

**PORTFOLIO OF ORIGINAL COMPOSITIONS  
WITH ANALYTICAL COMMENTARY**

**Volume I**

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of the requirements for the degree of Doctor of Philosophy.

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## DECLARATION

I hereby certify that the material here submitted for the degree of PhD is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within my text.

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And last, but first, my thanks to my wife Roseanne for all the love, the humour and the support.

## ABSTRACT

This doctoral submission is in two parts. The first part, entitled 'Techniques of a Musical Language', is an extended commentary on the compositions submitted. The second consists of scores of the works with accompanying CDs for each work.

The commentary deals with the music from the aesthetic and analytic perspectives. It is thematic in its presentation, treating the musical works not sequentially but under broad headings such as form, harmony and rhythm. The origins of the works as various commissions are described, and areas of practical realisation in performance are discussed.

The works submitted cover a wide spectrum of musical media and techniques. They encompass dramatic, symphonic, chamber and solo genres. Vocal music is substantially represented.

Taken together, the commentary and works form a comprehensive picture of my composing activity.

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**Analytical Commentary:**  
**Techniques of a Musical Language**

## **Introduction: Summary of Works**

For reasons discussed in the first chapter, I have chosen to present this commentary thematically and with reference to technical and aesthetic aspects that the works have in common, rather than work by work. It may therefore be helpful for the reader to have a brief overview of the folio, with a summary of each work presented.

### **1. *Four Orchestral Pieces***

*Commissioned and premiered by the RTE National Symphony Orchestra, conductor Gavin Maloney, National Concert Hall Dublin, January 19<sup>th</sup> 2007*

1. *Vestiges*

2. *Slåttar*

3. *Tubilustrium*

4. *Prelude with Carillon*

This work is a commission for the RTE National Symphony Orchestra. The work is scored for large orchestra and is in four movements, lasting some twenty-five minutes in all. The four movements are distinct in character and do not make up a symphonic whole. On the contrary, they could conceivably be performed in a different order from the above, and even separately. Having said this, the above order will be found to have the best cumulative effect. The two outer pieces, the most substantial, are scored for full orchestra; the two inner pieces are scored for strings and timpani (*Slåttar*) and for winds, brass and percussion, with minimal string involvement (*Tubilustrium*).

The first piece, *Vestiges*, is the most symphonic in form. Its first half (up until bar

107) is constructed in a ritornello shape; the second hurtles towards a sweeping climax (bars 146–165).

The second piece, *Slåttar*, is an orchestral version of a piece for solo double bass, also included in this folio. The provenance of this piece is Norwegian fiddle music. A slåttar is a dance form in this music. It is in fast triple time, apt at any moment to shift into two-time by means of hemiola. In fact this piece too is in ritornello form (see the discussion of form below). The 'return' material is the rhythmic canon played on open strings at the beginning, which is punctuated by episodic featuring either fast scales, or slow, folk-like keening tunes.

The third piece, *Tubilustrium*, is a study in brass and winds sonority, with substantial percussion. 'Tubilustrium' was the ceremony of purifying the trumpets which preceded a Roman parade.<sup>1</sup> The central section features a markedly contrasting passage with swirling scales for two clarinets.

The fourth piece, *Prelude with Carillon*, is a large orchestral scherzo. I have lately become interested in the scherzo idea in music, and most of my substantial pieces of the past few years have featured one. A scherzo should convey the idea of speed, or at least of propulsion. Structurally, scherzo can pose interesting problems too, with the basic ternary shape subjected to all manner of adjustment. The introduction is fast and high, and gives way to a contrasting theme for the cor anglais accompanied by harp (bar 30). The central 'Trio section' is a kind of hunting music featuring horns and bells

<sup>1</sup> *Cassells Latin-English Dictionary*, London 1958, p. 591.

(bars 110 to 131). The climax of the piece brings back the cor anglais theme in massively amplified form (bar 138).

*The young are always right* for orchestra

*Premiered by the Royal Irish Academy Symphony Orchestra, conductor James Cavanagh, National Concert Hall, Dublin, January 30<sup>th</sup> 2007*

This work is a joint commission from the Irish Arts Council and the RIAM. The title is a quotation – or at any rate citation – from Mahler. I am not certain of the context in which Mahler said it, but musical friends suggest that he may have been referring to the ‘young’ of *his* mid-forties, namely Schoenberg and his school. This gives the remark a much more pointed, and perhaps ironic, aspect than the initial impression of a blanket endorsement of ‘youth culture’ might suggest. The work is a twelve-minute study for orchestra. Most of the ideas on which it is based are heard in the opening forty bars. These ideas return in many shapes in the course of the work.

### *Five Piano études*

*Etude No. 1, original version premiered by David Adams, Bank of Ireland, Foster Place, November 2000. Revised version, and Etude No.5, premiered by Izumi Kimura, Royal Irish Academy of Music, November 10<sup>th</sup> 2005*

This group of Etudes was composed over several years, but it represents a fairly unified approach to problems of modern piano writing, with similar technical and musical aspects recurring in varied guises from Etude to Etude. Only three of the Etudes have so far been performed, and two recorded.

