'The Holy Grail of Piano Writing'

Texture in Contemporary Piano Etudes

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Abstract

Texture gets to the very heart of piano writing, illuminating the number, roles and interactions of lines (or 'voices') and the ways in which they are distributed between hands and fingers. Yet, as an area of investigation it has suffered from academic neglect up until relatively recently, and no one has yet attempted any wider survey of contemporary approaches to keyboard texture.

This thesis explores this relatively untapped topic through the combination of analysis and composition. Piano Etudes by György Ligeti, Magnus Lindberg, George Benjamin and Unsuk Chin serve as analytic case studies; and paired with these are four original response compositions (discussed through commentaries), which confront the same topics examined in the analyses.

The case studies provide a window into the myriad roles of texture in contemporary piano music. Several diverse techniques are investigated – some wholly original, some which build on long-established principles – from which comparisons and conclusions are drawn. The response compositions bring the topics into sharper focus whilst offering insights that would not have been available through analysis alone, both into the case studies and my own compositional process. Considering the many difficulties inherent to texture (for instance, its seeming lack of separability from its musical environment), the broader perspective gained by this mixed methodology is shown to be particularly valuable and suggests wider applicability.

Details of compositions

Accompanying this thesis are four response compositions, each contained in a separate PDF file. Recordings for these works are also included in four corresponding WAV files.

Etude No. 1: *Mirie it is*

Composed: May 2020

Instrumentation: solo piano

Duration: 3'45"

Performance: July–August 2022. Frederick Viner, piano. Private recording using Garritan Abbey Road CFX Concert Grand Piano Plug-In.

Commentary: Chapter 3

Score File Name: Viner_ 109032994 _Etude I - Mirie it is Full Score.pdf

Audio File Name: Viner_ 109032994 _Etude I - Mirie It Is Audio File.wav

Etude No. 2: *Flyby*

Composed: January 2021

Instrumentation: solo piano

Duration: 4'15"

Performance: July–August 2022. Frederick Viner, piano. Private recording using Garritan Abbey Road CFX Concert Grand Piano Plug-In.

Commentary: Chapter 5

Score File Name: Viner_ 109032994 _Etude II - Flyby Full Score.pdf

Audio File Name: Viner_ 109032994 _Etude II - Flyby Audio File.wav

Etude No. 3: *Meditation*

Composed: September 2021

Instrumentation: solo piano

Duration: 4'15"

Performance: July–August 2022. Frederick Viner, piano. Private recording using Garritan Abbey Road CFX Concert Grand Piano Plug-In.

Commentary: Chapter 7

Score File Name: Viner_ 109032994 _Etude III - Meditation Full Score.pdf

Audio File Name: Viner_ 109032994 _Etude III - Meditation Audio File.wav

Etude No. 4: *Toccata*

Composed: June 2022

Instrumentation: solo piano

Duration: 3'45"

Performance: July–August 2022. Frederick Viner, piano. Private recording using Garritan Abbey Road CFX Concert Grand Piano Plug-In.

Commentary: Chapter 9

Score File Name: Viner_ 109032994 _Etude IV - Toccata Full Score.pdf

Audio File Name: Viner_ 109032994 _Etude IV - Toccata Audio File.wav

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Author's declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

1
Introduction

The history of piano writing could be seen simply as the evolution of figuration and, despite the often ingenious solutions invented by modern composers, it has become a problematic issue in an age when earlier techniques no longer function. Crack that challenge and you have the holy grail of piano writing in your hands![1]

The holy grail

How do contemporary composers write for the piano? This question, as vast and vague as it, has nonetheless occupied me for years. As a composer and performer of piano music, I can attest with first-hand experience to the continuing dominance of tried-and-tested techniques of the past. The evolution of figuration has left behind a rich fossil record of pianistic shapes and patterns from which to plunder, and this is precisely what many composers today do, be it consciously or not. But if, as Benjamin asserts, these techniques no longer function, what creative avenues remain and who are the artists most keenly seeking them out?

It was only after asking these questions that I recognised the analytic area into which I had wandered: that of texture. More than other musical elements, texture gets to the very heart of piano writing, illuminating the number, roles and interactions of lines (or 'voices') and the ways in which they are distributed between hands and fingers.[2] Furthermore, texture appears uniquely suited to deal with the immense stylistic diversity that typifies contemporary music. Possessing what Huron describes as an 'apparent universality', the element invariably serves as a common denominator, bridging the gap

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[1] George Benjamin, 'Composing for the Piano in Black and White', *The Guardian*, June 3, 2010, sec. Music, accessed October 14, 2022, https://www.theguardian.com/music/2010/jun/03/composing-for-the-piano.

[2] A number of textural terms ('lines', 'voices', 'parts', 'components' etc.) are mentioned in this introduction. Some are interchangeable whilst others have more nuanced, contextual meaning. There is a lack of consensual definitions for these terms so I adopt a more personal approach, which is discussed within the 'Methodology'.

between otherwise distinct compositional styles.[3] The opening quotation by Benjamin –

with its fanciful yet inspiring holy grail metaphor – may have provided the initial impetus

for this research, but I soon realised that in order to address the question, 'how do

contemporary composers write for the piano', I would have to instead ask, 'how do

contemporary composers use texture in piano music?

Surprisingly few seem to have asked this question. While there is certainly no

shortage of research on piano music (including by composers covered in this thesis),

texture is seldom put in the spotlight and mostly called upon for shorthand descriptions –

e.g. thick, thin, light, heavy etc. This is borne out by a comparison of search results on

digital libraries such as *JSTOR*, which reveals a striking discrepancy between the number

of articles related to texture and those related to other musical elements.[4] There are several

reasons for this, which I will come to below; but as it stands, the topic has 'largely been

taken for granted', as Levy puts it.[5] Among the scant research are studies devoted to works

of specific composers, for example, Schumann, Brahms, Schoenberg and Xenakis.[6]

However, little attention has been paid to more recent repertoire, and no one has yet

attempted any wider survey of contemporary approaches to keyboard texture.

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[3] David Huron, 'Characterizing Musical Textures', (conference paper: 1989 International Computer Music Conference, ICMC 1989, Columbus, Ohio, November 2–5, 1989: 131).

[4] Under the subject 'Music' on *JSTOR*, 'Texture' appears in the titles of 33 articles, whereas 'Harmony' appears in 687, 'Rhythm' in 551 and 'Form' in 846. 'Counterpoint' and 'Polyphony' fare much better, appearing 308 and 328 times respectively, however, these articles are primarily concerned with vocal works and/or early music. 'Homophony' and 'Heterophony' scarcely feature at all, appearing 3 and 4 times respectively – *JSTOR*, accessed February 14, 2023, https://www.jstor.org.

[5] Levy made this comment in 1982, however the situation remains largely the same 40 years on – Janet M. Levy, 'Texture as a Sign in Classic and Early Romantic Music', *Journal of the American Musicological Society* 35, no. 3 (1982): 482.

[6] Thomas Sauer, 'Texture in Robert Schumann's first-decade piano works', (PhD dissertation, The City University of New York, 1997); Brent Auerbach, 'Tiered Polyphony and Its Determinative Role in the Piano Music of Johannes Brahms', *Journal of Music Theory* 52, no. 2 (2008): 273–320; John Roeder, 'Interacting Pulse Streams in Schoenberg's Atonal Polyphony', *Music Theory Spectrum* 16, no. 2 (1994): 231–49; Ronald Squibbs, 'Some Observations on Pitch, Texture, and form in Xenakis' Mists', *Contemporary Music Review* 21, no. 2–3 (2002): 91–108.

Consequently, there exists an investigative void.

This thesis aims to help fill this research gap by exploring the topic in piano Etudes by György Ligeti, Magnus Lindberg, George Benjamin and Unsuk Chin. Using a cross-disciplinary method which combines analysis with composition, I will examine each of the composer's respective techniques and ascertain the extent to which they mirror or build on traditional techniques of the past. Regarding this latter point, it will become clear that innovative approaches to piano writing – i.e. Benjamin's holy grail – do not necessarily entail a discarding of tradition. This mixed methodology will generate a body of knowledge which will offer many useful points of comparison – both to historical repertoire as well as to music of other cultures – and provide a broad indication of the role, or roles, of texture in contemporary piano music.

The trickiness of texture

Today, texture is commonly accepted as a core musical component. Yet, as an area of analytic investigation it has suffered from neglect up until relatively recently. The reasons for this are varied, but key among them is the fact that it has not always been classed as musical vocabulary. Dunsby describes the term as belonging 'principally to the modern age', citing its conspicuous absence from authoritative dictionaries prior to the latter decades of the 20th century, for example the *Oxford English Dictionary* (1933) and *Grove's Dictionary of Music and Musicians* (1954).[7] When the term did eventually begin to creep into the lexicon, it was primarily within the context of new-music criticism in the early 20th century.[8] Dunsby argues that '[m]any of the familiar terms and concepts in music criticism had become irrelevant…what we now think of as texture was often the

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[7] Johnathan Dunsby, 'Considerations of Texture', *Music & Letters* 70, no. 1 (1989): 46.
[8] Perraudeau compiles an array of early references to texture by 20th-century composers and theorists – Sandrine Perraudeau, 'La texture en musique: sa contribution pour la composition, l'apprentissage de la musique et ses effets sur la perception musicale et la cognition des enfants sourds implanté', (PhD dissertation, Université Bourgogne Franche-Comté, 2019).

only hook on which critics, reviewers, and teachers too, were able to hang their musical understanding of the new.'[9] Though as somewhat of a last resort, texture had found a foothold, offering a much-needed framework with which to comprehend music increasingly devoid of traditional features.

Even with the term now fully assimilated into musical vocabulary, there remain lingering conceptual hurdles for the would-be analyst.[10] 'Pitch, rhythm, and harmony', Trenkamp points out, 'all can be easily separated from their musical environment for discussion's sake…Texture lacks this quality of separability, or discreteness. No matter how important to the structure of a composition, texture appears to be primarily a resultant element, one fashioned out of combinations of other elements.'[11] So, whereas a pitch or harmony may be sung, and a rhythm clapped, there lacks an immediate, intuitive means of abstracting a texture from its musical context. It appears, as Trenkamp writes, as a 'resultant element' within a composition, demonstrable and describable only through reference to the other musical components that make it up and not strictly on its own terms, whatever they may be. Though not intrinsically problematic, this conditional relationship has led to some unhelpfully vague definitions in the past (such as in the *Harvard Dictionary of Music*, 1971) and can very easily muddy an investigation.[12] After all, if one cannot meaningfully discuss texture without also discussing in reasonable depth

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[9] Dunsby, 'Considerations of Texture', 47.

[10] Dunsby also lists another noteworthy hurdle: the fact that the term 'texture' is specific to the English language. Unusually for a musical term, it has no direct equivalence with any other language, although the Italian 'tessitura' and the German 'Satz' do cover related ground. While certainly not an insurmountable barrier, this linguistic exclusivity would hardly have helped nurture theoretical inquiry – Ibid., 46.

[11] Anne Trenkamp, 'Considerations Preliminary to the Formation of a Textural Vocabulary', *Indiana Theory Review* 4, no. 1 (1980): 14.

[12] 'Much like woven fabric, music consists of horizontal ("woof") and vertical ("warp") elements. The former are the successive sounds forming melodies, the latter the simultaneous sounds forming harmonies. It is these elements that make up the texture.' – *The Harvard Dictionary of Music*, ed. Willi Apel (Cambridge: Harvard University Press, 1972): 842.

its constituent elements then the actual object of study risks receding ever further into the background.

Berry's scholarship offers many rigorous solutions to this conceptual conundrum and is credited in large part for the more recent flourishing of textural analyses (see examples under footnote 6). *Structural Functions in Music* includes a lengthy chapter on texture, in which he greatly expands upon the commonly known but sparse descriptive terminology and sets out several novel concepts upon which much of the forthcoming analysis is based – for example textural crescendo and diminuendo (defined in Chapter 2). Moreover, he formulates the following useful definition:

> The texture of music consists of its sounding components; it is conditioned in part by the number of those components sounding in simultaneity or concurrence, its qualities determined by the interactions, interrelations, and relative projections and substances of component lines or other component sounding factors.[13]

Berry acknowledges texture's lack of separability, as Trenkamp outlines above, but crucially does not resort to defining it through the lens of other musical elements, as so many have often done. By resisting the use of terms such as melody, harmony, rhythm etc., he obtains a more widely applicable definition focused essentially on the *number* and *qualities* of sounding components, which he describes in *quantitative* and *qualitative* terms. To illustrate this using Sauer's example, 'a two-part invention by Bach would display a texture of remarkable *quantitative* consistency, whose two sounding components attain a high degree of *qualitative* independence overall.'[14]

Whilst undeniably valuable to my research, this notion of texture is not without its shortcomings. In particular, there are two analytic issues inherent to keyboard music which persist, even despite Berry's efforts. The first relates to the instrument's relative

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[13] Wallace Berry, *Structural Functions in Music* (Englewood Cliffs, New Jersey: Prentice-Hall, 1976), 184.
[14] Sauer, 'Texture in Robert Schumann's first-decade piano works', 5.

timbral homogeneity. Unlike string instruments, say, the piano offers few ways of producing meaningfully different sounds, notwithstanding the comparatively vast timbral potential afforded by prepared piano techniques. As Benjamin says, '[s]ingle notes on the piano…can only really be altered through pressing either harder or softer.'[15] The problem then is that these similar-sounding notes can result in similar-sounding textures, making the job of isolating components and determining their exact number and qualities difficult. For example, a contrapuntal passage may, on paper, be composed of several independent lines, but, in aural reality, come across more as a single mass of sound unless those lines are sufficiently differentiated (rhythmically, dynamically, registrally etc.). Of course, it is not uncommon for composers to take advantage of this 'limitation' of the medium. Indeed, both Ligeti and Chin do precisely this in their studies (covered in Chapters 2 and 8), the former piling up 'layers' to the point of indistinguishable cacophony, the latter blurring the perceptual boundary between different 'streams'.[16] Berry's methods, which are predicated on precise numerical measurements, may adequately capture the theoretical structure of such textures, but they do not always fully reflect the listening experience, nor the composer's intent. To echo Sauer once more, '[t]he constitution of some textures is simply too fluid to be reduced to discrete columns of numerals.'[17]

Another issue is raised by the prevalence of perennial pianistic figures and textures (which Levy describes as 'conventionalized signs'), which are sufficiently cliché that they function as recognisable topics within a semiotic understanding of music.[18] Scales, arpeggios and various forms of melody-dominated homophony, for instance, are common in much contemporary piano music, and Berry's somewhat clinical terminology is, by

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[15] Benjamin, 'Composing for the Piano in Black and White'.
[16] 'Layers' and 'streams' are contextual terms which are used and defined in Chapters 2 and 8 respectively.
[17] Sauer, 'Texture in Robert Schumann's first-decade piano works', 6.
[18] Levy, 'Texture as a Sign in Classic and Early Romantic Music', 488.

design, blind to the rich historical connotations in which they are steeped. On several occasions during the present study, composers (Lindberg in particular) harness these keyboard 'tropes' to evoke a specific period or repertoire. In order to fully illuminate this music, it is therefore necessary to examine the referential function of such textures in addition to their contextual function within each composition.

There is no single solution to the multi-faceted challenge of textural analysis in piano music. Berry's research is indispensable for overcoming the topic's tricky conceptual hurdles; however, when it comes to keyboard writing, which is often characterised by more timbrally homogenous and referential textures, these methods only get one so far. In light of this, I adopt a more flexible, piece-centred approach – tailoring terminology to the specific compositional context – and a cross-disciplinary method, both of which are outlined below.

Methodology

Central to this study is the combination of analytic and compositional elements.[19] Four different contemporary piano works serve as analytic case studies – Chapters 2, 4, 6 and 8; and paired with these are four original response compositions, discussed through commentaries – Chapters 3, 5, 7 and 9. The compositions are not attempts at stylistic mimicry; in fact, rarely do they share any audible likeness to the case study to which they are paired. Rather, they confront the same textural techniques that are explored in the analyses, picking up directly from where they leave off. For example, both the first case study and its response composition are centred on 'tempo fugue' (Chapters 2 and 3); likewise, the third case study deals with 'pedal group' and so too does its response composition (Chapters 6 and 7). By exploring these techniques in multiple contexts, I

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[19] For this research model I am indebted to Martin Scheuregger, who employs it in his PhD thesis with remarkable efficacy – Martin Scheuregger, 'Conceptions of Time and Form in Twentieth and Twenty-First-Century Music', (PhD dissertation, University of York, 2015).

diminish the issue of texture's inseparability. Demonstrating and developing these concepts in my own works invariably brings them into sharper relief, in a sense 'separating' them from their original musical context. Furthermore, by engaging with the topics compositionally various insights are gained that would not have been available through analysis alone, into the case studies as well as my own compositional process.

Speaking of analysis, I approach every case study largely on its own terms and without a unified method. Consequently, much piece-specific terminology is employed, which draws upon each composer's broader aesthetic concerns, as well as their influences.[20] For instance, I discuss Ligeti's textures in terms of *superimposed* and *underlying layers* as this reflects his Sub-Saharan African influences, not to mention his own technical description of the work;[21] however, for Benjamin's study I adopt *musics* as this expression was used by his teacher, Messiaen, and best describes the work's bifurcated texture.[22] In this way, these contextual terms, as opposed to more general terms (such as Berry's 'sounding components'), arguably better account for compositional intent, including when texture is used referentially or for a particular sonic outcome.

In addition to piece-specific terminology are the universal terms, *voice* and *line* (often abbreviated to 'V'), which I use interchangeably for variety's sake. These terms refer to single parts of texture that express some form of linear independence – for example, an undoubled monophony or the constituent parts of a polyphony. Due to the instrument's timbral homogeneity and the texturally fluid nature of much keyboard writing, the application of such terms is rarely straightforward. As previously mentioned, multiple voices can imply one and, conversely, one voice can imply multiple (i.e. *implied polyphony* – a core characteristic of Chin's study). Other times, these more general terms

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[20] Piece-specific terminology is defined in the chapter in which it first appears.
[21] György Ligeti, 'On my Etudes for Piano', trans. Sid McLauchlan, *Sonus* 9, no. 1 (1988): 4–5.
[22] Olivier Messiaen, *The Technique of My Musical Language*, trans. John Satterfield (Paris: Alphonse Leduc, 1956), 55.

are simply not appropriate, such as when the above contextual terms are more relevant. In any case, the ongoing priority is to keep the main analytic topics in view, all the while avoiding a terminological quagmire.

Chosen works

The works selected as case studies, along with their response compositions, are listed as follows:

Case studies: *Response compositions:*

1) György Ligeti –   1) Etude No. 1: *Mirie it is*
   Etude No. 6: *Automne à*   (2020)
   Varsovie (1985)

2) Magnus Lindberg –   2) Etude No. 2: *Flyby*
   Etude No. 1   (2021)
   (2001)

3) George Benjamin –   3) Etude No. 3: *Meditation*
   Meditation on Haydn's Name   (2021)
   (1982)

4) Unsuk Chin –   4) Etude No. 4: *Toccata*
   Etude No. 5: *Toccata*   (2022)
   (2003)

All four composers have made significant contributions to the modern piano repertoire – utilising the instrument in solo, chamber and concerto settings – and arguably hold a sizeable influence over current modes of writing. This is perhaps reason enough for their inclusion, but on top of this they share two common underlying concerns, of pressing relevance to this study: an acute awareness of musical heritage, which they very often channel through the adoption of traditional genres; and a ceaseless drive to forge new creative avenues, almost as if in pursuit of Benjamin's elusive holy grail.

From an enormous combined output, I have homed in on their Etudes (or studies), a genre in which innovative keyboard writing is invariably placed centre stage, and one

which neatly bears out the group's interest in both the old and new.[23] On the one hand, the Etude is as tradition-laden as they come, evoking an imposing literature to which many of history's greatest piano composers have contributed. On the other hand, it carries with it few formal or stylistic constraints, leaving composers free to mould the genre to their own designs, without having to resort to calculated subversion of convention – something that perhaps cannot be said of the Sonata or Symphony.

