texture and motivic development. This prudence, I attribute to the composition being my first inroad into the exploration of motion, though interesting discoveries arose. In my subsequent explorations, I significantly deepened my line of enquiry, utilizing multiple musical lines, stratified textures and a more varied harmonic language, as shown next in relation to the first and fifth movements of *A Walk to the Sun,* for mixed quintet.

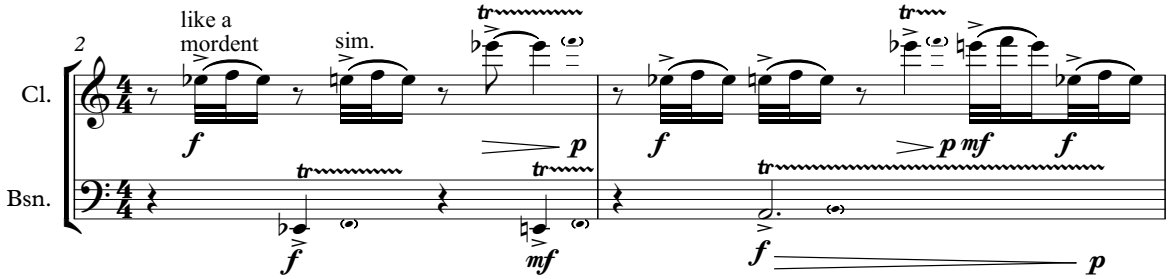
A Walk to the Sun, first and fifth movements

My aims for the first and fifth movements of *A Walk to the Sun* were to delve much deeper than in the duo into the expressive possibilities of the texture, and to embed my chosen progressions more discretely into the background of the music. I had become very interested in the multi-directed motion of pieces such as *Three Places in New England* (1911-14, rev. 1929) by Charles Ives, and the expressive stratified textures of the works of Deirdre Gribbin, especially in those of *Venus Blazing* (2001). Taking inspiration from these works, among many others, the first and fifth movements of *A Walk to the Sun* are built from three stratified layers (see Fig. 3).

Fig. 3: Stratified layers in *A Walk to the Sun*, first movement

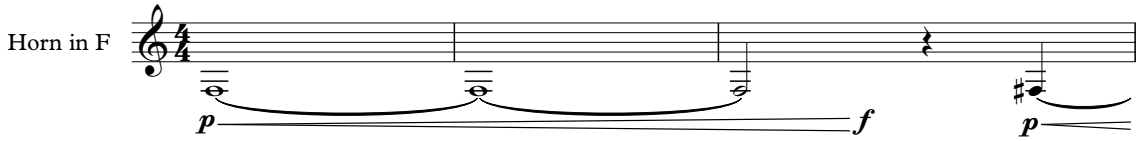
LAYER 1:

The clarinet and bassoon engage in ornamental interplay, providing playful colouration through trills and mordents.



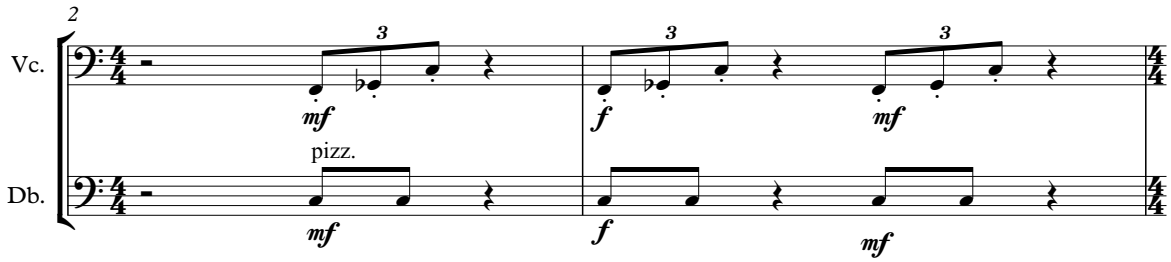
LAYER 2:

The French horn is the only instrument that functions independently throughout this movement, mainly (though not exclusively) providing middle-ground harmony through mellow, sustained notes, situated in the traditional space between the bass and the upper voice.



LAYER 3:

The cello and bass interject into the texture short, rhythmic pizzicati and staccati ‘stabs’.



In order to allow the three layers to work in sympathy with the underpinning species progression, it was necessary to meticulously balance the duality of vertical stratification and fluid horizontal motion. I thus had to think more carefully about how I would mirror the motion of the background progression. Fig. 4 shows the progression upon which the first movement of *A Walk to the Sun* is based,[15] and Fig. 5 shows how a portion of this progression maps onto the music. The background unfolds in the upper and lower-most registers of the music though, this time, with less single mindedness. The clarinet mirrors the motion of the counterpoint through the 'wobbled' pitch sonority of the ornamental setting, blurring the intensity of the reiterated notes of the counterpoint. This line is further integrated into the texture through its dialogue with the bassoon, which serves to both accompany the clarinet through ascending trills, and provide interplay through interjecting mordents. Meanwhile, the bass reiterates the notes of the cantus in a manner reminiscent of the repetitions in the duo though, this time, in interplay with the cello and using silence, rather than deviation, to create respite. Crucially, this method of integration, in which the progression has grown from the texture, rather than the texture being a by-product of the progression, works in harmony with the specific expressive requirements of the music, and marks a distinct difference between this work and the duo.

The harmonic language of the first and fifth movements of the work played a further important role in integrating the underpinning contrapuntal structure. Although the movements are not oversaturated with chromaticism, I have weaved in many notes and intervals that lie outside of the species progression, in order to create a sound-world with a richness and depth that goes beyond what was achieved in the duo. One of my main methods for introducing chromaticism was to ascribe meaning to some of my more widely used

[15] The first movement of *A Walk the Sun* is based on a first species counterpoint featured in Salzer and Schachter, p. 37, example 1-84, C. I have transposed the progression up by a minor 3rd and have omitted the middle voice of the setting.

intervals. In the fifth movement, for instance, the intervals of the minor 6th and the major and minor 7th function as points of stability throughout the movement, enriching the thin harmonies provided by the species progression. The minor 6th can be heard in many focal points of the movement, such as in the opening, between the bassoon and clarinet, in b. 3 (A flat and E), and in the horn and bassoon (and horn and clarinet) in bars 9 and 10 (A flat and E), among other focal places; and the minor 7th is heard as a compound interval (F and E flat) in the closing bar of the music. In contrast, I have infused the score with the instability of the minor and major 2nd, as well as the interval of the augmented 4th, mainly in transitional moments.

In my desire to enhance the textural and harmonic language of the piece, I arrived at a more shrouded application of the contrapuntal background, though its agency is, arguably, still felt. In the next piece, *Where They Flocked,* for mixed quintet, I continue to explore the theme of employing two-part contrapuntal backgrounds amidst more chromatically saturated surface activity. In doing so, I arrive at the junction of background species progressions and centricity.

Fig. 4: First species counterpoint used in *A Walk to the Sun*, first movement

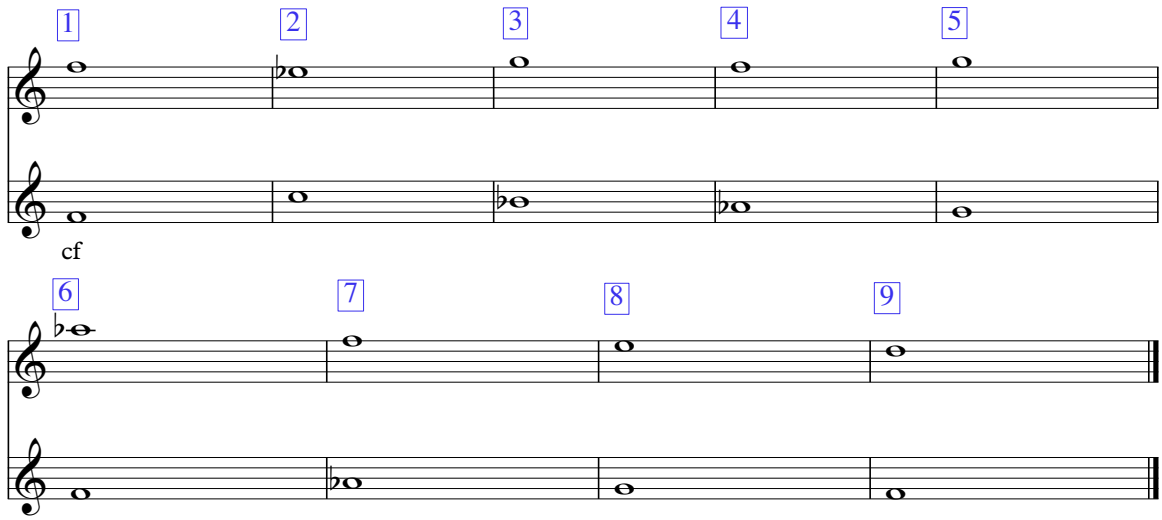
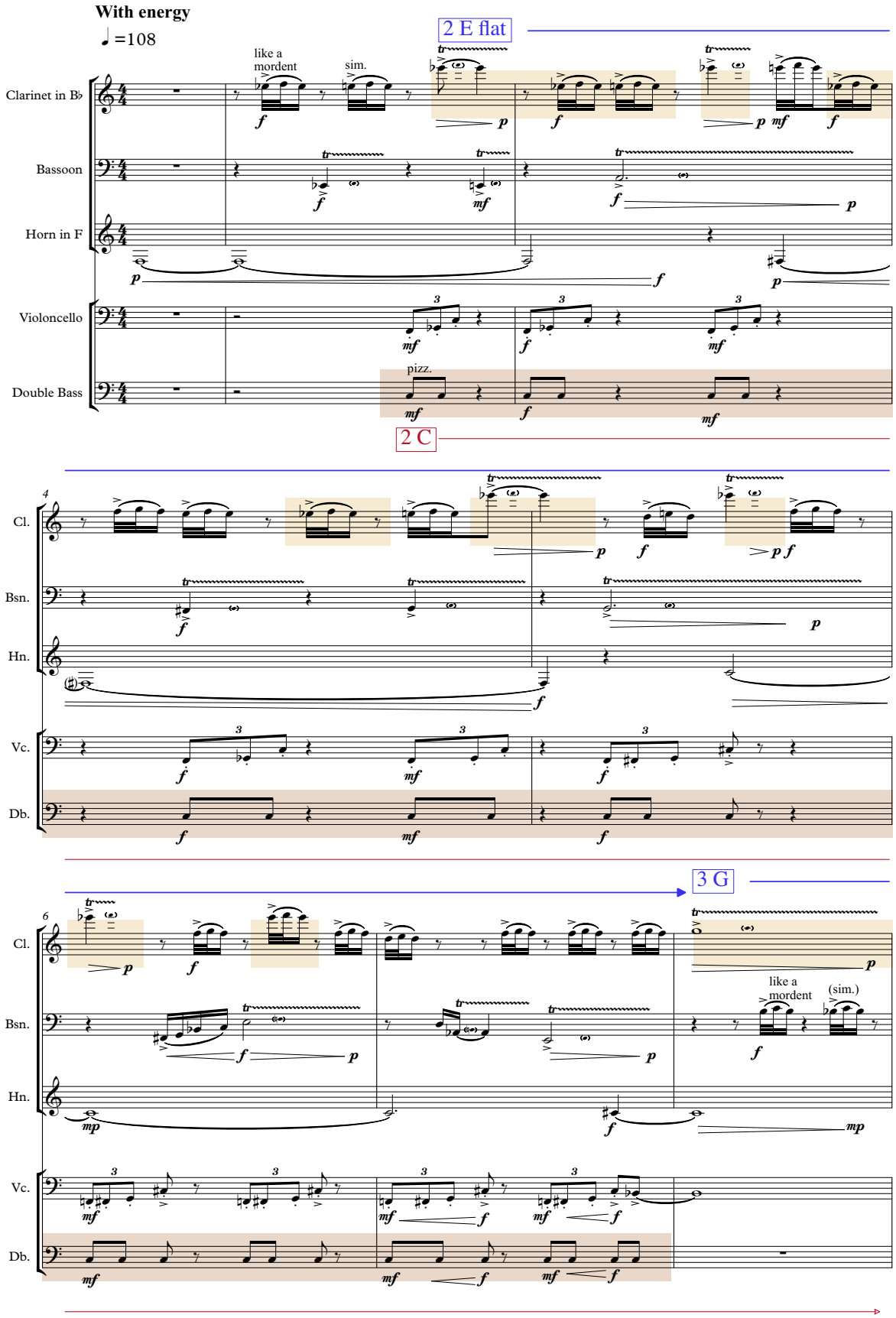
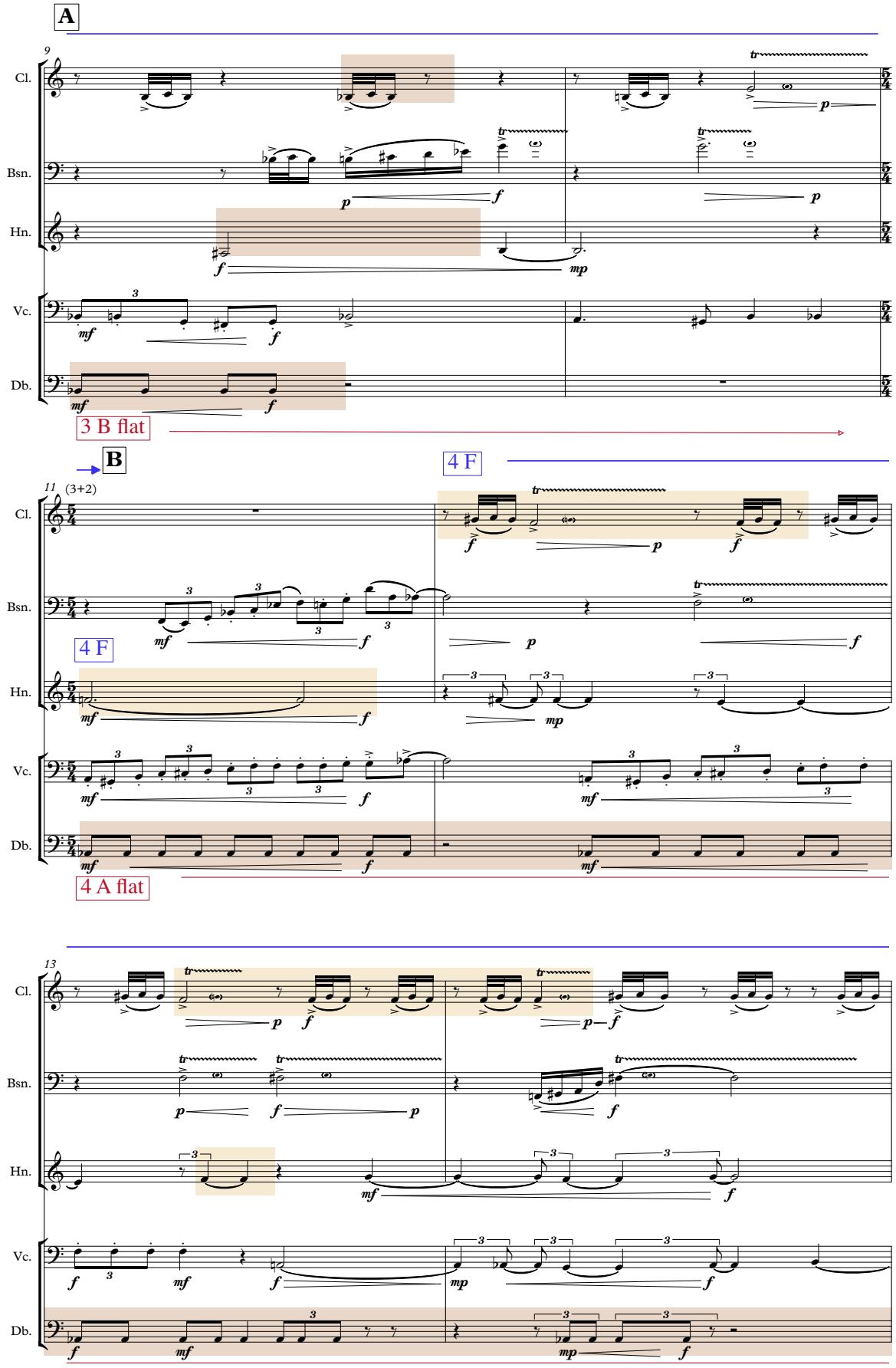
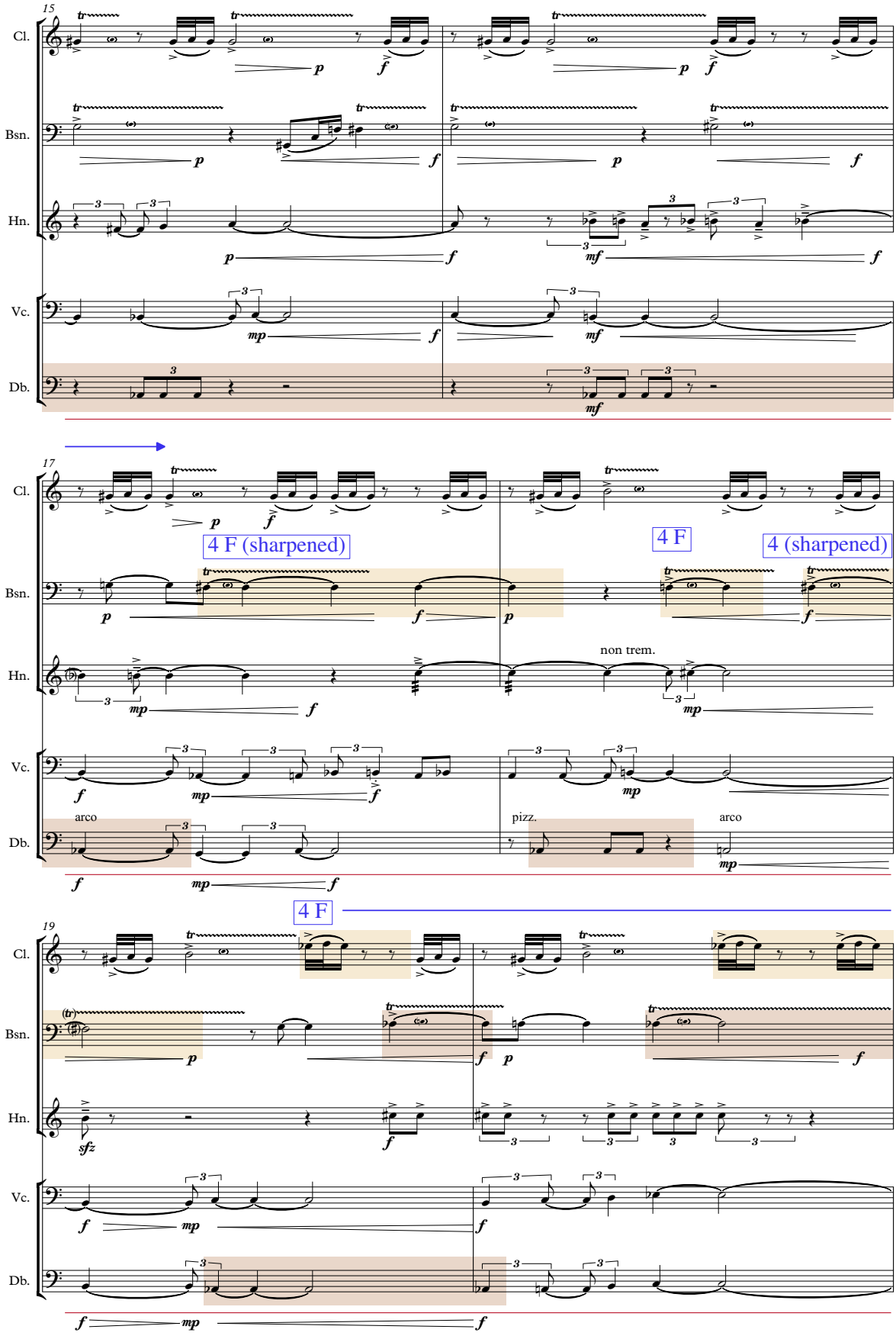
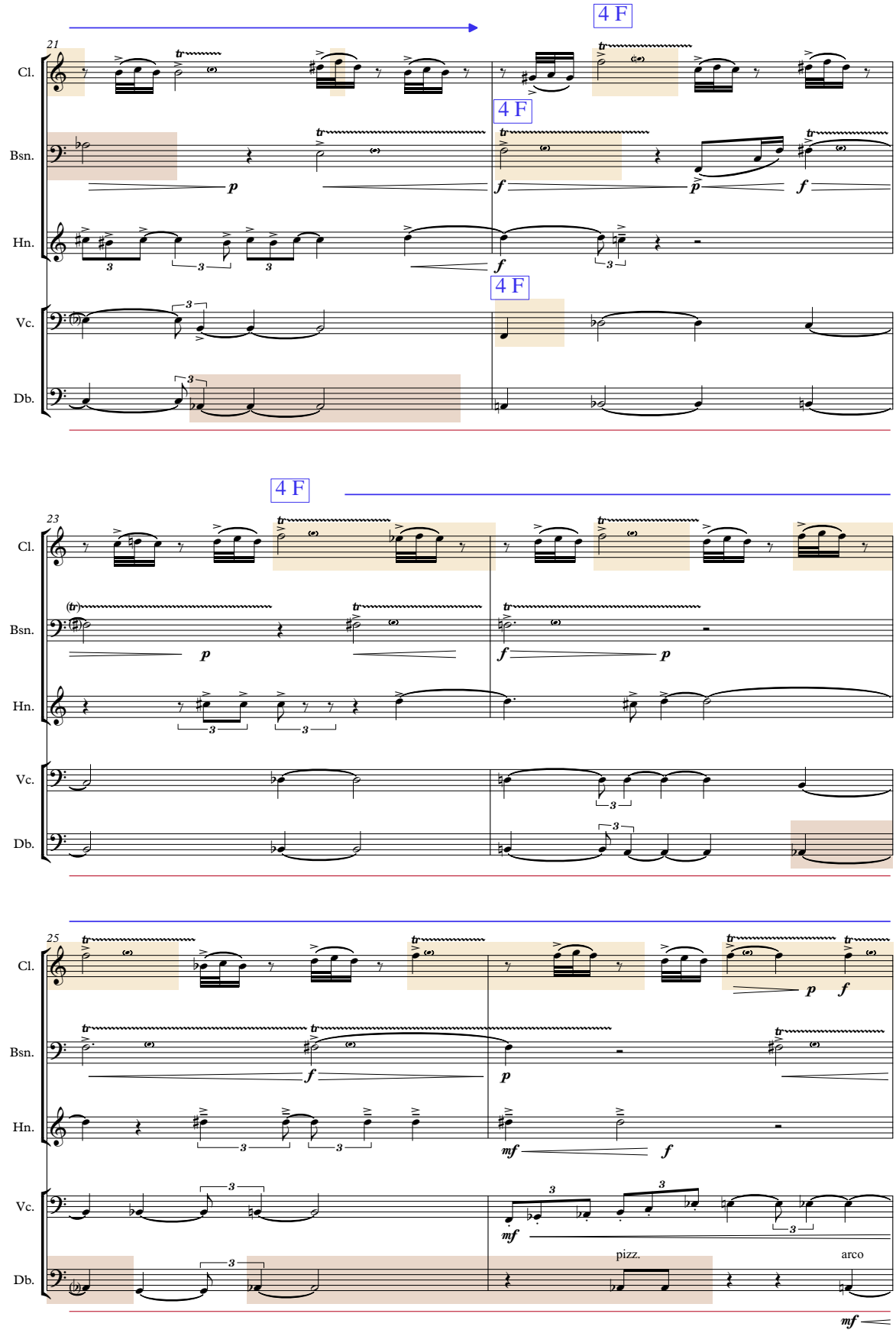