1. A polyrhythmic study which makes a particular feature of scale-derived passages alternating with a stomping, folk-like theme heard at the opening and three times subsequently. The idea behind this Etude was to have a quarrel between the hands about where exactly the beat lies.
2. A four-voice fugue. This piece is a continuous composed-out accelerando. The texture is a skein of fugal entries woven entirely from the six-note subject.
3. A dance based on the long theme, bars 1–32. At various points this dance theme returns surrounded by new material. This however does nothing to alter its shape, which remains stubbornly the same.
4. A study in chords. The chords, almost always of six notes, are stated in bald progression at the beginning. They then give way to a more fluid central section before returning for a final statement.
5. A rhythmic étude. The pulsing top note of the piano is effectively a metronome against which other events, especially the opening melody, are measured.

### *Piano Trio*

*Performed by Lontano Ensemble, CD 'Music from Northern Ireland', Loreit*

LNT 117

1. *Fuga*

2. *Scherzo*

3. *Adagio*

4. *Passacaille*

This work was commissioned by Irish Music Network for the Vienna Piano Trio, who never played it (see page 17 below). The enclosed commercial recording is also

its premiere. This work was an attempt to make a substantial addition to a venerable genre which has not (unlike the string quartet) flourished in recent music. The *Piano Trio* has a classic four-movement layout; but the sequence slow-fast-slow-fast is as suggestive of baroque *sonata da camera* as it is of later sonata procedures. As the movement designations suggest, this is not the only baroque association. The first movement is a fugue in four voices, and the last a passacaglia. The French version of this word is a direct reference to one of the great passacaglias by Louis Couperin (see page 31 below). The second movement is a scherzo with a contrasting second subject rather than a trio section proper. The third is a *lamentoso*-style song for the three instruments.

***Apollo and Marsyas*** dramatic concerto for voices and instruments

*Premiered by the Crash Ensemble, O Reilly Hall, Dublin, June 18<sup>th</sup> 2004*

This work was commissioned and premiered by the Crash Ensemble in 2004. It is a twenty-minute long setting of a tale from Book Six of Ovid's *Metamorphoses*. The story tells of the ill-fated satyr Marsyas, who challenges the god Apollo to a musical contest. There is a spoken part for the god Zeus, the biased adjudicator who rules in Apollo's favour. A boy soprano at the end narrates the metamorphosis of the slain Satyr's blood into the river Marsyas, which gives him his immortal name.

***Three Songs*** for soprano and piano

*Premiered by Mairead Buick (soprano) and Deborah Kelleher (piano), Wexford Chamber Music Festival, June 25<sup>th</sup>, 2005*

This short song-cycle originated with a request from soprano Mairead Buick for a

piece by a contemporary Irish composer to include in her repertoire. The poems are all sacred. The first and third are anonymous and the central one is Herbert's 'Virtue'.

### **Four Solos**

1. *Sláttar* for solo Double Bass.

*Performed by Malachy Robinson, CD: Contemporary Music from Ireland, CMC CD04*

This piece is the original solo version of the second of *Four Orchestral Pieces* (see above). For ease of reading and discussion, it is the version of the work usually referred to in the discussion below.

2. *Ictus* for solo flute

*Premiered by Bill Dowdall, University of Auckland, NZ, August 2006*

This work is in two distinct sections. The long melismatic introduction is for alto flute. Its thematic shapes derive from a figure very close to the opening of Schoenberg's *Klavierstück* op. 23 No. 3, which is quoted as a kind of tribute. The rapid second section is for standard flute. This work has been revised since its premiere in 2006 and there are some differences between this version and the recorded one.

3. *Ninety Seconds for Annaghmakerrig*

*Premiered by Maria Mc Garry, Sonic Arts Centre, QUB, October 21<sup>st</sup>, 2006*

This short essay for piano was a commission to mark the twenty-fifth anniversary of the Tyrone Guthrie Arts Centre at Annaghmakerrig. It is an astringent two-part



invention with a somewhat more lyrical coda. It is included among the series of solo pieces in this folio, rather than among the *Piano études*. The reasons for this will be clear on one hearing, for the piece was written separately from the Etudes and is quite different in character. It is very much an exercise in self-education, and specifically in the manipulation of serial rhythm as defined by Milton Babbitt (see the discussion of rhythm in Chapter 4). Since the question of invertible rhythm arises in Chapter 4, I have included it for the sake of completeness.

#### 4. *Motus* for Bass Clarinet

*Premiered by Sarah Watts, Royal Irish Academy of Music, November 10<sup>th</sup> 2005*

This work was commissioned by the bass clarinetist Sarah Watts. It is an extended single movement with various sections. All the sections are linked by means of tempo modulation. The pitch materials are derived from synthetically-constructed scales. The work's long melody plots an outward and a homeward journey through a series of contrasting episodes, the outward journey defined by an ever-expanding metric pulse, the homeward by an ever-contracting one, as explained in Chapter 4 below.

## Chapter 1: APPROACHES AND METHODOLOGIES

### 1.1 General remarks

Before discussing the works included in the folio in greater detail I will try to suggest how this commentary is best to be read and discuss its relation to the music. Firstly, I would caution against regarding the commentary as a kind of recipe-book which explains all aspects of the music. Neither theoretically nor aesthetically is this discussion the last word (it is perhaps not the composer's task, in any case, to offer this); and it touches only fleetingly on the most important ingredient of all: inspiration. Some readers may find this an unhappy choice of word. Inspiration is surely an old-fashioned idea. It harks back to romanticism and the artist as a kind of intermediary between heaven and earth. I still find the word useful, indeed essential, for indicating that necessary given – a spark, a visitation – without which nothing can follow. Even a seemingly technical concept like combining a variety of tempi is at bottom a poetic idea. Inspiration is notoriously difficult to describe. In the context of academic writing, this presents the problem of validation. How true an account of the inspiration behind the work is the one being offered? Clearly it is difficult for the artist to answer this question verifiably. As the poet Michael Longley has said: *if I knew where poetry came from, I'd go there.*<sup>2</sup> This is not the least reason why much discussion of music concentrates on technical matters. The important point is that inspiration is vital to the creative process, even when it is not overtly discussed.