With this relatively blank canvas, the select four have taken the Etude in many novel directions, implementing an array of original and nuanced textural procedures. Ligeti coined 'tempo fugue' to describe his Etude No. 6: *Automne à Varsovie*, owing to its unique contrapuntal style borne from a range of diverse and disparate influences – from Chopin to Sub-Saharan African music. This tempo fugue concept also forms the basis for my response composition, Etude No. 1: *Mirie it is*. With the titular English folk song as fugal subject, I explore how borrowed materials, designed with clear tonal and rhythmic inflections, can be assimilated within such a compositionally distinct system. Unlike Ligeti, Lindberg forgoes complex counterpoint in his Etude No. 1 and instead strives for textural clarity, something he achieves through one- and two-part writing and the use of pianistic tropes (parallel thirds, melody and accompaniment and bravura figures). Composed in response to this is my Etude No. 2: *Flyby*, which explores similarly stripped-down textures, as well as an astronomical metaphor specifically designed to blur the perceptual line between them.

Benjamin employs the 'pedal group' concept in *Meditation on Haydn's Name*, forging textures that are essentially divided into two parts. The degree to which these parts interact and how that articulates the overarching musical form are central issues both to the analysis and my compositional response, Etude No. 3: *Meditation*. Continuing with

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[23] Benjamin's *Meditation on Haydn's Name* in fact belongs to a wider set entitled 'Three Studies for Solo Piano' (1985), hence its inclusion.

this theme of divided textures is Chin's Etude No. 5: *Toccata*, which employs two distinct streams, one lyrical and one an implied polyphony. Textural streams are absent from my work, Etude No. 4: *Toccata*; however, it does incorporate implied polyphony, whilst also taking inspiration from the case study's general virtuosic character.

Above all, the response works could best be described as *compositional* Etudes, as opposed to *pianistic* Etudes. In other words, the 'technique' which is being explored is that of my own – as the composer – as much as, or more than, that of the performer. That is not to say the music is not difficult; on the contrary, each piece demands a highly advanced technique in order to execute it. However, absent are the core pedagogical patterns (scales, arpeggios, thirds etc.) which typically characterise historical pianistic studies, for example the famous sets by Chopin, Liszt, Rachmaninoff, and Debussy. In this respect, the response works are perhaps closer generically to Frescobaldi's numerous keyboard works written *con obbligo* – in which the composer self-imposes strict technical parameters in order to stimulate out-of-the-box thinking – and Ligeti's eleven experimental *Musica Ricercata* (1951–53).

Research scope

Together, the case studies provide a window into the myriad roles of texture in contemporary piano music. Numerous diverse techniques are discussed – some wholly original, some which build on long-established principles – from which comparisons and conclusions will be drawn. While the sample size may be limited to four works, the issues explored pertain to a much broader repertoire, encompassing both contemporary and historical works. Therefore, in addition to offering detailed accounts of individual approaches to texture, this study also has the capacity to speak to wider trends.

The response compositions shed further light on the case studies, whilst reflecting my own artistic engagement with the topics. Each original Etude 'responds' in a different fashion and to a different degree – from the somewhat rigid adherence to technique in the

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first, *Mirie it is*, to the more confident and intuitive interplay of ideas in the fourth, *Toccata*. As Scheuregger says, this 'rationale is employed to demonstrate the multiplicity of possibilities…rather than to create a definitive way of addressing each.'[24] That said, knowledge of the case studies is certainly not required in order to appreciate the response compositions, all of which can very much stand alone.

The magnitude of the question – 'how do contemporary composers use texture in piano music?' – far exceeds the scope of a single study. The aim, therefore, is that this research will encourage and enable further discussion on the role of this notoriously tricky element within piano music and supply the analytic lens through which to investigate it.

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[24] Scheuregger, 'Conceptions of Time and Form', 17.

2
Taking Time for Texture:
Tempo Fugue in Ligeti's *Automne à Varsovie*

A third way

Ligeti initially planned a modest twelve Etudes: two books of six, in a nod to Debussy's set composed in 1915. But the project evidently proved addictive, as he went on to write an additional six to take the total to eighteen, enough to fill three books (had schedule and health permitted, he had even planned on writing a fourth).[25] Such a feat is made all the more remarkable, and unusual perhaps, in light of the composer's solo piano output of the preceding thirty-five years. After the explorative, eleven-movement *Musica Ricercata* (1951–53), Ligeti only composed two further pieces, neither of which have any obvious bearing on the later Etudes: *Chromatische Phantasie* (1956), a youthful dodecaphonic experiment which the composer describes disparagingly as 'very naïve and primitive';[26] and *Trois Bagatelles* (1961), whose 1st movement contains a single C♯, and whose 2nd and 3rd movements contain no notes at all, taking after John Cage's notorious *4'33"* (1952) – an allusion that was not well received by the American composer.[27]

What then triggered this sudden preoccupation in 1985, with a historically loaded genre no less? Steinitz suggests that the composition of the Etudes was facilitated by 'the wider stylistic changes of the 1980s, his more determined independence from the avant-garde and personal reconnection with tradition'.[28] Ligeti's independence from the avant-garde and reconnection with tradition were in fact emphatically marked by the same piece

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[25] Richard Toop, *György Ligeti* (Michigan: Phaidon Press, 1999), 199.
[26] Ove Nordwall, liner notes for *György Ligeti – The Complete Piano Music – Volume I*, Fredruik Ullén, 1995, BIS Records.
[27] Ibid.
[28] Richard Steinitz, *Gyorgy Ligeti: Music of the Imagination* (London: Faber & Faber, 2003), 278.

– the Trio for violin, horn and piano (1982), written only a handful of years before the first book of Etudes. With its Beethovenian horn calls and dedication to Brahms, the work was evidently enough to sever his already frayed ties with certain modernists, notably Lachenmann.[29] But despite its embracing of triadic harmonies and ternary forms, the piece is anything but pastiche (the music adopts the 'the vocabulary but not the syntax of tonal music');[30] nor is it a product of avant-garde thinking. Rather, the Trio sees Ligeti forge a different path, a 'third way' as he puts it, wherein his numerous and seemingly incompatible influences find synthesis.[31] For example, in addition to the 1st movement's evocation of Beethoven's *Les Adieux* Sonata, the composer also channels his new-found interest in Latin American music in the 2nd movement, whilst employing minimalist phase-shifting in the 3rd.

This all-embracing aesthetic laid the foundation for some of Ligeti's most accomplished and innovative late-style works, including the three volumes of Etudes. The sixth from Book 1, *Automne à Varsovie*, in particular epitomises his 'third way', a work for which the composer coined the term 'tempo fugue'.[32] This unique approach to counterpoint is borne from a characteristically eclectic set of influences and serves as the main focus for this chapter as well its response composition, Etude No. 1: *Mirie it is*.

Tempo fugue

Steinitz describes *Automne* as 'much more than a Chopinesque tribute…a combination of African thinking and the augmentation and diminution principles in the

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[29] Steinitz, *György Ligeti*, 251.

[30] Mike Searby, 'Ligeti's 'Third Way': 'Non-Atonal' Elements in the Horn Trio', *Tempo* 216 (2001): 19.

[31] Claude Samuel, *Entretien avec György Ligeti* (1981), trans. Terence Kilmartin, in *Ligeti in Conversation* (London: Eulenberg, 1983), 123.

[32] György Ligeti, 'Polyrhythmical Aspects in my Piano Etudes', (lecture, International Bartok Seminar and Festival, Szombathely, Hungary, July 26, 1990), quoted in Lois Svard, 'Illusion in Selected Keyboard Works of György Ligeti', (DMA thesis, Peabody Conservatory of Music, 1990), 76.

fugues of J.S. Bach, filtered through the music of Nancarrow and the graphic ideas of Escher.'[33] As varied as these influences are, the work bears tangible traces of them all, with Chopin and Sub-Saharan African music being especially important to unravelling tempo fugue.

First is the influence of Chopin, which is arguably greater than Steinitz implies. For a start, there is the parallel between the title of Ligeti's study and Chopin's alternative title for his famous *Revolutionary Etude*, Op. 10 No. 12: *Etude on the Bombardment of Warsaw*. Then there is the similarity of where these works are placed within their respective sets: Chopin's is listed No. 12 and caps off his Opus 10; likewise, Ligeti's is found at the end of Book 1, acting as a sort of coda (the manic descent to the bottom key of the piano at the end of the piece mirrors the similarly manic ascent to the top key at the end of the first Etude *Désordre* – no doubt an intentional large-scale symmetry). More pertinent however is Chopin's innovative approach to hemiola, as employed in works such as the Ballade No. 4 in F-minor, Op. 52 (1842). **Figure 2.1** shows a passage towards the end of the piece, which Taylor describes as 'perhaps the closest precursor to the rhythms of "Automne a Varsovie" in the piano repertoire':[34]

Figure 2.1: Chopin, Ballade No. 4, complex hemiola (bars 175–176)

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[33] Steinitz, *György Ligeti*, 293.
[34] Stephen Taylor, 'The Lamento Motif: Metamorphosis in Ligeti's Late Style,' (DMA dissertation, Cornell University, 1994.), 55.

In this extract Chopin combines semiquavers in the left hand with triplet semiquavers in the right; however, the right-hand melodic notes (indicated by upturned stems) fall on every *fourth* triplet semiquaver beat, creating a complex hemiola that completely displaces the melody from its accompaniment.

With tempo fugue, Ligeti sought to extend this 19th-century concept of hemiola. To do this he drew on the rhythmic principles of Sub-Saharan African music, which he discovered courtesy of the recordings and publications made by French-Israeli ethnomusicologist Simha Arom (once acquainted, the composer went on to write the preface to Arom's treatise, *Polyphonies et polyrhythmies instrumentales d'Afrique Centrale* in 1985).[35] Reflecting on these principles and the curious combination of European and African influences, Ligeti writes:

> One often arrives at something qualitatively new by unifying two already known but separate domains. In this case, I have combined two distinct musical thought processes: the meter-dependent hemiola as used by Schumann and Chopin and the additive pulsation principle of African music. Stemming from mensural notation of Renaissance music, the hemiola arises from the metric ambiguity posed by a measure of 6 beats, which can either be divided in three groups of two or in two groups of three.

> The shimmering effect of simultaneously dividing the bar into two and three produces the metric tension which in itself is one of the strongest attractions of the music of Chopin, Schumann, Brahms and Liszt. A completely different metric ambiguity is to be found in African music as well. Here, of course, there are no measures in the European sense of the word, but instead one finds two rhythmic levels: an underlying layer consisting of fast, even pulsations which are however not counted as such but rather felt, and a superimposed layer of occasionally symmetrical but more often asymmetrical patterns of varying length, though always multiples of the basic pulse.[36]

To summarise, the composer homes in on two key concepts of Sub-Saharan African music: an *underlying layer* consisting of fast, even pulsations; and *superimposed layers*

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[35] Simha Arom, *Polyphonies et polyrhythmies instrumentales d'Afrique Centrale* (New York: Cambridge University Press, 1991).
[36] Ligeti, 'On my Etudes for Piano', 4–5.

of varying length, though always multiples of the basic pulse. The underlying layer in

Automne is shown in **Figure 2.2** and initially consists of broken-octave E♭ semiquavers:

Figure 1.2: Ligeti, Etude No. 6: *Automne à Varsovie*, underlying and superimposed layers (bars 1–2)
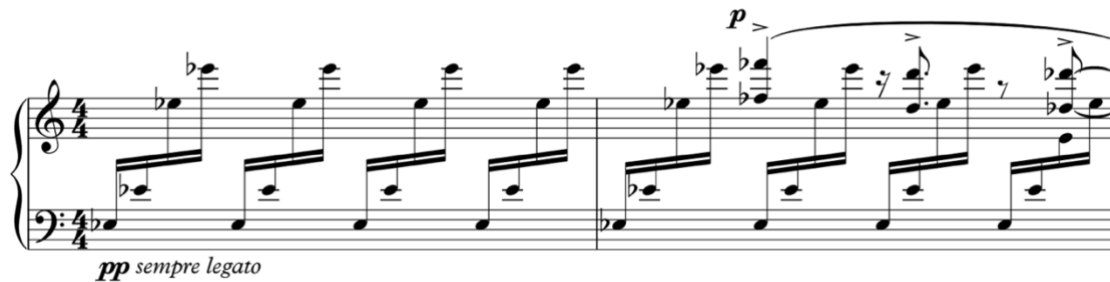
Matching up with Ligeti's description, this material is fast (*presto),* even (*sempre legato*) and represents the work's basic pulse (i.e. a semiquaver). On top of this underlying layer, Ligeti adds anywhere between one and four superimposed layers, whose lengths are multiples of the basic pulse. One such superimposed layer is shown in **Figure 2.2** above: the accented octaves marked *p* which enter in bar 2. These octaves are each equivalent to five semiquaver beats (so, the pulse multiplied by five), which immediately conflicts with the sense of four created by the regular, low-to-high distribution of the pulsations.

In isolation, this extract is not so far removed from the Chopin example featured in **Figure 2.1** above: both passages contain a melodic line whose durations conflict with what are essentially accompanimental parts. But the similarities wane once Ligeti begins to saturate the texture with yet more superimposed layers. One especially intimidating passage is shown in **Figure 2.3**, which is made up of an underlying layer (the stuttering A♭s in the top stave) and a whopping four superimposed layers, with durations of three, four, five and seven semiquaver beats respectively:

Figure 2.3: Ligeti, Etude No. 6: *Automne à Varsovie*, **four superimposed layers (bars 85–87)**

The aural result of combining various superimposed layers is that of simultaneous tempi, hence the composer's description of the piece – tempo fugue. Ligeti further expands on this effect:

> …the pianist plays an even succession of notes. The piece is notated in 4/4 (although the barlines as such are not audible), with sixteen fast pulses per measure. There is however a place in the piece where the right hand accentuates every fifth pulse and the left every third. To the ear, these chains of accents blend together to form a super-signal consisting of two melodies: a slower one formed by the groupings of five and a faster one formed by the groupings of three. The ratio 5:3 is of course mathematically simple, but perceptually very complex. We do not count the pulses but rather experience two qualitatively different tempo levels. Neither does the pianist count while playing: he produces the accents according to the notation, is aware of a pattern of muscle contraction in the fingers, all the while however hearing another pattern, namely that of the different tempi which could not possibly be produced consciously.[37]

It is according to this concept of simultaneous tempi that tempo fugue is best understood. Looking back to **Figure 2.3** for example, the four superimposed layers share the same dynamic (***pp***) and descending trajectory, are phrased and articulated identically (*legato* and with tenuti) and occupy the same cramped registral span (F3–A♭5). Therefore, the only meaningful way in which they express independence is through their contrasting durations, or tempi. This is highlighted by **Figure 2.4** which shows the same passage of

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[37] Ligeti, 'On my Etudes for Piano', 5–6.

music as the previous figure but stripped of all pitch and the underlying layer (the A♭ pulsations), leaving only the rhythmic skeleton of the four superimposed layers:

Figure 2.4: Ligeti, Etude No. 6: *Automne à Varsovie*, **temporal polyphony (bars 85–87)**

With the music laid bare in this fashion, it is clear in what respect the layers are distinct. Compensating for the apparent lack of conventional contrapuntal variety is a staggeringly diverse *temporal* polyphony. This is a particularly extreme example – in fact, the music never exceeds this number of superimposed layers – but it is indicative of Ligeti's approach to tempo fugue throughout the piece. Whether the music contains two or four superimposed layers, their combinations result in textures characterised both by contrapuntal homogeneity (i.e. lines with similar dynamics, contour, register etc.) and simultaneous tempi.

The perception of simultaneous tempi is primarily what sets tempo fugue apart from Ligeti's previous explorations of complex polyphonic textures, namely micropolyphony. Whilst this earlier technique also involves music composed of imitative, rhythmically independent lines, such is the quantity of these lines that they produce a dense mass of sound. Unlike *Automne*, in which various conflicting layers can be traced without undue perceptual strain, in works such as '*Atmosphéres*' for orchestra (1961) and '*Lux Aeterna*' for choir SATB (1966) it is practically impossible to discern individual parts. As Ligeti himself highlights, '[t]he polyphonic structure does not come through,

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you cannot hear it; it remains hidden in a microscopic, underwater world, to us inaudible.'[38]

Another difference between the two methods is that whereas tempo fugue contains an underlying layer, micropolyphony does not. In fact, the latter technique is based on an entirely different conception of musical pulse. Taylor elucidates this distinction, writing how 'the Etudes conceive of the pulse as a musical atom, a common denominator, a basic unit which cannot be divided any further,' whereas the earlier, micropolyphonic works conceive of the pulse as 'something to be divided, into two, three, and so on'. The effect of these simultaneous subdivisions, he concludes, is 'to blur the aural landscape, creating the micropolyphonic "Ligeti effect".'[39]

Tempo fugue, as found in *Automne* and the corresponding response composition, certainly presents dense and at times impenetrable textures (see **Figure 2.3** above). However, it does not come close to the complexity of micropolyphony – in part due to the contrapuntally limited nature of the solo piano when compared with an orchestra or choir – and results, by design, in a completely different perceptual outcome.

The fugal subject

Having unpacked the main principles of tempo fugue, it is worth exploring in detail the fugal subject that serves as the basis for the superimposed layers – Ligeti's 'lamento motif'.[40] This also represents an opportunity to discuss texture on a smaller scale, in particular the emphasis that the composer places on doublings. Outlined in **Figure 2.5** below, the lamento motif consists of simple, descending chromatic lines, grouped into three distinct phrases: in phrase 1 the motif falls from E (initially spelled Fb) to C,

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[38] Gyorgy Ligeti quoted in Péter Várnai, 'Beszélgetések Ligeti Györgyyel', trans. Gabor J. Schabert, in *Ligeti in Conversation* (London: Eulenberg, 1983), 14–15.
[39] Taylor, *The Lamento Motif*, 57–58.
[40] Ibid., 3.

skipping the E♭ so as not to intrude on the broken-octave pulsations (i.e. the underlying layer); phrase 2 repeats this material, but takes the descent a step lower to B; and phrase 3, longer than the first two combined, descends by nearly an octave while introducing two upward leaps (in bars 7 and 8).

Figure 2.5: Ligeti, Etude No. 6: *Automne à Varsovie*, **the lamento motif (bars 2–9)**

The inspiration for this motif can be traced back to the composer's youth when he heard professional Romanian mourners, whose traditional funeral laments are also characterised by descending chromatic lines.[41] Bouliane also points to Purcell's famous aria *When I am laid in earth* from *Dido and Aeneas* as a likely influence, specifically the work's ever-falling, chromatic ground bass:[42]

Figure 2.6: Purcell, *When I am Laid in Earth*, **descending ground bass**
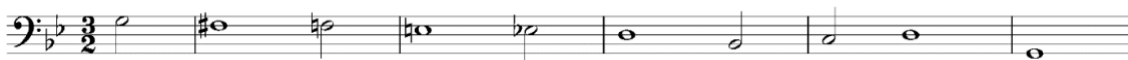
In addition to these influences, the motif is also imbued with a broader historical resonance. For centuries in western classical music, descending lines and chromaticism have come to represent themes of grief, anguish and death (for example the commonly

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[41] Steinitz, *György Ligeti*, 9.

[42] Denys Bouliane, 'Six 'Etudes' pour piano de Ligeti', *Contrechamps* 12–13 (1990), 98.

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used 'sigh' motif – or '*pianto*' – formed of a descending minor second).[43] By tapping into this perennial musical symbol Ligeti once again aligns himself with tradition, a trait which is highly typical of his 'third way'.

Automne is in fact neither the first piece nor the last in which the lamento motif appears. It first crops up in the 4th movement of the aforementioned Trio for violin, horn and piano (although devoid of the complexity that plays such a vital role in its subsequent appearances) and later appears in the 2nd and 3rd movements of his Piano Concerto (1985–88). But whereas these works incorporate the motif alongside a host of other material, *Automne* fixates on it exclusively. As a consequence of this economic approach, it appears over eighty times in the work, and not only in the superimposed layers; even the underlying layers occasionally emerge from the background, adopt the characteristics of the motif and begin to descend – or ascend, in the case of inversions. An example of the latter occurs in bars 11–15: the G in the bass is initially part of an underlying layer and then becomes a superimposed layer.

Despite its ubiquity, Ligeti finds a ceaseless number of variations for the motif. As previously discussed, the simultaneous tempi principle is primarily what sets each superimposed layer apart. Coupled with this, however, is an exceptionally diverse array of doublings. From the open, more consonant sonorities produced by third, fifth and octave doublings to the dense, dissonant chords made from combinations of tritone, seventh and ninth doublings, Ligeti explores practically every interval permitted by the stretch of a pianist's hand. And these varied intervals are not used merely to embellish the motif; on the contrary, Ligeti systematically manipulates this intricate aspect of texture for two key purposes.