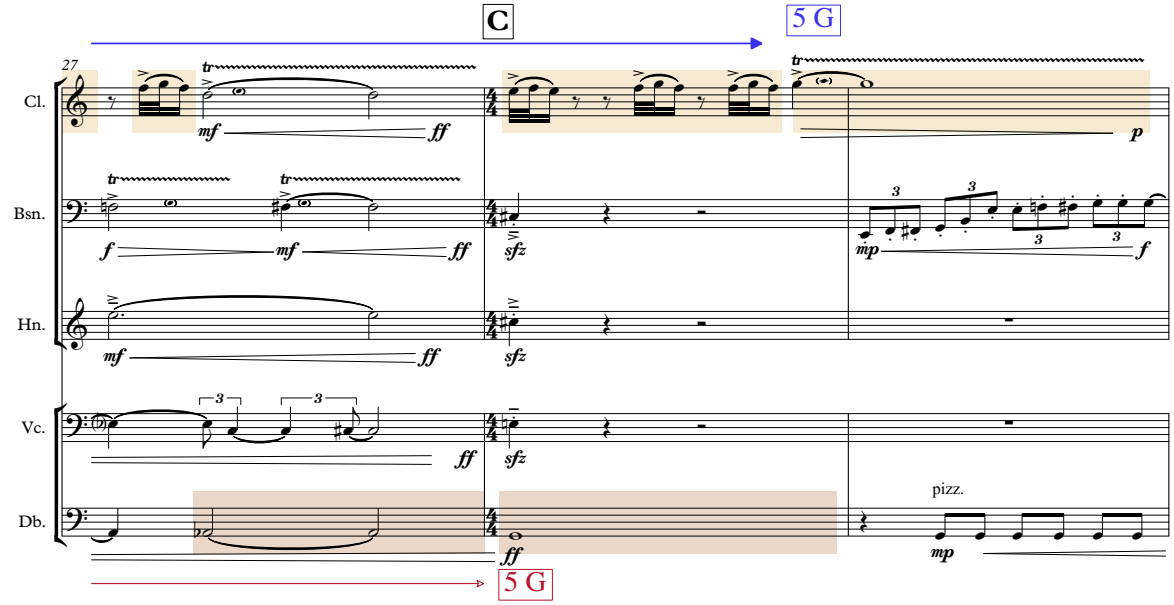
Fig. 5: Species progression mapped onto bb. 1-29 of the first movement of *A Walk to the Sun*




A
9
Cl.
Bsn.
Hn.
Vc.
Db.
3 B flat
B
11 (3+2)
4 F
4 F
4 A flat
13


15
Cl.
Bsn.
Hn.
Vc.
Db.
17
4 F (sharpened)
4 F
4 (sharpened)
non trem.
arco
pizz.
arco
4 F
19
sfz


21
Cl.
Bsn.
Hn.
Vc.
Db.
4 F
4 F
4 F
4 F
23
25
pizz.
arco



Where They Flocked

Where They Flocked is a through-composed work in two sections. The first section continues to explore the potential of stratified layers, being mainly comprised of solo lines that are chordally punctuated in one of two ways: via crescendo-ing chords that swell in and out of the texture, or through pizzicato/staccato punctuations, reinforced by the percussion. In the second section, the energy that was derived from the lively music of the first section, dissipates, giving way to calmer music that exhibits greater uniformity of part.

Throughout this work, my use of the contrapuntal background becomes intertwined with notions of centricity, which Tymoczko defines as:

> 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.[16]

[16] Dmitry Tymoczko, *A Geometry of Music* (New York: Oxford University Press, 2011), p. 4.

Up until now, I have been careful not to use the term centricity to describe my application of the two-part progressions, my thoughts on this matter being aligned with those of Straus, who warns that 'it is crucial to distinguish between centricity and prolongation',[17] noting that,

with the departure and return model [of centricity], we preserve only the most superficial feature of prolongation, while losing its most essential analytical benefit: the stratification of work into structural levels integral to one another.[18]

However, in *Where They Flocked,* I have made two distinct changes to the way in which the background progression manifests itself, that permits the notion of centricity to become a valid way of deriving meaning from the setting:

1. I have relied much more heavily than before on non-pitch elements to make the progressions known. In other words, I have used a considerably more veiled manifestation of the two-part counterpoint than in previous works.
2. The solo writing has become the central means by which the counterpoint of the species is articulated, often appearing without the cantus, thus arguably losing its perceptual importance in the background structure.

Fig. 6 Shows one of the four species progressions on which I have based *Where They Flocked*.[19] Fig. 7 shows how a portion of this progression maps onto bb. 1-24 of the music.

[17] Straus, p 6.
[18] Straus, pp. 6- 7.
[19] The first progression used in *Where They Flocked* is a second species counterpoint by Fux, found in Salzer and Schachter, p. 50. This is also used in the first movement of *Even if it is Only a Whisper.*

Fig 6: The first of four progressions used in *Where They Flocked*

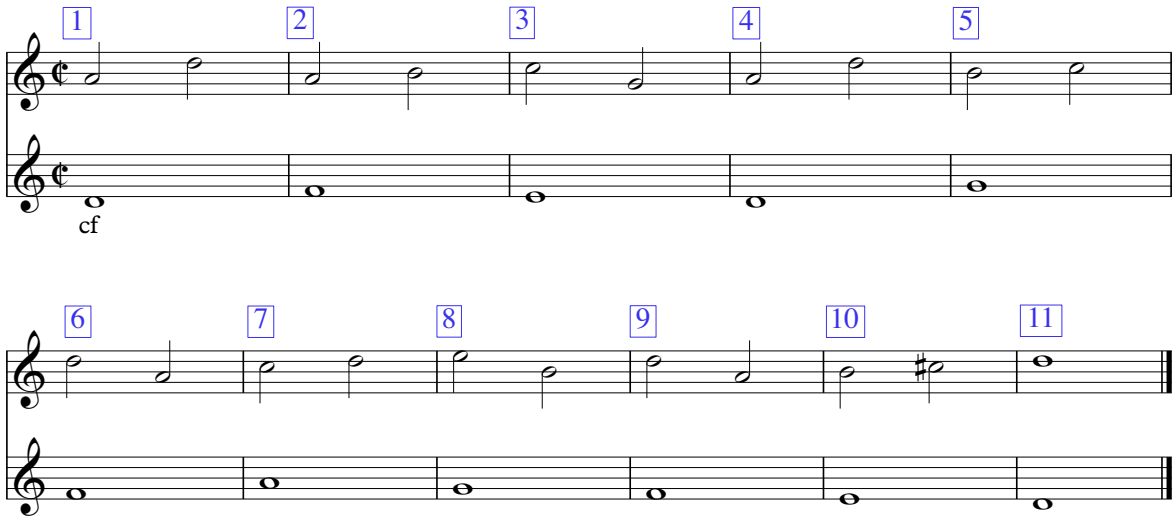
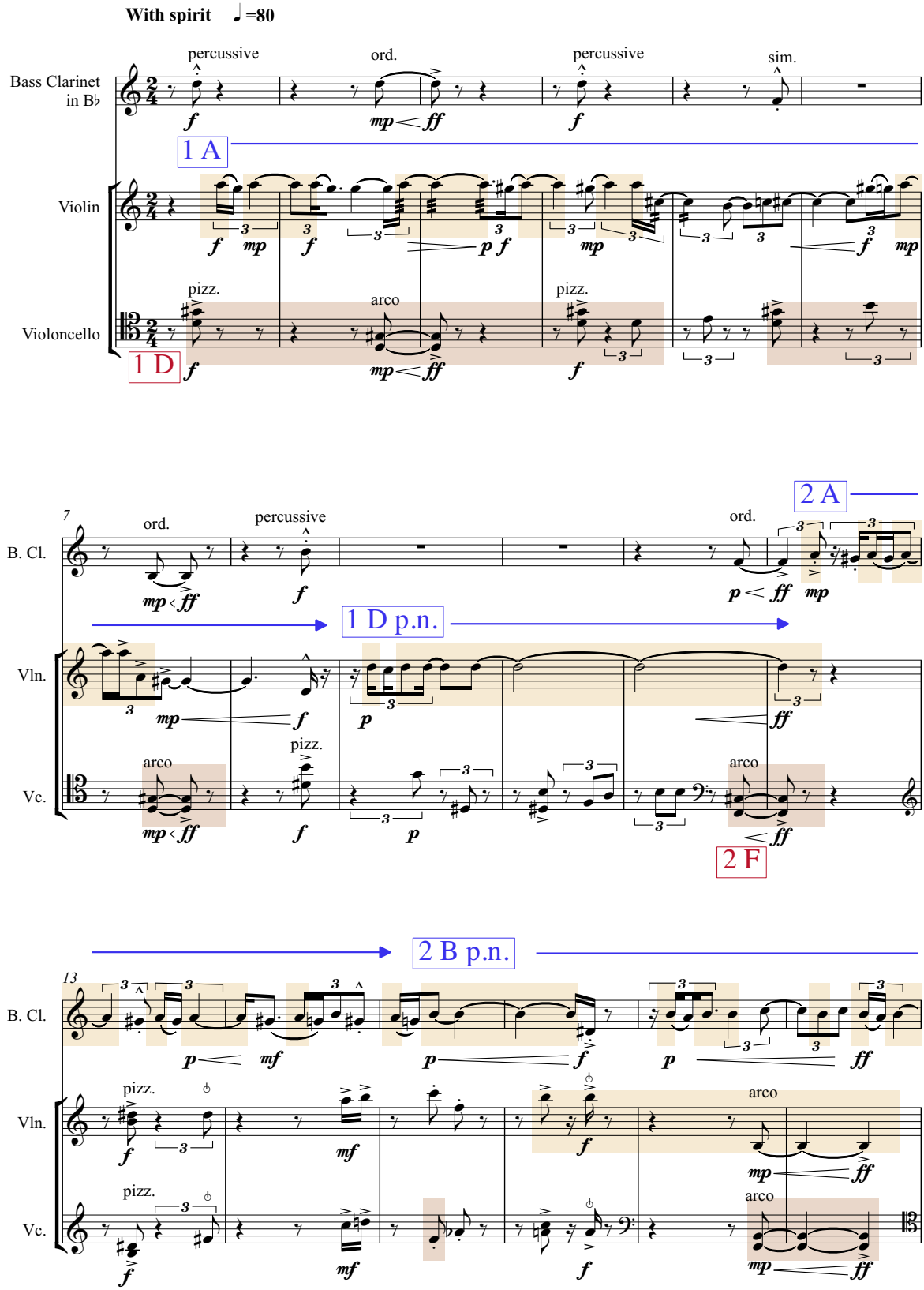
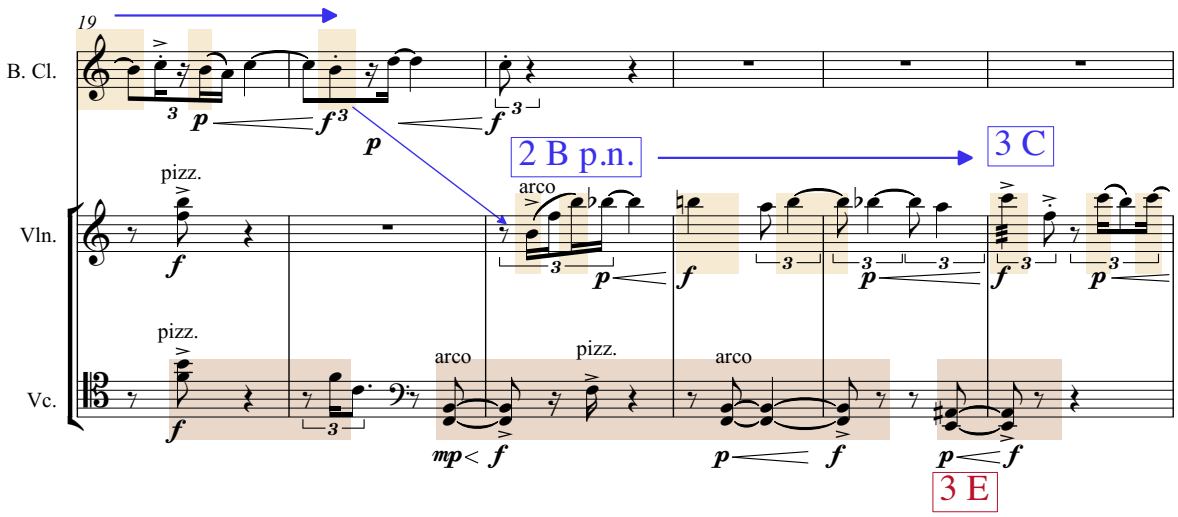


Fig 7. Species progression mapped onto bars of 1-24 of *Where They Flocked*





The colour-coded system of how the species maps onto my scores has already been established, thus I will leave it to the reader to digest the information, visually.

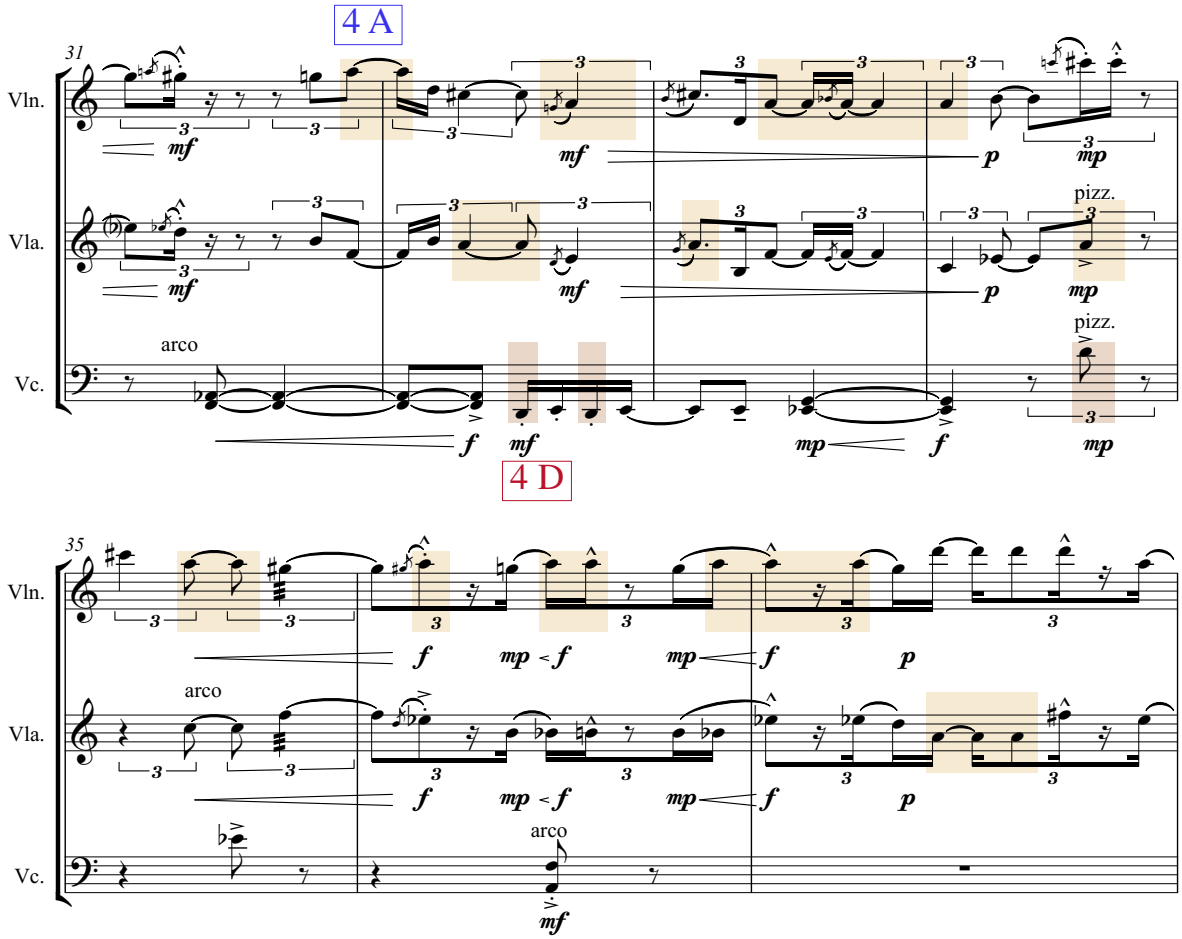
Since this work has a high degree of chromatic saturation, the notes of the contrapuntal background required further elevation to the status of 'goal defining' in order to make the counterpoint conspicuous. I endeavoured to achieve this through non-pitch elements. For example, in bb. 9-12 in Fig. 7, the 'tending' function of the D passing note, in the violin, is reinforced through the lengthening of its duration (it is the longest note to be heard thus far) and through its crescendo, from the middle of b. 11 to b. 12, which swells from piano to fortissimo. This, together with the freshness of the subsequent material (i.e. the new solo line in b. 12, bass clarinet) further enhances the 'waiting' function of the violin's D, and also the sense of 'arrival' of the note A. Had I relied on pitch alone, in this saturated chromatic setting, the sense of 'waiting' and 'arrival' might not have been felt or, at the very least, might have been weak. It is the conspiring towards a common goal in all musical elements that creates the linear motion that I was concerned with.