Even technical discussion, however, must be treated with care, no matter how neutral

<sup>2</sup> O'DRISCOLL, Dennis (ed.), *The Bloodaxe Book of Poetry Quotations*, Great Britain: 2006, p. 229

and uncontroversial it might appear. For example, the reader who refers to Ex. 4.6 in the chapter on rhythm below and attempts to trace the rhythmic transformations through every fugal strand of the first movement of my *Piano Trio* may find his patience tried. The diagram provides an idealized picture of the ‘left-leaning’ transformations of the *Hauptrhythmus* (dominant rhythmic pattern) at the top of the example page (see chapter 4 below, pp.117–120). But the application of these transformations in the music is contextually varied according to immediate need. Notes will be lengthened or rests shortened or added, as local circumstance – the need to avoid cluttering of voices, the desire to avoid an unhelpful simultaneity at an entry of the fugal subject – dictates.

This general caution applies particularly to rhythmic diagrams. The reason for this is the obvious one: the temporal plane of music is almost infinitely divisible and therefore flexible, the only real limitations being the practicalities of performance. By contrast, the pitch dimension, in western music at any rate, is a comparatively restricted field with its twelve equal-tempered divisions. Additionally, the listener’s metrical perception is generally more approximate than his pitch perception, a fact evidenced by even the trained musician’s tolerance for broad tempo flexibility and even vagrancy, as against the tight strictures placed upon poor intonation or pitching. Before leaving the subject of diagrams, it may be well to deal with the possible objection that some of the examples in the dissertation are very long. If this essay were intended for a more general readership I would not include lengthy diagrams. But my main purpose here is to present a picture of my compositional process, and I cannot do this without reproducing some of the lengthy charts which are a part of the

process. (It would have been possible to include many more.) I hope to have struck a balance between presenting an authentic picture and testing the reader's patience.

## 1.2 Analysis and 'analysis'

To define the kind of discussion attempted here, it would be useful to ponder the kinds of musical analysis available. One might posit two broad categories into which the various kinds of musical analysis can be grouped. The first could be called reconstructive. This kind of writing is basically a meticulous re-creation of the process by which the composer wrote the work, often with extensive recourse to his or her sketches. A famous example is Herbert Henck's analysis of Karlheinz Stockhausen's *Klavierstück X*.<sup>3</sup> The purpose of this kind of analysis would ideally (scarcely practicably) be to enable the reader to reconstruct the score note for note. The advantage of this kind of discussion is that it gives the reader a clear view into the composer's work-room. Anecdote and personal expression are usually excluded, as a notionally objective picture of the creative process is painstakingly assembled. The disadvantage of this kind of analysis is that it gives a curiously antiseptic idea of what creative activity is like, as well as completely excluding all but the most specialized reader. It might be asked whether this kind of discussion can be called analytic at all, since the only criteria of success usually invoked are the composer's own, as expressed in a pre-compositional plan. When poorly practiced, too much such analysis can read like self-fulfilling prophecy.

The second category of analysis might be termed empirical. This kind of analysis

<sup>3</sup> HENCK, Herbert, *Karlheinz Stockhausen's Klavierstück X*, Köln: Neuland Musikverlag Herbert Henck, Ed. no. 8002, 1980. See also COOK, Nicholas, *A Guide to Musical Analysis*, London: Dent, 1987, pp. 215–237.

takes as its starting point the *fait accompli* of the score and asks how it creates its effects of direction and coherence. Pierre Boulez's analysis of *The Rite of Spring* is a famous example.<sup>4</sup> The strength of this approach is its connection with what is readily audible in the music; perception can easily be checked against fact. Its conceptual weakness is its subjectivity and often complete dismissal of the composer's intentional schema. Both of these limitations are illustrated in Boulez's analysis. At one point, Boulez confesses that he does not care at all what Stravinsky 'meant' by the *Rite*, an assertion which at the very least can appear arrogant.<sup>5</sup> And it is repeatedly evident in Boulez's discussion that the harmonic aspect of the work is of much less interest to him than the rhythmic. Indeed, in Boulez's terms, the harmony is easily dismissed as a reactionary agglomeration of seventh chords and post-impressionist sonorities; in other words, it is insufficiently Boulezian. Empirical analysis argues that a composer's pre-compositional intentions have no effect on the audible 'product'. Much, and maybe most, analytical writing, of course, mixes different approaches. But it is well for the reader, and of course the writer, to be broadly aware of which approach he is to take.

If we consider another distinguished piece of analytic literature like David Schiff's book on Elliott Carter, it would appear superficially, with its pitch and rhythmic charts, to belong to the first (or reconstructive) of the categories here outlined.<sup>6</sup> Such a reading would in fact entail a fundamental misunderstanding not only of Schiff's book but of Carter's music. The various techniques described in Schiff's book are not

<sup>4</sup> BOULEZ, Pierre, 'Stravinsky Remains' in *Stocktakings from an Apprenticeship*, Oxford: Clarendon Press, pp. 55–109.