Firstly, doublings are used to articulate the motif's 3-phrase structure, which is very

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[43] Raymond Monelle, *The Sense of Music: Semiotic Essays* (Princeton: Princeton University Press, 2010), 17.

often obscured during the music's more texturally dense passages. Take the very first 3-phrase group at the beginning of the work for example, as shown in **Figure 2.5** above (bars 2–9). Phrases 1 and 2 are relatively similar, and this is reflected in the consistent octave doubling of the superimposed layer. However, phrase 3 deviates from the previous two, beginning the chromatic descent from a higher registral position and with durations worth double the established number of beats – ten semiquaver beats as opposed to the previous five. Ligeti highlights this deviation in register and duration with a distinctly non-octave sonority: the comparatively harsher interval of a major seventh. This same unstable interval is then used to accentuate the two upward leaps unique to the phrase, the second of which (bar 8) lands on another major seventh worth ten semiquaver beats.

Over the course of the piece and in the many subsequent appearances of the motif, major sevenths are frequently used to set phrase 3 apart, which in turn keeps the overall phrase structure recognisably intact. When the motif consists of a single voice *not* doubled at the octave, Ligeti often substitutes the major seventh for a minor second, harnessing this similarly dissonant interval for an equivalent, demarcating effect. **Figure 2.7** illustrates this by showing a reduction of phrases 1–3 across bars 73–76, with phrase 3 clearly differentiated due to its minor second:

Figure 2.7: Ligeti, Etude No. 6: *Automne à Varsovie*, **3-phrase reduction (bars 73–76)**

In addition to articulating phrase structure, Ligeti also uses doublings to gradually intensify the motif and build tension. Up until bar 25, which constitutes the work's first section (see full list of sections below), the motif completes approximately three of its 3-phrase groups. With each new phrase group, the composer systemically tweaks the

motif's doublings – both the number of added notes as well as the type of intervals – to establish a trajectory of increasing dissonance. These phrase groups and their various doublings are represented in reduction in **Figure 2.8**:

Figure 2.8: Ligeti, Etude No. 6: *Automne à Varsovie*, **phrase-group doublings (bars 2–25)**

As already discussed, the first group features the motif doubled at the octave. For the second phrase group, starting in bar 10, Ligeti introduces an additional doubling in between each note of the octave – a fourth from the bottom note, a fifth from the top. A relatively consonant interval, the resulting middle line is barely perceptible; however, at bar 15 it asserts linear independence by moving in contrary motion to the surrounding descending octaves. With the motif growing more unstable, the composer once again tweaks the doublings for the third and final phrase group, starting in bar 18. Without increasing the number of notes for the most part, he employs either fourth and major seventh doublings or tritone and octave doublings, intervals which – particularly when combined – represent a substantial increase in dissonance compared with the previous two phrase groups.

Although the discussion has centred mostly on the first section of the piece, this highly controlled approach to doublings is evident across the whole work and is clearly a significant expressive tool for Ligeti. With the chromatic lamento motif devoid of any obvious tonal centre or inherent harmonic properties, doublings provide the composer with surrogate means of creating varying degrees of tension and contrast. Notably, while the lamento motif (and tempo fugue) is highly particular to the present case study, this

sensitivity to doublings is more universal. As will be covered in due course, it is also of utmost importance to Lindberg and Chin in their studies (Chapters 4 and 8).

Textural crescendo and diminuendo

If doublings are used to outline smaller-scale features, such as phrase structure and the lamento motif, then *textural crescendo* and *diminuendo* (cresc. and dim. hereafter) are used to outline larger-scale features – i.e. the work's form. By these terms, I mean to describe the increase or decrease of textural density over time. While the lamento motif's gradual accrual of doublings can be fittingly described this way, textural cresc. and dim. will only refer to the adding or subtracting of superimposed layers. For this section I adopt Taylor's structural model which divides the piece up according to a traditional fugue structure: the Exposition, Re-exposition and Recapitulation consist of full statements of the lamento motif – typically three 3-phrase groups; and when the music deviates from this pattern it is considered an Episode. The resulting six sections (counting Episode 1a and 1b as two separate parts) are listed as follows:[44]

1) Exposition: 1–24

2) Episode 1a: 25–36

3) Episode 1b: 37–54

4) Re-exposition: 55–85

5) Episode 2: 85–97

6) Recapitulation (episode 3): 98–122

In practice, the variable and nuanced state of the lamento motif is arguably not what actually articulates these structural divisions. Of greater salience is the overall impression of build-up and decay, and this is principally achieved through the techniques
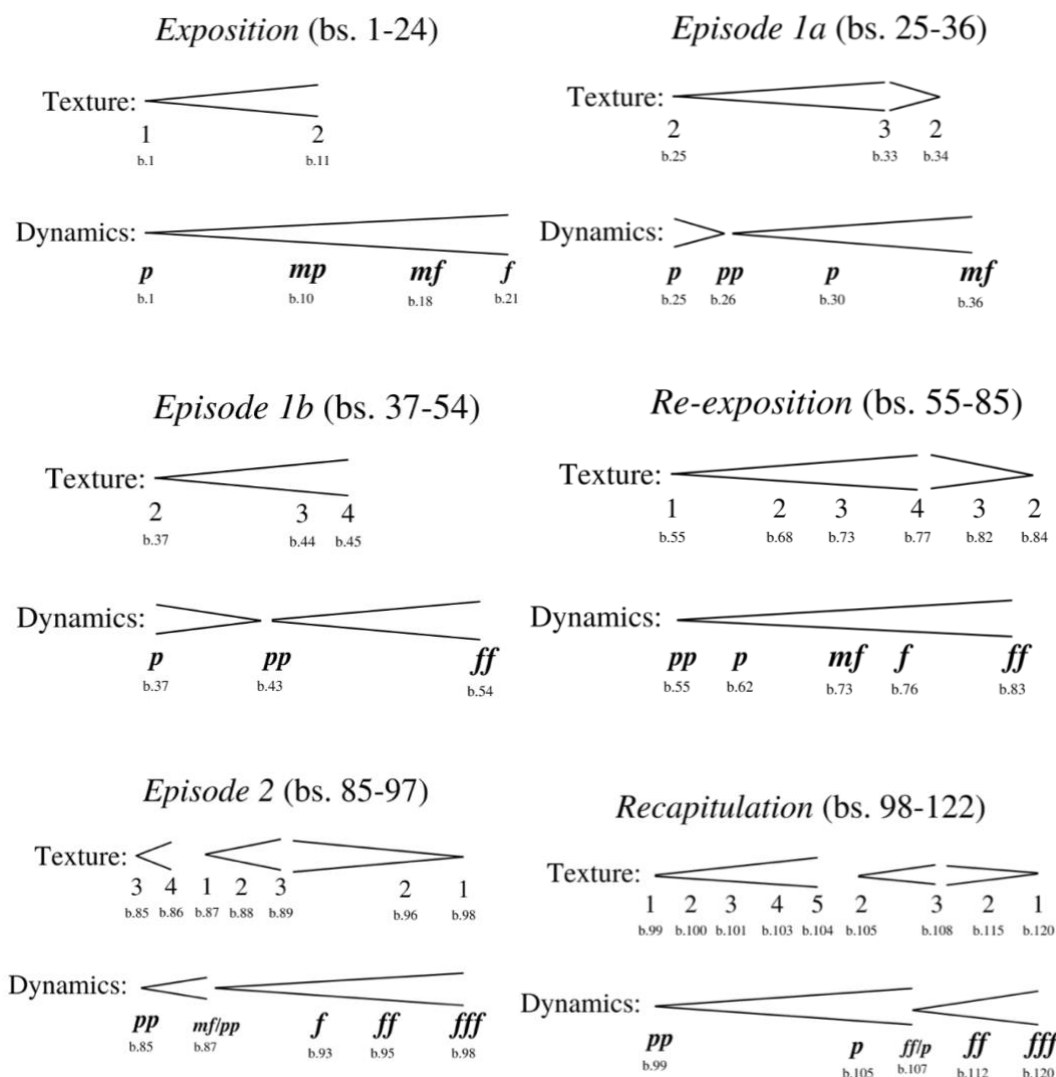
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[44] Taylor, *The Lamento Motif*, 76.

of textural cresc. and dim. As an example of the former: starting with usually one or two superimposed layers, Ligeti gradually introduces additional layers over the course of a section, resulting in textures of ever-increasing density (such as the extract shown earlier in **Figure 2.3**). Conversely, the ends of these sections are usually highlighted by a sudden and dramatic textural dim., with voices swiftly evaporating as if swallowed up.

Invariably allied with and emphasising these textural procedures are dynamics. The arrival of each new superimposed layer will often correspond with an equivalent increase in the dynamic level – i.e. a textural *and* dynamic cresc. However, the same is largely not the case when it comes to textural dim., which are also mostly accompanied by dynamic cresc. – a divergent pairing which further emphasises the dramatic compressions of texture that conclude most sections.

All of this is represented in Figure **2.9** below, which shows the textural-dynamic make-up of each of the work's six sections. From this, the various correlations and inverse correlations between elements can now be easily seen and compared. Moreover, there are also several larger-scale trends which can now be drawn out. For example, in addition to the textural-dynamic crescendi that populate individual sections, there is also the overarching cresc. that runs from the Exposition through to Episode 1b (sections 1–3), spanning almost the entire first half of the piece: texture builds steadily from one to four superimposed layers, and this corresponds with the staggered rise of the dynamic level, from p to ff.

Figure 2.9: Ligeti, Etude No. 6: *Automne à Varsovie*, **textural-dynamic cresc./dim.**[45]

Exposition (bs. 1-24)

Texture:
1   2
b.1   b.11

Dynamics:
p   *mp*   *mf*   *f*
b.1   b.10   b.18   b.21

Episode 1a (bs. 25-36)

Texture:
2   3   2
b.25   b.33   b.34

Dynamics:
p   *pp*   *p*   *mf*
b.25   b.26   b.30   b.36

Episode 1b (bs. 37-54)

Texture:
2   3   4
b.37   b.44   b.45

Dynamics:
p   *pp*   *ff*
b.37   b.43   b.54

Re-exposition (bs. 55-85)

Texture:
1   2   3   4   3   2
b.55   b.68   b.73   b.77   b.82   b.84

Dynamics:
pp   *p*   *mf*   *f*   *ff*
b.55   b.62   b.73   b.76   b.83

Episode 2 (bs. 85-97)

Texture:
3   4   1   2   3   2   1
b.85 b.86 b.87 b.88 b.89   b.96   b.98

Dynamics:
pp   *mf/pp*   *f*   *ff*   *fff*
b.85   b.87   b.93   b.95   b.98

Recapitulation (bs. 98-122)

Texture:
1   2   3   4   5   2   3   2   1
b.99 b.100 b.101 b.103 b.104 b.105   b.108 b.115 b.120

Dynamics:
pp   *p*   *ff/p*   *ff*   *fff*
b.99   b.105   b.107   b.112   b.120

Also apparent is how the second half of the piece (sections 4–6) contrasts with the first. Instead of gradual overarching gestures, Ligeti compresses the rate of events in order to increase tension. This is reflected both by the number of textural changes, which far outnumber those in prior sections, as well as the more frequent and violent shifts in dynamics. Compare the relatively uneventful Exposition – one textural change and three dynamic changes – with the highly volatile Recapitulation – eight textural changes and five dynamic changes. What is also striking about this second half is how Ligeti ends each of the three sections: with the divergent pairing of textural dim. and dynamic cresc., which

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[45] To clarify, the numbers under 'Texture' represent the number of superimposed layers *not* including the underlying layer.

represent the work's main climactic points. These dramatic gestures structurally fulfil and counteract the slow build-up of the first half, all the while offering an aptly chaotic conclusion to the work (and Book 1) as a whole.

Just as with the composer's controlled approach to doublings, textural cresc. and dim. serve varied and vital compositional roles in *Automne*. In the absence of tonality or thematic variety, these textural procedures vividly convey the work's form, providing large-scale progressions, contrasts and culminations. These features are also observed in the other case studies, in particular the fourth composed by Chin, a student of Ligeti's. Although rarely as prominent or extreme as they appear in this piece, the fact that textural cresc. and dim. recur with such reliability speaks to their immense utility for contemporary composers, myself included.

Conclusions

Automne, more than any other case study, is difficult to summarise; but this precisely illustrates the work's eclectic and subversive nature. Thanks in large part to his 'third way', Ligeti brings together a range of diverse influences and arrives at something strikingly original: tempo fugue. This approach to counterpoint relies less heavily on conventional contrapuntal variety and is instead based on the effect of simultaneous tempi, which is achieved through combining various superimposed layers, all multiples of an underlying layer. Tempo fugue also plays host to a number of other nuanced textural procedures: doublings are used to articulate and intensify the fugal subject (lamento motif) and textural cresc. and dim. work in conjunction with dynamics to articulate the work's overall form.

Looking at it another way, tempo fugue could be viewed as representing an overhaul of several familiar pianistic tropes. Imitative polyphony, repeated-note figures, broken octaves and plain octaves are all found in abundance in *Automne* and all echo

traditional modes of keyboard writing.[46] However, Ligeti places these tropes within radically new contexts: the imitative polyphony is governed not by conventional contrapuntal rules (with which the composer was also adept), but by the simultaneous tempi principle; the many broken-octave and repeated-note figures in fact make up the underlying layer of the tempo fugue; and the octaves assume no special melodic role and are instead treated as one of many different types of doubling.

Ligeti's achievement is therefore two-fold. Not only does he innovate through combining various disparate musical influences, but he also breathes new life into well-worn pianistic shapes and patterns. This dual concern – of innovation and conservation, if you like – is one shared by all the other case-study composers. It should come as no surprise then that Ligeti's influence looms large over the rest of the research. After all, he seems to have possessed something approximating Benjamin's holy grail.

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[46] This brings to mind the earlier quote from Searby: Ligeti adopts the 'the vocabulary but not the syntax of tonal music'; likewise, he embraces pianistic tropes but not their typical underlying context – Searby, 'Ligeti's 'Third Way'', 19.

3
So You Want to Write a Tempo Fugue?

Etude No. 1: *Mirie it is* was composed in 2020 in response to Ligeti's Etude No. 6: *Automne à Varsovie*. Around 3'45" in length, the work incorporates to varying degrees several of the topics discussed in the previous chapter. Foremost among them is tempo fugue: *Mirie it is* consists of a fugal subject and superimposed layers (but no underlying layer) which combine to generate the effect of simultaneous tempi. However, the work is a completely different type of piece to *Automne* and so, unsurprisingly, these textural techniques are pulled in wildly different directions to suit and serve their new musical context. Starting with the fugal subject, I will explore how these techniques function in *Mirie it is* and in doing so expand upon the previous discussion.

The fugal subject

My goal in writing this response composition was to put a range of specific textural techniques into practice, not to emulate Ligeti's overall musical language. That said, an enormous part of *Automne*'s success arguably stems from the composer's all-embracing attitude to diverse musical influences, and this *was* something I aspired to emulate. Therefore, for the work's fugal subject I chose the melody to *Mirie it is while sumer ilast*, a Middle English song dated to the first half of the 13th century – a period of music I had little to no prior knowledge of. The tune (whose lyrics I derived no programmatic inspiration from) is shown in **Figure 3.1**, as it first appears in my composition:

Figure 3.1: Viner, Etude No. 1: *Mirie it is*, fugal subject and phrase structure (bars 1–12)

I have made use of borrowed materials (from Monteverdi to Wagner) in previous works and relish the reinvigorating effect that it has on my compositional language.[47] I chose this particular song for no deeper reason beyond that I enjoyed it. However, there are certain aspects of the melody which lend themselves to the tempo fugue treatment – for example its prominent tripartite structure, a feature which also characterises Ligeti's lamento motif. As shown in **Figure 3.1** above, the melody is grouped into three sections: A, formed of two 3-bar phrases (A1 and A2); B, formed of two 2-bar phrases (B1 and B2); and C, which consists of a single 2-bar phrase. All three sections contain descending leaps of a third and almost always conclude with the E♭-B♭ rising fifth. Nonetheless, they also possess unique properties, ensuring they remain differentiated and recognisable as the music unfolds. For example, the beginnings of each section's phrases are particularly distinctive: A1 and A2 start with descending fifths; B1 and B2 a turn-like figure; and C a unique starting note. Whatever 'tempo' or transposition the melody appears in, these individual characteristics offer points of orientation in an otherwise highly disorientating

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[47]*Herz an Herz* (2015) for solo piano quotes the famous love duet from Wagner's *Tristan und Isolde*; *L'Orfeo Settings* (2017) for chamber orchestra uses material from the titular opera by Monteverdi – Frederick Viner, *Herz an Herz* (York: University of York Music Press, 2017); Frederick Viner, *L'Orfeo Settings* (York: University of York Music Press, 2017).

piece.

Unbeknownst to me before I started the work, the melody also possesses characteristics which directly inhibit tempo fugue, and this was the cause of much frustration as well as a number of compositional false starts. The first issue arose due to the melody's strong harmonic implications. Despite appearing in **Figure 3.1** monophonic and unaccompanied, its frequent third and fifth intervals outline an exact triadic scaffold – Fm and E♭M with the occasional D♭M (chords I, VI and VII in F-Aeolian). The problem I ran into then was how to create multiple superimposed layers out of such harmonically prescriptive material. To faithfully harness these innate characteristics within a tonal framework would depend on a specific vertical alignment of parts, something which is exceedingly hard to control in tempo fugue. But to forgo a tonal framework begs the question of what other harmonic system could be used.

Another unhelpful characteristic is the melody's registral span. Each phrase stays within a modest major sixth for the most part, but even this relatively small interval proves troublesome when it comes to assembling superimposed layers. Depending on their arrangement, multiple layers can easily result in textures that exceed the reach of a pianist's hands. Compounding this is the fact that within its overall range, the melody frequently leaps up and down; and unless different layers leap in the same direction at roughly the same time, then yet again the music can run up against a performer's anatomy.

It is worth noting that these issues do not apply to Ligeti's lamento motif (or at least not to the same extent). Due to its highly chromatic nature, it does not imply any one harmonisation and can therefore slot into various compositional contexts with greater ease. Likewise, the motif's registral span is smaller – mostly contained within a major third or fourth – and moves predominantly by whole- or half-step and not by leaps. Consequently, Ligeti stacks up to five superimposed layers (in addition to the omnipresent underlying layer), all of which fit comfortably within a typical pianist's

stretch. These core differences between my and Ligeti's fugal subject highlight the fact that although *Automne* provided me with the basic compositional concepts, when it came to adapting the melody for tempo fugue I very much had to devise my own solutions.

Adapting tempo fugue

Due to the particularities of the chosen fugal subject, the tempo fugue in *Mirie it is* deviates significantly from Ligeti's model. **Figure 3.2** shows an extract that occurs following the work's introduction and which is representative of how tempo fugue operates in the piece:

Figure 3.2: Viner, Etude No. 1: *Mirie it is*, tempo fugue (bars 13–15)

What is immediately obvious is the absence of any underlying layer, an omission that stems from both practical and aesthetic reasons. Repeated-note pulsations, the likes of which are found littered throughout *Automne*, would prove constraining and difficult to choreograph alongside the superimposed layers, which are unwieldy to begin with. On top of that, I simply felt that such a *meccanico* figure would not have suited the music. But that is not to say the work has no pulse. The pulse in *Mirie it is* is the reasonably fast quaver beat, which is conveyed at first through the highly rhythmic character of the fugal subject, and then more explicitly later in the piece (from around bar 53) through arpeggiated and scalic quaver figures. In keeping with Ligeti's description, this pulse serves as the common denominator for the work's various superimposed layers, which

are of 'varying length, though always multiples of the basic pulse.'[48] **Figure 3.2** features four such superimposed layers (labelled L1–L4), all based on the melody's A1 phrase: L1 and L2 on the top stave, both 'in two' (i.e. the pulse multiplied by two, resulting in crotchets); L3 on the middle stave in three (i.e. dotted crotchets); and L4 on the bottom stave in four (i.e. minims, though beamed according to the compound meter). Together they create the effect of simultaneous tempi, despite the absence of an underlying layer, with lower parts moving more slowly and upper parts moving more quickly.