Whilst non-pitch elements were used similarly throughout much of the work, to aid perceptual motion, the species, here, is often masked to such an extent that there is a less palpable sense, than in previous pieces, of movement towards the goals set out by the progression. This gave greater agency to notions of centricity, rather than to prolongation,

when considering the perceptual prominence of the reiterated notes of the two-part progressions. For example, Fig. 8 shows how the progression in Fig. 6 manifests in bb. 31-37. The perceptual stress of the counterpoint's A in the violin is clear, though it is not supported by an explicit-enough cantus (which is note D) to define its structural importance. Although the D of the cantus is present (in the dotted semiquavers of b. 32 and the pizzicato of bar 34), it is weakened by its short duration(s) and its situation among many other neighbour notes. Note A can, therefore, be more definitively understood as the centric pitch-class of the section, rather than as a structural pillar of the two-part counterpoint. The confluence of the background progression and centricity, observed here, bears some affinity to Kleppinger's Common Practice (CP) Cueing Criteria, which he uses to group the perceptual considerations of centricity in 'Reconsidering Pitch Centricity'.[20] Understood as those features dependent upon the tonal structure (though not necessarily tonality) of the piece, Kleppinger suggests that CP cueing criteria 'interact with innovations of later music [he references Ligeti's *Musica Ricercata*, 1951-1953, in detail in this respect) to project (or obscure) pitch centres'.[21]

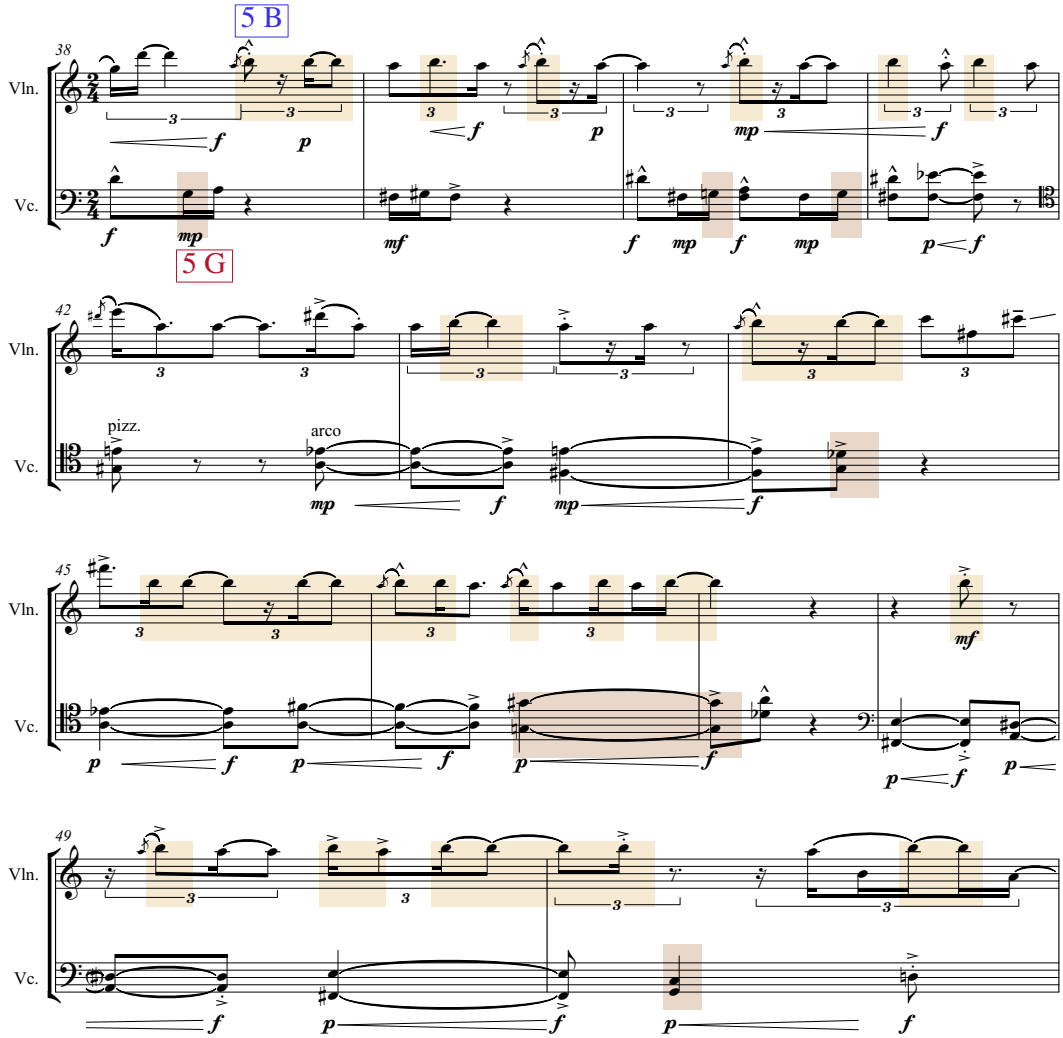
[20] Stanley V. Kleppinger, 'Reconsidering Pitch Centricity', *Theory and Practice,* 36 (2011), 65-109 (p. 76).
[21] Kleppinger, p. 81.

Fig 8. Bb. 31-37 of *Where They Flocked,* showing the perceptual focus of pitch class A



There are many more analogous examples of the intersection of pitch centricity and the species progression throughout *Where They Flocked*, but rather than list them all, I will show just one more explicit case. Fig. 9 shows the relationship between the counterpoint and the cantus in bb. 38-50.

Fig 9: Bb. 38-50, *Where They Flocked.* Counterpoint and cantus mapping



Although the note B, corresponding to the 5th bar of the counterpoint (see Fig. 6), remains in perceptual focus for 13 bars, the cantus note (G) is shrouded by chromatic neighbours. The distilled music of Fig. 9 shows that the cantus provides only scant underpinning of the counterpoint in this passage (see pink shaded areas). In the absence of the cantus note, the B can no longer be considered a structural note, the perceptual effect of its reiteration now aligning more closely with notions of centricity.[22] This is further qualified

[22] It should be noted that, although the centric pitch B is not centric to all parts of the music throughout bars 38-50 (though it does occur in other parts), the centricity is noticed by virtue of the line's prominent tessitura and its soloistic function, giving the B currency in this domain. This aligns with Kleppinger's view of centricity as 'existing in a continuum', discussed shortly.

by the repetition imbuing, in this passage, a sense of stillness, rather than motion. The reiteration of the pitch class B and the very minimal deviation from it, facilitates a certain refusal of the music to progress, and potentially allows the listener to appreciate the notes more for themselves rather than for their role in the linear progression. Crucially, this 'dwelling effect' is a non-linear principle and allows non-linearity to operate on a shallower hierarchic level. Again, it is possible to observe the tension between linear and non-linear forces that first emerged in first movement of *Even if it is Only a Whisper.*

My investigations into the intersection of the background species progressions and centricity ignited a deeper interest in the potential of pitch centricity as an organising force of my music. This was further explored in *The Strange World of Stillness,* for solo viola, which, whilst abandons the species altogether, arose as a direct consequence of my research in this sphere and should be understood as a branching out of my investigation into matters of motion.

The Strange World of Stillness

In the first movement of *The Strange World of Stillness,* the listener is drawn to the perceptual prominence of the notes G, D, A and C sharp (see page 3 of score, lines 2-5). The function of the G, D and A is to provide stability, infusing a palpable sense of stasis into the passage. Meanwhile, the C sharp increases in rhythmic intensity and frequency-of-iteration until it gives way to E flat (see the upper note in line 6, page 3 of the score), before eventually climaxing on F (see the last note of line 5, page 4 of the score). Until the very moment that the upper note of the music moves from C sharp to E flat, there is no evidence to suggest that the C sharp functions as anything other than a note of perceptual prominence, and therefore as a static entity. But the move to E flat retrospectively conceptualises the C sharp as a transitional, or tending pitch. This is further qualified by the E flat being treated

with even more gusto than the C sharp, remaining in perceptual focus even when the centricity of the static lower notes (G, D and A) disintegrates, through the addition of chromatic neighbours. It is only after the move from C sharp to E flat has occurred that we have understood the function of the pitch-centric C sharp as a being that of a leading note, imbuing in the music a sense of motion to E flat. Kleppinger's metaphor of motion amidst centricity as being that which is provided by notes '"resist[ing]" the pull of a nearby stable pitch before "giving in" to its magnetism'[23] connects this investigation to the broader concerns of this chapter.

In the second movement of *The Strange World of Stillness,* I deal in similar methods of pitch centricity, imbuing motion amidst conflicting notions of stasis, by assigning agency to the perceptually prominent pitches of the music. Just like in *Where They Flocked* and in the first movement of this work, moments of pitch focus are often set against dense textures and fast-moving lines, but, far from diminishing the centricity of the music, these settings allow the relatively fewer moments of stasis to be more palpably felt, aligning with Kleppinger's view of 'centricity existing in a continuum'.[24]

Meandros, second movement

The second movement of *Meandros* is the final work in my portfolio to deal mainly with directionality and species progressions. In this movement, I decided to go back to an explicit manifestation of the contrapuntal background. As this is a short movement and, as I discuss the rest of *Meandros* in detail, shortly, I will simply discuss, here, the most important subject of the movement, which is the means by which I have achieved tension and release.

[23] Kleppinger, p. 82.
[24] Kleppinger, p. 94.

Fig. 11 shows the extent to which the music relies upon the notes of the progression, this time endowed with the suspensions of the fourth species (see Fig. 10).[25] In contrast to my other pieces, the progression manifests in all voices of the quartet, mostly via sustained notes. Melody, in this movement, is relegated to the role of providing interest in the textural domain only, thus all musical elements, by design, serve to clarify the species. The effect is that the contrapuntal underpinning is more transparent than it has ever been, however, the music is neither articulated by tonal processes nor beholden to tradition. In fact, the transparency of the species is wrought with contradiction, its clarity operating partly to provide a context for greater degrees of tension and release to be felt through the infusion of chromatic neighbour notes. These neighbour notes swell in and out of the music via *glissandi*. As an example, the G of the cantus begins the music with *fortissimo* snap *pizzicati*, in octaves, in the cello and viola, and with sustained unison Gs in the two violins (see b. 1, Fig. 11). Violin 1 then swells, through *glissando*, to F, creating the first moment of tension, through an exposed major 2nd. This tension is released, through the slide back up to G, with the same motion (G – F) being repeated in the cello (bb. 2-3) and violin 2 (b. 3), respectively. The *glissandi* operate in much the same way throughout the rest of the piece, swelling in and out of the structural notes of the progression, providing moments of stability when articulating the notes of the motion, and extreme dissonances when veering away. Where the species itself provides the tension (i.e. the major 2nd between the B flat and C of the suspension in bar 3, Fig. 10), I do not interfere with the process. In Fig. 11, bb. 9-10, this particular dissonance is left to play out, untampered.

It is in this piece that the background progression arguably has the greatest currency, through its clear articulation and its independence from centricity and non-pitch elements to define its role. Like in the repetitions of the duo, the *glissandi* create a viable context for the

[25] The fourth species counterpoint used in this movement is featured in Salzer and Schachter, p. 88.

species to operate within a modernist blueprint and shows that, where more explicit manifestations of the progressions are employed, a more palpable sense of motion is arguably achieved.

Fig. 10: Fourth species counterpoint on which the second movement of *Meandros* is based.