<sup>5</sup> *Ibid.* pp. 56–57.

<sup>6</sup> SCHIFF, David, *The Music of Elliott Carter*, London: Faber and Faber, 1998.

compositional processes at all in the strict sense, but techniques that are available to the composer at any given moment in the composing activity. To put it another way, they are like the air the composer breathes, and their use by itself tells little about the musical experience the work is likely to offer. Even after such techniques have been categorised, the main task of describing what the composer is attempting to do remains to be accomplished. It is discussion of this kind which is essayed in this commentary. The questions that the reader most often wants answered, in my experience, are simple. Why was this piece written and what does it try to achieve? What should I listen for? What is the piece 'saying'? I share Schoenberg's bias against the elevation of style and technique over the question of 'what the piece is about'. Style comes and goes, but, as Schoenberg said, an idea can never perish.<sup>7</sup>

This disclaimer might appear disingenuous. Surely if analysis of the reconstructive kind can be carried out by anyone, it might be argued, it is the composer himself, with his access to and understanding of his own sketch materials and his inner process, such as no second party can aspire to. Intriguingly, I have found this not to be the case. Some of the more frustrating hours of preparing the remarks below have been spent in trying to decode note-lists and rhythmic charts that once made perfect sense. Memory heavily (and quickly) covers its tracks. Yet the pleasure of writing this commentary has been traceable to the same source as the frustration. It has given me the opportunity to explore that sometimes strange *terra incognita*, myself.

<sup>7</sup> SCHOENBERG, Arnold, 'New Music, Outmoded Music, Style and Idea,' in *Style and Idea, Selected Writings of Arnold Schoenberg*, edited by Leonard Stein, London: Faber and Faber, 1975, p. 123.

### 1.3 Pre-composition vs. composition

A different question arises in relation to works composed without a large element of pre-compositional apparatus. The most prominent of these presented in this folio is the dramatic concerto *Apollo and Marsyas* (2004). On this matter, it should first be said that the intrinsic quality of a work is not always linked to the amount of ratiocination that has preceded or accompanied its composition (though my own experience is that the pieces which have been most thought about are the best). One has only to compare responses, both public and professional, to Schoenberg's 'spontaneous' atonal music, compared with his serially organized works, to test the validity of this statement.

Yet the relationship between the intellectually mediated and the supposedly spontaneous is worth pondering. In the modern era, a great number of composers have felt the overwhelming need to construct intellectual frameworks for their creative decisions. The compelling reason has been that post-Schoenbergian practice, especially in the domain of pitch, allowed too much freedom; and nearly all such constructs are attempts to deliberately curb the composer's freedom – freedom here to be understood in the sense of possible anarchy. In this perspective, constructs are a kind of electrified fence which stops the composer from wandering too far from the composition's initial premises. Yet the purpose of pre-compositional constructs might also be understood in another, more benign, sense. For the young composer, still finding his way, constructs undoubtedly play a vital role in training his faculties, critical and creative. But this does not prevent one from imagining a time or occasion when constraints at the conscious level can be dispensed with or at least loosened. If

one watched an artist of many years experience draw a flower with recourse to T-square, ruler, triangle and compass, one would not necessarily form a high idea of his abilities. The purpose of pre-compositional constructs may be to enable one to draw freehand – eventually. Even the composer who employs integral serialism depends on his ‘ear’ to produce a sound-world that is distinct for him or herself.

#### **1.4 Composer, performer and listener: the dynamics of creation**

The performances on CD enclosed with this folio make it clear that it is as much a celebration of the performer’s art as it is of the composer’s. My career as a composer has in one sense been the history of my relationship with players and singers, and it has been largely a fulfilling and happy one. Yet the composer-performer relationship is potentially as fraught as it is essential. At its basis is a working dynamic which in current culture seems unavoidable: the composer needs the performer more than the other way around. The available repertoire by distinguished dead composers is an unfailing resource for the performer: in this sense, the touted demise of classical music really has been exaggerated. And for the same reason the exasperated hope sometimes voiced by composers that audiences will ‘get fed up’ with the standard works (and finally begin listening to us) may be so much wishful thinking. The repertoire may be old, but new performers and audiences are always discovering it.

The composer’s way round this dilemma has a direct bearing on the music he writes. I have at times had the reputation of being both a populist and a difficult modernist. It would be idle to deny a certain *frisson* which results from the incongruity of the labels. In this respect, I identify with those American composers like Aaron Copland



who were two composers in one. Copland proved that it was possible to please the audience while maintaining that personal constituency of fellow musicians which is so important to most composers. Even for Copland, the act of balancing the claims of the audience with the need to address his musical constituency was tricky, as the mixed reception of his serial *Piano Quartet* of 1950 proved.<sup>8</sup> Such incidents make palpable a dilemma for composers that can too often be caricatured as walking the fine line between neglect and total obscurity.