In addition to their individual tempi, the superimposed layers also each express an individual key (due to the fugal subject's strong harmonic implications), representing another deviation from Ligeti's model. **Figure 3.3** highlights these keys, showing the same extract as the previous figure but in reduction:

Figure 3.3: Viner, Etude No. 1: *Mirie it is***, stratified tonality (bars 13–15)**

From top to bottom, the layers outline the following keys: L1 – Bm; L2 – Dm; L3 – Fm; and L4 – G#m. Spaced a major sixth apart, the layers seldom intrude on each other's tonal region, ensuring that they retain their unique characteristics and are not obscured when textures grow more complex. The result is what may be described as 'stratified tonality',

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[48] Ligeti, 'On my Etudes for Piano', 4–5.

with each separate key confined to a strict vertical arrangement and appearing to operate independently from one another. This particular configuration of keys – Bm, Dm, Fm, G#m – accounts for practically all of the pitch material up until bar 60 (over halfway through the piece), at which point the music 'modulates' to a new configuration.[49] On the few occasions where the music ascends above the highest tonal region (Bm) or descends below the lowest (G#m) a new key is simply introduced, again spaced a major sixth apart. **Figure 3.4** below shows an example of this at bars 39–41: the highest layer expresses A♭m, a major sixth *above* the previous highest key (Bm); and the lowest layer expresses Bm, a major sixth *below* the previous lowest key (G#m).

Figure 3.4: Viner, Etude No. 1: *Mirie it is*, stratified tonality (bars 39–41)

Although tonally distinct, in practice these layers very often align to form overarching harmonies, with the louder and often slower-moving bass layers providing a pivotal role in how these chords are perceived and defined. An example of this is shown

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[49] This quasi-modulation, which signals the start of a new section, represents another example where my work goes beyond the 'brief' of the case study.

in **Figure 3.2** above, where in the first half of bar 15 the four layers outline a B$\flat^9$ chord. Harmonies such this are strictly non-functional, arising almost as coincidental by-products of the contrapuntal activity of the layers. However, they do multiply the ways in which the piece can be heard, much like the simultaneous tempi principle. Depending on where and how a listener directs their attention, the music can be heard as moving either faster or slower; likewise, bar 15 can be heard as either four simultaneous keys or as an arpeggiated B$\flat^9$. This is why I have found that stratified tonality works so well alongside tempo fugue: not only does it emphasise the superimposed layers' durational independence, but it also breeds similar perceptual ambiguities. It is curious then how it did not originate from the case study, but from the chosen fugal subject.

Stratified tonality may have addressed the melody's inherent harmonic properties, but, if anything, it exacerbated the problem of its wide registral span. With this disjunct material spaced out by a major sixth, sustaining even three layers simultaneously for more than a couple of bars would prove pianistically awkward, involving uncomfortable stretches and the frequent passing of voices between hands. To get around this problem, I forgo textures consisting of multiple long, continuous lines (like those found in *Automne*) and instead employ a *single* continuous line with fragmented lines surrounding it. **Figure 3.5** features an example of this, but it also applies to the previous figures and the work as a whole. In these three bars L3 represents the continuous line: based on the A1 phrase, it flows uninterrupted from beginning to end. In contrast, the three surrounding layers only complete a portion of their phrases: L1 manages around two thirds of A1; L2 fares slightly better, completing nearly all of A1; and L4 outlines a mere snippet of C.

Figure 3.5: Viner, Etude No. 1: *Mirie it is*, melodic fragments (bars 26–27)

It was only through using fragments like this that I was able to assemble so many simultaneous layers. This density may seem reminiscent of the case study, but these melodic fragments highlight yet further and deeper differences. Firstly, the tempo fugue in *Mirie it is* is more mutable than Ligeti's, with layers appearing and disappearing at a faster rate than in *Automne*; and secondly, due to the fragmentary layers' fleeting nature the music at times feels hierarchical, with the central continuous line 'leading' and the surrounding lines 'following'. In this sense, the fragments could be considered a sort of heterophonic accompaniment to the continuous line, an assessment which is not far removed from Ligeti's Sub-Saharan African influences.

Despite the many necessary changes made to the original tempo fugue model, none, happily, were compromises. Thanks to the adaptations discussed above I was able to harness the melody's innate characteristics and expand on the technique in personal and thought-provoking ways. Stratified tonality neatly pairs with tempo fugue, emphasising the effect of simultaneous tempi all the while offering similarly varied and ambiguous harmonic possibilities. Furthermore, through removing the underlying layer and using melodic fragments I was granted more freedom over the number and nature of the superimposed layers. It goes without saying that these adaptations represent one of many possibilities, and with a different fugal subject – or composer – at the helm, tempo

fugue could be taken in even more directions. This is an enticing prospect which speaks to the richness of Ligeti's ideas. Although difficult to grasp, and even more difficult to put into practice, these are techniques that are ripe for further exploration.

Alternative techniques

Having faithfully incorporated much of the tempo fugue approach, for the remaining textural topics – doublings and textural cresc. and dim. – I strayed away from the case study. Although they do feature at times in *Mirie it is*, it is not to the same degree as in *Automne*, and rarely with the same systematic intent. Much like the omission of the underlying layer, the neglect of these topics stems from both practical and aesthetic concerns. By exploring this, and the alternative techniques I use for similar function and effect, further insight is gained into both my and Ligeti's composition.

As previously discussed, Ligeti uses doublings to articulate the lamento motif's phrase structure and intensify its successive appearances in order to build tension. These methods are remarkably effective in context, but to blindly replicate them would be missing their point: the lamento motif's three phrases are very similar and, therefore, arguably *need* the differentiation provided by various doublings. For example, without the major seventh or minor second doublings that typically signal phrase 3, it would very likely go unnoticed amidst the music's denser textures. By comparison, the phrases that comprise the fugal subject in *Mirie it is* are already sufficiently distinct from each another (compare the diverse A1, B1 and C1), and so there is less need for additional differentiation. Even if I were intent on using doublings in this way, it would prove – like the underlying layer – to be awkward and constraining, occupying fingers that could otherwise be playing additional superimposed layers.

Instead of doublings, the melody in *Mirie it is* is typically fused with adjoining lines which 'fill in' the gaps between melodic notes. **Figure 3.6** below illustrates this with a passage containing two filled-in melodies. L1 features the melody in three and an

adjoining line that occupies the two quaver beats separating each melodic note; and L2 features the melody in four with an adjoining line that occupies the three quaver beats separating each melodic note. In these and most other cases, the new lines form broken-chord figures, whose harmony indicates the key to which the melodies belong. So, L1 features the melody in Dm and an adjoining line which outlines chords I and VII in that key; and L2 features the melody in Fm and an adjoining line which outlines chords III, I and VII in that key.

Figure 3.6: Viner, Etude No. 1: *Mirie it is*, filled-in melodies (bars 61–64)

These filled-in melodies produce an effect not dissimilar to Ligeti's various doublings of the lamento motif. The former could even be thought of as the latter but flipped horizontal – i.e. rather than stacking notes vertically to produce chords, these new notes unfold horizontally to produce broken chords. Both methods saturate the texture, intensify the fugal subject and introduce additional layers into the texture. These filled-in melodies also bear some resemblance to Ligeti's underlying layer, seeing as they introduce streams of quavers that articulate the music's pulse. Ironically then, by deviating from the case study in one way, I inadvertently align with it in another.

The other topics that play vital roles in *Automne* but which I opted not to incorporate were textural cresc. and dim. However, there is one major exception to this towards the end of the piece where both are used. **Figure 3.7** represents this passage using the same textural-dynamic reductions as in the previous chapter: starting with one layer in the bass stave in bar 83, a second and third enter in the following bar; from this point,

the layers begin to drop out until just one remains at bar 88; and as with many of the examples in *Automne*, running parallel to and emphasising this is a dynamic crescendo, from pp to ff.

Figure 3.7: Viner, Etude No. 1: *Mirie it is*, textural cresc. and dim. (bars 83–88)
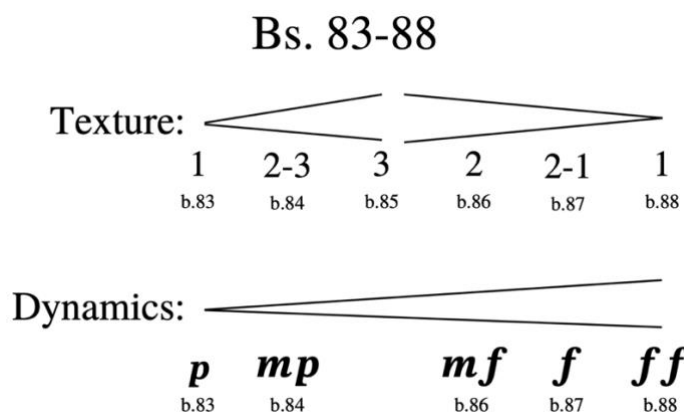
Unlike Ligeti, I have not used this procedure in every section to articulate the work's overall form. Instead, I have used it for the more specific means of building towards the work's ultimate climax, which occurs immediately afterwards (bar 89). The inverse correlation between textural dim. and dynamic cresc. forms an especially dramatic gesture which effectively anticipates the yet more dramatic conclusion to the piece.

Conclusions

Out of the four response compositions, *Mirie it is* was by far the hardest to compose. Part of this was due to it being the first of the project – considerable time and effort was expended merely understanding what a 'response' composition would entail. But the difficulty was mostly due to the complexity of the ideas with which I intended to grapple. Tempo fugue is simply difficult and calls for high levels of both pianistic and cognitive virtuosity to execute and compose (which is of course a large part of its appeal). However, through studying the case study and after much compositional trial and error, I eventually came to understand it well enough not only to reproduce it, but to develop it in a personal

way.

By engaging with these topics as composer, more insight was gained into Ligeti's approach to texture than would have been possible through analysis alone. For example, the response composition demonstrates that tempo fugue is highly transferable and adaptable. Excluding the underlying layer, much of the approach was faithfully incorporated within a wildly different musical context. Conversely, the response composition also highlights the various textural features within *Automne* which are intricately linked to its material and thus not so easily transferred. Ligeti's handling of doublings and textural cresc. and dim. in particular proved difficult to emulate. These more nuanced textural procedures are heavily conditioned by the idiosyncratic lamento motif and consequently did not mesh with my fugal subject – a fact that only became apparent through the compositional process.

In addition to providing these insights, *Mirie it is* more broadly speaks to the depth of tempo fugue and the potential for its further elaboration. Complex though it is, it is an approach to texture that opens up myriad compositional possibilities, for me and any other composer attempting to conceptualise and forge new directions in piano music.

4
The Textural Duality of Lindberg's Etude No. 1

Like Ligeti

One might be forgiven for overlooking Magnus Lindberg's Etude No. I (2001) considering its modest programme note in which we are told almost more about what the piece is *not*, rather than what it actually *is*:

> Etude, premiered by Jay Gottlieb at the Octobre en Normandie festival 2001, is like an extension to, if not related to my work Piano Jubilees. Etude is a little piece in which I continue my study of the piano, though it is not meant to remind of György Ligeti's large-scale piano etudes.[50]

While it is certainly wise for a composer to avoid comparing their music to that of a 20th-century giant – especially one who was, at the time, still active and still writing Etudes of staggering quality – comparisons between Lindberg and Ligeti would not be totally amiss. In fact, both composers' forays into the Etude genre came about under similar circumstances. Like Ligeti, Lindberg's output for solo piano prior to his first Etude is surprisingly sparse, amounting to only three pieces. This is somewhat puzzling in view of Lindberg's distinguished career as a pianist and the ubiquity with which the instrument features in his compositions for ensemble and orchestra (2005's *Sculpture*, commissioned by the Los Angeles Philharmonic, notably employs *two* pianos to bolster its already enormous instrumental line-up).[51] Granted, the romantic tradition of composer-pianists has long since faded. But all the same, three seems like a rather small number when taking

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[50] Magnus Lindberg, programme note for Etude No. 1, *Boosey & Hawkes*, accessed June 27, 2020, https://www.boosey.com/cr/music/Magnus-Lindberg-Etude-I/16962.

[51] Since co-founding the new-music ensemble *Toimii* (Finnish for 'it works') in 1980, he has frequently participated in the premieres and performances of his and his colleagues' music, most notably his Concerto for Piano and Orchestra (1994), which he played extensively between 2002–08.

into account Lindberg's formidably prolific output by the time of the Etude's composition, which included over a dozen orchestral works among countless other pieces.

A second parallel between the composers is that Lindberg began exploring Etudes only after broader stylistic changes had occurred in his music, much like how Ligeti embraced Etude-writing only after forging his 'third way'. Martin pinpoints one such stylistic change in *Twine* for solo piano (1988) – one of the few, pre-millennial keyboard works – in which 'the often unabashedly brutal language of his music from the early 1980s gives way to a comparatively softer and more restrained style.'[52] This insight echoes Lindberg's programme note for the piece:

> Twine…express[es] a need to move in another direction from the rather "urban jungle"-like style I was looking for in pieces like Kraft or UR…the relation to composition has become less dogmatic – innovation based on experience rather than a predeterministic rigid system, organic continuation of material in the sense of late music of Sibelius seems somehow to offer more possibilities.
>
> Expressing our experiences and intuitive musical ideas rather than problem solving is perhaps a romantic attitude towards composition, but in a way I believe more in uniqueness than generality nowadays.[53]

Having forged a new, 'less dogmatic' direction for himself with *Twine*, the next and most pivotal turning point came with the composition of the highly acclaimed Clarinet Concerto (1998–2002). This watershed piece – which to Service sounds like what happens when 'Gershwin meets Sibelius and Stravinsky' – is the composer's most overtly Romantic to date and ushered in the more accessible style to which he still adheres to varying degrees today.[54] Curiously, it was around this time that the upward trend of solo

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[52] Edward Paul Martin, 'Harmonic Progression in the Music of Magnus Lindberg', (DMA dissertation, University of Illinois at Urbana-Champaign, 2005), 2.

[53] Magnus Lindberg, programme note for *Twine*, *Wise Music Classical*, 1990, accessed June 22, 2020, https://www.wisemusicclassical.com/work/11595/.

[54] Tom Service, 'A Guide to Magnus Lindberg's Music', *The Guardian*, April 16, 2013, sec. music, accessed June 23, 2020, https://www.theguardian.com/music/musicblog/2013/apr/16/contemporary-music-guide-magnus-lindberg.

piano music began. Starting with *Piano Jubilees* (2000) and Etude No. 1 (2001) in quick succession, Lindberg has gone on to write a further five works: Etude No. 2 (2004), *Cantus firmus* (2012), *Éloge* (2014), *Fratello* (2016) and *Promenade* (2017). Although spanning several years between them, the pieces share many of the same romantic characteristics (e.g. prominent melodies, broken-chord accompaniments, tonality), suggesting that the concerto may have acted as an artistic catalyst and is at least partly responsible for the revitalisation of the composer's solo piano music.

The similarities between the composers wane when it comes to how texture is handled in their respective case studies. Ligeti employs a largely unified approach – tempo fugue – whereas Lindberg does not. Etude No. 1 makes use of a wide array of fundamentally different textures, from two-part polyphony to melody and accompaniment, and from scales to parallel thirds. These can be grouped into two approximate and overlapping categories, according to their function: these textures either articulate Lindberg's personal 12-tone harmonic system, or they articulate various historical figurations, or 'tropes'. These functions are somewhat at odds with each other stylistically, with the former a product of the composer's music from the late-80s and 90s and the latter a product of his post-millennial music, reflecting the transitional period in which the work is situated. Though there are commonalities between these functions (e.g. their shared emphasis on clarity), they ultimately form a distinct textural duality. Before unpacking each component of this duality, I will first provide a brief overview of the work's themes and form.

Themes and form

Despite its miniature scale, Etude No. 1 juggles three highly distinct themes: A, B and C, as shown in **Figure 4.1** below. A is formed of an imitative two-part polyphony and begins the work; B consists of parallel thirds, occasionally interspersed with fast scalic runs; and C is composed of a fleeting but intense melody and accompaniment, replete with singing

alto line, shimmering inner voices and a roaming broken-chord bassline. Even without hearing the themes their contrasting natures are plain to see, each featuring a unique texture, time signature, dynamic and tempo. However, they do share something in common: permeating every theme – and the work as a whole – is a pronounced dynamic volatility. The music seldom resides within a narrow dynamic region and frequently shifts between extremes, bringing to mind Lindberg's comment that '[o]nly the extreme is interesting'.[55]

Figure 4.1: Lindberg, Etude No. 1, themes:

a) **A theme (bars 1–4)**

b) **B theme (bars 15–18)**

c) **C theme (bars 32–33)**

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[55] Magnus Lindberg, *Magnus Lindberg: A voice from the 1980s*, trans. by Gregory Coogan, *FMQ* 3 (1987).

Figure 4.2 provides a formal overview of the piece, showing how this diverse material is distributed. Lindberg cycles through themes A, B and C three times, varying them with each restatement. A is then stated again at the end of the piece (A4), functioning as a coda to mirror the work's introduction. Breaking up this cyclical pattern is the development section (Dev.), which falls between Cycles 2 and 3. Note that 'development' here does not imply a sonata form – not that Lindberg is shy of the genre – but merely reflects the section's central placement in the work and the fact that the themes are fragmented and appear in new combinations, all of which are typical characteristics of a traditional development section.

Figure 4.2: Lindberg, Etude No. 1, formal overview

Cycle 1			Cycle 2			Dev.	Cycle 3			Coda
A1	B1	C1	A2	B2	C2	51-73	A3	B3	C3	A4
(Intro)	15-31	32-36	37-41	42-48	49-50		74-76	77-88	89-97	98-106
1-14										

Texture articulating harmony

Texture's first function in the Etude – and the first component of the textural duality – is articulating the composer's personal harmonic system. Inspired by both the musical language of Witold Lutosławski and the principles of Allen Forte's set theory, Lindberg originally developed the system for the aforementioned *Twine* (1988), before later employing it in the orchestral works *Kinetics*, *Marea* and *Joy* (1988–90). In brief, it is based on the use of 12-tone chords, which are often arranged symmetrically – i.e. the intervals of the top hexachord mirror those of the bottom hexachord. **Figure 4.3** shows the first of eight such chords in *Twine*:

Figure 4.3: Lindberg, *Twine* (1988), first 12-tone chord[56]
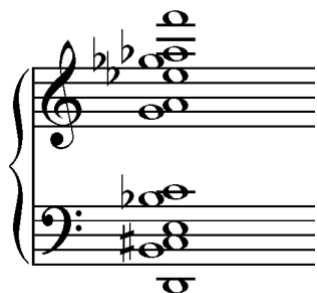
Throughout his works of the late 1980s, Lindberg typically arranges various 12-tone chords into long progressions using a technique inspired by the Baroque Chaconne. According to the composer, these progressions 'comprised somehow the skeleton of the whole work' and lend the music 'form and identity'.[57] Although technically a prescriptive measure, the system evidently proved liberating for Lindberg, who relished the freedom of being able to 'call upon any pitch at any moment' and have it be 'a component of the present harmony'.[58]

In Etude No. 1 the system is largely absent. The few 12-tone chords that are present are offset by the far more numerous triadic harmonies. However, the system is evident in the work's introduction (bars 1–14), in which a single, symmetrical 12-tone chord governs practically all aspects of pitch and register. Shown in **Figure 4.4** below, this chord is gradually realised over the course of the section: bar 1 only contains two pitches (B and C), a third and fourth are added in bar 2, a fifth in bar 4, and so on. This process culminates in bar 11, by which point all twelve pitches of the chord have sounded.

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[56] Martin, 'Harmonic Progression in the Music of Magnus Lindberg', 3.

[57] Peter Szendy, liner notes for *Magnus Lindberg*, Ensemble Intercontemporain, directed by Péter Eötvös, trans. by Stefan Rice, 1994, Disques Adès, 40.

[58] Martin, 'Harmonic Progression in the Music of Magnus Lindberg', 7.