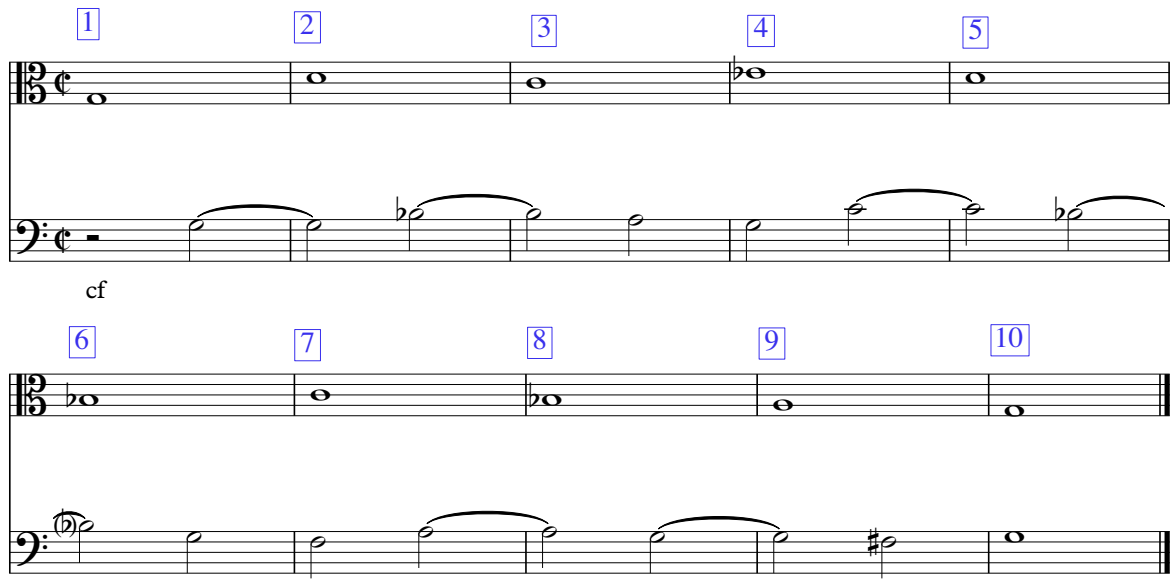
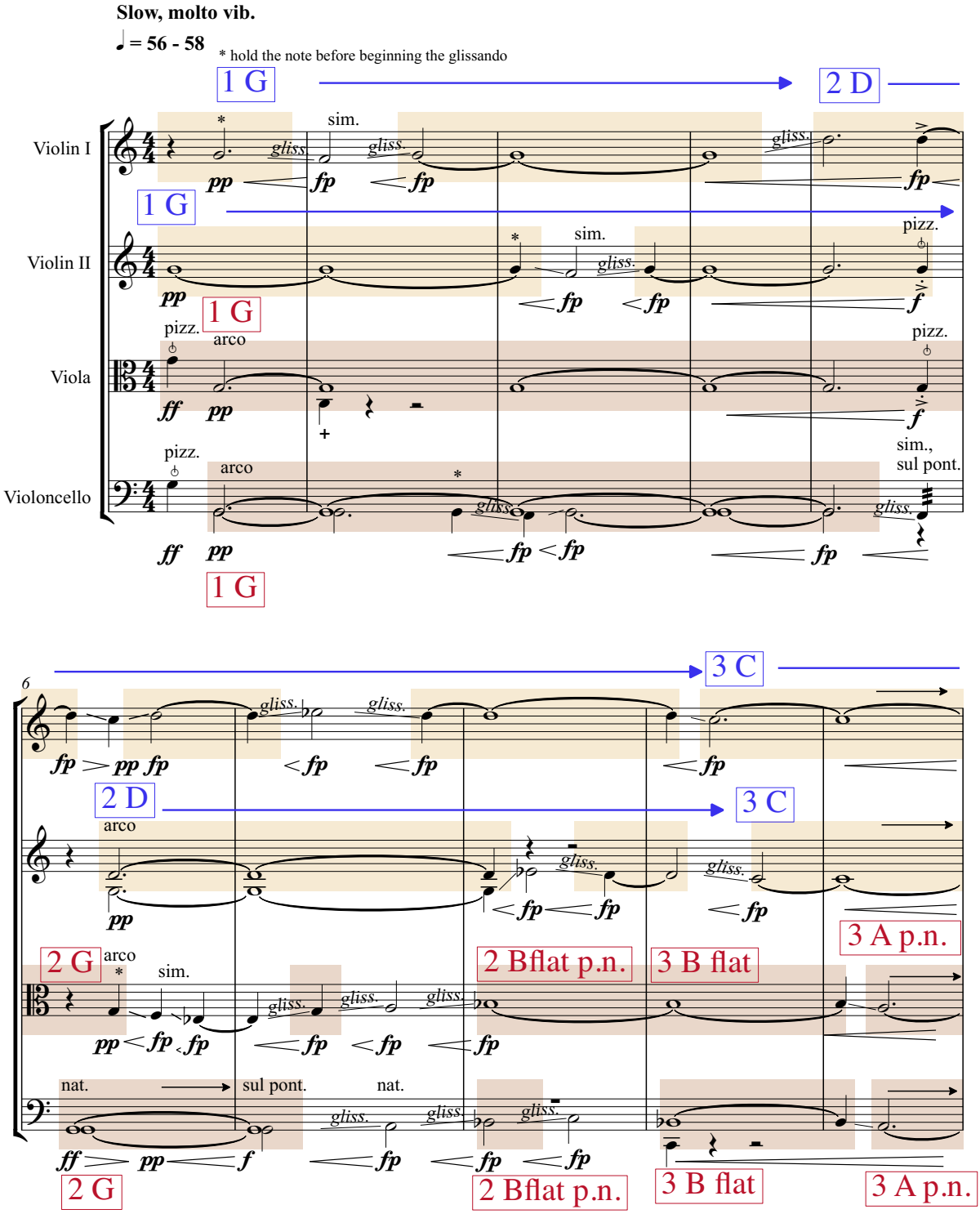
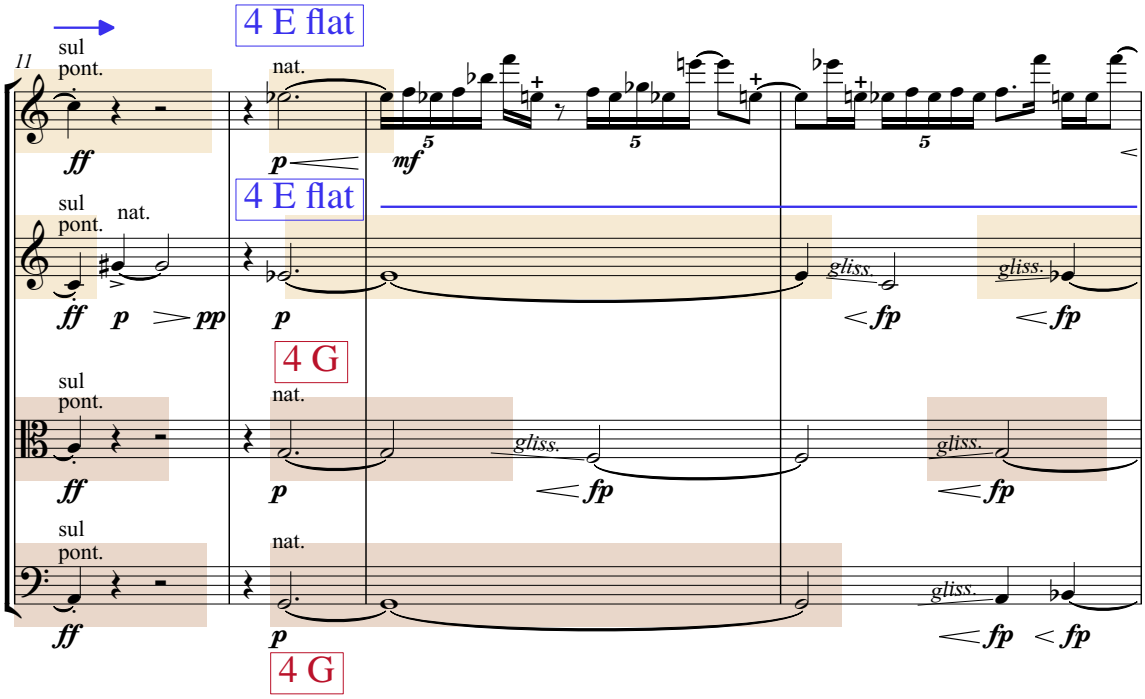
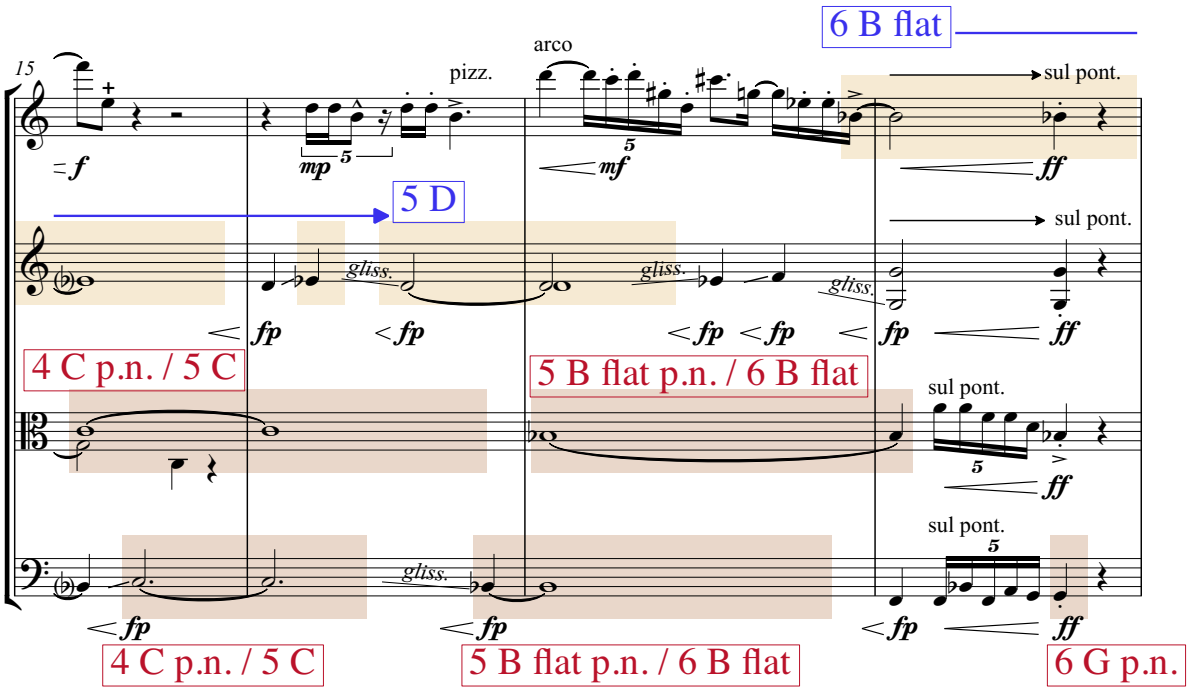
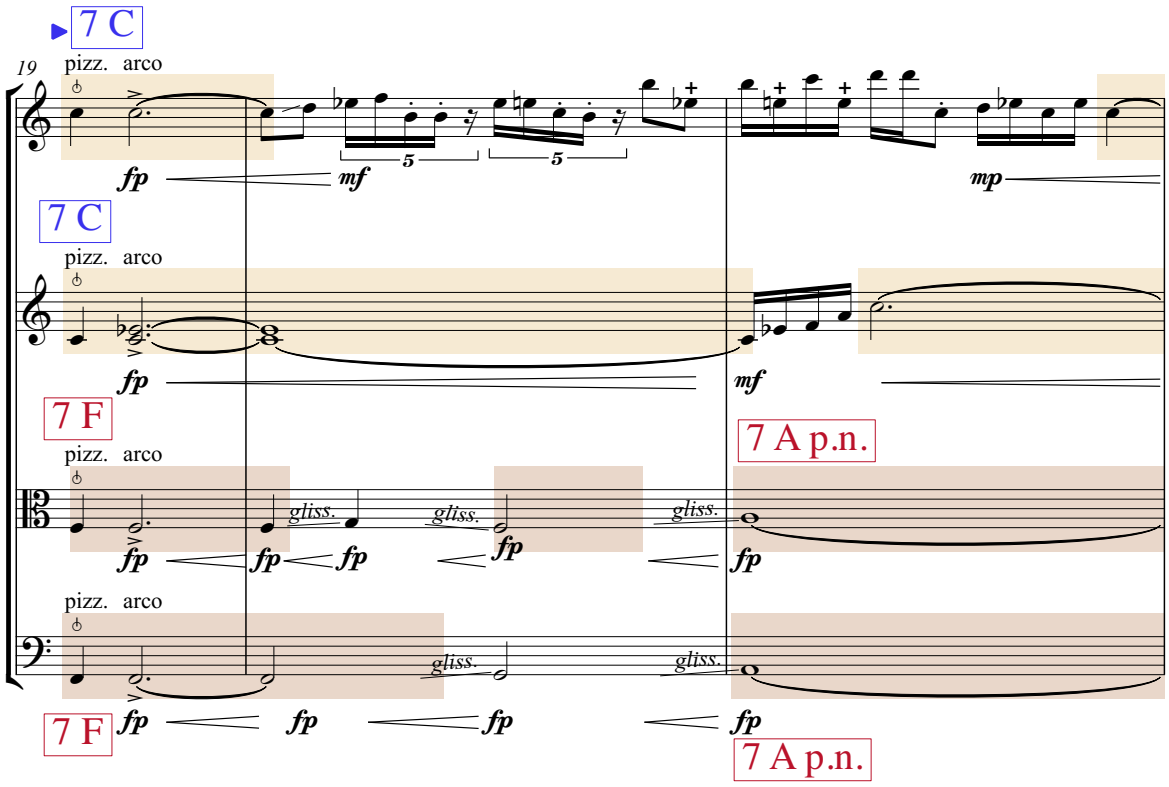


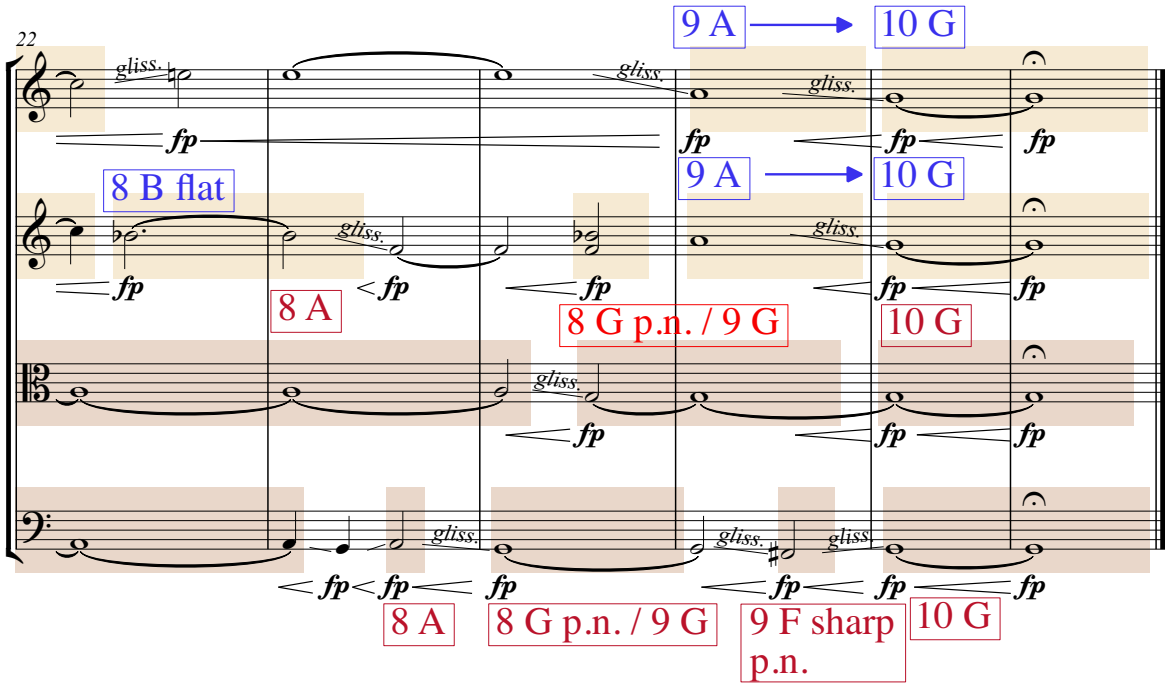
Fig. 11: Two-part progression mapped onto all bars of the first movement of *Meandros*




4 E flat
11
sul pont.
nat.
ff
p
mf
5
4 E flat
sul pont.
nat.
ff p pp
p
gliss.
fp
4 G
sul pont.
nat.
ff
p
4 G


6 B flat
15
arco
pizz.
sul pont.
=f
mp
mf
ff
5 D
gliss.
fp
4 C p.n. / 5 C
5 B flat p.n. / 6 B flat
6 G p.n.


7 C
19
pizz. arco
fp
mf
mp
5
5
7 C
pizz. arco
fp
mf
7 F
7 A p.n.
pizz. arco
gliss.
fp
pizz. arco
7 F
7 A p.n.


9 A
10 G
22
gliss.
fp
8 B flat
9 A
10 G
8 A
8 G p.n. / 9 G
10 G
8 A
8 G p.n. / 9 G
9 F sharp p.n.
10 G

3. Exploring fragmentation and discontinuity

This chapter discusses issues of fragmentation and discontinuity in the remaining three movements of *A Walk to the Sun* (for mixed quintet) and in *Three American Songs* (for soprano and piano). My interest in exploring discontinuity through fragmentation (and through shape formation, discussed in the next chapter) grew from my desire to investigate the full gamut of flow-related concerns, which must, of course, include opposing characterisations of motion through time.

A Walk to the Sun, second, third and fourth movements

The second, third and fourth movements of *A Walk to the Sun* rely on fragmentation as the main means of generating discontinuity. These works have neither been conceived as aphorism, in the manner of Kurtág's *Kafka Fragments*, nor akin to Stockhausen's moment form, such as *Kontakte* and *Momente*, though these pieces did provide points of departure. Instead I wanted to explore the potential of undercutting the prevailing linear motion of the first and fifth movements of this work by including just three fragmented interludes.

The second movement is a fifteen-second work comprised of two phrases, characterised by dotted rhythms and the interval of a major and minor 6th. The third movement contains loud, block-like, dissonant chords, employing *tremolandi*. The fourth movement is comprised of three elements: an ascending and descending melodic phrase that exploits the intervals of the major and minor 6th and 7th; an ascending, scalic phrase in the double bass, cello and bassoon (e.g. bb. 3-4) and a tremolo chord (b. 10 in the double bass, cello and horn).

Through their extremely short durations and their avoidance of the beginning, middle and end logic of the dramatic curve, my three fragments act as stand-alone statement pieces,

exhibiting formal, surface-level discontinuities. However, since the context is not a work comprised entirely of fragments, it became clear that I needed to create a more convincing vocabulary for embedding these movements within a work framed by two linearly-conceived pieces. To integrate these interludes into the quintet, I created webs of associations, surreptitiously linking each fragment to another, as well as to the longer, linear movements of the work.

For instance, Fig. 12 shows the opening melody of the second movement, and Fig. 13 shows the melody of bb. 8-9 of the fourth movement. These are both characterised by the following consistencies:

- the falling interval of the major and minor 6th;
- the use of syncopations.

In Fig. 12, the falling major 6th can be found between the E sharp and G sharp of b. 1, and the falling minor 6th can be found between the F sharp and A sharp of b. 2. In Fig. 13, it is observed that these intervals occur in analogous places: the falling major 6th occurs, similarly, at the beginning of the phrase, between the C and E flat, and the falling minor 6th can be found, again, in the middle of the phrase, between the D and F sharp. Syncopations are provided by the double dot in Fig. 12, and the quaver-triplet tie in Fig. 13.

Fig. 12: opening of the second movement

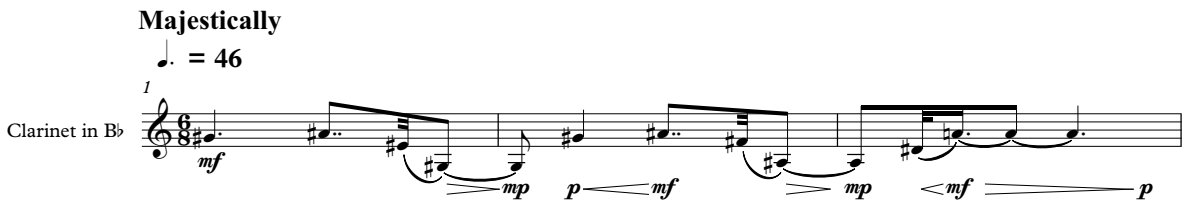
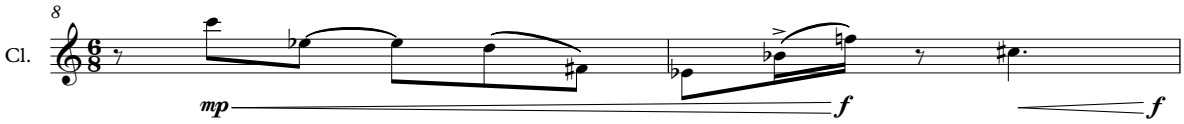


Fig. 13: bar 8-9 of the fourth movement



There are further associations, such as the reference to the third movement's *tremolandi* chords in bar 10 of the fourth movement, as well as the scalic French horn progressions, found in both the first and fifth movements, the linear movements of the work.

By placing this associative material in the foreground, I invite the listener to immediately extrapolate the links between the adjacent movements, lending a sense of familiarity to the otherwise highly contrasted material and, crucially, highlighting a sense of their 'belonging' to each other. This corresponds with David Metzer's idea of the fragment, which he describes as something designed to 'seem like a fragment'[26], though not necessarily belonging to an extant whole.

The surface-level links that I have composed into these movements suggest a relationship between each fragment and a notional 'other'. But this understanding of the work paradoxically requires notions of continuity and connectedness to be subliminally felt. In *A walk to the Sun,* such notions are made explicit through the workings of the human memory, abstracting adjacent and non-adjacent links retrospectively, enabling the listener to extrapolate linear understandings despite the non-linear form.

Three American Songs further explores this contradiction between unity and disunity, again embedding these forms within movements that actively exploit linearity, creating the

[26] David Metzer, *Musical Modernism at the Turn of the Twenty-First Century* (Cambridge: Cambridge University Press, 2011), p.105-106.

potential for the disunity in the fragments to be more readily felt (through their extreme juxtaposition), despite the composed associations.

Three American Songs

Three American Songs sets Walt Whitman (No. 9 of 'A Song of Myself', from *Leaves of Grass,* 1892), Adelaide Crapsey ('Amaze', from *Verses,* 1915), and the words and music of an American folk song, first performed by Lead Belly in 1936 (*Bring me Little Water, Sylvie*). The poems and song are united in their dichotomous depictions of early American culture.

The first song of the set, 'Bring me Little Water, Sylvie' is the most sectional, made of fragmented cells that are juxtaposed with quotations of the popular American folk song of the same name. The second piece, which represents the linear movement of the set, exhibits a coherent development-arc, building momentum from the middle of the piece to the end. The last piece can be more clearly understood as a fragment, with only a single mood defining the whole, brief, movement.

The fragmented construction of 'Bring me Little Water, Sylvie' deals with distinct compositional challenges from those that were faced in the previous fragmented pieces. Made of three types of material (catalogued in the table of Fig. 14, with musical examples in Figs. 14.1-14.3), the music exhibits a cell-like formation, the three fragments being pitched against one another and appearing in many guises throughout the song. Fragment one opens the piece with a piano phrase that is characterised by a melodic descent and the falling interval of an augmented 4th; fragment two is both a direct, and sometimes adapted, quote of the 'Sylvie' song; and fragment three is derived from fragment one, but with its own defining features: a repeated focal note in the soprano line and two characteristic chords, the G diminished chord, and a chord consisting of low clusters, superimposed with major and minor 3rds.

The connections are, again, most apparent through surface-level relationships, with

the most coherent being the similarity between the piano writing in fragments one and three. The context of 'three' is essentially that of an embellished reworking of 'one', rather like a Stravinskian sub-moment,[27] but with the additional distinct features, mentioned above. The sheer level of reiteration of these two fragments plays a definitive role in allowing conspicuous surface-level discourse to emerge, especially in places where the fragments are consecutively sounded. The highly contrasted fragment of the 'Sylvie' song, however, was treated differently. It appears as both a direct, and sometimes adapted, quote in only three places, outlined in Fig. 14. When the lines, 'Bring me Little Water, Sylvie' are heard in a British accent (e.g. bars 18-19), the melody is in fact a permutation of fragment one, characterised by the tenuto quavers, the descending line and the falling interval of the augmented 4th. The 'British' and 'American' citations of the same words belong to different fragments and thus allow extra-musical connections to emerge between fragment one and the true 'Sylvie' song of fragment two.

Aside from the fragmented material, are transitional and climactic sections. These can be found in the following places: bb. 44-52 (transition and climax), bb. 53-64 (refrain and second climax), and share distinct qualities: the vocal line employs off-beat entries, triplet figures and more disjunct intervallic relationships, spanning larger registers. For instance, the phrase, 'Take a look a yonder. What is that I see?' (bb. 53-56) alternates between a top G and a major 7th below, before traversing triplets and a syncopated entry of 'hop running there for me', landing on a repeated G flat and, finally, climaxing at top G. The piano writing here is also more ornate, exhibiting elements of the fragments (in contour and due the inclusion of the augmented 4th) but being now freer from precise expression. In bb. 45-52, the piano employs an arabesque-style setting, with flurries of demisemiquavers in the right hand, and a mixture of held chords and figurative writing in the left hand, heightening the intensity of the

[27] As discussed by Kramer in relation to *Symphonies of Winds Instruments* (1920).

protagonist's plea for water.