The problem of who to write for, and what kind of music to write for them, can be particularly acute when young musicians are involved. I have written a considerable amount of music for younger musicians, and this aspect of my work is represented in this folio by the orchestral work, *The young are always right*. Other works which fit in this category include the opera *The Fireking* (1993–95), also written for young performers, and several works tied to educational projects in which I have taken part. Introducing young performers to new music is important; but equally important is the way in which it is done. Composers of works for youth orchestras in particular often fall into one of several traps. Some composers try too hard to engage the players with jolly effects and slap-stick humour. Others think that something experimental will work. In my experience, it usually does not: scores which leave the players to do most of the composing produce frustration and then indifference. Finally, there is the composer who produces a piece which makes no compromises at all, and which the players cannot play. My experience in this matter has led me to conclude that a composer's best option is to write as if for professionals, but with some adjustments

<sup>8</sup> PERLIS, Vivien, and COPLAND, Aaron, *Copland since 1943*, Marion Boyars: London, New York, 1992, pp.149–152.

in the level of technical difficulty, and especially in the matter of rhythm. This is not purely a question of technique. Youth orchestras often do not have a rehearsal schedule like that of professionals. For many of them, several continuous days of intensive rehearsal are almost unknown. A work often has to be learned on one rehearsal per week during which the other repertoire must also be rehearsed. Even fairly stable ensembles like the RIAM Symphony Orchestra can never guarantee full attendance at rehearsal from what is after all a non-professional group of players.

In this respect I enjoyed some notable advantages. I teach many of the players of the RIAM orchestra and see them on most days. This made the apportioning of tricky solos easier. It also made for an instructive rehearsal period during which players would approach me with queries about their parts. Impromptu lessons would often ensue. (The difficult timpani solo at bars 122–130 was discussed and rehearsed in this way.) This made the experience of composing and performing *The young are always right* one of the most interesting I have had as a composer. I taught the students something, and they taught me much.

Of course, not every experience with performers has been so fruitful, and some have been instructively terrible. My experience with *Piano étude No. 2*, referred to below (p. 68), is all too illustrative of what frequently happens when a living composer's expectations meet those of a virtuoso who plays only standard repertoire. The disaster I experienced with the planned premiere of my *Piano Trio* was of a different kind, but equally symptomatic of attitudes to presenting contemporary music. An official at

Ireland's Music Network wrongly advised the Vienna Piano Trio that the work was ten minutes long. She was clearly speaking from her usual experience of the commissioned 'programme-filler.' I had in fact negotiated for and composed a twenty-minute work, and by the time the players looked at their parts (evidently some three months after their being sent), it was too late to rescue the premiere. The enclosed commercial CD recording by Lontano is therefore the work's premiere.

### 1.5 Summary

In the presentation of this essay, two possible formats have suggested themselves. The first is to give a catalogue-type description of each of the works in chronological succession. The second is to offer a thematic presentation of the ideas that link the pieces and which make them, for all their differences, recognizably the work of the same composer. The second of these formats seems to me to be the preferable one. In the first place, the sequential method of presentation is subject to considerable repetition. The thematic method, by contrast, allows for the treatment of one subject thoroughly before moving to another. Yet the thematic approach is itself subject to at least one objection, namely that the same passage of music must be treated several times according to which heading – rhythm, pitch, form – one is discussing it under. I have tried to keep these instances to a minimum. The question of which approach to take is all the more important when one considers the nature of the works here presented and of my general approach to composing. In my output, technical and musical considerations often carry over from one piece to another. I prefer to mine out a seam before moving on, and it sometimes takes several pieces to accomplish this. The five *Piano études*, written over a period of two years, are a good example of

this. In this light, a thematic presentation seemed to suit the music better, and also to offer a more stimulating reading experience.

For related reasons, I have not provided an extensive description of aesthetic biases and influences. These will become clear very quickly in the course of the discussion. Finally, even in a context of academic presentation, the music must speak for itself. What the reader will not need to have explained, because he or she will be unable to escape it in the following pages, is my belief that music is an achieved and constructed thing. Cagean serendipities will find little space in these pages, though as it happens several of Cage's ideas have influenced me.<sup>9</sup>

A wide spectrum of music is presented in this folio, but it could have been wider still. I have written a musical, and personal versions of Irish folk tunes. Since Webern, our musical culture has set much store by a fierce consistency of musical purpose; perhaps too much. One of the things we love about the great composers, after all, is the sheer quantity and variety of music that they wrote. The muse is almost as interested in quantity as quality, and no one seriously believes that the popular success of *Liebesliederwalzer* cancels the quality of Brahms's symphonies. Composers who are big enough to encompass more than one approach to music have a particular attraction for me, and when I was invited to be artistic director of the RTE Living Music Festival in 2005 I was proud to feature the living composer who perhaps more than any other exemplifies this multifaceted quality, Hans Werner Henze. The attempt to be all things to all men is a grave mistake aesthetically no less

<sup>9</sup> See p. 68 below.

than ethically; but it is a mistake that errs on the side of generosity, and this is a rare quality in modern composing. Within the bigger picture, even the false trails and blind alleys can find their place.