Figure 4.4: Lindberg, Etude No. 1, symmetrical 12-tone chord (bars 1–12)
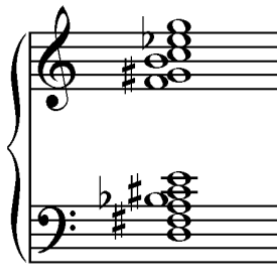
Articulating this accumulative harmonic process is the A theme, which is formed of an imitative two-part polyphony. As the chord unfolds, the two voices that make up this polyphony – V1 and V2 hereafter – gradually become more active and distinct from one another. To illustrate this, compare the two extracts presented in **Figure 4.5**:

Figure 4.5: Lindberg, Etude No. 1, A theme articulating 12-tone chord:

a) **Bars 1–4**
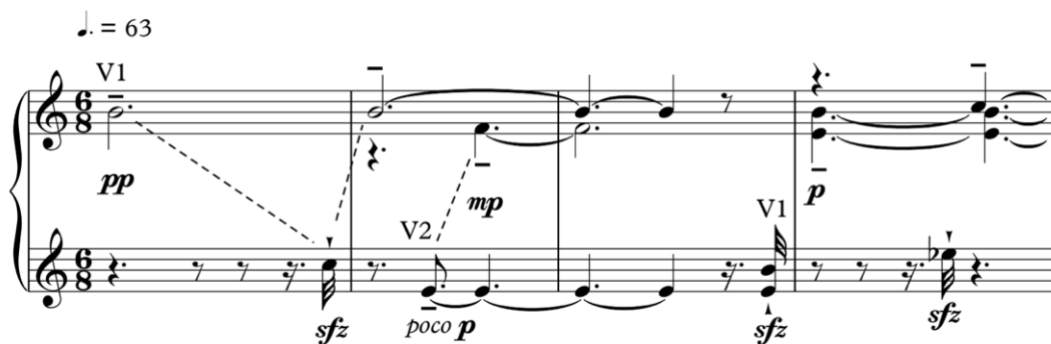
b) **Bars 5–8**
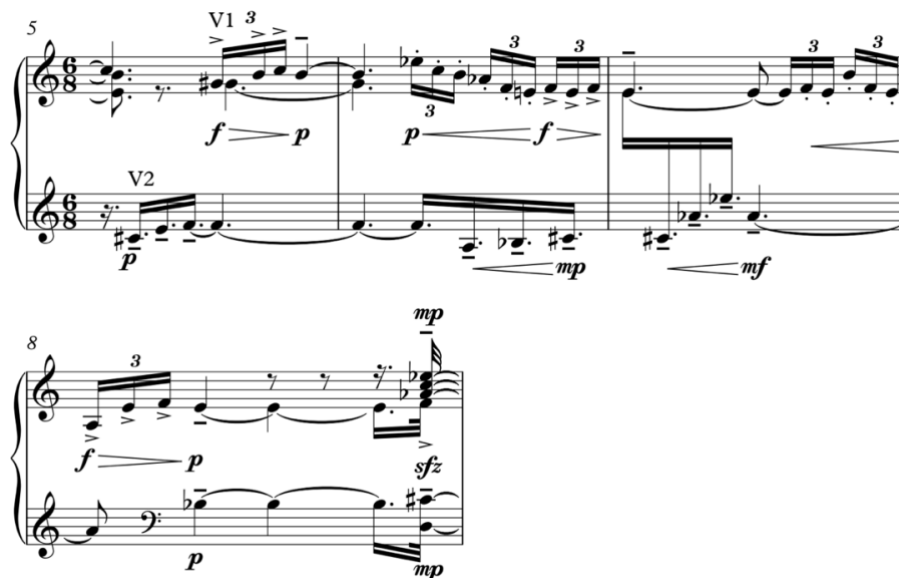
Shown in **a)**, from bars 1–4 only five pitches sound: B, C, E, F and E♭. With the chord less than half realised, the voices are static and not yet fully distinct from one another: both feature a semitone interval, both are marked with soft dynamics (between **pp** and **mp**) and tenuto articulation, and both reside within the same, narrow register. This initial textural homogeneity results in the aural ambiguity of whether there are in fact two lines or just one. From bars 5–8 however, shown in **b)**, this ambiguity is cleared up. The two voices quickly begin to assert their independence, corresponding with and emphasising the five new pitches which are added during this time: C♯, G♯, A, B♭ and D. With the 12-tone chord nearing completion, the lines express different dynamics and articulation, take on unique rhythms (triplet semiquavers for V1 and dotted semiquavers for V2) and even somewhat unique registers (V1 high and V2 low, with some occasional overlap).

Lindberg only deviates from this two-part texture on two occasions during the introduction and each time it is to highlight structural events. In bar 8 (shown in **b**) and bar 11, full chords enrich the two lines to emphasise restatements of the A theme, with the latter harmony also serving to complete the overarching 12-tone chord (the top G is the final pitch to be heard). But aside from these two exceptions, the composer refrains from adding additional voices to the texture during the introduction, opting to increase contrapuntal *activity* rather than contrapuntal *density*. The result of this is a steady build-up of anticipation which is only fulfilled with the arrivals of the more expressive and less restrained B and C themes. This approach also allows the composer's artful manipulation of timbre to really shine through. With so few voices cluttering the texture, each of the meticulous and varied articulations and dynamics come to the fore, not to mention the two rare chords in bars 8 and 11.

To conclude the topic of 12-tone chords, there are other passages in the piece which incorporate the harmonic system; but the only other extended, noteworthy appearance is during the work's brief coda (bars 98–106), mirroring its usage in the introduction. Shown

in **Figure 4.6** below, this concluding section features no systematic accumulation of pitches and no two-part polyphony. Instead, Lindberg presents five dense chords derived from the 12-tone blueprint, interspersed by fragments of the A theme.

Figure 4.6: Lindberg, Etude No. 1, 'complete' chords and A theme fragments (A4) in the coda (bars 98–106)

Given that the realisation, or completion, of this type of chord represents the goal for textural and harmonic processes in the introduction, it is only fitting that the coda – the ultimate, large-scale goal of the entire composition – should feature a series of 'completed' chords. Lindberg is signalling the end of the piece with music characterised by a distinct lack of textural activity, recalling the static and homogeneous state in which the two-part polyphony first appears at the beginning of the piece.

Be it with two-part polyphony or chordal writing (in the case of the coda), Lindberg uses texture to vividly articulate his harmonic system. In the intro, the two-part polyphony gradually increases in intensity and becomes more sharply differentiated as the 12-tone chord unfolds; in the coda, the lack of this kind of textural activity reflects the 'complete' nature of the harmony and in turn the 'complete' nature of the piece. Unifying the textures

of both sections is an emphasis on clarity. The music seldom exceeds more than two independent parts, which serves to emphasise the timbrally rich nature of the material. Textural clarity sets Lindberg apart somewhat from the other case-study composers (especially Ligeti) and underpins much of his composition as a whole.

Texture articulating history

The second function of texture in Etude No. 1 is to articulate an array of pianistic tropes: parallel thirds, melody and accompaniment and what are broadly categorised as bravura figures. These historical figurations are entirely different to the previously explored textures and make up the work's B and C themes, as well as some transitionary material. While the composer's harmonic system underpins some of this music, it does not correspond with textural procedures as it does in the introduction and coda. All the same, Lindberg finds intricate ways of revitalising these tropes. Other times, he makes use of them simply as allusions to past repertoire.

Parallel thirds (B theme)

The first and most prominent pianistic trope in the Etude is parallel thirds. Shown in **Figure 4.7**, this figuration (played by one or both hands) constitutes the work's B theme, which is stated three times across the piece:

Figure 4.7: Lindberg, Etude No. 1, B theme formed of parallel thirds (bars 15–18)

The execution of this pattern is the focus of countless 19th- and 20th-century Etudes. For example, the well-known sets by Chopin, Scriabin, Rachmaninoff and Debussy – to name but a few – all feature a study centred on this particular technique. While Lindberg's treatment of parallel thirds is certainly reminiscent of much canonical repertoire, the composer allows for considerably more textural flexibility. Unlike the cited historical examples, he frequently alters the density of his thirds so that they correspond with the given dynamic level. An example of this is shown in **Figure 4.7** above: a doubling is subtracted in bar 18, thinning the music to a single line to correspond with the drop in dynamic level from *f* to *p*. Conversely, shortly afterwards a doubling is added in bar 21 to create parallel triads, corresponding with the rise from *poco f* to *f*.

Further examples of this procedure can be found in every restatement of the B theme, as well as in a handful of other places (e.g. bar 97). For example, the theme's third appearance – B3 (bars 77–88) – is characterised by loud dynamics throughout (between *mf* and *ff*) and so frequently consists of parallel triads. This particular section also bears the most striking resemblance to specific historical repertoire. Note the similarities between the music shown in **Figure 4.8**, which includes extracts from B3 and two Debussy Preludes:

Figure 4.8: Parallel triads in Lindberg and Debussy:

   a) Lindberg: Etude No. 1 (bars 77–80)

b) Debussy: Prelude No. 2, Book II, *Feuilles Mortes* (1912–13) (bars 33–35)

c) Debussy: Prelude No. 6, Book II, *General Lavine* (1912–13) (bars 51–53)

For all this textural flexibility, these additions and subtractions of doublings do not represent changes in the number of independent voices. New doublings share the same dynamics, contour and articulation with their neighbouring notes and are therefore not perceived as contrapuntally distinct lines. Rather, their function is timbral: they embolden or weaken the theme without fundamentally altering the broader textural category to which it belongs. So, as with the A theme, Lindberg yet again forgoes contrapuntal density. Instead, through the intricate marriage of subtle textural and dynamic procedures, he explores the full timbral potential of parallel thirds.

Melody and accompaniment (C theme)

The second pianistic trope is the melody and accompaniment pattern that forms the work's fleeting C theme, shown in **Figure 4.9**:

Figure 4.9: Lindberg, Etude No. 1, C theme formed of melody and accompaniment (bars 32–33)

Notably, this theme represents one of the few occasions where the music expands definitively beyond a two-part texture. Unlike the sparser A and B themes, C is formed of three distinct lines: melodic crotchets in the treble; a restless, scalic figure nestled beneath; and a roaming, broken-chord bassline. Together, these lines amount to a texture which is among the most pianistically familiar: melody and accompaniment. Although it eludes comparison to any specific piece, the C theme is certainly reminiscent of much historical repertoire. Debussy comes to mind once more when considering the scalic middle line, which is based on both whole-tone (bar 32) and octatonic scales (bar 33) – two modes which feature frequently in the French composer's music. But as with the parallel thirds, Lindberg puts his own original spin on things. Whereas the top and middle lines have the same rhythms throughout (crotchets and sextuplet demisemiquavers), the bassline accelerates from triplet crotchets to triplet quavers. This manoeuvre is then extended for the theme's third appearance – C3 (bars 89–92).

By gradually changing the rhythm of one or two parts and not others, Lindberg creates a sort of textural friction. Aided by crescendi in both instances, this friction is especially effective at building tension, much like the ever-intensifying lines that make

up the A theme. And as with both the other themes, the composer never fundamentally varies the number of distinct voices within C. Rather, he finds inventive ways of working within contrapuntally narrow confines and, by doing so, casts this foremost historical figuration in a new light.

Bravura

There are additional pianistic tropes littered across the Etude which can be grouped into the category of bravura. Defined in Merriam-Webster as 'a musical passage requiring exceptional agility and technical skill in execution', this term could safely describe most of Lindberg's composition.[59] However, for the purpose of this study, bravura refers specifically to virtuosic and improvisatory material distinct from the three themes. These elaborate figures are fleeting – never lasting more than a bar – and intersperse thematic statements, functioning as transitions. **Figure 4.10** presents two such figures which together form part of the transition between the B and C themes:

Figure 4.10: Lindberg, Etude No. 1, bravura figures:

a) **Bar 26**

b) **Bar 28**

[59] 'Bravura,' *Merriam-Webster.com Dictionary*, Merriam-Webster, accessed August 21, 2020, https://www.merriam-webster.com/dictionary/bravura.

The first example, shown in **a)**, consists of an ascending four-note sequence which climbs the octatonic scale; and the second example, in **b)**, consists of ascending and rapidly oscillating thirds and fourths, capped off by a descending arpeggiated flourish.

Like all the bravura figures in the piece, these examples are monophonic. Nonetheless, Lindberg imbues them with subtle textural depth. Though only consisting of single lines, each figure calls upon both hands to execute it, which naturally yields a different sound compared with if only one hand was used. With both hands involved, the single line is effectively distributed between two different – albeit similar – instruments and can therefore come across more like *two* lines. Lindberg leans into this phenomenon in the first figure – **a)**: each note assigned to the left hand is marked with an additional, downward stem, indicating a distinct voice. And whilst the second figure – **b)** – lacks any such stem, the left-hand material is separated from the right hand by a large enough interval that it also arguably becomes distinct. In both cases, the result is a monophony that *implies* a polyphony. Of course, the degree to which these implied lines come across will depend enormously on the interpretation; but in any case, this is surely the composer's intention, considering the deliberate involvement of both hands and the subtle notational cues.

There is more to these bravura figures than first meets the eye, but ultimately Lindberg's approach is not meaningfully different to how past composers have approached this type of writing. To further develop this point of comparison, there are strong parallels with the keyboard music of Debussy. Compare the two examples shown above in **Figure 4.10** with **Figure 4.11**, which shows the opening of Debussy's toccata from *Pour le Piano* (1901) (which in turn echoes the nimble passage work of a Baroque toccata):

Figure 4.11: Debussy, *Pour le piano*, Toccata (1901) (bars 1–4)

As with Lindberg's music, this passage features a single line formed of scalic runs and oscillating wider intervals (bar 3), both of which are distributed between the hands. Looking at some of Lindberg's other bravura figures and the influence of the French composer is no less conspicuous. **Figure 4.12** shows a transitional passage at bar 50 containing a series of water-like arpeggio flourishes, alongside analogous passages in works by both Debussy and Ravel:

Figure 4.12: Water-like arpeggio flourishes in Lindberg, Debussy and Ravel:

   a) Lindberg: Etude No. 1 (bar 50)
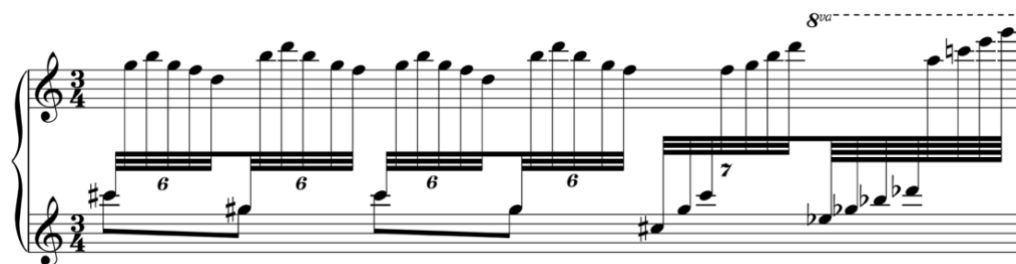
   b) Debussy: Prelude no. 8, Book II, *Ondine* (1912–13) (bar 71)

   c) Ravel: *Jeux d'Eau* (1901) (bar 68)
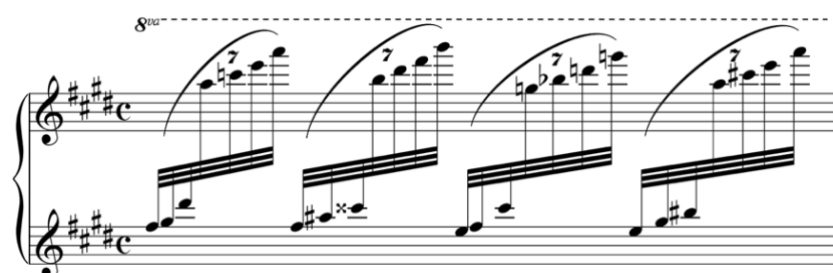
Unlike his innovative approach to parallel thirds and melody and accompaniment, Lindberg does little, if anything, to develop these bravura figures. But this is arguably an intentional decision by the composer – a way to more directly evoke repertoire of the past. After all, he was certainly in the practice of doing this considering that the equally, if not more, nostalgic Clarinet Concerto was also written during this time. These bravura figures, therefore, may best be described as allusions to – as opposed to reinventions of – historical figurations.

Conclusions

Essentially, Etude No. 1 is a transitional work. With these two contrasting textural functions (articulating harmony and history), Lindberg is engaging in a compositional 'wheat-and-chaff' exercise, deciding which to take forward and which to discard. With hindsight, we know that it is the pianistic tropes that now largely characterise his solo piano music, and to a dwindling extent the personal harmonic system. For instance, his most recent work for solo piano, *Promenade* (2017), features both melody and accompaniment and bravura in abundance, with not a single 12-tone chord in sight.

The two functions do have something important in common: unifying both is a strong emphasis on clarity. Regardless of whether texture articulates the composer's personal harmonic system or pianistic tropes, the music rarely exceeds two independent parts, and often does not even amount to that. This textural transparency lends the music a directness not often found in contemporary piano Etudes and serves to highlight the composer's intricate and expressive handling of timbre.

Lindberg's preference for sparser textures seems to stem from broader aesthetic concerns which link much of his sprawling output, from his pre- and post-millenial keyboard works to his orchestral music. For instance, when discussing *Marea* (1989–91), written for a classical-sized orchestra, he admits growing 'more and more interested in

the clarity of texture'.[60] Howell echoes this when commenting on Lindberg's music of the 90s more generally: 'it seems to engage more directly with a sense of tradition, exploring greater formal balance, clarity of texture and a new linearity.'[61]

Lindberg's textural preference also appears to place him in diametric opposition to Ligeti and the previous case study. Whereas the latter typically piles up distinct voices to the point of cacophony, the former all but forgoes counterpoint. However, the composers do utilise a number of similar methods: both adopt an intricate approach to doublings; both pair textural with dynamic procedures; and, most importantly, both incorporate and revitalise age-old pianistic tropes. Considering this final point, it is starting to sound as if Benjamin was slightly premature in suggesting that 'older techniques no longer function'.[62] Both Ligeti and Lindberg prove that they were merely in need of renovation.

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[60] Magnus Lindberg, programme note for *Aura*, *Wise Music Classical*, accessed October 27, 2020, https://www.wisemusicclassical.com/work/7688/Aura-In-memoriam-Witold-Lutoslawski--Magnus-Lindberg/.

[61] Tim Howell, *After Sibelius: Studies in Finnish Music* (Farnham: Ashgate Publishing Ltd., 2006), 237.

[62] Benjamin, 'Composing for the Piano in Black and White'.

5
Resolving Dualities

In the first response composition, *Mirie it is*, I faithfully incorporate many of the textural techniques explored in the case study. While my piece inevitably sounds different to Ligeti's, in the end both are tempo fugues. However, for this second response composition I stray much further from the case study topics. In Etude No. 2: *Flyby*, completed in early 2021, texture still has two functions but they are carried out simultaneously – thus resolving the textural duality. First and foremost, texture conveys an astronomical metaphor; and, interwoven with this, texture also articulates the familiar 12-tone harmonic system, as employed in the case study. These changes reflect a growing compositional assertiveness, whereby I treat the analytic topics more as creative stimuli as opposed to a prescriptive blueprint.

Astronomical inspirations

Although Lindberg provided me with theoretical ideas, the main inspiration for this second Etude came from a different, extramusical source. Around the time that I started the piece, my interest in astronomy was really beginning to blossom; and of the countless awe-inspiring astronomical phenomena, I thought a 'flyby' would in particular lend itself to musical representation.[63] In my work, texture's primary function is to convey this metaphorically through two pulsation figures – indicated by large noteheads – which are a constant presence throughout the music: their gradual crescendi *dal niente* and diminuendi *al niente* correspond to an object's movement towards and away from something (the listener, perhaps); and their shifting durations correspond to changes in

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[63] A 'flyby' describes the flight of a spacecraft past a celestial body, sometimes in order to gain a gravity assist.

velocity which occur as a result of gravity assists. **Figure 5.1** presents a typical extract illustrating these two elements:

Figure 5.1: Viner, Etude No. 2: *Flyby*, implied movement and changes in velocity (bars 10–11)[64]

To literally crescendo *dal niente* or diminuendo *al niente* on the piano is obviously impossible, discounting the naturally decaying resonance of a struck note. But it is possible to create the illusion. To do this I composed a background textural layer, formed of rapid, quiet semiquavers – indicated by small noteheads – which obscure both the entries and exits of the pulsations. To look at **Figure 5.1** once again: the entry of the left-hand F pulsation in bar 11 is imperceptible because this same pitch was part of the background layer in the previous bar and is dynamically equivalent when it *becomes* the pulsation – therefore, it seems to appear from nothing (*dal niente*); similarly, the exit of the A♭ pulsation in bar 10 is also imperceptible because it fades into and becomes part of the background layer of the following bar, thus seeming to disappear into nothing (*al niente*).

As fanciful as it sounds, this flyby metaphor completely captured my imagination. With the exclusion of a small handful of bars, practically all the music consists of these

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[64] N.B. There are no time signatures in this work.

pulsations and background layer, which together imply changes in movement and velocity, as well as the illusion of appearing and disappearing parts. This raises a key difference between my work and the case study: whereas Lindberg's Etude features a wide array of different textures, *Flyby* essentially consists of one: a sort of duet and accompaniment, to frame it in more conventional terms. However, there is a lot more to this omnipresent texture than has been discussed so far – namely the Lindbergian 12-tone harmony that it articulates.