Fundamentally, I have endeavoured, in this piece, to create subtler fragmented structures, akin to the style employed by Charles Ives. Morgan describes fragmentation as a 'spatial' feature in Ives's music,[28] defined to negate the succession of temporal sequence. Of course, a further nod to Ives is the weaved portion of an American folk tune into the song. This presented both the use of a true fragment (i.e. one that actually belongs to another piece of music) as well as notions of multi-directed motion, from the music of Ives: reaching towards the future but also looking back to the past.[29]

[28] Robert P. Morgan quoted by Matthew McDonald in *Breaking Time's Arrow: Experiment and Expression in the Music of Charles Ives* (United State of America: Indiana University Press, 1992), p. 9.
[29] See McDonald, p. 7.

Fig. 14: Table of fragments in 'Bring me Little Water, Sylvie'

Fragment features	Bars
FRAGMENT 1 Characterised by melodic material comprised of the falling interval of the augmented 4th and a descending and ascending contour.	1-5, piano 5-8, piano (phrase starts on the last quaver of b.5) 9-15, piano 15-19, piano and soprano (phrase starts on second beat of bar 15, and the fragment appears in bb. 18-19 of soprano line) 20-21, piano 22, piano 35, piano 41-42, piano and soprano
FRAGMENT 2 First line of the 'Sylvie' song, either quoted exactly from Lead Belly, or slightly adapted.	8-13, soprano 36-40, piano and soprano 65-end, soprano
FRAGMENT 3 Derived from Fragment 1, but with additional features: a soprano line that arrives at a repeated focal note; accompanying material characterised by a chord consisting of low chromatic clusters and a major and minor 3rd, and the featured G diminished chord.	23-25, piano and soprano (the focal note here is B flat) 26-34, piano and soprano (the focal note here is D)

Fig. 14.1: Fragment 1, bb. 1-5, piano

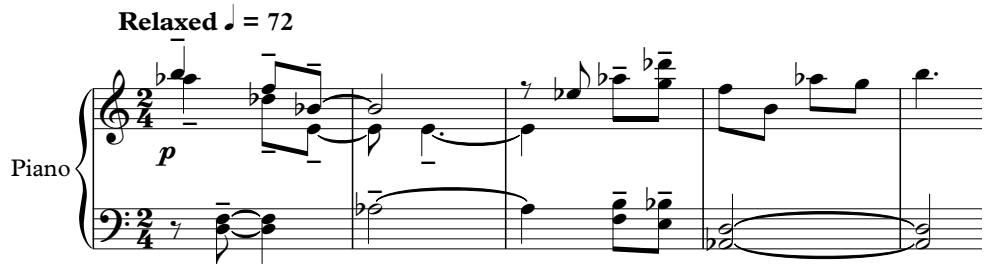


Fig. 14.2: Fragment 2, bb. 8-13, soprano

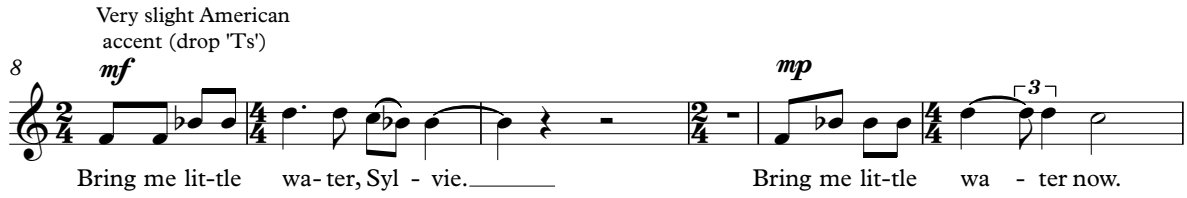
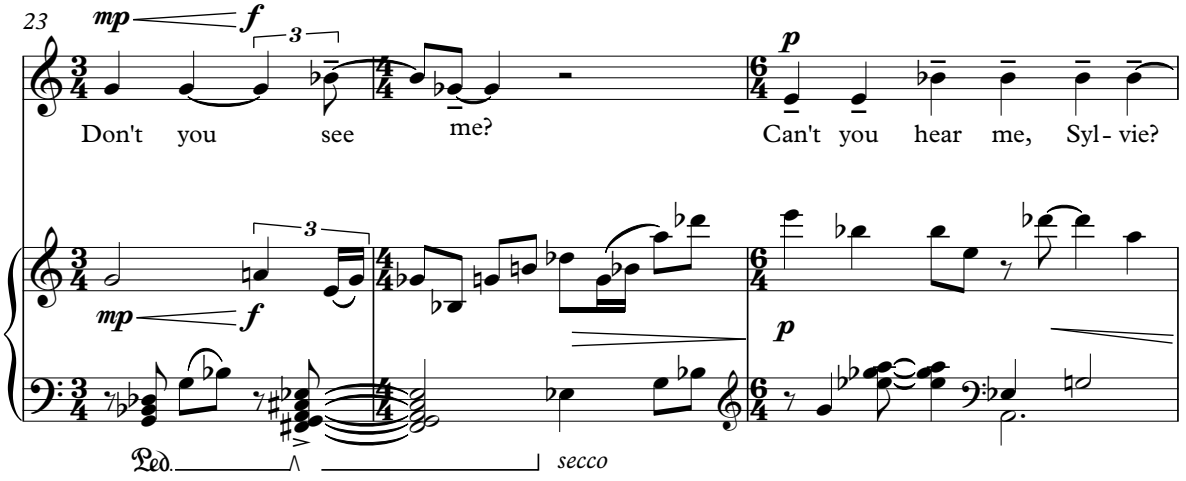


Fig. 14.3: Fragment 3, bb. 23-25, soprano and piano



In a 'Song of Myself', the decision to set text by Walt Whitman was directly influenced by my previous homage to Ives. Like Ives, Whitman crafted powerful expressions of American dualism, connecting popular and 'elitist' art.[30] This link provides a conceptual association between the two songs, though my setting of a 'Song of Myself' could not be further from the fragmented music of the 'Sylvie' song.

The music attempts to articulate the joy and excitement of the protagonist (Walt Whitman, in this autobiographical work) whilst he helps to carry out the harvest. In an effort to create excitement, I cultivated a clear development-arc, building momentum from shortly before the text enters in the first person ('I am there', b. 25 onwards) to the end of the song. Before then, I aimed to reflect, in the exposition, the wonder in the description of the barn, which Walt sees for the first time as he visits from the city. The *delicato* piano chords suspend the sense of intrigue at bar 3, and the high demisemiquaver 'swirl' in the right-hand piano part, punctuated by left-hand chords in the high register, clarifies the word 'open'. The vocal line, in these passages, relies on the interval of the augmented 4th in a series of long, lingering phrases. The fundamental change at bar 19 is the introduction of the bass register, for good (it was heard fleetingly in bb. 16-17). The triplet piano figuration is designed, here, to build momentum, through its relentless flow, interrupted only by chordal interjections from the left-hand piano part, and by the *staccati* triplet unison between the piano and voice ('top of the load', bars 31-32). After a short period of respite from the triplet figure, the bass register returns with the thud of the downward 'jump' (bb. 39-40), paving the way for the joyful, childlike image of Walt's roll in the grass. This is captured through arabesque-like piano writing, juxtaposed by a protracted vocal phrase, as the protagonist revels in the moment of his merriment. The music then settles on *delicato* chords that are reminiscent of

[30] David Michael Hertz, 'Ives's Concorda Sonata and the Texture of Music' in *Charles Ives and His World,* ed. by Peter Burkholder (New Jersey: Princeton University Press, 1996), pp. 75-117 (p. 75).

the start, before the swift *staccato* finish, cementing, I hope, the sense of fun. This piece provides the linear movement to juxtapose my fragmented pieces. Naturally, then, the next piece revisits the fragment.

'Amaze' is set to a cinquain (a five-lined, unrhymed form, employing strict metric rules), by American poet, Adelaide Crapsey:

Amaze

I know

Not these my hands

And yet I think there was

A woman like me once had hands

Like these.

The poem is deliberately confusing, centring on the speaker's shock (or 'amaze') at noticing the change (perhaps due to age) that has manifested in her body (hands). The atypically formed sentence structure, using the awkward phrasing of the cinquain, coupled with unnecessary pronouns ('these', line 2), is emulated in my setting. The music attempts not to express the metrics of the poem in a literal fashion, but simply to articulate the awkwardness of the poem's structure, which I endeavoured to achieve through the unpredictable phrasing of the piano writing. The first piano phrase is two bars long, the second three, the third four, then one, two, and then one bar, and so the impulsive format continues. The character of these phrases is deliberately skittish, employing scalic rises followed by sudden accented semiquaver leaps, often interjected by rests. Where semiquavers and accented quavers end the phrases (bars 2, 5, 13 and 23) the feeling is, I hope, of incompleteness and disorientation.

In terms of poetic function, the piano part gives voice, through its single-line setting,

to the other woman in the narrative, and therefore eschews notions of melody and accompaniment in favour of a duo-like arrangement. The voice of the soprano appears, at first, to be simpler in design than the piano music, using some repeated notes and more regular rhythms, however, it is more sophisticated than it looks. Through use of hemiola, sometimes expressing a 3/4 rather than 6/8 time signature, the soprano, at times, undermines the metric pulse of the piano and, through carefully planned leaps in register ('like me', bar 18; and 'had hands', bars 21 – 22), alternates mid-range notes with *voce di petto* settings.

Throughout these songs and *A Walk to the Sun*, fragmentation provided a context in which to explore the tensions between continuity and disunity. Despite the splintered structures of my brief fragment forms, coherence was established through composed continuities that drew the seemingly dislocated movements together. In the cell-formation of the 'Sylvie' song, surface-level continuities subverted the inherent discontinuities of the fragmented structure, offering a linear narrative – though of a very different sort to that explored in the first chapter. These investigations ultimately qualified that forms dealing expressly with discontinuity do not have to be completely divorced from linearity, creating a clearer context for my fragments to co-exist with linear movements.

4. Shape and interlocking patterns as agents of discontinuity

In this section, I discuss three movements of *Meandros* (for string quartet) and the second movement of *Even if it is Only a Whisper* (for violin duo) in terms of my use of interlocking patterns as a means of generating musical shapes, with features akin to a physical object. Musical shape, I argue, below, can be viewed as an agent of discontinuity in music due to the way in which it is perceived as an "all at once", or instantaneous experience, rather like the perceptual experience of shape in the visual domain. Ligeti's ideas on shape formation have been extremely influential in this respect. As Bernard explains:

> …in Ligeti's musical universe the word ['shape'] must be taken in a physical, almost literal sense. In articles and interviews, Ligeti has made abundantly clear the extent to which the visible is transferred to the audible – and vice versa – in his musical thinking, even going so far as to describe a composition as existing *in toto* at a single instant, so that its surfaces and interstices might be traversed like those of a physical object.[31]

In much of Ligeti's micropolyphonic works – including *Apparitions*, *Lontano* and *Atmosphères* – sonic material is treated as an intrinsically pliable organism, the textures of these pieces building up into homogenous masses that expand and contract. Shape metaphor, including 'gaseous clouds' and 'labyrinths'[32] have often been used in relation to this music. Ligeti himself has even traced his micropolyphonic structures to dreams of impenetrable cobwebs, in which 'the whole room was filled with a dense confused tangle of fine filaments'.[33]

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[31] Jonathan W. Bernard, 'Voice Leading as a Spatial Function in the Music of Ligeti, *Music Analysis,* 13.2/3, Twentieth Century Music Double Issue (Jul. – Oct, 1994), 227-253 (p. 230).
[32] Richard Steinitz, *György Ligeti Music of the Imagination* (London: Faber and Faber Limited, 2003), pp. 107 and 179.
[33] Ligeti's own words describing the stimulus for *Apparitions*, quoted in Richard Steinitz, p. 7.

Though inhabiting very different sound worlds, this figurative language resonates with many of the descriptions of Xenakis's works: '[Xenakis applied] to the morphology of sound the so-called 'vitalisations' of architectural form (through mass, surface and line)',[34] a concept which has been exploited in many of his pieces including, initially, *Metastasis* (1954). This work has also been described using compelling shape metaphor:

> *Metastasis* moves in clouds of sounds, featuring huge avalanches of string glissandi… The resultant textural mass appears to bend, expand and contract.[35]

However, in discussing music and shape, Godøy notes the incongruity between the two:

> …music unfolds in time, and shape, by definition, is something that we overview or 'have in the field of vision' as an 'all-at-once' experience, and hence is something 'instantaneous' in our minds.[36]

But research has shown that we holistically perceive 'motion chunks' in the meso timescale of musical experience,[37] and these chunks are somehow kept in the consciousness as whole units, creating instantaneous overview images of sound. This raises issues of continuity versus discontinuity in musical experience, which resonates with Ligeti's ideas about a composition existing *in toto,* at a single instant (see above). As cognitive science seeks to understand how our minds are able to somehow 'extract information from a continuous stream of sensations, to break out of the continuous flux of time and generate more or less

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[34] Richard Steinitz, pp. 91-92.
[35] Richard Steinitz, p. 92.
[36] Rolf Inge Godøy, 'Key postures, trajectories and sonic shapes', in *Music and Shape*, ed. By Daniel Leech-Wilkinson and Helen M. Prior (United States of America: Oxford University Press, 2017), pp. 4-29 (p. 4).
[37] See Godøy for details of the meso timescale, pp. 5, 14-15, 23-24.

stable overview images',[38] I have been drawn to what is already understood, and have endeavoured to use this information as a means of treating shape as a force for discontinuity in composition.

Gestalts and weaves

The first, third and fourth movements of *Meandros* and the second movement of *Even if it is Only a Whisper* exploit the potential of interlocking musical lines to create sonic shapes, akin, in some respects, to the weaved shapes in Ligeti's micropolyphonic structures, which draw on early *gestalt* theory,[39] concerning coherence criteria in shape cognition. In essence, a gestalt is an organised whole that is perceived as more than the sum of its parts. For instance, the constituent canonic lines of Ligeti's micropolyphony are understood, not as separate musical lines, but, through their tightly arranged interlocking formations, as a mass of sound, moving through time. Mine Dogantan-Dack further summarises Christian von Ehrenfels' theory relating to spatial and temporal shapes, as he wrote about in *Über Gestaltqualitäten*:

> Ehrenfels argued that each experience we have of a Gestalt or form in *any sensory modality* is cognized as *structurally analogous* to the experience of a *spatial shape*. In other words, spatial Gestalten serve in his view as references for our comprehension of forms or shapes in other modalities.[40]

The intimation that there can be similarity of form between different fields of experience is now a well-established notion in cognitive science, and Dogantan-Dack suggests that Ehrenfels' theory relating to the perception and experience of spatial shapes can

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[38] Godøy, p. 26.
[39] I became particulary interested in Christian von Ehrenfels' theory relating to spatial and temporal shapes, as he wrote about in *Über Gestaltqualitäten* in 1890.
[40] Mine Dogantan-Dack, Tonality: The Shape of Affect', *Empirical Musicology Review*, 8/3-4, (2013), 208-218 (pp. 213-214).

be applied to shapes extended in time (Dogantan-Dack, pp. 213-214), for instance, shapes in musical experience.

My music has involved creating gestalts from musical 'weaves' that rely on the human mind to group together separate interlocking parts and abstract from these an entirely new musical object with depth (and texture, which I discuss further, below). In many ways, like Ligeti, I deal in illusion[41] –the illusion of shape.

Below I discuss the subtle mechanisms that I have employed to aid the cognition of shape throughout my weaved materials, and suggest that these have imbued in my music ideas of the 'all at once', critical to my investigations into discontinuity. However, I acknowledge that a listener may construe the interlocking formations in any number of ways, as Husserl points out. In my analysis, I suggest interpretations related to vision and touch only, as this engages with the very essence of the work, and is substantiated by many features of the work, but is open to interpretation.

Meandros, first, third and fourth movements and *Even if it is Only a Whisper,* second movement

The interlocking figuration in the first movement of *Meandros* predominantly resides in the two violins, which are weaved together to create a single impenetrable layer. Fig. 15 shows the interlocking formation as it appears in the score in bb. 5-9 in violin 1 and 2. Fig. 15.1 shows how the parts interact. The blue notes belong to violin 1 and the pink to violin 2. The top stave shows the highest notes and the bottom stave, the lowest. It is observed that the blue and pink notes weave in and out of one another after (predominantly) every other note, creating a tightly bound knot.

[41] In works such as *Lontano,* Ligeti ensures that the aural perception of disparate parts is not possible, making it difficult for the hearer to appreciate that there are disparate parts at all. It is this that makes the work sound so illusory.

Fig. 15: Interlocking pattern in the two violins of bb. 5-9 of *Meandros*

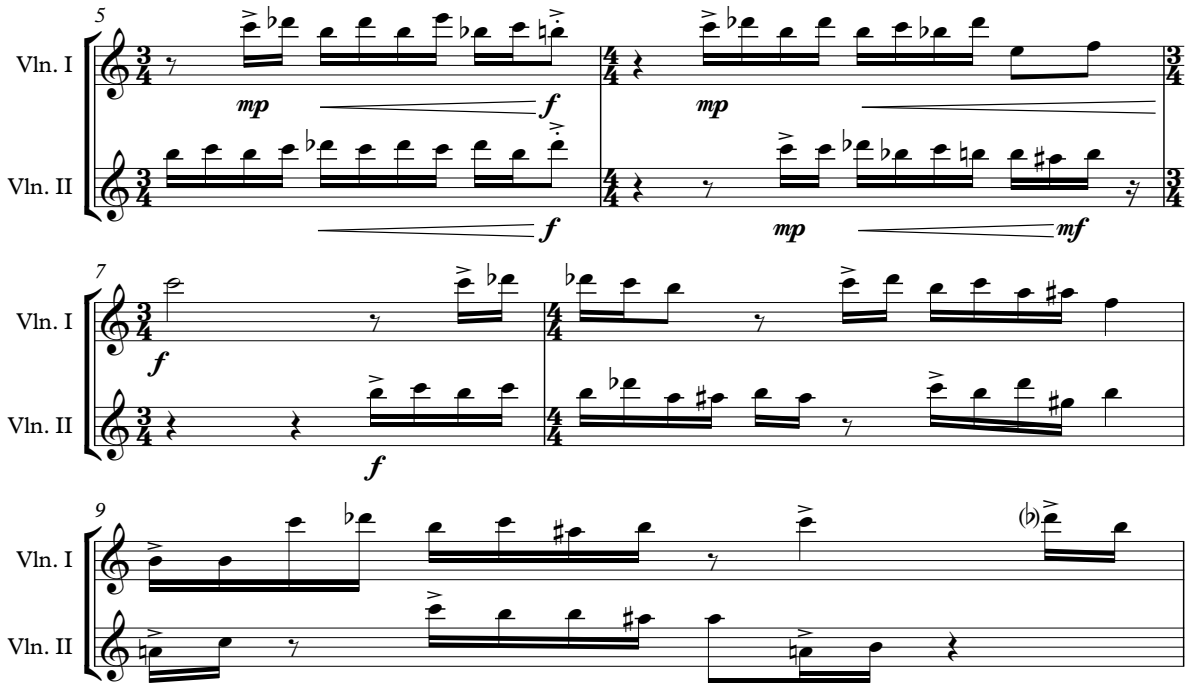
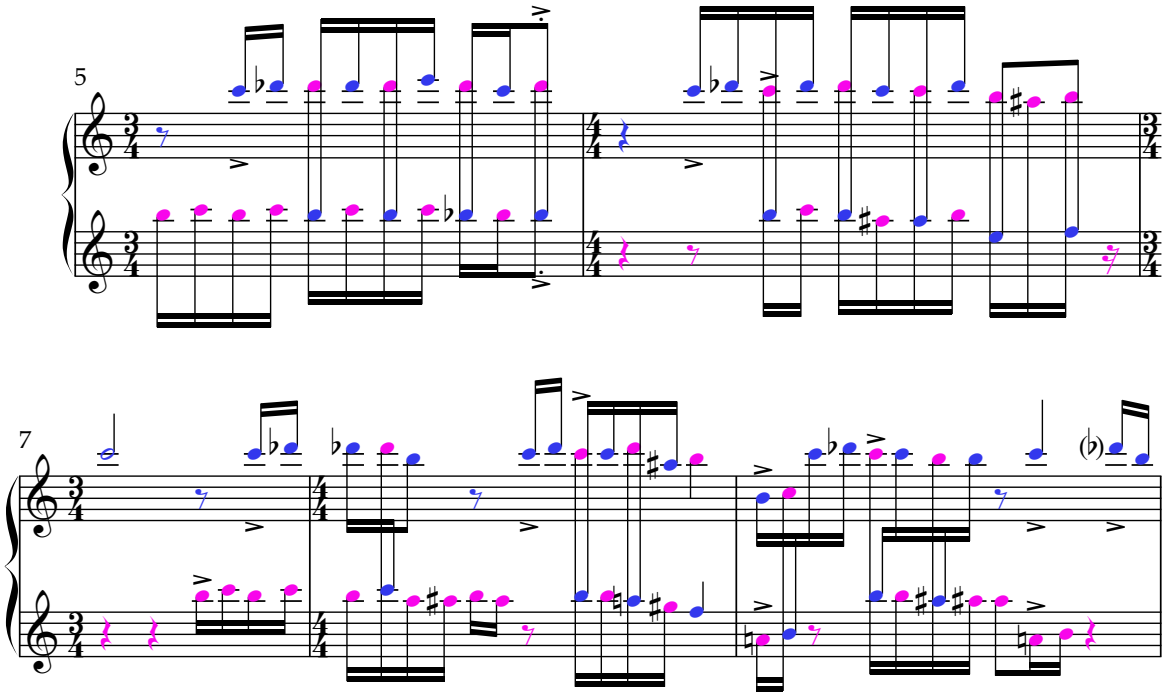