## Chapter 2: MUSICAL FORM

### 2.1 General, and *ritornello*

Webster's Dictionary defines form (under the first heading) as 'the shape and structure of something as distinguished from its material.' Its third heading gives: 'procedure by rule or rote.'<sup>10</sup> Somewhere between these two definitions lies the ambivalence most composers feel about the subject of form. The first definition allows for the free determination of the musical discourse according to the composer's instinct. The second comes closer to the bad definition of form as the filling of a pre-determined shape. Form has become formula. I have found it profitable to approach the problem of form from a phenomenological rather than an epistemological standpoint. This has simply involved asking the question: why do we need musical form at all? What purpose does it serve, or need does it answer to? The conclusion is a personal one. Form in music is mainly a matter of avoiding redundancy, of wanting to avert the sensation that 'we have been this way before,' that this or that thing has already been done. Each statement of an idea should – save for special circumstances – be an intensification, or at least variation, of it. My approach to musical form is in this sense conservative: I think in basic shapes such as binary, ternary, rondo (more accurately *ritornello*), or theme and variation. This bias probably stems from having studied Schoenberg's *Fundamentals of Musical Composition* while I was still at school.<sup>11</sup> In his treatise, Schoenberg systematically treats all the standard forms from the simplest musical sentences with antecedent and consequent phrases, all the way through to extended rondo and sonata. I believe that

<sup>10</sup> Webster's *New College Dictionary*, Houghton Mifflin, Boston, New York, 1999, p. 440.

almost any musical shape you can devise is a variant of one of these basic shapes. (This approach is also, incidentally, the basis of my teaching in composition.) The exciting way to use these basic patterns is often to disguise them or combine them in unusual ways, as Webern often does, for example in the first movement of his *String Quartet* op.28, which is a combination of variation and sonata form. A simple example of this is the first of *Four Orchestral Pieces*, *Vestiges*. The shape here is broadly binary, A–B, with the division at the cello and piano cantillation at bar 107. But the movement also incorporates a *ritornello* idea, in the form of two recurrent themes. The first of these is the flute solo accompanied by claves at the very opening, which is the most important idea in the work; the second is the sequence of chords in the violins at bar 13:



**Ex. 2.1** *Vestiges*, dyads, bars 13–19

This second *ritornello* idea recurs at bar 73 and in the clarinets at bar 94. It makes a last appearance at bar 133, just before the movement’s climax. This idea thus overrides the AB division, as does the flute theme. The form of *Vestiges*, while direct and easy to follow in performance, is in fact a complex overlay of ideas. Fig.1 shows a schematic table of the structural layering woven into this movement. ‘Main theme’ applies to the flute and clave idea; ‘*ritornello*’ to the theme at Ex. 2.1:

<sup>11</sup> SCHOENBERG, Arnold, *Fundamentals of Musical Composition*, ed. Gerald Strang and Leonard Stein, London: Faber and Faber, 1973.

Fig. 1 *Vestiges*, formal layering

<b>Formal Sections (binary)</b>	A. bars 1–107			B. 108–224		
<b>Main theme</b>	Bars 3–26, fl. clave	39–43 2 fl.	82–94 3 fl., str. trem.	144–162 ww. Leading to climax, full orchestra, 162	167–184	
<b>Ritornello</b>	Bars 13–20 vl.		73–77	94– 98cl.	133–138 cl.+vl. pizz.	

The top layer of Fig.1 represents the broad binary division of the movement. The second layer represents statements of the flute theme, the most important thematic idea of the movement. The third layer represents statements of the subsidiary but still important *ritornello* idea first stated by the violins at bars 13–20. The two main thematic strands which recur throughout the movement – the main flute theme and the violin dyads – overlap one another as well as the overall binary shape of the movement.

This diagram raises an important issue in the matter of constructing large forms. To do this successfully the composer needs to know which idea is the most important one and which ideas are subsidiary. This may appear to be an obvious point, but much structural uncertainty is the result of the composer being unsure in this matter. In his treatise *On Drawing*,<sup>12</sup> John Ruskin treats the subject of formal organization of

<sup>12</sup> RUSKIN, John, *The Elements of Drawing*, London: Routledge, pp. 186–189.



a picture at some length. Ruskin demonstrates that formal unity depends upon the artist knowing which object in the picture is the main one. All other objects group themselves in relation to this. I have found this to be a good principle in composing, especially where the form involves some measure of thematic or motivic recurrence. This kind of formal awareness can pay dividends in very unexpected ways. For example, as I was composing the passage from bars 167–184 of *Vestiges* I was hardly aware of it as a statement of the main flute theme, so pervasive was this tune in my thoughts by this stage. Only when I had fully orchestrated the movement did it strike me that this last presentation of the theme needed more colour than the bald statement in the flutes – already rather like previous statements – which was all I had initially allowed for. Hence the last-minute addition of the gliding string and harp clusters on page 20 of the score, which is one of the most telling pieces of orchestral colour in the whole of *Four Orchestral Pieces*.

In my recent music the *ritornello* principle has proved particularly fruitful. *Piano étude No. 1* has a ritornello shape. The two-part figure heard at the opening (bars 1–5) is heard again at bars 12–14 and at bar 81 (varied), and again briefly at the end (bar 92):

The image shows two systems of musical notation for a piano piece. The first system is labeled 'Piano' and has a tempo marking of quarter note = 72. It features a right-hand melody with triplets and grace notes, and a left-hand accompaniment. The second system is labeled 'Pno' and continues the texture with a five-note chord in the right hand and a triplet in the left hand.

### Ex. 2.2 Two-part texture in *Piano étude No. 1*, bars 1–5

This theme is meant to be a clear aural signal of the main staging posts of the work, and is only varied with the penultimate statement at bar 81. The Etude ends with a fleeting reference to this theme.