Texture articulating harmony

Texture's second function in *Flyby*, simultaneously carried out with the first, is to articulate a symmetrical 12-tone chord. Before this piece, I had never worked with anything resembling Lindberg's personal harmonic system. Despite this, I quickly got to grips with the approach and, like the composer, enjoyed being able to 'call upon any pitch at any moment' and have it be 'a component of the present harmony'.[65] **Figure 5.2** shows the symmetrical 12-tone chord that underpins a large proportion of *Flyby* (the bracketed 'D' does not sound during the chord's first appearance):

Figure 5.2: Viner, Etude No. 2: *Flyby*, symmetrical 12-tone chord

Unlike Lindberg's – which mainly contains stacked thirds – this chord features a concentration of smaller intervals around the axis in the middle and gradually larger intervals towards the extremities. The smaller intervals constitute much of the background layer, creating a murmuring effect which contributes enormously to the *dal niente/al*

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[65] Martin, 'Harmonic Progression in the Music of Magnus Lindberg', 7.

niente illusion (these closely spaced intervals naturally sound less differentiated, and therefore further muddy the entries and exits of the pulsations); while the larger intervals are important in lending the music a more concrete sense of harmony, with the A-E 5th in the bass being especially prominent (e.g. in bar 12 and bars 16–18).

Aside from the differing intervallic structure, the 12-tone chord is actually articulated in a similar manner as Lindberg's. Like the case study, the chord is filled in note by note through an ever-intensifying texture.[66] **Figure 5.3** below illustrates this, showing the number of notes from the chord which have sounded ('Chord'), the number of pulsations ('Texture'), and the dynamics. From bars 2–8 – shown in **a)** – only four notes of the chord sound, so the texture is rather simple, consisting of just one pulsation. However, from bars 9–17 – shown in **b)** – a further seven notes sound (the chord only reaches eleven), and to reflect this growing harmonic density the texture becomes more complex. Firstly, an additional pulsation is added; then, to build tension, both pulsations gradually accelerate, with their durations shrinking from seven semiquaver beats to six, then five, and so on (as shown under 'Durations'). Further emphasising this process is a gradual crescendo, from *p* to *f*, whose peak heralds the completion of the chord.

Figure 5.3: Viner, Etude No. 2: *Flyby*, texture articulating harmony:

  a) Bars 2–8

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[66] The pulsations articulate the chord, but so does the background layer at a slightly different rate. However, in this paragraph I do not include the latter as it remains *pppp* throughout and, consequently, does not signal new notes of the chord as obviously as the pulsations.

b) **Bars 9–17**

	b.9	b.10	b.11	b.12	b.13	b.14	b.15	b.16	b.17
Chord:	5	6	7	9		10			11

Texture: 2 Pulsations:
(Durations)   7v7   7v5   6v6   6v4   5v5   5v3

Dynamics: *mp* ＜ *mf* ——————— *f*

Much like Lindberg's two-part polyphony, the two pulsations vividly convey the underlying harmonic system. Though they bear little resemblance to the case study music, through an increase in contrapuntal activity (but not contrapuntal density) they nonetheless achieve the same thing. This speaks to the surprising universality of these methods. Despite texture's seeming lack of separability (as pointed out by Trenkamp in the introduction), *Flyby* demonstrates that Lindberg's ideas can be fruitfully emulated and developed within an entirely different musical context.[67]

Conclusions

For this second response composition I was far less dogmatic in my approach compared with the first. *Flyby* incorporates one of the main analytic topics – the composer's personal harmonic system – but paired with it is the completely unique concept of the astronomical metaphor. Therefore, texture still has two key functions but they are carried out simultaneously, resulting in a more concise piece than Lindberg's and one without a textural duality.

On reflection, I was less inspired by this second case study compared with the first, which is perhaps a reason why I incorporated only one analytic topic in the first place. Beyond Lindberg's harmonic system, I felt there were fewer concrete techniques to

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[67] Trenkamp, 'Considerations Preliminary to the Formation of a Textural Vocabulary,' 14.

grapple with and, consequently, less to 'respond' to. However, Lindberg does demonstrate the viability and potential of textures which are, technically speaking, sparse; and this is something I evidently took away in my compositional response. Throughout its entire duration, *Flyby* features no more than two pulsations and a background layer. Owing to the techniques discussed in the present chapter, this proves to be more than enough to sustain the work, and could very easily sustain yet more works to come.

6

Bridging the Divide: Pedal Group in Benjamin's *Meditation on Haydn's Name*

H-A-Y-D-N

In 1909 the journalist Jules Ecorcheville commissioned six leading French composers to write a piece commemorating the centenary of Joseph Haydn's death.[68] The six – Ravel, Debussy, d'Indy, Dukas, Hahn and Widor — were given just one compositional parameter: to make use of Haydn's own name in their work. Depicting the letters H, A and D was straightforward enough, with H corresponding to B-natural in German nomenclature. For Y and N however, a convoluted and somewhat arbitrary scheme was devised in order to assign a pitch to these non-musical letters.[69] Consequently, the remaining two characters of the Austrian composer's name would be represented by a second D and a harmonically apt G, leaving the completed musical formula as B-A-D-D-G. This is shown in **Figure 6.1**, alongside the opening of the best-known tribute of the six – Ravel's *Menuet sur le nom d'Haydn* (1909):

Figure 6.1: Haydn's name:

a) **Letters and representative pitches**

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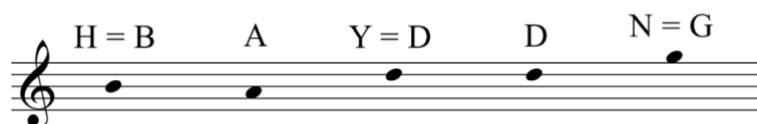
[68] Roger Nichols, liner notes for *Ravel: The Complete Solo Piano Music*, Angela Hewitt, 2002, Hyperion Records.

[69] Johnston describes a system in which non-musical letters are assigned to pitches in revolving groups of seven: Blair Johnston, 'Maurice Ravel, Menuet sur le nom d'Haydn, for piano, M. 58', *AllMusic*, accessed March 19, 2021, https://www.allmusic.com/composition/menuet-sur-le-nom-dhaydn-for-piano-m-58-mc0002361472.

b) Ravel: *Menuet sur le nom d'Haydn* **(1909) (bars 1–4)**

In a similar vein, in 1982 the BBC commissioned 6 leading English composers to write a piece marking the 250th anniversary of Haydn's birth.[70] Again, the task was set to make use of his name, using the same representative pitches as before. George Benjamin was one of the commissioned six, and it is his work, *Meditation on Haydn's Name (Meditation* hereafter), that serves as the third analytic case study.

Despite its title, Benjamin's work is a study as it was later incorporated in the wider set, *Three Studies* (1985), which also includes *Relativity Rag* (1984) and *Fantasy on Iambic Rhythm* (1985). But there is no denying that it is an entirely different type of piece to the other case studies included in this survey. For example, the work's technical demands, which are by no means straightforward, pale in comparison to those raised in Ligeti, Lindberg and Chin's Etudes. Benjamin also does not fixate on any particular pianistic shape or pattern as the others do, and as is typically customary in historical Etudes.

If there is any specific technique under interrogation, it is perhaps the voicing of chords and the juggling of complex, three-stave textures. And while there certainly is a precedent for Etudes concerned with these more nuanced elements (e.g. Debussy's Etude No. 10, *Pour les Sonorités Opposées*), Benjamin's work largely has more in common with the parallel – if slightly less well-formalised – tradition of the *compositional* study. As mentioned in the introduction, examples of this type of music include Frescobaldi's

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[70] George Benjamin, programme note for *Meditation on Haydn's Name*, *Faber Music*, accessed May 2, 2022, https://www.fabermusic.com/music/meditation-on-haydns-name-1097.

countless keyboard works written *con obbligo*, Ligeti's eleven *Musica Ricercata* (1951–53), and Rautavaara's six Etudes Op. 42 (1969), which the composer describes as 'interval experiments.'[71]

As with these examples, Benjamin works within and in spite of strict compositional parameters, namely the five pitches afforded by Haydn's name. With this limited material, the composer forges a texture that is essentially divided into two parts, with a 'pedal group' on the one hand and 'surrounding music' on the other. Starting with the former, I will investigate this approach, which – despite originating in earlier music – is one of the most original I have come across so far.

Divided texture

Benjamin's former teacher Olivier Messiaen (1908–92) coined the term 'pedal group' (as opposed to a pedal *tone*) and defines it as follows:

> Instead of one sustained note, foreign to the chords which surround it, we shall have a repeated music…foreign to another music situated above or below it; each of these musics will have its own rhythm, melody, harmonies.[72]

To illustrate this concept, Messiaen cites the opening of his work *Les sons impalpables du rêve* (1928–29), which is shown in **Figure 6.2a** below. In this example, the pedal group is the 'repeated music' played by the right hand, consisting of parallel triads that skate up and down the uppermost registers. To adopt the composer's terminology, foreign to this is 'another music' situated below, played by the left hand, which consists of slower and more pronounced melodic chords.

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[71] Lotta Eleonoora Matambo, 'The Solo Piano Music of Einojuhani Rautavaara', (MA dissertation, Rhodes University, 2010), 90.
[72] Messiaen, *The Technique of My Musical Language*, 55.

Figure 6.2: Messiaen, pedal group example:

a) *Les sons impalpables du rêve* **(1928–9) (bars 1–2)**

b) **Modes of limited transposition: modes two and three**

Aside from their contrasting dynamics, rhythm and register, what truly sets these two musics apart – and what perhaps qualifies them as distinct 'musics' in the first place – is their unique mode of limited transposition, which are each shown above in **Figure 6.2b**. The pedal group is based on the composer's third mode, whereas the left-hand music is based on the second mode, more commonly known as the octatonic scale. While there is a degree of overlap in terms of pitch, these contrasting modes ensure a mutual foreignness between parts not typically found in conventional melody and accompaniment textures.

In *Meditation* Benjamin expands on the technique pioneered by his teacher. **Figure 6.3** below shows the pedal group's first appearance at the beginning of the piece, with the Haydn pitches (B-A-D-D-G) plain to see. The name is presented first horizontally as an

arch-shaped arpeggio, and then vertically as blocked chords, the latter of which are always

emphasised with either accents or tenuti.

Figure 6.3: Benjamin, *Meditation on Haydn's Name*, pedal group (bars 1–2)[73]

In some respects, this pedal group is far freer than Messiaen's. Though the arpeggiated

gesture is rhythmically identical throughout (quintuplet demisemiquavers), the number

and duration of the blocked chords differs substantially. Furthermore, the music has

considerably more dynamic scope, ranging from ***pppp*** to ***mf***, and so is by no means

always situated in the background, as is invariably the case in *Les sons impalpables du

rêve*. But in other respects, Benjamin's pedal group is more restrictive. For example, it

only outlines one harmony throughout – Gsus2, just about the only chord afforded by the

Haydn pitches; and for the vast majority of the piece this chord is registrally fixed,

confined to the middle octave of the keyboard.

It is these restrictive elements in particular that set the pedal group apart from the

surrounding music, which is much more varied by comparison. **Figure 6.4** below shows

the initial entry of this contrasting material which, within just four bars, completely

saturates the pitch space with diverse harmony articulated in equally diverse fashion. And

on top of this harmonic variety is registral variety, with the music spanning a colossal

A♭1–E6 – a far cry from the fixed pedal group.

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[73] N.B. There are no time signatures in this work.

Figure 6.4: Benjamin, *Meditation on Haydn's Name*, surrounding music (bars 3–6)

Depending on the available instrument's capabilities, there is an additional, mechanical way in which Benjamin differentiates the two musics. For the pedal group, he instructs that the sostenuto pedal be depressed throughout so that the five Haydn pitches continuously resonate. But for the surrounding music, the composer calls for the use of the sustain pedal, adopting a one-pedal-per-chord pattern. The aural result is a soundscape neatly divided in two: a static, constantly resonating central harmony; and surrounding it, a diverse array of individually pedalled sonorities.

United musics

Over the course of the piece, Benjamin periodically unites this divided texture, bringing the two constituent musics into alignment in order to articulate the overarching form – something that did not occur in *Les sons impalpables du rêve*. The first way that the musics align is harmonically. Despite the contrasting pitch material of the surrounding music, it in facts shares a common harmonic progenitor with the pedal group – i.e. the Haydn pitches. This is illustrated in **Figure 6.5**, which shows the harmonies of each music from bars 1–4, along with the implied scale degrees of the chords. Viewed this way, their relationship is strikingly clear: the chords of the surrounding music are based on exactly

the same scale degrees as the pedal group – 3-1-2-5 – and are simply revoiced and transposed to E♭ major and F# major respectively.

Figure 6.5: Benjamin, *Meditation on Haydn's Name*, transpositions of Haydn pitches (bars 1–4)

Throughout the work, the vast majority of the surrounding music's chords are derived this way. Therefore, to bring the musics into harmonic alignment merely entails synchronising the transpositions of the chords. Excluding the coda (which is covered separately later), Benjamin does this on two occasions in the piece, both of which are shown in **Figure 6.6**:

Figure 6.6: Benjamin, *Meditation on Haydn's Name*, harmonic alignment between musics:

a) **Bars 8–9**

b) Bars 23–24

In each extract the surrounding music comes to land on exactly the same chord as the pedal group – the original G-major transposition of the Haydn pitches. With both musics harmonically aligned, the perceptual line separating them all but evaporates, resulting in a united texture. Considering how incongruous the material usually is, these rare alignments act almost like tonic arrivals, providing a sense of stability and accompanying release of tension. Benjamin uses these moments to signpost the work's broader structure: the first alignment, shown in **a)**, concludes the first section; and the second, shown in **b)**, falls immediately after the climactic halfway point and shortly before the coda (see **Figure 6.8** below for a full structural table).

The second way in which Benjamin brings the musics into alignment is through the use of dynamics. In addition to converging on soft dynamics, as in the previous examples, the two musics also crescendo and diminuendo 'as one' on several occasions in the piece. **Figure 6.4** above features an early, subtle example of this (from bars 5–6, the pedal group's swell from *pp* to *p* is promptly echoed by the surrounding music), but the most striking instance comes later in the approach to the climactic halfway point, from bars 14–17. Shown in **Figure 6.7**, this passage sees both musics begin at *ppp*, rise to *mp*, before eventually reaching *mf* and *f*:

Figure 6.7: Benjamin, *Meditation on Haydn's Name*, dynamic alignment between musics (bars 14–17)

Following this peak, both musics gradually diminuendo back down to ***ppp*** at bar 23. With this equivalent dynamic trajectory, the two musics blend together, amounting to a unified, albeit highly dense, imitative texture. As with the harmonic alignments, this passage articulates the work's overarching structure, signposting the approximate halfway point of the piece, which also serves as the main climax.

Figure 6.8 shows a structural table that summarises the points covered so far. Included are the pedal group, surrounding music and all of their various alignments. To reiterate: there are two harmonic alignments, which signpost the end of the first section (A) and the impending coda; and there are multiple dynamic alignments, the most striking of which signposts the work's climactic midway point (B).

Figure 6.8: Benjamin, *Meditation on Haydn's Name*, structural table

		A (1-9)		B (10-28)				Coda (29-40)
Surrounding Music	Harmony:		GM		GM			← GM →
	Dynamics:	*pp<p*		*pppp<p*	*ppp<f>pp*	*ppp*	*ppp>*	← *pppp* →
	Bar no.:	5-6	8-9	10-11	14-19	23	25-28	29-40
Pedal Music	Dynamics:	*pp<p*		*pppp<p*	*ppp<mf>pp*	*ppp*	*ppp>*	← *pppp* →
	Harmony:	←GM→			← GM →			← GM →

85

Also included (and yet to be discussed) is the coda, an extract of which is shown in **Figure 6.9** below. In this final section the two musics coalesce, unifying the divided texture for good. Some identifying characteristics do remain – for example the pedal group's quintuplets and the surrounding music's chordal patterns – but Benjamin places them under the same harmonic and dynamic umbrella (the GM transposition of the Haydn pitches and ***pppp*** *sempre*), thereby erasing any meaningful difference between them. To further blur distinctions, Benjamin also aligns the musics in terms of register and pedal: both now explore the piano's full range (spanning D2 in bar 32 all the way up to B7 in bar 36); and both are now bathed in the same resonance, with the composer calling for constant sustain until the end. In other words, Benjamin utilises practically all elements at his disposal to weld pedal group and surrounding music together; in doing so, he provides a structurally satisfying and tranquil resolution to the piece.

Figure 6.9: Benjamin, *Meditation on Haydn's Name***, complete alignment between musics (bars 29–30)**

Conclusions

In *Meditation* the full potential of Messiaen's technique is realised. Benjamin forges a convincingly divided texture – formed of pedal group and surrounding music – which periodically unites to articulate the work's overarching structure. This is done through the careful alignment of harmonic and dynamic procedures, which blur (or erase, in the case of the coda) the distinction between musics.

The initial juxtaposition and eventual coalescence between the two musics implies

a sort of musical dialectic. The pedal group and surrounding music could be viewed as a *thesis* and *antithesis*, with the subject of the discourse provided by the Haydn pitches. After much argumentation, represented by the opposing transpositions of the pitches, a *synthesis* is reached in the coda. Though somewhat fanciful, this assessment is lent credence by that fact that Benjamin explores a similar concept in two other later works: the aptly titled *Viola Viola* (1997) for solo viola, which Wallace describes as 'a visceral dialectic';[74] and the piano and orchestra work *Duet* (2008), the solo part of which is described by the composer as 'an alien figure in the orchestral landscape'.[75]

It is worth noting how little the composer appears to rely on past repertoire (or the repertoire of other cultures) to inform this approach. Whereas Ligeti and Lindberg deliberately allude to and revitalise certain historical elements (fugue, pianistic tropes etc.), Benjamin seemingly does not. Granted, the pedal group concept does originate in the music of Messiaen. However, from the previous discussion it is clear that *Meditation* does not merely represent an allusion to or update of this technique. On the contrary, such is the depth and vividity of Benjamin's compositional facility that he invents it anew.

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[74] Helen Wallace, *The Times*, October 21, 1998, quoted in programme note for *Viola, Viola*, *Faber Music*, accessed May 2, 2023, https://www.fabermusic.com/music/viola-viola-2767.

[75] George Benjamin, programme note for *Duet*, *Faber Music*, 2008, accessed May 2, 2023, https://www.fabermusic.com/music/duet-4917.

7
Meditation Gone Awry

Written in September 2021, the third response composition, Etude No. 3: *Meditation*, incorporates and subverts Benjamin's technique of divided textures.[76] Included therefore is a pedal group and surrounding music. But rather than aligning these musics before eventually uniting the divided texture (as Benjamin does with his coda), my piece *starts* with a united texture which eventually divides – representing a sort of inverse trajectory to textural procedures in the case study. On a broader level, the composition also represents a middle-ground approach between the somewhat dogmatic *Mirie it is* and the more diversely influenced and intuitive *Flyby*: like the former, *Meditation* faithfully adheres to the case study topics; but like the latter, it also explores extramusical elements, specifically a metaphor relating to meditation. The result is a slow, improvisatory-sounding work which casts Benjamin's ideas in an entirely new light.

Divided texture

Considering that *Meditation* concludes rather than starts with a divided texture, the work's coda (bars 16–25) best serves to illustrate each of the two components in isolation. Shown in **Figure 7.1a**, the pedal group consists of a lilting, arc-shaped arpeggio, based on a Bb^{13} chord. In keeping with Messiaen's original definition, it is 'a repeated music', and as with Benjamin's version, it is harmonically and registrally fixed.[77] Unfolding simultaneously with this is the contrasting surrounding music, shown in **Figure 7.1b**.[78] This material consists of various melodic sighing gestures, distributed across an imitative three-part polyphony.

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[76] *Meditation* now refers to my work, not the case study.
[77] Messiaen, *The Technique of My Musical Language*, 55.
[78] The surrounding music does not in fact 'surround' the Pedal Music, but I persist with these terms to remain consistent with the previous chapter.

Figure 7.1: Viner, Etude No. 3: *Meditation*, divided texture:[79]

    a) Pedal group (bars 16–17)

    b) Surrounding music (bars 18–19)

The musics are noticeably different in several ways (pitch, rhythm, intervals, dynamics etc.); but the main way in which they are differentiated is through their conflicting, independent tempi. The pedal group is played quaver = c. 92, whereas the surrounding music is played much more slowly at crotchet = 40, resulting in the complete desynchronisation of musics (incidentally, while there was no conscious influence from Ligeti, this is of course similar to the simultaneous tempi principle covered in Chapters 2 and 3). This approach differs from the case study, which relies more heavily on contrasting harmonic characteristics, but nonetheless arrives at the same thing: a divided texture.