Fig. 15.1: Interlocking pattern in the two violins of bb. 5-9 of *Meandros*
Blue = violin I • Pink = violin II



There are many subtle mechanisms at play throughout this weave, which I have employed with the intention of creating the illusion of a sonic shape. Firstly, it can be seen that no one part of the weaved material exhibits foreground traits that potentially might articulate any single line into perceptual prominence. Some notes are accented, for phrasing, but the lines themselves are very similar in character (they move predominantly by step, occupy the same registral space, are of similar phrase lengths and comprise mainly consecutive semiquavers), making it very difficult to perceive them as separate parts. Rather, the two parts contribute to a massed layer of sound, with no one line being clearly delineated. This technique is combined with three other interrelated features, contributing to the effectiveness of shape illusion:

1. The subtly different rhythmic and melodic profiles of imitating parts.
2. The fast tempo – 124 bpm.
3. The prominence of small intervals (mostly 2nds and 3rds) of the weave.

The rhythmic and melodic profiles of each constituent line of the weave are only very slightly differentiated from one another. This is an important feature of the weave's illusory nature. Had the lines been either exactly the same or very different, the relationship between the parts would have been more conspicuous, but through their subtly varied rhythmic and melodic profiles, it is extremely difficult to hear them as distinct. Crucially, the lack of striking or characteristic features of any one line, the fast speed of the weave, and the close intervallic relationships make it almost impossible for the listener to perceive the mechanical processes as they occur, enhancing the illusion at play. This, in turn, creates a more convincing synthesizing experience, allowing the weave to be successfully perceived as a conglomerate whole.

This tightly woven sonic shape is a dominating feature of the entire movement,

mostly heard in the two violins, but sometimes also involving the viola (e.g. bb. 3-4). It mostly functions as a single layered mass, superimposed with two types of contrasting material: melodic material derived from the individual lines of the weave, placed in a distinguishably lower register (see b. 13, viola; b. 15-17, cello; b. 22, viola; b. 26, viola, among other places) and snap *pizzicati* and *glissandi*, again in the lower register (bb. 7, 9, 11, 15-19 in the viola and cello, among other places). As the piece continues, *calmo* sections provide fleeting melody, though located in adjacent spaces, rather than in superimposition with the weave (see bb. 29-59). This branching out of the weave into independent lines, together with the superimposition of the weave with other material, highlights the independence between the massed anonymity of the weave and the individualism of melody and line. In this respect, this movement is a nod to Ligeti's later work, *Melodien*, in which the interaction between texture and line is more rigorously explored.

In the third and fourth movements, I continue to investigate interlocking formations, but this time with the view to creating sonic shapes of a different character to those of the first movement. This was inspired by my deepening consideration of shape ontology,[42] which naturally arose throughout my process. Throughout this research, I discovered that shape, in musical contexts, is a multimodal phenomenon, involving vision, sound and motion ,[43] and that the sense of motion is now regarded as composite, involving *kinematic* (visible motion) and *haptic* (sense of touch) features, among others. [44] With this in mind, I began to consider if it were possible to create a more specific shape – if I could somehow align what was in the auditory signal (the music) with what is in the mind (the shape). This line of enquiry was further inspired by Ligeti's shape ontologies. The musical sensation created through micropolyphony's intricate interlocking patterns, for example, although not absolutely

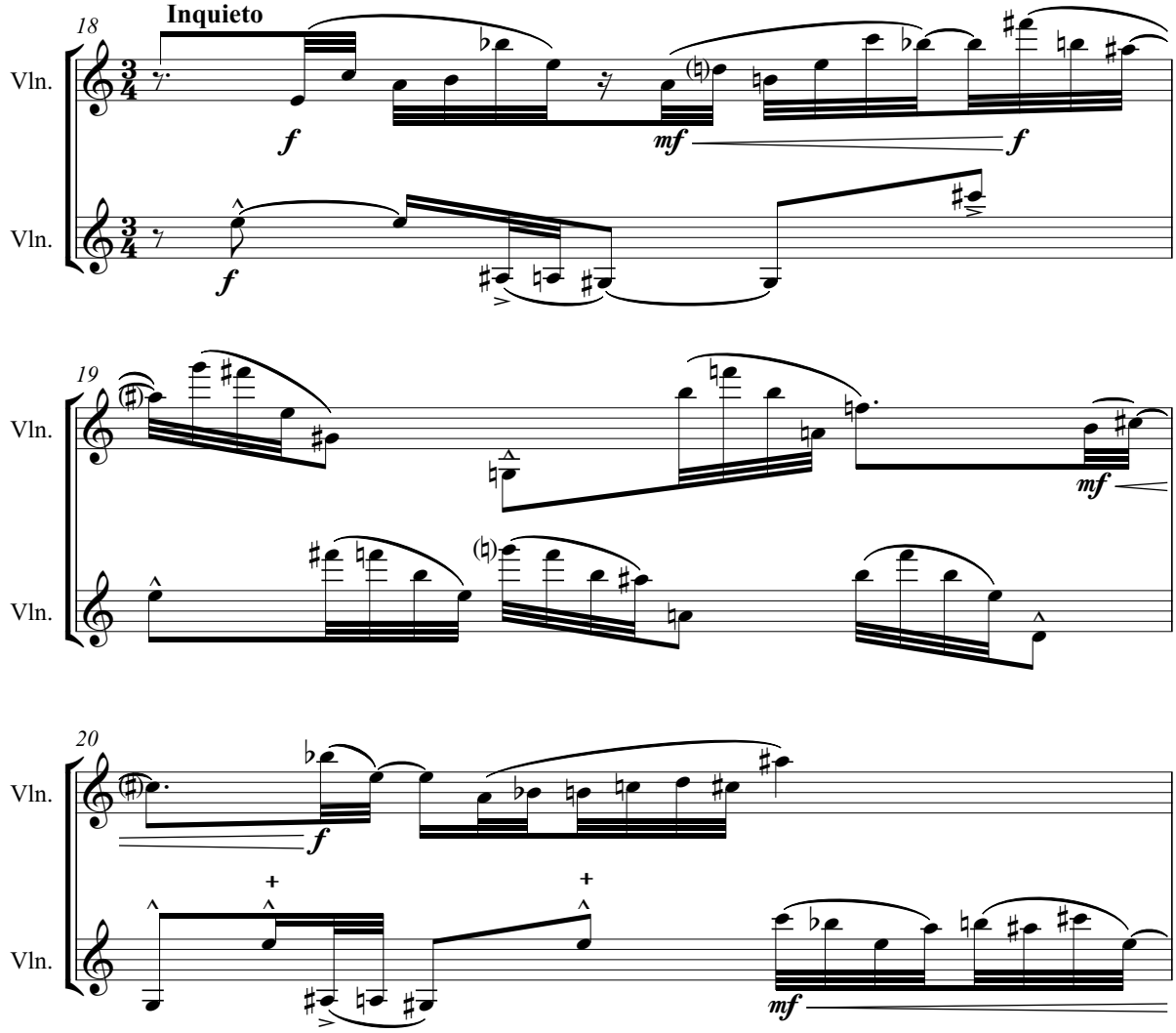
[42] Shape ontology considers the properties or features of a shape. See Godøy for details, pp. 8-9.
[43] See Godøy for details, p. 8.
[44] The other components of motion include effort (dynamic) and proprioceptive (self-monitoring) components. See Godøy for details, p. 8.

comparable to images of impenetrable cobwebs, potentially give rise to impressions of something akin to malleable lattices or soft, sound clouds, as opposed to, say, coarse shapes with stiff edges. My shapes are just as subjective, though possess, like Ligeti's, a defining character. In the first movement, my tight interlocking formations, made of separately bowed, (mostly) loud semiquavers give rise to impressions of something akin to a dense shape with granular surfaces and defined edges, ontologically closer to the harsher, more robust shapes of *Apparitions* than, say, *Lontano*. In the second movement of *Even if it is Only a Whisper* and the third of *Meandros*, I wanted my shapes to resemble something looser, broader and softer than in the first movement of *Meandros*. This was achieved in three ways:

1. Through the use of wider intervallic relationships between the parts;
2. Through less interlocking points;
3. Through the addition of further interlocking instruments (in the quartet).

Taking bb. 18-20 of the second movement of *Even if it is Only a Whisper,* as an example (see Fig. 16), the notes of this weave are further distanced from one another than in the first movement of *Meandros*. This causes each interlocking note to arrive in place via much larger leaps in register. For example, in b.18, violin 2, the C sharp at the end of the bar interlocks the B flat of violin 1 via a leap from the low G sharp. Further to this, the notes in this piece interlock much less frequently than in the first movement of *Meandros* – after 5-10 notes, as opposed to after every other note. To use a visual analogy, this weave resembles that of a loose knit jumper, with more space between the threads, ontologically very different to the tightly bound knots of the previous work.

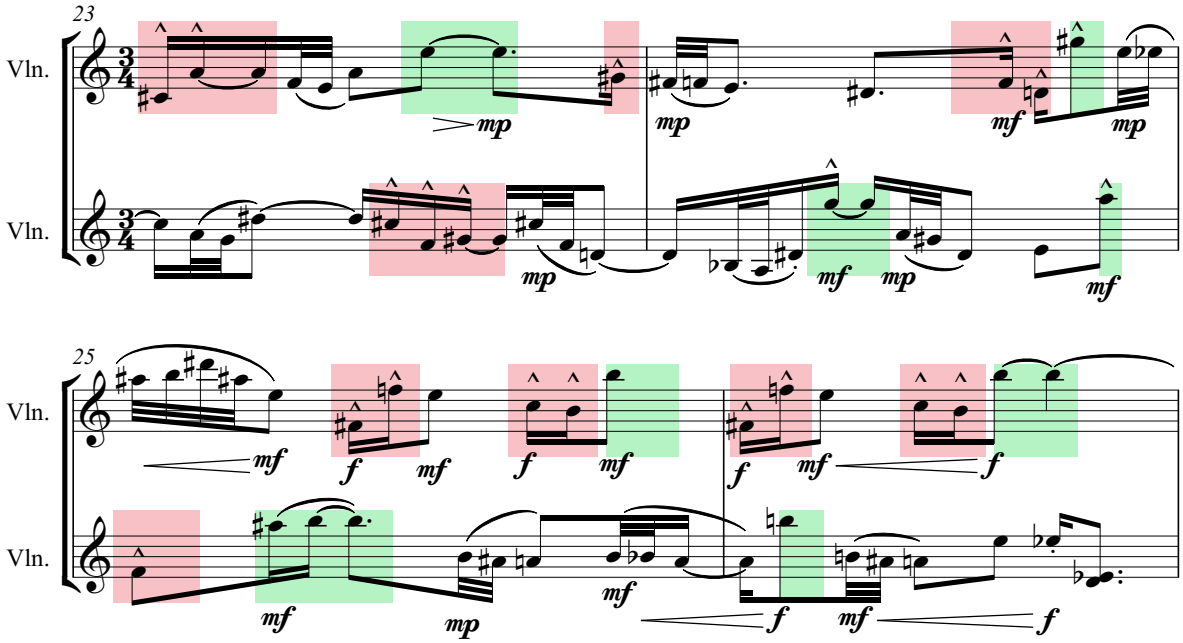
Fig. 16: Interlocking formation of bb. 18-20 of *Even if it is Only a Whisper*, second movement



Though this was exactly the sort of loose weave that I had in mind for the piece, I felt that the setting had the potential to create a less convincing illusion, since the constituent lines of the weave are not as tightly bound, making it easier to distinguish between the two parts. Partly to circumvent this, and partly to further explore the juxtaposition of texture and line, I decided to further integrate the weave. I used accents and carefully placed longer note-values to permit certain pitches to 'catch the light', as it were. These selectively highlighted notes went on to form both middle-ground and foreground linear structures, that emerge from the interwoven texture. For example, in bb. 23-26 (see Fig. 17), the pink highlighted notes are assimilated and grouped together in the mind to form a linear aggregate in the middle ground,

and the green notes are mentally assimilated and understood as part of a linear passage in the foreground. In this setting, the mechanical processes at work are difficult to decipher, since the interlocking formation is now intertwined with melody and line, weaving into the imagination a three-dimensional texture, with fore-, middle- and back-ground features.

Fig 17: Three-dimensional texture of bb. 23-26 of *Even if it is Only a Whisper*, second movement



This was further developed in the third movement of *Meandros*, though using a slightly different method, and employing a weightier weave, made from three, as opposed to two, instruments. For example, in Fig. 18, the viola often interlocks with violin 1 to create a three-thread weave (e.g. in bb. 27-33 the viola's C sharp interlocks the C demisemiquaver of violin 1) creating a 'heavier' knot than before. I, again selectively highlight notes to emerge from the texture and form melodic phrases, albeit in a slightly different manner to the duo. In this movement, I permeated the interwoven texture with a slurred, three/four-note demisemiquaver cell. Fig. 19 shows how this cell manifests itself. The cell either descends by minor step and then ascends by major 3rd (pink notes); descends by minor step and then ascends by a min 3rd (green notes); descends chromatically (yellow); alternates between

step-wise notes (blue), or descends by major step, followed by a minor 3rd ascent and then descent (orange). As I wanted to avoid the melodic cells overlapping, since this would interfere with the rhythmic formation, each placement of this figure had to be carefully planned out. The cells are positioned in such a way that they sound out successively, locking them into the music like the parts of a rhythmic jigsaw. The jigsaw involves all four instruments, even when the pitches are not engaged in interlocking pitch formations. The result is a multidimensional mass, assimilating both texture and line, tightly bound within a moving mosaic. As a result of this new setting, the mass seems now weightier and broader than in previous incarnations, offering an entirely new shape ontology.