The first movement of my *String Quartet* (2000) is an extended *ritornello*. The clearest illustration of the shape in the scores included in my folio is *Slåttar* (refer to solo double bass version). This work consists of two kinds of material. The first is a percussive, rhythmic figure played almost entirely on the double bass's open strings:

The image shows a musical score for solo double bass, consisting of five systems of music. Each system begins with a measure number: 7, 13, 19, and 25. At the top left, there is a tempo marking: a quarter note followed by "= 90". The music is written in bass clef with a 2/4 time signature. The rhythmic pattern is highly syncopated and complex, featuring many beamed notes and rests. The notes are often grouped in a way that suggests a specific rhythmic pulse, despite the irregular placement of notes within the measures.

**Ex. 2.3 Rhythmic figuration in *Slåttar* for solo double bass, bars 1–29: the *ritornello* idea**

This material alternates with fast scales; virtuosic, flurried. A further element consists of the slow melodies heard at bars 101–113 and 143–148. A composed-out *accelerando* on and around the open strings forms a coda, bars 150–158. The relationship between these alternating sections is controlled, as so often in my music, by the rhythmic process of tempo modulation. This process consists of the maintaining of a basic pulse unit, usually short, on two sides of a dividing line where these units are grouped into different-sized bundles or beats. It is discussed at greater length in the section on rhythm below.

The *ritornello* idea has figured prominently in the work of some recent composers. The fourth movement of Stravinsky's *Cantata* (1952), an extended setting of the

anonymous poem ‘Tomorrow shall be my dancing day’, uses a ritornello in the obvious sense of a verse-refrain structure.<sup>13</sup> A more complex deployment of the ritornello idea can be found in Elliott Carter’s *Variations for Orchestra* (1953–54).<sup>14</sup> The first movement of my *String Quartet* is my most elaborate use of the form. *Piano étude No.1* and *Slåttar* represent simpler treatments of ritornello. *Vestiges* lies somewhere between these groups in its complexity of treatment. The attraction of ritornello is that it allows for the idea of reprise and recapitulation, ideas without which I find it difficult to think of musical form at all. In this sense form can be related to the way we absorb musical discourse. Musical form is a kind of memory.

## 2.2 *Apollo and Marsyas: Concerto as Drama*

*Apollo and Marsyas* for soprano, bass-baritone, pre-recorded child’s voice, speaker and ensemble was written in response to a commission from the Crash Ensemble and premiered by them in 2004. I also wrote and assembled the text.

I had long wanted to make a musical setting of this dark and wonderful story from Ovid’s *Metamorphoses* Book VI.<sup>15</sup> The satyr Marsyas wins fame as a flute-player and, with hubris typical of the upstart, challenges the god Apollo to a musical contest. Marsyas loses, and Apollo flays him for his presumption. (The flaying of Marsyas is the subject of a painting by Titian.)

<sup>13</sup> STRAVINSKY, Igor, *Cantata on anonymous XVth and XVIth Century English lyrics*, London: Boosey and Hawkes, 1952, vocal score pp. 10–21.

<sup>14</sup> CARTER, Elliott, *Variations for Orchestra*, Associated Music Publishers, 1967. For a discussion of this work, see SCHIFF (1998), pp. 278–290.

<sup>15</sup> OVID, *Metamorphoses* Books I–VIII, translated by Frank Justus Miller. Loeb Classical Library, Harvard University Press, 1916, pp. 315–317.

The first striking thing about this story is its violence. It shares this characteristic with the story of Orpheus and with the Sirens in Homer's *Odyssey*. Evidently, ancient cultures associated music and its awesome powers with more than mere entertainment.

In the second place, the story poses difficult questions about music and its ownership. In Zbigniew Herbert's poem about the myth, the contest is rigged in Apollo's favour, an idea I borrowed in constructing my own text.<sup>16</sup> This has dark implications. In the interests of imperium and social order, Apollo cannot be seen to lose. In the text of my concerto, the god Zeus is narrator and adjudicator (this part is spoken). For the first section of the work (bars 1–99), Marsyas attempts to lure a haughty and silent Apollo off his perch to take part in the contest. Zeus all the while warns Marsyas that he is treading on dangerous ground. Marsyas ignores the warnings, and finally Apollo, sung by a coloratura soprano, relents and lets forth an unceasing stream of Rossinian melisma.

The story allows for a simple but effective instrumental typology. Marsyas is accompanied by the flute, while Apollo has a guitar continuo to accompany her, representing the harp. The flute is silent throughout Apollo's long aria (bars 100–183 check), the biggest set piece in the work, and makes an apologetic re-entry as Marsyas finally begins to grasp the enormity he has committed (bar 184).

The two protagonists then join in a duet where Marsyas asks the nature of his crime.

<sup>16</sup> HERBERT, Zbigniew, *Apollo and Marsyas*, in *Selected Poems*, Manchester: Carcanet, 1985, pp. 82–83.

Apollo explains (bars 217–233) that Marsyas has been guilty of presumption, and he must die as ‘warning and exemplar.’ This duet is the only time in the work where Apollo sings in English, a small but crucial concession to Marsyas’s vernacular world. A short instrumental interlude depicts Marsyas’s flaying (bars 237–248).