As already mentioned, this is how the piece ends but not how it begins. Unlike the case study, at the start of *Meditation* the texture is essentially united, so the plural 'musics'

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[79] N.B. There are no time signatures in this work.

does not apply. Nevertheless, the two components that later become pedal group and surrounding music still constitute much of the musical material and are plain to see. For example, **Figure 7.2** shows bar 1, which consists of arpeggiated B♭^{13} harmony, written with small noteheads – the prototype for the pedal group – as well as a melodic line, written with large noteheads – the prototype for the surrounding music. These components are already clearly distinct from one another, but at this initial stage form more of an elaborate melody and accompaniment rather than a divided texture.

Figure 7.2: Viner, Etude No. 3: *Meditation***, prototypes for the pedal group and surrounding music (bar 1)**
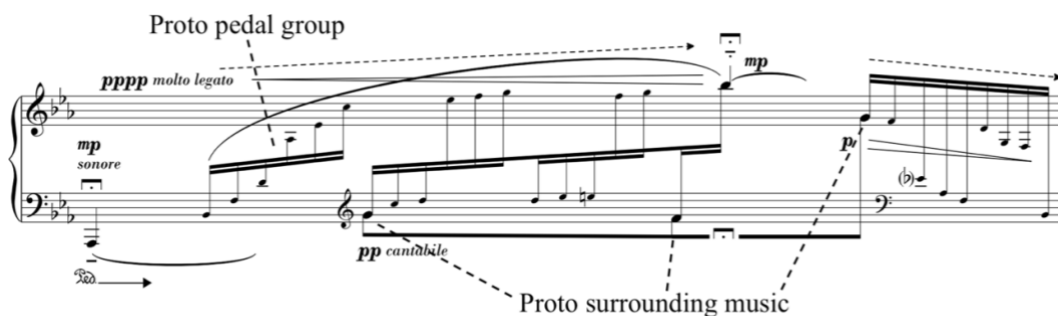
Depicting mediation

With both united and divided textures mapped out, the musical evolution from former to latter can be made sense of through the titular metaphor that informed much of my compositional thinking and which, to my mind, pairs brilliantly with Benjamin's technique – meditation. In brief: the sweeping, arc-shaped gestures (pedal group prototype) depict the breath, with the ascent representing inhalation and the descent representing exhalation; and the various melodic sighing gestures (surrounding music prototype) depict the unwanted thoughts that arise naturally in consciousness. **Figure 7.3** presents the same extract as the previous figure but relabelled according to this metaphor:

Figure 7.3: Viner, Etude No. 3: *Meditation*, **the breath and thoughts (bar 1)**
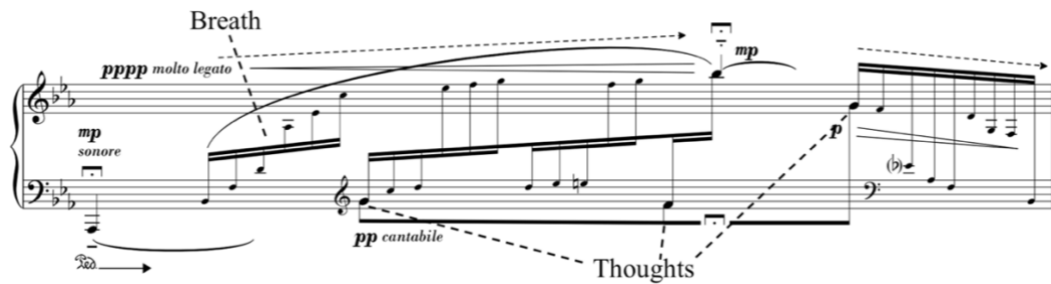
Viewed this way, the music opens with slow, deep 'breaths' which gradually become faster and shallower with the entry of new 'thoughts', each of which is more dissonant than the last (e.g. the B-A pitches of bar 9's 'thought' clash dissonantly with the overarching Bb^{13} harmony). This process is intensified through corresponding increases in dynamics (from *pppp* to *fff*) and tempo, eventually culminating in the *estatico* climax of bar 15 – the musical equivalent of a panic attack. Following this is the coda and the point at which the texture divides. Here, the breath, now represented by the fully-fledged pedal group, remains unperturbed by the thoughts. With its independent tempo, it carries on, trance-like, until the thoughts have completely faded away, as if 'the meditator' has finally achieved a quiet mind. This programmatic reading of the piece is represented in **Figure 7.4**, which shows the correlation between breath and thoughts, as well as dynamics and tempo:

Figure 7.4: Viner, Etude No. 3: Meditation, programmatic representation of structure
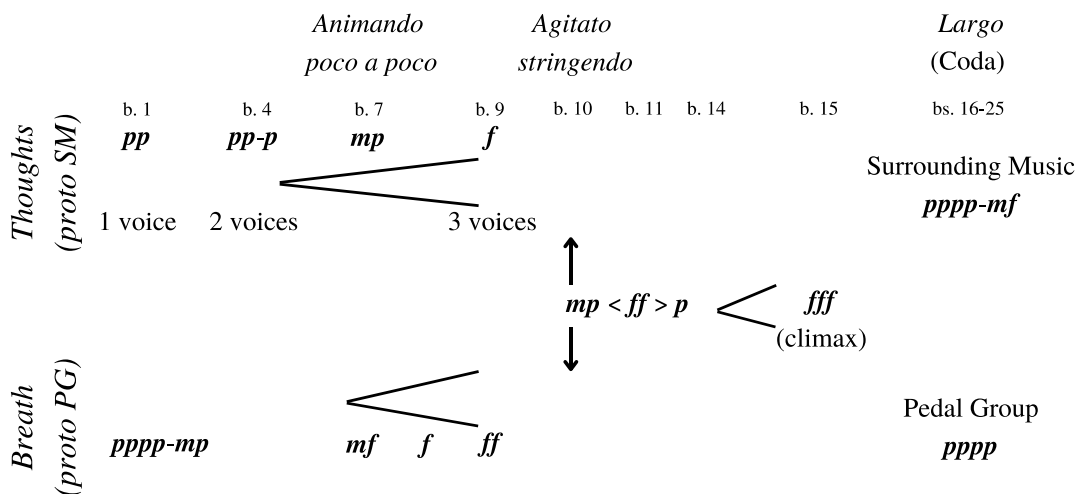
As with the previous response composition, *Flyby*, this metaphor fully captured my imagination and influenced practically all aspects of the work – from the surface-level figuration to the fundamental structure. For example, this is why the arc-shaped gestures are crafted the way that they are: to mimic the physical sensation of breathing, even including fermatas which represent a held breath. The metaphor is also the reason behind the reversing of Benjamin's textural trajectory, starting with united and concluding with divided textures: this ordering better conveys the struggle and eventual success of separating oneself from thoughts during mindfulness meditation.

Conclusions

While by no means straightforward, *Meditation* was the least difficult response composition to write. Part of this was due to its smaller scale (but not shorter duration) and lesser overall complexity. But mainly, this was due to the profundity of the case study ideas, which – when paired with the meditation metaphor – developed a life of their own and seemed to dictate compositional decisions for me.

Meditation remains largely faithful to Benjamin's concept of divided textures, incorporating both pedal group and surrounding music. However, by reserving this only for the work's final section (coda), I essentially change its function. In the case study, the divided texture serves as a vehicle for musical dialectics; it is only through uniting the two musics that they arrive at a resolution. But in my work the divided texture *is* the resolution; it is only through separating the musics (the breath and thoughts) that they peacefully coexist. This demonstrates that whilst prescriptive to a certain degree, divided textures are by no means unifunctional. Nor do they have much bearing on surface-level figuration, which I was free to sculpt according to my extramusical metaphor. Considering all this, it is perhaps fitting that Benjamin, who provided the initial impetus for this research, should also provide a technique unburdened by historical baggage and ripe for further exploration.

8
Blurring the Line: Textural Streams in
Chin's Etude No. 5 – *Toccata*

Indebted but not dependent

The fourth and final case study is Unsuk Chin's Etude No. 5: *Toccata* (2003). At present, Chin has written six studies, with *Toccata* being the most recently completed, despite its numbering. Originally, the composer aspired to the traditional dozen, in accordance with the famous sets by Chopin, Liszt, Scriabin and Debussy (in fact, many distributers still confusingly promote the set under '12 Piano Etudes'); and while she does intend to complete the series, it will be after she feels her style has sufficiently matured.[80] The six Etudes that we do have offer a vast panoply of pianistic sonorities and textures. They also encapsulate the composer's multifaceted musical language, drawing on a characteristically wide and diverse range of influences: from spectral and electro-acoustic music to Indonesian Gamelan, and from aksak rhythms to granular synthesis. Foremost and all-pervading, however, is the influence of the composer's former teacher, Ligeti. In regards to No. 3, *Scherzo ad libitum*, Whittall wryly comments that a listener '[w]on't get much credit if the two words 'like Ligeti' come immediately to mind'.[81] Be it the daunting rhythmic complexity, the focus on the keyboard's extremities or the general *meccanico* aesthetic, Chin's Etudes bear many of the same hallmarks as Ligeti's.[82] But Whittall quickly adds the qualification that 'Chin's indebtedness to her teacher has more of affinity

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[80] Moon Jung Kim, 'An Analysis of Unsuk Chin's Piano Etudes', (DMA dissertation, Seoul National University, 2010), 2.

[81] Arnold Whittall, 'Unsuk Chin in Focus: Meditations & Mechanics', *The Musical Times* 141, no. 1870 (2000): 30.

[82] Ligeti's Etude No. 4 from Book I (*Fanfares*) and No. 10 from Book II (*Der Zauberlehrling*) share striking similarities with Chin's *Toccata*.

than dependency about it.'[83]

Indeed, despite these apparent stylistic similarities, Chin's Etudes are first and foremost expressions of a highly idiosyncratic and eclectic voice. This extends to the element of texture, which, in *Toccata*, defies easy categorisation. On the one hand, the music is reminiscent of the elaborate one- and two-part writing characteristic of certain well-known early-20th-century toccatas. But on the other hand, Chin explores the rich ambiguity that exists within and between these textures, creating polyphonies out of monophonies and music formed of two distinct streams.

Textural streams

As with the previous case study, *Toccata* frequently employs textures that are divided into two separate components, which will be referred to as stream 1 and stream 2. The former describes the continuous music written in the top stave that in many ways exemplifies pianistic toccata writing, at least how the genre was embodied in the early 20th century. Shown in **Figure 8.1a** below, this music is fast, light, littered with repeated notes and resides mostly within the same limited registral span, situated in the keyboard's upper registers (C5–B♭5 from bars 1–11) – features that are also characteristic of the famous neoclassical toccatas by Debussy (1901), Prokofiev (1912) and Ravel (1917). Contrasting with this is stream 2, which describes the more varied music written in the bottom stave. This material initially consists of a meandering quintuplet melody, but is later replaced by erratic, stabbing chords – both of which are shown in **Figure 8.1**, under **b)** and **c)**.

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[83] Whittall, 'Unsuk Chin in Focus', 30.

Figure 8.1: Chin, Etude No. 5: *Toccata*, textural streams:[84]

   a) **Stream 1 (bars 1–8)**

   b) **Stream 2: quintuplet melody (bars 17–24)**

   c) **Stream 2: stabbing chords (bars 35–42)**

In many respects these streams echo the two-music concept that is central to Benjamin's *Meditation*.[85] In addition to the differences already outlined, each stream is also rhythmically distinct – with stream 1 formed of semiquavers and stream 2 based on either quintuplets or septuplets – creating the strong impression of a divided texture. Moreover, stream 1 is highly repetitive in terms of pitch, register and articulation, and

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[84] N.B. There are no time signatures in this work.

[85] Although no evidence points to conscious emulation, Chin could have been aware of *Meditation* seeing as Benjamin conducted the premiere of her work *Acrostic-Wordplay* in 1993.

consequently appears very much like a pedal group.

However, unlike Benjamin's work, the streams seldom diverge in terms of pitch material. As shown in **Figure 8.1** above, they both initially trace the same C7-based harmony (derived from the harmonic series on C); and when one deviates from this blueprint (which happens frequently), so does the other – such as in bars 23–25, where each incorporates pitches from the whole-tone scale. In this respect then, the streams cooperate, contributing to a unified harmonic picture.

The streams also come across somewhat like a melody and accompaniment, especially given the frequently lyrical nature of stream 2. But once again, Chin's music resists such simple categorisation. This most ubiquitous of pianistic textures is based on a hierarchical relationship that simply does not apply to *Toccata*. While juxtaposed in all manner of ways, the streams invariably share an equivalent dynamic marking, with neither taking any obvious dramatic lead in the musical discourse. To put it simply, they are equals.

This terminological elusiveness is not surprising when considering the complex and novel way in which the streams operate in the piece. Independently from each other, they undergo unique textural procedures: stream 1 unfolds an ever-fluctuating implied polyphony, whereas stream 2 evolves across several different types of texture, articulating the work's form in the process. These separately operating components build tension over the course of the piece and ultimately converge to form a climactic synthesis towards the end (bars 82–94). Starting with stream 1, I will investigate their unique textural properties in isolation before examining their eventual convergence.

Stream 1: implied polyphony

Though relatively straightforward to describe in general terms, stream 1 is imbued with remarkable textural depth, rendering any precise description difficult. After mechanically sputtering to life at the beginning of the piece, this skittish music runs like a *perpetuum*

mobile for nearly the entire duration of the piece. In the broadest sense, the stream is monophonic – i.e. it consists of a single line without accompaniment. But as is apparent when listening, this single line implies a number of additional lines. Chin achieves this through the use of varied dynamics, articulation, doublings and contour, not to mention the highly deliberate choreography of the pianist's hands.

Figure 8.2 illustrates this, showing an early extract both in its original notation – **a)** – and re-notated to highlight the implied polyphony – **b)**:

Figure 8.2: Chin, Etude No. 5: *Toccata*, stream 1 – implied polyphony (bars 10–13):

a) **Original notation**

b) **Re-notated to highlight implied polyphony – V1, V2 and V3**

In this passage the stream seems to imply three voices, which are labelled in **b)** as V1, V2 and V3. Notated on the top stave, V1 is the most prominent: it is played at a louder dynamic than the others (***mp*** as opposed to ***p***); it is articulated with both staccato and accents; in five instances it is doubled, with either a major/minor 3rd or a minor 2nd; and lastly, it resides predominantly at the top of the texture. Therefore, even despite sharing the same pitch material and cramped register as the other two implied voices, V1 comes across as highly distinct. Notated on the bottom stave are V2 and V3, both of which are

played with softer dynamics and without specified articulation.[86] Together they form broken-chord patterns, serving as a kind of accompaniment to V1. But what sets V2 and V3 apart is the repetitive and registrally fixed nature of V3: situated at the bottom of the texture, this voice consists of irregularly repeating Cs, coming across almost like a tonic pedal tone.

This implied polyphony is artfully choreographed between the soloist's hands to further differentiate each voice, both in the mind of the performer as well as in the aural outcome. Contrary to what its registral position may imply, V1 is assigned exclusively to the left hand. This requires an elevated hand position, with the busy right hand tucked underneath, which consequently results in a more vertical attack and, in turn, a more percussive timbre. Conversely, the right hand must remain in close proximity to the keys, which lends V2 and V3 a softer timbre. Obviously, the hands do not stay in this particular configuration for very long – such is the temperamental nature of the music – but throughout the piece, their precise choreography plays a large role in emphasising the implied polyphony.

Up until the point where the two streams converge in bar 82, stream 1 largely carries on in a similar vein, regardless of the frequent textural changes which occur in stream 2. For example, on analysing two more complex passages found later in the piece, a comparable textural make-up is observed: bars 35–38 also feature a pronounced top voice (V1) with broken chords and pedal tone nestled underneath (V2 and V3); and the same goes for bars 62–67, except for the absence of any clear V3 pedal tone.

It is important to note that my assertions of two and three implied voices reflect only my subjective hearing of the music. Depending on the listener, the interpretation,

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[86] In keeping with the genre, most pianists I have heard execute these voices with a light, even touch – for example, the following performance by Clare Hammond: 'Unsuk Chin – Etude No. 5 'Toccata'', YouTube video, posted by 'Clare Hammond', Dec 8, 2020, accessed May 5, 2023, https://www.youtube.com/watch?v=U605KtkEuO0.

and perhaps even the performance acoustics, the exact number and nature of perceptually perceived voices will inevitably vary. And this ambiguity does not just apply to *Toccata* but implied polyphony as a broader phenomenon. Davis attributes this to the fact that 'the tendency for monophonic tone sequences to separate into multiple voices is a function of the human auditory system itself, rather than just a practice of musical composition.'[87] Therefore, be it the present case study or Bach's unaccompanied string works (the topic of Davis' enquiry), a degree of uncertainty will remain inherent to implied polyphony due to its highly subjective nature.

Whilst only constituting one half of the overall textural equation, stream 1 is intriguing in and of itself. Using a variety of subtle techniques, Chin deftly walks the line between monophony and polyphony, challenging our limited textural vocabulary, all the while offering captivating perceptual ambiguities.

Stream 2: evolution articulating form

Stream 2 essentially alternates between two types of music – one melodic and one chordal (see **Figure 8.1b/c** above). This varied material pursues a textural trajectory that is independent from stream 1, and whose changes articulate the work's form. First entering in bar 17 in the bottom stave, stream 2 initially consists of a monophonic quintuplet melody. However, as the stream unfolds and alternates between the two types of music, the texture gradually increases in density – i.e. a textural crescendo. Density here refers both to the number of contrapuntal lines as well as the number of doublings: an example of the former comes at bar 27, where an additional melodic line enters beneath the existing one, expanding the monophony into a two-part polyphony; and an example of the latter follows shortly afterwards at bar 35 with the introduction of the stabbing chords, where

[87] Stacey Davis, 'Implied Polyphony in the Solo String Works of J. S. Bach: A Case for the Perceptual Relevance of Structural Expression', *Music Perception: An Interdisciplinary Journal* 23, no. 5 (2006): 424.

doublings result in a three-part homophony.

These examples are shown in **Figure 8.3**, which charts the entire textural evolution of stream 2 across the piece, as well as the corresponding dynamics:

Figure 8.3: Chin, Etude No. 5: *Toccata*, stream 2 – textural evolution

Texture		Bar no.	Dynamics
Melodic	Monophonic	17-26	*p*
	2-part polyphony	27-34	*mp*
Chordal	3-part homophony	35-49	*mf*
	4-part homophony	50-54	*mp - sub.ff*
		c. halfway	
Melodic	Monophonic	55-60	*p*
	2-part homophony	62-67	*mp*
Chordal	2-3-part homophony	68-75	*f*
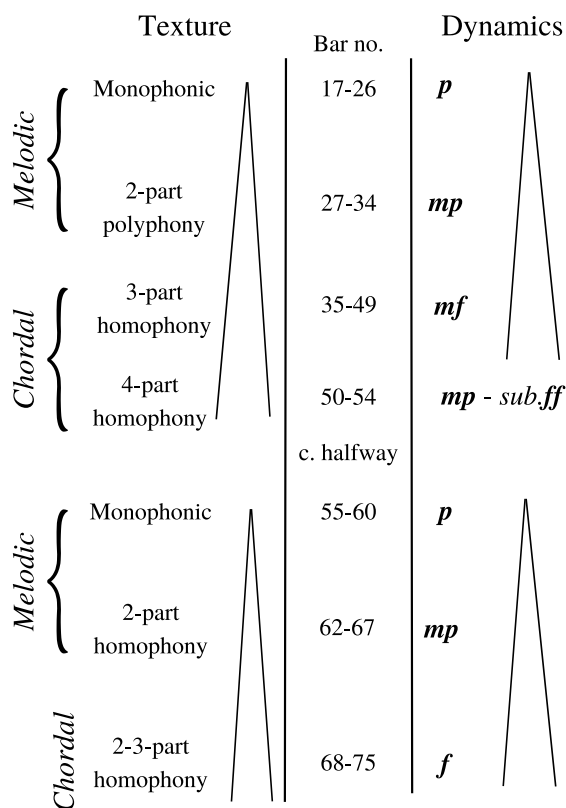
Over the course of the piece, stream 2 traces two textural-dynamic crescendi, which roughly match up with the work's two halves: the first grows from a monophony played *p* to a four-part homophony played *ff* (bars 17–54); and after a 'reset' at the halfway point back to a monophony at *p*, the second grows to a two- to three-part homophony played *f* (55–75). Considering that stream 1 persists with the same type of texture throughout (not to mention similar dynamics and register), these two textural-dynamic crescendi consequently represent the most conspicuous processes in the piece. Therefore, to map stream 2's textural evolution is practically equivalent to mapping the work's form, with each step along the evolutionary chain – e.g. the shift from a monophony to a two-part polyphony – corresponding to a structural demarcation. Indeed, with only a few

alterations (such as the inclusion of stream 1's solo at the beginning), **Figure 8.3** would serve as a faithful depiction of the work's entire structure.