Fig. 18: Bb. 26-33, *Meandros*, third movement

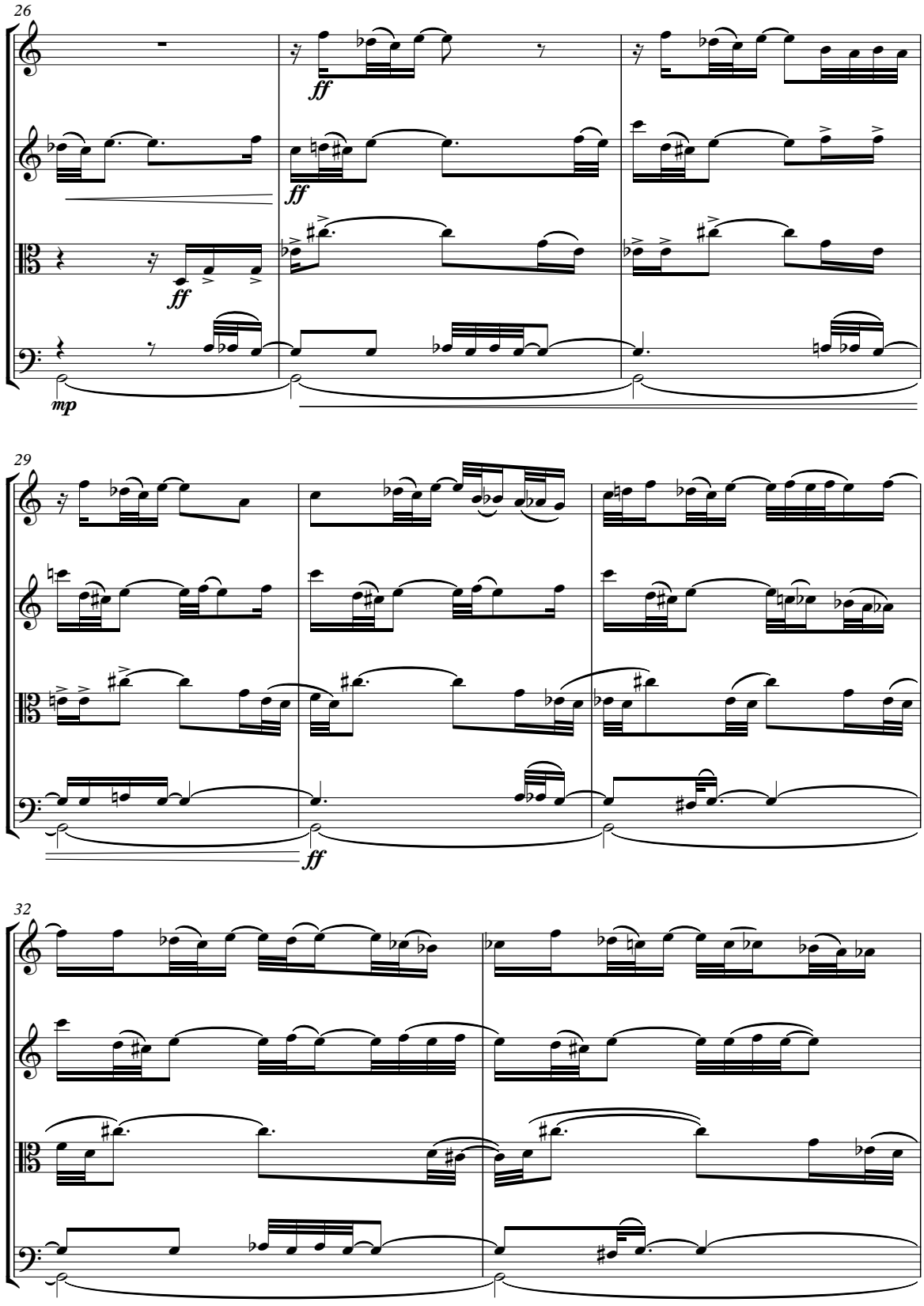
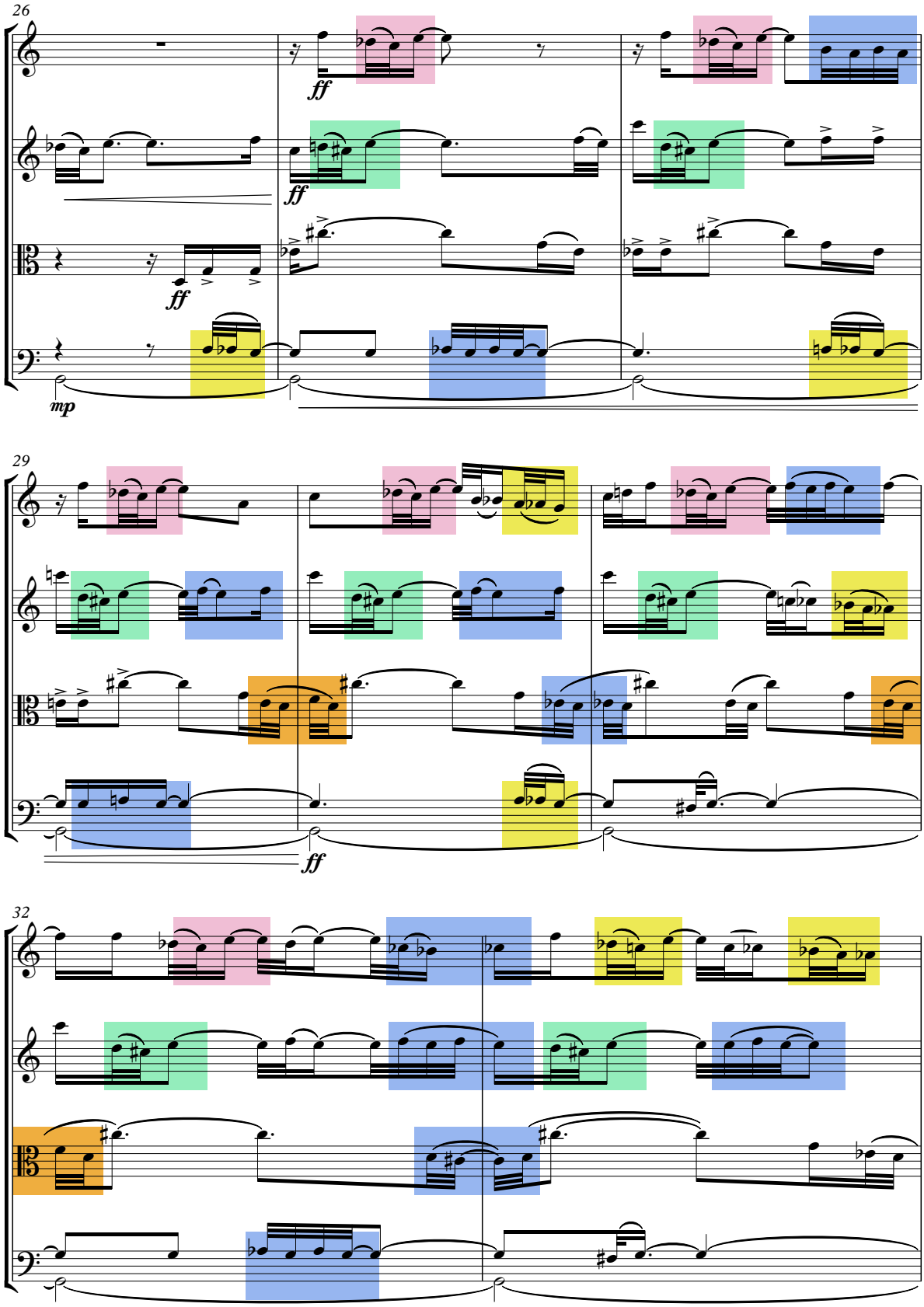


Fig. 19: Bb. 26-33, *Meandros*, third movement



In the fourth movement of *Meandros*, I returned to the superimposition of weave and line, explored at the start, but here my weave spans a larger area. For ease of analysis, in Fig. 20 and 20.1, I have placed the weaved materials of bb. 3 and 5 in the treble clef and colour-coded the notes. I have used enharmonic equivalents where easier to read.

Fig. 20: Bb. 3, *Meandros*, fourth movement

Blue = violin 2 • Pink = viola • Green = cello

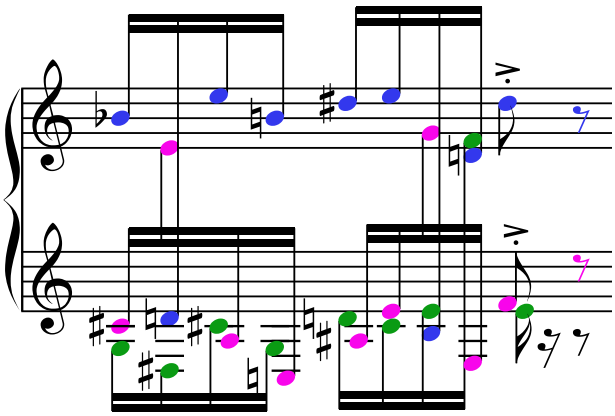
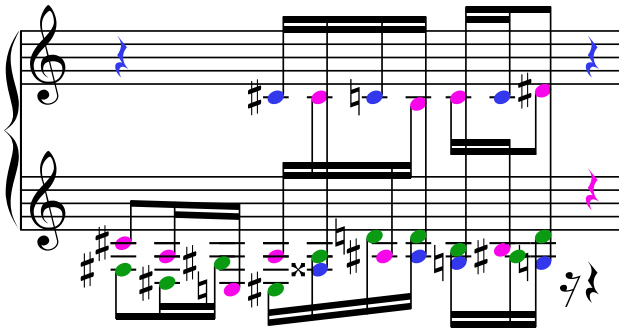


Fig. 20.1: Bb. 5, *Meandros*, fourth movement

Blue = violin 2 • Pink = viola • Green = cello



Bb. 3 and 5 exhibit thicker weave formations. Three out of the four instruments are embroiled in the knot, which allows the web to traverse a large registral space, and makes the mass bulkier and weightier than in the first movement. But, unlike the loose weaves of the

third movement and the duo, the interlocking points are more frequent, creating a more tightly knitted lattice, more comparable to the dense interwoven mass of the first movement of *Meandros*.

Melody here is juxtaposed with, rather than enmeshed within, the weaved material. For example, bars 3-16 comprise a dense interlocking pattern made of accented, *meccanico* semiquavers (violin 2, viola and cello) superimposed with a melodic line in violin 1, which threads itself in and out of the weave. Violin 2 occasionally breaks out of the weave to join violin 1 (b. 6, and bb. 8-10), and in bb. 46-52 it is the viola and cello that provide the line against the backdrop of the weave in the two violins.

This music also begins to explore Xenakian ideas on shape. The uninhibited cascading *tremolandi* (weaved together in bb. 51-56, 99, 103, 105-106, 113-145 among other places) and the continuous glissandi, set a semitone apart, in the two violins, in bb. 124-129, are, if not a nod to Xenakis, an acknowledgement of his ideas on shape. I touch on his shape formations more explicitly in the third movement. The opening, here, uses ascending and descending *glissandi* which slide at different inclinations. I also use ricocheting lines, which appear to either fall, successively, like dominoes (bar 7) or swell and rise to a climax (bb. 15 and 17). Crucially, like in Xenakis's music, these features usher in an abrasiveness of sound that pervades the whole work.

Finally, it is relevant to touch on how the last movement fits into my ideas on shape formation, as it is here that I began my explorations. Although the emphasis, in this piece, is on a logically argued composition, linked motivically in the different sections, there is also evidence of subterreonous ideas on shape. For example, there is a tendency towards non-thematicism, such as in bb. 13, 25, and 54-57, where the music is made of material that I re-appropriate in the *meccanico* settings of the fourth movement, and a Xenakian influence at the end, with *glissandi* juxtaposed with *tremolandi* and *pizzicati* (bb. 134-end).

In summation, I have relied on Christian von Ehrenfels' theory relating to spatial and temporal shapes, as he wrote about in *Über Gestaltqualitäten* to conceive of musical weaves that aim to conjure up ideas of sonic shapes and, therefore, *in toto* musical experiences. Shape ontology became a major preoccupation throughout my research. In contrast to the misty, hazy shapes of *Lontano* and *Atmosphères* that inspired this research, I strove for entirely different shape ontologies, creating more conspicuous shapes, with robust and grainy surfaces. I also made important discoveries about texture versus line, and the 'all at once' versus motion, as the tension between linearity and non-linearity continued to permeate my compositional thoughts and processes.

5. Consolidating ideas – *Fluidity*

Fluidity is the most recent piece in my portfolio and, as such, can be seen as a consolidation of my technical and expressive thinking up until now. The piece amalgamates many of the ideas that I have explored throughout this research, including interlocking formations and fragmentation. However, my overriding preoccupation was to use these features within a framework of temporal fluidity, that is to create music with a smoothness of transitions, that shifts seamlessly, by means of small-scale changes, between contrasting states. Through the smaller, precursor piece to *Fluidity*, *Swarming,* for flute and guitar, I began to explore this idea with intention. *Swarming* favours incremental, though not necessarily slow, shifts in texture, harmony and motif. The fast, angular material of the piece is subject to a series of small-scale changes, using subtle permutation and transformation of thematic materials as a means of continuity, rather than abrupt change. This, I went on to explore extensively in *Fluidity*, though this piece also offers up further versions of continuity:

- Structural continuity manifests itself through the fluid transitions between micro and macro sections, allowing form to arise through subtle evolution and transformation, rather than a block-like conception;
- Localised continuity is approached through use of step-wise motion.

The pliability of parameters in Ligeti's micropolyphonic works have again provided inspiration, but *Fluidity* is more closely aligned, in sound, if not in process, with the music of the spectral composers, Gérard Grisey and Tristan Murail, as well as the preoccupation with flow evinced in George Benjamin's *At First Light* (1982).

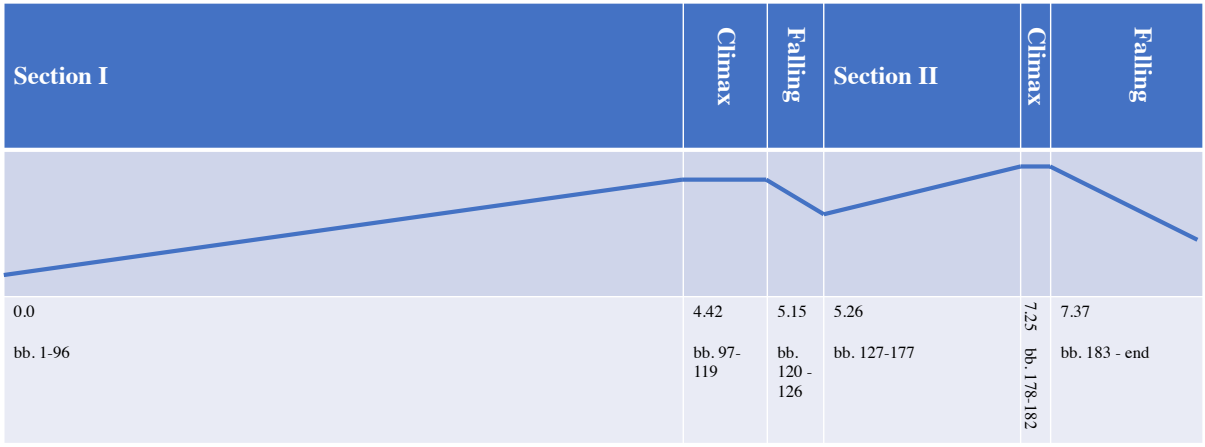
Structural continuity

Fig. 21 shows an outline of the dramatic arc of *Fluidity*, comprising two sections that

rise in tension, and two climaxes that are followed by passages of dissipating conflict (labelled 'falling' in Fig. 21). Despite the clear overarching structure, the demarcation of sections is not meant to be explicit. Rather, I intended for the sectional architecture to manifest smoothly and organically, so that the music can be perceived as that which naturally flows from one state to the next. I had been very much inspired by George Benjamin's *At First Light* (1982), in which, as Tom Service's review of the work suggests,

> …sounds dissolve from solid melodies and gestures into fluid glissandos and unstable registers. The structure of the piece is similarly volatile, and the long final movement is structured as a series of waves that crests in an apocalyptic tam-tam stroke.[45]

Fig. 21: Dramatic arc of *Fluidity*



The fundamental way in which I endeavoured to achieve the wave-like formlessness of Benjamin's work was through the creation of aural 'pivot points', which function in two ways: firstly, to mark the climax, or the start, of localised tension and, secondly, to form the basis of subsequent material. In places where material undergoes a discernible transformation (for example, where the texture changes drastically), it is the pivot points that provide the

[45] Tom Service, *The Guardian,* 'Reviews', 3 April 2003.

seed from which the new material grows, allowing for smoother, more organic, transformations to take place. The table in Fig. 22 shows the location, description and function of the five pivot points of *Fluidity*, and Figs. 22.1-22.5 show the material that comprises each of the points.

Fig. 22: Table of 'pivot points' in *Fluidity*

Pivot Points	Bars	Description	Function
I	23-25	Short, accented notes in the brass and woodwind, moving mostly by step in triplets and semiquavers.	• Punctuates the climax of tension in bb. 23-25 in the brass and woodwind. • Forms the basis of the brass material at bb. 35-37. • Stimulates similar, albeit shorter, figuration in the trumpets at b. 40, and in the horns, at bar 43. • Transforms into the static, repeated chordal 'stabs' in the climax of the first section, from bb. 95-126.
II	27-28	Slurred ascending, then descending, sextuplets in the woodwind.	• Heralds the the start of the new passage at bb. 27-28 in the woodwind; • Forms the basis of the flute material in bb. 45-50 and the woodwind material in b. 54-55. • Forms the basis of the soli writing in violins and flute towards the climax of section I, from bb. 81-108.
III	43-44 and 57-58	Rising and descending sextuplet figuration in the two flutes (heard more explicitly with the glockenspiel and violins I and II in bb. 57-58).	• Punctuates the climax of the tension in bb. 43-44 and 57-58 in the flutes; • Forms the basis of the flute material in bb. 60-70.
IV	59	Pizzicato figure in the strings.	• Marks the start of a new sub-section in b. 59 in the strings; • Continues in the strings to bar 68; • Forms the basis of the 'bouncing' material in bb. 69-94 across the lower brass and lower strings.
V	137-138	Tremolandi flutes and violins.	• Marks the start of the Piú mosso section in b. 137-138 in the flutes and violins; • Forms the basis of the tremolandi figuration in bb. 146-152 and the Animato section, bb. 154-180, in the strings and the woodwind.

Fig. 22.1: 'Pivot point' I in *Fluidity,* bb. 23-25, woodwind and brass

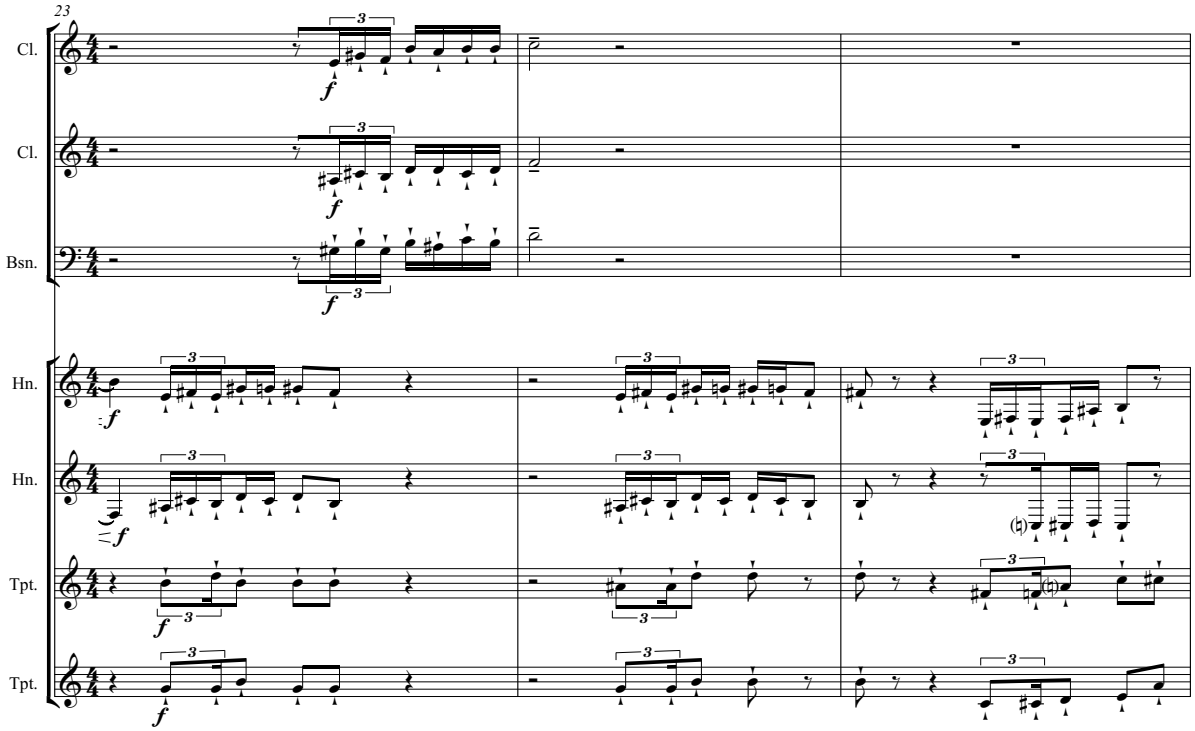


Fig. 22.2: 'Pivot point' II in *Fluidity,* example from bb. 27-28, woodwind

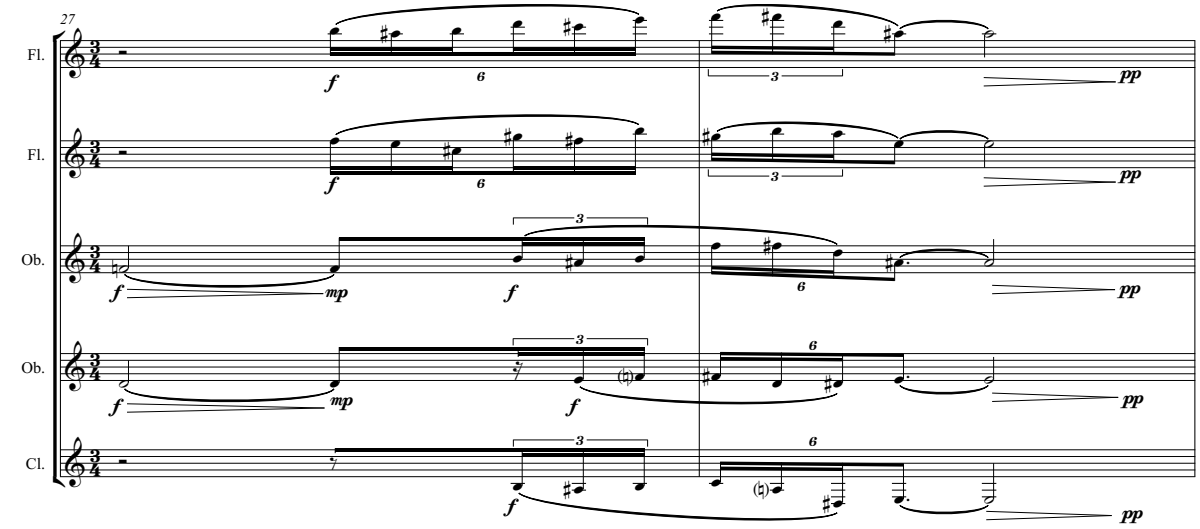


Fig. 22.3: 'Pivot point' III in *Fluidity,* bb. 43-44, flutes I and II

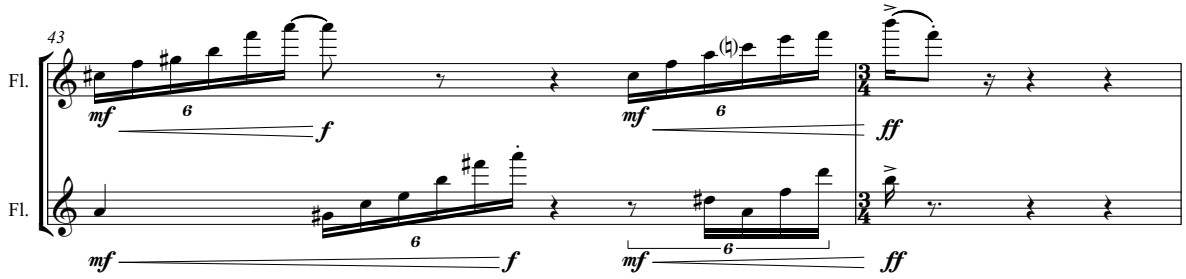


Fig. 22.4: 'Pivot point' IV in *Fluidity,* b. 59, violins I and II and violas

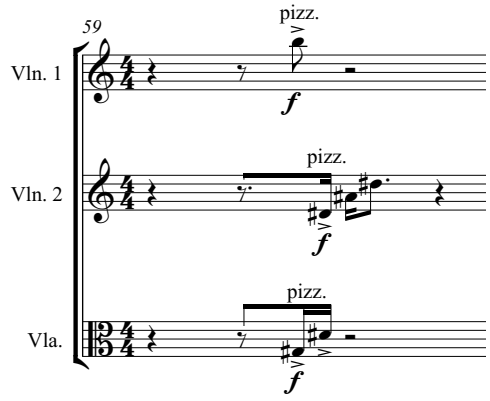
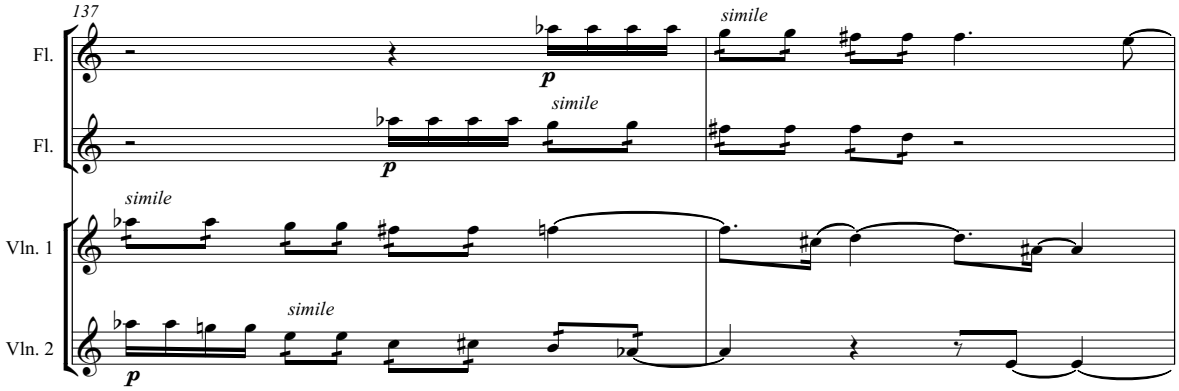


Fig. 22.5: 'Pivot point' V in *Fluidity,* bb. 137-138, flute I and II, violins I and II



The first pivot point is the most conspicuous, punctuating and intensifying the climax of the tension that has been built from bb. 19-26, as well as serving the important structural role of providing a springboard from which further material grows. This is first observed in bb. 35-37. The brass material, here, is clearly derived from the first pivot point, which also uses alternating, step-wise pitches, *staccato* accents and similar rhythms. Pivot point I also stimulates similar figuration in the trumpets (at b. 40) and in the horns (at b. 43). Of greater structural significance is pivot point I's (henceforth referred to with the corresponding roman numerals) relevance to the repeated chordal material in the climax of the first section (from bb. 95-126). Although the pitch profiles and rhythmic make-up of these climax chords are indeed different to the material of I, the rhythmic unison, the abundant use of *staccato* and accent, and the loud, interjecting nature of these chords bear a sort of kinship with I. Consequently, their inclusion in the climax does not feel out of place, but rather like an implication, or growth, of previously heard material.

The figuration of II is related to I in terms of the alternating pitches and use of tuplet rhythms, but because of its smoother, slurred setting, has a distinctly different feel and has, therefore, been billed separately. In bb. 27-28, II first appears in the woodwinds, in a rather unassuming manner, as a transitional flurry of notes after the previous climax (and at the start of the new passage of tension). In bars 45-50, it forms the basis of the playful interplay between the two flutes and, at bb. 54-55, the figuration is transferred to the clarinets and bassoon. The capacity of this pivot point to create cohesion and flow is observed most explicitly in its first re-iteration in bb. 45-50. Here, the music is hugely demarcated from the previous passage, with a distinctly thinned-out texture and more static harmonic underscore. However, because of the links between this music and II, this passage does not feel completely fresh, but rather like an evolution of what came before, heightening the sense of organic growth.

A similarly fluid sense of transformation is achieved as a result of the treatment of III. This is a rising sextuplet figure, followed by a *staccato* quaver. It is first heard in the flutes at b. 43, and then, more explicitly, at bb. 57-58, again in the flutes, with support from the glockenspiel and violins. When it reappears at bb. 60-70, in a sparser setting, the textural shift feels smooth and natural, as opposed to separated and demarcated from the previous music, the impression here being that of a refocussing of previously heard material, rather than of a newly introduced chapter.

IV is first heard as a melodic *pizzicato* cell in the violins and violas, at b. 59, and continues in a similar vein (though not always with the viola) until b. 68. At b. 69, this pivot point forms the basis of the 'bouncing' triplets in the trombones, supported by the celli and double basses. Although the 'bouncing' figure is differentiated from IV in terms of orchestration and rhythm, the figure shares a striking resemblance to IV in terms of its setting and function. At b. 72 onwards, the material of the 'bouncing' figure is apportioned and distributed between the two trombones and the tuba (supported by the celli and double basses), in much the same way as it had been distributed between the strings in its first appearance. In both these settings, all instruments are integral to the manifestation of the effect – the notes being seemingly 'bounced' from one instrument to the other.

Finally, V introduces interlocking formations and the notion of shape to *Fluidity.* The potential of shape perception is particularly relevant to this work, as ideas of organic growth are compatible with notions of a nebulous shape moving seamlessly through time, and resonates with the *in toto* experience of music described by Ligeti, in the previous chapter. It is for this reason that I decided to include these formations in this music, albeit in a more integrated, and ontologically smoother fashion. V is first heard at the start of the *Piú mosso* section (b. 137), and forms the basis of the *tremolandi* material in both the passage in bb. 147-152 and the *Animato* section (bb. 154-180). The interlocking nature of this pivot point

begins to fully reveal itself in this latter section, where violins I and flute I, and violins II and flute II undergo interlocking arrangements. In all its iterations, V provides a textural bed of colour from which thematic material grows, the most imposing being the triplet brass ascents (marked 'with aggression') towards the climax of the formal second section.

The analysis of pivot points in this work demonstrates how this music is able to traverse different states whilst retaining a sense of cohesion. The boundaries through which the music moves are significantly blurred, as the pivot points allow new settings to possess a sense of having grown from a previous source. This is supported and enhanced by the more localised continuity of step-wise motion, discussed next.

Localised continuity through step-wise motions

In order to further enhance the sense of fluid development and motion in this work, I wanted to create a more localised continuity, potentially perceivable to the listener at each moment. I relied, at the start, on cantus firmus and species-derived counterpoint, with the aim, as before, of creating directed background continuity. Fig. 23 shows the progression that I used[46], and Fig. 24 shows how the first few bars of this progression maps onto the string section of bb. 1-13. In bb. 1-7, in the celli and basses, the notes dwell, quite obviously, on the A and the B of the cantus (and this is reinforced by the music in horn 2). The violas centre on B throughout the first seven and a half bars, pre-empting the second B of the cantus from the very start. As the music becomes more saturated, the progression becomes more integrated. This can be observed in bb. 8-18, where background motion is present, but amidst greater foreground activity.

[46] From Salzer and Schachter, p. 88.

Fig. 23: Second species counterpoint by Fux

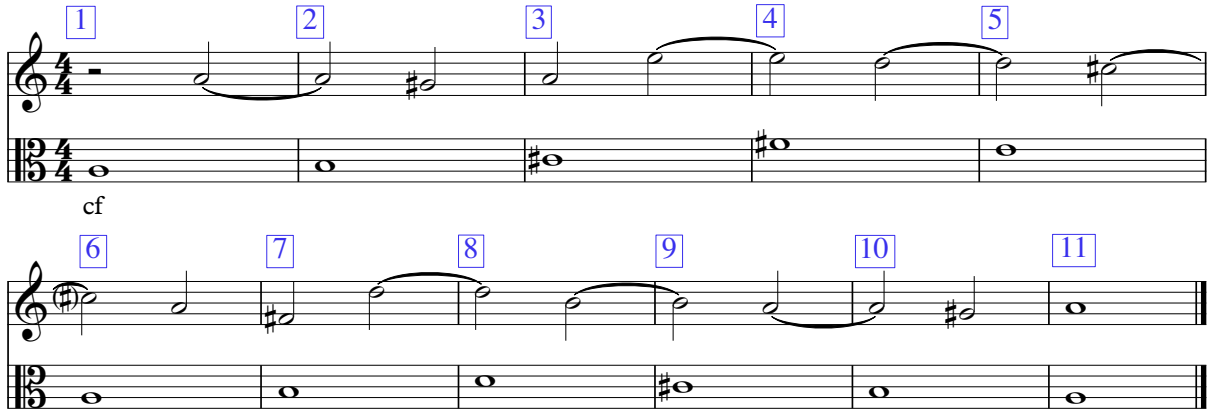
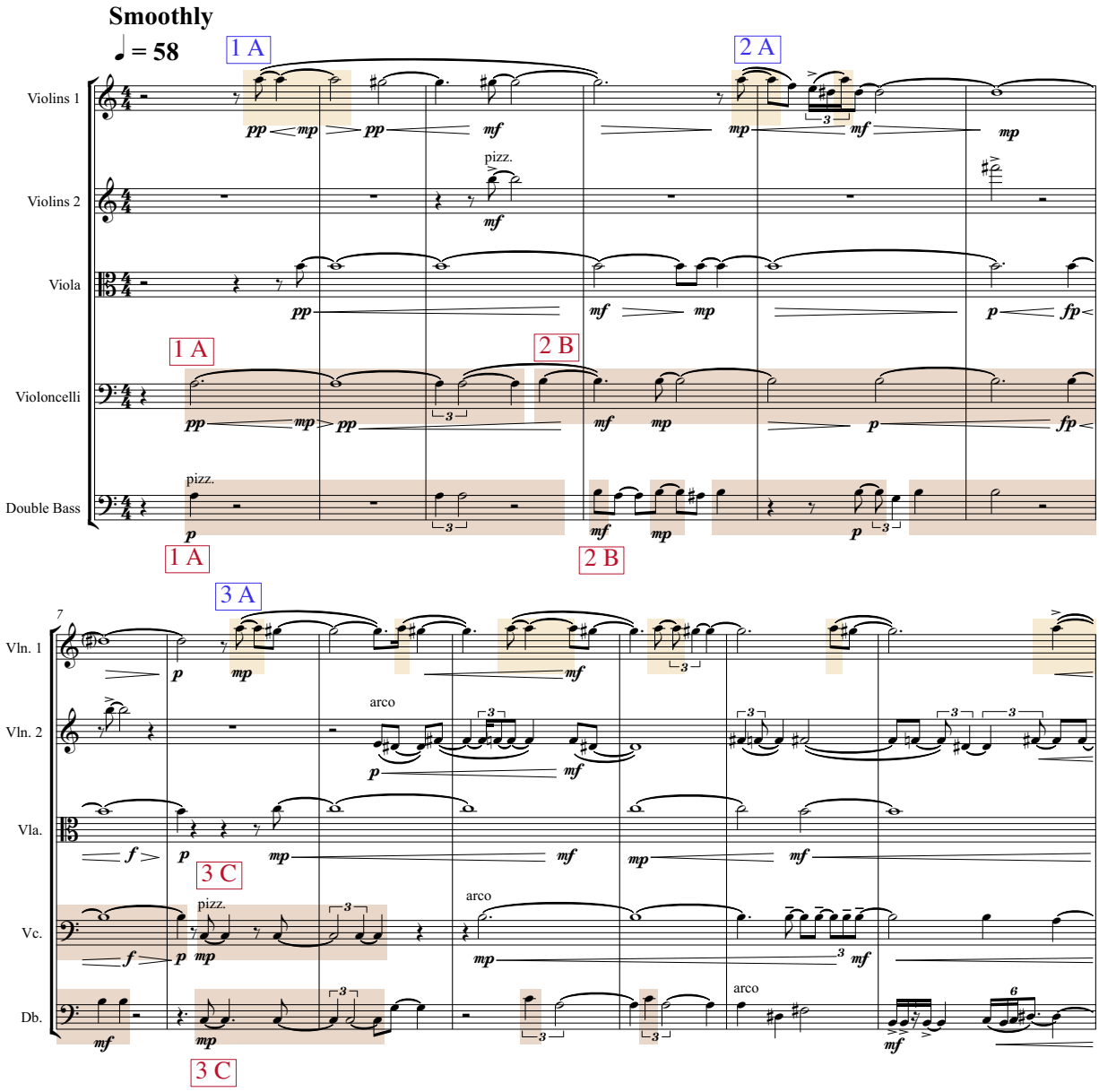


Fig. 24: Counterpoint mapped onto strings in *Fluidity*, bb. 1-13



Though I have now come to rely upon the background motion supplied by the species progression, I wanted also to start investigating the possibility of different sorts of pitch progression. Kramer notes that ‘one important means of linear progression is stepwise pitch

connection'.[47] Stepwise relationships dominate much of the material in *Fluidity,* and manifest in two ways:

- As scalic ascents in the middle and foregrounds;
- Through two-note cells, comprised of the minor or major 2nd.

The first type of stepwise motion can be heard in bb. 51-53, trombone 1; bb. 52-53, trumpets I and II; b. 71-72 violins I and II among many more places. The second type of stepwise connection is heard from the very start and permeates the entire work, becoming the motivic obsession of the piece. The level of saturation of this cell is too great to list all of the occurrences, so I have catalogued, in the table of Fig. 25, the instances of this cell in the first 18 bars of the work. I have been careful not to include in the table stepwise motions that belong to longer, or more melodically-derived material, such as the descending minor 2nd motion (E to D sharp) in violins I at b. 5.

[47] Kramer, p. 171.

Fig. 25: two-note, stepwise cells in bb. 1-18 of *Fluidity*

Cell description	Bars and instruments
Ascending 2-note minor 2nd cells	b. 17-18, horn I
Descending 2-note minor 2nd cells	b. 1-2, violins I
	b. 3, horns I and II
	b. 6, horn I
	b. 8-16 violins I
	b. 9-10, violins II
	b. 11-12, violas
	b. 12-14, clarinets I and II, and violins II
	b. 14, oboe I
	b. 16, flute I
	b. 16-17, trombones I and II
Ascending 2-note major 2nd cells	b. 3, violoncelli
Descending 2-note major 2nd cells	b. 6, oboe 1
	b. 7, flute 1, oboe II
	b. 13-14, trumpets I and II and double basses
	b. 13, bassoon
	b. 16, flute 2

The stepwise cells in Fig. 25 operate in many interlinked ways. Firstly, they offer the highest degree of note-note connectivity of any other pitch associations in the work (the same can be attributed the scalic ascents, mentioned above). Secondly, their high-density placement, even within the first 18 bars of the music, promotes a perceptual focus that invokes notions of centricity – but of a kind that bears a kinship to Kleppinger's analysis of the minor 2nd interval in Copland's 'Nature, the gentlest mother', the first song of the

composer's *Twelve Poems of Emily Dickinson* (1950)[48], which favours the *type* of motion as, as opposed to a particular pitch-class, as the global unifying factor of the piece. Thirdly, when pitched against the background structure of the species, as this material is at the start, or the *ascending* scalic lines, mentioned above, the cells appear to work in either support or contradiction of the motion provided by either of those progressions. When the cells are ascending, they potentially appear to support forward motion, but when they are descending they appear to undermine the background forward motion. This creates a skewed multi-directed motion – a feeling of moving simultaneously forwards and backwards, comparable to the perceptual experience of viewing the multi-directed stairways of *Relativity* (1953), by M.C. Escher, or the disorientating inward/outward spiral of Bridget Riley's *Blaze* (1964).

In conclusion, the aim of *Fluidity* was to consolidate some of the ideas that I have explored throughout the course of the PhD, with a focus on continuity and growth, above all. I integrated background motions through the cantus with interlocking patterns and notions of shape, but I also offered different ideas of continuity, creating smoother, more nebulous structures than before.

[48] See analysis in Kleppinger, p. 94.

6. Epilogue

Although the work presented here is the final result of a considered approach, there were many discarded sketches, unfinished scores and even the abandoned 'finished' that contributed to its genesis. Whilst unintended, this protracted process, which included periods of fluid creativity juxtaposed with 'stops and starts', and the returning to earlier, discarded ideas with renewed vigour, paralleled many of the conceptual themes that define the research. It is also, no doubt, the consequence of this approach that my portfolio assembled itself in a convoluted fashion – movements within pieces often dealing with entirely different concerns.

However, this approach reaped many interesting discoveries about continuity and discontinuity. Through the employment of two-part contrapuntal backgrounds, I endeavoured to create a context for Fuxian counterpoint as a means of generating motion in my music. This engagement with a traditional mode of thinking belied a categorical striving for personal expression, that resulted in pieces with varying degrees of motion, infused with stratified textures, notions of centricity and both background and surface-tension and release.

My exploration of fragmented structures engaged with how expressive continuities can be composed into inherently splintered forms. Whist non-linear, these pieces offered a version of unity through connectivity and association. Further investigations into discontinuities revealed the extent to which interlocking formations can interact with line to create music that can be perceived both linearly as well as *in toto.*

The last piece consolidated many of my findings in a single, through-composed work, concerned with fluid transitions and a nebulous structure. It is in this final work that I see scope for building upon my research. Here I began to engage with longer forms, subtle transitions, and strategies for integrating notions of shape and the cantus more organically. In further pieces, I would like to develop this with an express focus on creating music with

longer expanses and greater textural simplicity. I became increasingly aware that my tendency towards fast-moving notes often worked actively against creating longer pieces of music. In future compositions, I would like address this by engaging with notions of stasis, slower rates of change and simpler textural landscapes, whilst also exploring further strategies for engaging with the movement of music through time.

Finally, I am also further attracted to exploring, in much greater depth, the relationship between music, shape and perception. In particular I can see the potential of integrating notions of 'shape in music' within future multimedia productions, where visual-shape, gesture and embodiment have the potential to strengthen my language. This brings my research back to the place from which it began – to multidisciplinary work and the stage. However, it feels less like a return and more of an arrival, as the processes with which I have engaged have yielded new understandings and presented new possibilities to move forwards and create new work, with a fresh perspective.

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