This is all reminiscent of the first case study – Ligeti's *Automne*. Like her former teacher, Chin eschews tonality and thematic variety and relies principally on textural procedures to provide a sense of overarching progression and contrast. The main difference, of course, is that Chin achieves this using only one half of the overall musical texture – stream 2.

Converging streams

The discrepancy between the texturally static stream 1 and the constantly evolving stream 2 creates a palpable tension, one which eventually comes to a head in the work's final main section (bars 82–100) where the two streams climactically converge – an extract of which is shown below in **Figure 8.4**. Similar to the coda in Benjamin's *Meditation*, Chin brings nearly every aspect of the music into alignment along several dimensions, removing any clear sense of distinct streams: in this section there is no longer any continuous polyrhythm (quintuplet/septuplet), with the music now consisting mainly of semiquavers; and there is no longer any dynamic or registral distinction between parts, as all material now shares the same dynamics (between $\boldsymbol{f}$ and $\boldsymbol{fff}$) and explores an equivalent wide range.

Figure 8.4: Chin, Etude No. 5: *Toccata*, converging streams (bars 82–84):

   a) **Original notation**

b) Re-notated to highlight implied and real polyphony – V1, V2 and V3

In stark contrast to the peaceful atmosphere that characterises Benjamin's coda, this music is loud, chaotic and treacherously difficult to execute. The texture may no longer be divided in the manner that it was before, but, if anything, it is even more complex, now featuring elements of both implied and real polyphony.[88] This is illustrated by **Figure 8.4b** above, which shows the same extract as **a)** but re-notated to highlight the constituent voices – labelled V1, V2 and V3. Similar to stream 1's implied polyphony, V1 and V2 are implied through varied articulation, doublings, contour and the choreography of the pianist's hands: V1 is accented, often doubled and is played by the left hand, whereas V2 is unaccented, consists of broken-chord figures and is played by the right hand. V3 is based on a separate, triplet semiquaver line, which in earlier sections of the piece serves as transitionary material (e.g. bars 54, 61, 68, 81). This line combines with the implied voices above it to create a broader, real polyphony.

To reiterate an earlier point, this interpretation cannot be considered definitive due to the highly subjective nature of implied polyphony. Furthermore, the added complexity of this passage only increases the number of possible interpretations. For example, the highest notes of V2 sound analogous to, and could be deemed a part of, V1; and the notes following V3's triplet semiquavers could be viewed as an entirely separate 'V4', considering the large interval by which they are separated. It ultimately all comes down to the individual listener. Therefore, any attempt to keep track of the exact number of

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[88] 'Real' polyphony is used simply to differentiate from implied polyphony and refers to instances of two or more *simultaneous* lines – i.e. the conventional meaning of polyphony.

voices in this section, or indeed any other, would be a somewhat futile exercise.

Chin ends the piece with a virtuosic, keyboard-encapsulating gesture which seems to reassert two distinct streams (bars 96–100). Shown below in **Figure 8.5**, the top stave contains septuplet chords – reminiscent of the earlier stream 2 – whereas the bottom stave contains triplet semiquavers – seemingly a continuation of V3 from the previous section. Initially positioned at each extremity of the keyboard, these new streams rush in contrary motion towards the opposite extremity.

Figure 8.5: Chin, Etude No. 5: *Toccata*, reasserted streams (bars 96–100)

Aside from offering a thrilling conclusion to the work, the dramatic gesture also re-establishes the divided texture, in a sense undoing the climactic convergence of the streams. And this division is not only heard but also embodied by the performer: in a rather brilliant example of keyboard topography, the music concludes with the pianist's hands as far apart as instrumentally possible.

Conclusions

When reflecting on her studies with Ligeti, Chin shares that she 'learnt from him that it is possible to create something new without turning one's back on tradition'.[89] This lesson seems to lie at the core of *Toccata*, which echoes the past whilst projecting something wholly innovative. Stream 1 sparkles with the mechanical, rhythmic energy of an early-20th-century toccata; but the composer goes several steps further than her neo-classical counterparts, exploring and exploiting the perceptual ambiguities inherent to implied polyphony. Stream 2 at first glance seems to represent 'the melody' to stream 1's 'accompaniment'; however, they in fact form two separate components within a divided texture, with the ever-evolving stream 2 articulating the work's overall form. Closer parallels can be found between *Toccata* and two of the other case studies – *Automne* and *Meditation*. While the influence of Ligeti is perhaps most apparent on the surface (through the work's rhythmic complexity and *meccanico* aesthetic, etc.), on a deeper level Chin's work has more in common with Benjamin's *Meditation*. For example, each piece incorporates a divided texture, with one static component (stream 1 and pedal group) and one evolving component (stream 2 and surrounding music), both of which converge in some way at the end. Indeed, to each case study one could aptly assign the 'dialectic' metaphor.

The similarities are certainly striking; however, to rely too heavily on comparisons such as these would risk missing what makes Chin's textural approach so noteworthy: the fact that it embraces and exploits ambiguity, blurring the line between streams as well as the broader textural categories themselves.

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[89] Unsuk Chin, 'Unsuk Chin on studying with Ligeti, working with performers and her first encounters with music', *Classical Music Magazine*, April 28, 2021, accessed May 2, 2023, https://www.classical-music.com/features/articles/unsuk-chin-on-studying-with-ligeti-working-with-performers-and-her-first-encounters-with-music/.

9
Composing with (and without) Implied Polyphony

Completed in June 2022, Etude No. 4: *Toccata* was composed in response to Chin's piece of the same name.[90] This exuberant, highly virtuosic work employs similarly ambiguous textures, such as implied polyphony, while also taking inspiration from the case study's more general characteristics – for example its rhythmic complexity, harmonic palette and use of registral extremes. In addition to responding to Chin's music, the work also serves as a finale to my Etude set, and perhaps even the research as a whole. Consequently, *Toccata* is not singularly focused on any one specific texture or pianistic pattern, as its predecessors generally are. Instead, it takes a more eclectic approach, embracing a wide variety of textures as if in an attempt to 'sum up'.

Be it incorporating Chin's ideas or meeting finale expectations, the process of composing the work was especially intuitive, which makes it difficult to quantify in systematic terms. Specific passages can still be unpacked to illustrate relevant analytic topics, but this somewhat belies the unconscious manner in which I engaged with said topics when composing. Whilst analytically elusive, this freer attitude ultimately proved effective. Out of all the response compositions, *Toccata* constitutes the most organic integration of case-study and original ideas. To my mind, it is also the most successful piece of music.

Implied and real polyphony

On the surface, *Toccata* is extremely texturally diverse, more so than the case study. Across its relatively short duration of 3'40", the piano writing undergoes constant and unpredictable change, in keeping with the *Capriccioso* performance direction. For

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[90] *Toccata* now refers to my response composition and not the case study.

example, the first section alone (bars 1–22) encompasses repeated notes, various doublings (thirds, fourths and fifths), melodies, acciaccaturas, hand crossing and a descending scalic run. But as diverse as the writing is, it is nonetheless unified by its tendency to straddle both implied and real polyphony. This textural ambiguity is directly inspired by the case study, in particular the intricate implied polyphony of stream 1.

A good example of *Toccata*'s approach to implied and real polyphony comes at the very beginning, an extract of which is shown in **Figure 9.1**:

Figure 9.1: Viner, Etude No. 4: *Toccata*, implied and real polyphony – V1 and V2 (bars 1–4)

This playful, disjunct music transitions fluidly between a two-part implied polyphony and two-part real polyphony.[91] In bars 1 and 4 the two voices are implied, each interwoven in a single semiquaver line, just as with Chin's stream 1; however, in bars 2–3 they sound simultaneously to establish a real polyphony. In both cases, the voices are clearly distinct from one another: V1 acts as the work's principal motif (see **Figure 9.3** below), featuring smaller intervals, longer note values and various articulation (slurs, tenuti and accents); in contrast, V2 contains larger intervals (fifths and ninths) and exclusively short note values, acting as a sort of accompaniment. Notably, the voices are not distinct dynamically or registrally as they are in stream 1, but they are played by separate hands, allowing for easier differentiation in tone. As with the case study, there remains a degree of ambiguity when determining the exact number of implied voices because of the

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[91] As the music is already notated on two staves there is no need to re-notate in order to highlight different implied/real voices, as was done in the previous chapter; here, the two voices correspond nicely with the upper and lower staves.

subjectivity inherent to implied polyphony. For instance, V2's low E and D in bar 3 could quite easily be viewed as an additional voice, considering the large interval (ninth) by which they are separated.

Figure 9.2 below presents another extract, taken from the work's middle section (bars 64–65). Based on the same material as before, this music combines elements of implied and real polyphony simultaneously. The semiquaver music on the top two staves implies three voices: V1 – a high A♭ pedal; V2 – a motivic voice nestled beneath; and V3 – a slower, broken-chord pattern. And unfolding beneath this are two additional voices, which sound simultaneously to create a broader, real polyphony: V4 – a tenuto quaver that announces the first beat of the bar; and lastly V5 – a sighing melodic gesture.

Figure 9.2: Viner, Etude No. 4: *Toccata*, implied and real polyphony – V1–V5 (bars 64–65)

These brief extracts highlight two key differences between Chin's music and my own. First and foremost, the case study incorporates a divided texture consisting of two distinct streams (only one of which features implied polyphony) while my work does not. In the early stages of the composition, I had in fact planned on emulating this core feature of Chin's piece. For example, the opening material (as shown in **Figure 9.1** above) was originally intended to serve an equivalent function to stream 1 – i.e. a fast, fixed implied polyphony to counterpoint a slower and more lyrical stream situated either above or below it. Obviously, this is not how the music turned out and a second, contrasting stream was

never included (although the left-hand sustained line which first appears at bar 23 represents remnants of a planned stream 2). The main reason for this is that once I had composed the opening, I quickly concluded it was too dynamic to serve as a 'fixed' stream, and that it was of sufficient interest – melodic, harmonic and rhythmic – to stand alone.

This interest leads to the second key difference between *Toccata* and the case study. By design, Chin's implied polyphony (stream 1) is not explicitly motivic, whereas my mix of implied and real polyphony is. The aforementioned motif, which is found in both previous extracts (V1 in **Figure 9.1** and V2 in **Figure 9.2**), is shown in **Figure 9.3** in its original form:

Figure 9.3: Viner, Etude No. 4: *Toccata*, main motif (bars 1–4)

This material serves as the basis for practically the entire composition and is omnipresent, in one voice or another, amidst the texture (further clear examples can be found in the right hand from bars 23–30, in the left hand from bars 85–86, and in the right hand from bars 96–110). Writing with motifs – or developing variation – has always formed a central part of my compositional technique. Having not fully utilised this in any of the three other response compositions, I relished doing so in *Toccata*, and found that it paired brilliantly with implied and real polyphony.

Conclusions

Out of all four response compositions, this final piece arguably takes the fewest concrete ideas from its paired case study. That said, the individuality with which it explores the topic that it does cover makes it, in my view, the most successful. As with Chin's work,

Toccata makes frequent and varied use of implied polyphony, whilst also embracing textural ambiguity through its fluid interplay of implied and real polyphony. Crucially however, and perhaps for the first time, this was achieved without any compromise on personal style. Thanks to a more intuitive approach, Chin's ideas were organically interwoven with my own, allowing for the use of hitherto unused aspects of my compositional technique, namely motivic writing.

The fact that I only incorporated one analytic topic in the first place was not due to lack of inspiration, as was perhaps the case with the second response composition, *Flyby*. On the contrary, Chin's study offers numerous other compelling concepts seemingly ripe for response (e.g. textural streams, evolution conveying form and converging streams). The reason why I did not engage with these other ideas – at least, not in any systematic fashion – is simply that I could not find a way of presenting them in a meaningfully new light. This can in part be attributed to my own creative limitations, but it also speaks to the ideas' highly idiosyncratic nature. Ligeti's tempo fugue, Lindberg's 12-tone harmonic system and Benjamin's pedal group can all be demonstrated, with relative ease, in isolation from their specific musical contexts (especially the latter, which is a pre-existing technique anyway), whereas Chin's textural methods seem to be particularly contextual. That is not to say that alternative compositional scenarios for these ideas do not exist, just that they currently exist beyond my horizon.

In this respect, Chin's study may not provide the most transparent and adaptable textural model for composers of piano music. Nonetheless, I took immense inspiration from her music; and *Toccata*, which I feel is my most accomplished work to date, is a testament to this inspiration.

10
Conclusions

Common trends

There are several things to take away from this study, which is fitting considering the wide scope of the research question. First and foremost is the sheer individuality of each of the textural approaches. From Ligeti's tempo fugue to Benjamin's pedal group, texture is an evident outlet for creativity and visceral reflection of personal influence and style for each composer. This originality and diversity of approaches is embraced by the response compositions, which together amount to a veritable compendium of techniques and procedures.

Despite the highly personal way in which the composers employ texture, a number of common trends have emerged. For example, in every case study texture is intricately paired with dynamic, and occasionally harmonic, processes. The steady pile-up of superimposed layers in *Automne* and gradual evolution of stream 2 in *Toccata* – both examples of textural crescendi – are in each instance emphasised through corresponding dynamic crescendi (Ligeti, of course, also pairs dynamic crescendi with textural diminuendi to great dramatic effect). Likewise, the subtle fluctuations of doublings in Lindberg's Etude are accentuated by sudden surges or drops in dynamic level. More prominent in this work, however, is the pairing of textural and harmonic processes: during the introduction, a two-part polyphony gradually intensifies and becomes more sharply differentiated as a symmetrical 12-tone chord unfolds. As for *Meditation*, texture is used in conjunction with both dynamics and harmony: Benjamin mobilises these elements to bring the two contrasting musics into alignment and unite his divided texture.

Aside from Lindberg – who uses such pairings on a smaller scale and typically for timbral effect – the composers invariably employ these methods to articulate the

overarching structure of their works. In the absence of tonality or thematic variety, the combination of textural, dynamic and harmonic processes provides an effective sense of large-scale progression, contrast and culmination (a particularly striking example of this comes in the coda of *Meditation*).

Another common trend is the harnessing of tradition. Ligeti, Lindberg and Chin to varying degrees all reference and revitalise historical pianistic figures and textures: *Automne* is essentially a fugue, governed not by conventional contrapuntal rules, but by the novel simultaneous tempi principle; Lindberg's Etude features an array of pianistic tropes, though each is refracted through the composer's distinctive idiom; and *Toccata* evokes the one- and two-part writing of early 20th-century toccatas, all the while blurring the line between monophony and polyphony. *Meditation* stands apart in this regard, which is appropriate considering Benjamin's assertion that 'earlier techniques no longer function'.[92] This work does not harness tradition in any obvious way and is arguably the most original of the four case studies as a result.

As a composer who draws much inspiration from historical repertoire, I find this interplay between tradition and innovation both fascinating and instructional. Be it through combining seemingly disparate influences (such as Sub-Saharan African Music and Chopin) or finding new functions and contexts for familiar pianistic figures, the case-study composers demonstrate how various conventional ideas are still very much ripe for exploration. The response compositions testify to this point, two of which – *Mirie it is* and *Toccata* – also stem from historical concepts. By innovating on conventions, new and often unexpected perspectives are gained on both historical and contemporary repertoire alike.

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[92] Benjamin, 'Composing for the Piano in Black and White'.

One final, notable trend is the use of divided textures, which characterises both Benjamin and Chin's case studies. Despite the many differences between *Meditation* and *Toccata*, the composers employ this underlying technique in remarkably similar fashion: each divide their texture into two contrasting components, one fixed (pedal group and stream 1) and one which constantly evolves (surrounding music and stream 2); and these components engage in a sort of dialectic, building tension across the piece before eventually coming together at the end – either calmly or climactically.

Though steeped in a certain level of complexity, the technique has little bearing on surface-level figuration, which makes it applicable to a wide range of compositional scenarios. This thesis features three such scenarios (including my own, *Meditation*), but this is only scratching the surface on what is potentially a vast topic – one which pertains to Benjamin and Chin's wider output, as well as other contemporary music. Therefore, divided textures certainly call for further investigation, for which Chapters 6, 7 and 8 may serve as useful starting points.

Composing insights

By engaging with the textural topics as a composer, perspectives were gained that would not have been available through analysis alone, both on the case studies as well as my own compositional process. In several instances this resulted from faithfully incorporating specific techniques in my response compositions. For example, by grappling with the principles of tempo fugue in *Mirie it is*, I came to a better understanding of Ligeti's fugal subject in *Automne*, in particular the features that make it suited to this contrapuntal approach (e.g. its conjunct movement and small registral span) and the necessity of its various doublings. Similarly, in *Flyby* and *Meditation*, I uncovered new structural and metaphorical dimensions to Lindberg's 12-tone harmonic system and Benjamin's pedal group concept.

Other times, curiously, insights were gleaned even when techniques were *not* incorporated. With *Toccata*, for instance, the original goal was to make use of textural streams, as Chin does in her case study. However, I abandoned this goal once I realised that my initial material was not appropriate for a divided texture. Whilst frustrating in the moment, I acquired a deeper appreciation of why Chin's music *does* work: stream 1 is fixed (registrally, rhythmically etc.) and therefore contrasts with the more dynamic stream 2. Ironically, had I emulated these features blindly, I may not have fully recognised what makes them so effective.

Whether techniques were successfully implemented or not, the response compositions and commentaries invariably brought them into sharper focus, whilst illuminating the motivations behind certain compositional decisions. In this respect, the creative part of the methodology enabled me to understand not only the 'what', but also the 'why'. Considering the many difficulties inherent to texture – for example, its lack of separability – the broader perspective gained by this mixed methodology has been particularly valuable for this project and suggests wider applicability.

In addition to their relationship with the paired case studies, the response compositions trace a substantial evolution in my own compositional methods; after all, approximately two and a half years separate the inception of the first and the completion of the last. Broadly speaking, over the course of the project I became less systematic and more intuitive in my approach. For *Mirie it is*, a systematic approach was absolutely necessary; tempo fugue was a foreign language to me, meaning I had very little intuition to rely on. Consequently, the number, durations and keys of superimposed layers were always methodically calculated, which allowed me to compose music of greater contrapuntal and rhythmic complexity than usually typifies my style.

In *Flyby* and *Meditation*, certain parameters were relaxed. While there are systematic harmonic schemes that permeate both works, the material that articulates these

harmonies was more intuitively handled, based on extramusical metaphors as much as on concrete textural topics. The resulting music is somewhat impressionistic: in contrast with *Mirie it is*, voices are rarely clearly defined, and gestures take precedence over themes. This freer approach is also reflected in the unconventional notation, which in both cases lacks traditional metric designations.

Toccata was the most intuitively written, perhaps because the titular genre is one with which I am quite familiar (for example, I have performed several historical toccatas and composed other music in that style). With few constraining parameters, textures are at their most fluid and varied in this work: the interplay between implied and real polyphony blurs any sense of contrapuntal continuity, and gestures – especially of the virtuosic variety – form an even more central role than before. This more intuitive approach also allowed the opportunity to channel favoured, but hitherto unused, aspects of my compositional technique, specifically motivic writing.

This compositional evolution will not stop here and will not necessarily continue on the same trajectory. Despite moving away from the systematic, contrapuntal writing of *Mirie it is*, I would like to revisit tempo fugue. With a new fugal subject (and, in turn, new harmonic and rhythmic properties), the technique could be adapted in any number of ways, including within works for different instruments. In future, I would also like to make more conscious use of specific pianistic tropes. As the present research has demonstrated, historical figures can be inventively revitalised and used effectively as allusions to past repertoire; in either case, the topic represents unexplored territory.

Investigating this neglected musical element has had a profoundly invigorating effect on my music, taking it in different directions and elevating it to new heights. Regardless of how my piano writing develops from this point on, textural exploration will therefore continue to lie at its core.

Passing the torch

The research question far exceeds the scope of a single study. However, the hope is that this thesis lays the groundwork for further exploration of the topic. To this end, the case studies presented here may very well serve as springboards for investigations into the composers' wider outputs. In a similar vein, the array of textural topics covered, and the methods used to investigate them, may enable analyses of keyboard works by other composers, from a range of different genres and historical periods.

The integrated method of analysis and composition appears especially well-suited to dealing with this notoriously tricky musical element. With the benefits of both disciplines, yet more discoveries can be made into the role of texture in contemporary piano music.

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