Finally, the pre-recorded boy soprano relates, in Ovid’s marvellous words, how the blood of the satyr turns into the river Marsyas:<sup>17</sup> hence the metamorphic aspect of the story, and the name which immortalizes him (bars 249–284):

*Fertilis inmaduit madefactaque terra caducas  
 Conceptit lacrimas ac venis perbibit imis;  
 Quasi ubi fecit aquam, vacuas emisit in auras.  
 Inde petens rapidus ripis declivibus aequor  
 Marsya nomen habet, Phrygiae liquidissimus amnis.*

(The fruitful earth was soaked, and soaking caught those tears and drank them deep into her veins. Changing these then to the water, she sent them forth into the free air. Thence the stream within its sloping banks ran down quickly to the sea, and had the name of Marsyas, the clearest river in all Phrygia.)<sup>18</sup>

The image is one of renewal, indeed resurgence.

I use the term ‘concerto’ for this work in the early baroque sense of the term as any music which mixes voices and instruments. Dramatic *scenas* like Monteverdi’s *Il Combattimento di Tancredi e Clorinda* lie behind the work, complete with elements of *stile concitato*, such as the pulverizing chords and flagellant scales which depict the flaying of Marsyas (bars 237–248).

<sup>17</sup> Due to an electrical fault at the performance, the final few bars of music are missing from the CD.

<sup>18</sup> OVID, op. cit. ll. 97–401. All Latin texts in *Apollo and Marsyas* are excerpts from Ovid or Virgil.

Heard in these terms, *Apollo and Marsyas* is an early baroque cantata with the guitar and flute providing obbligato accompaniment, as well as participating in the drama. But the astute listener might also find in the formal layout of the work a closer approximation to the more modern idea of a concerto beginning with Mozart:

**Fig. 2 Formal layout of *Apollo and Marsyas***

FIRST SUBJECT	MARSYAS	BARS 1–99
SECOND SUBJECT	APOLLO	BARS 100–183
DEVELOPMENT	APOLLO AND MARSYAS	BARS 184–232
CADENZA	APOLLO	BARS 233–237
CODA	INSTRUMENTAL+ BOY SOPRANO	BARS 238–293

The concerto idea is more specifically summoned in the virtuosic vocal flights for both singers, especially Apollo.

*Apollo and Marsyas* engages with the subject of music and its role in society at several levels. Traditional concertos have not so far figured prominently in my output. This fact could be attributed to practicalities like a lack of concerto commissions, but I believe it reaches down to a deeper ambivalence in my feelings about the form. *Apollo and Marsyas* charts a reverse course to Berg's *Kammerkonzert*, a work whose formal plotting has probably left its mark on my dramatic concerto. Berg's Concerto is a purely instrumental work, the formal procedures and layout of which plot an almost operatic scheme. The piano and violin

soloists are effectively protagonists in a drama, each making a sustained solo appearance in the first and second movements respectively, before engaging with each other in a long cadenza. The finale adumbrates all the previous music in the work.<sup>19</sup> *Apollo and Marsyas* is, contrariwise, a dramatic work which essays an implied critique of empty instrumental and vocal virtuosity and its parallels to objectionable politics. (The political dictator, alias Apollo, is a kind of ‘virtuoso’.) If *Apollo and Marsyas* is a political work, then, it is also a work about the politics of music. The work at one level employs the kind of virtuosity which originated in the early baroque. At the same time it attempts a critique of this tendency to constrict culture to cult. One can love instrumental and vocal prowess without always liking the uses to which they have been put.

### 2.3 Passacaglia

My work has shown other formal interests derived from baroque practice. Passacaglia in particular has been a recurrent form in my music. The central section of my first opera, a one-act piece called *Sensational!* (1991), was a passacaglia which provided a structural shape for the separate musings of the three protagonists. A still earlier work, my *String Trio* (1986), had a simple passacaglia finale. These works addressed the form in the fairly straightforward fashion to be found in many of the works of Benjamin Britten.<sup>20</sup> This however came to seem a predictable way of using the form, and the passacaglia which concludes the *Piano Trio* is more typical of my recent practice. It will be immediately clear to the listener that this passacaglia has no thematic basis at all. This raises the obvious problem of how it can be perceived as a

<sup>19</sup> BERG, Alban, *Kammerkonzert*, Partitur, Philharmonia no.423, Universal Edition.



passacaglia. The element of recurrence is in fact rhythmic, not thematic. The entire movement is based on a cross-rhythm of nine semiquavers against ten. All subsidiary rhythms and most of the thematic and motivic working are derived from this stringently imposed pattern, which is discussed in more detail in the chapter on rhythm.<sup>21</sup>

The gamble of calling this movement a passacaglia was to generate the cyclical momentum to be heard in wonderful examples such as the *Passacaille* by Louis Couperin<sup>22</sup> in such a way that the listener would not miss the iterative thematic markers that usually define the form. My impression on hearing this rhythmically complicated fourth movement for the first time was that, in this respect at least, the movement did generate a passacaglia-like momentum. Part of the reason for this is the restricted kind of motivic working that the movement employs. The emphasis on scale patterns in particular imposes a thematic sameness that tends to reinforce the sense of rhythmic recurrence:

<sup>20</sup> Examples are almost too numerous to cite. The *String Quartet no. 2* and the opera *The Turn of the Screw* both end with extended passacaglias.

<sup>21</sup> See below, pp. 86–90.

<sup>22</sup> COUPERIN, Louis, *Passacaille*, in *Pièces de Clavecin*, Editions de L'Oiseau-Lyre, Margarita M. Hanson, 1985, pp. 87–89.

408

Vln

Vc.

Pno

*pizz.*

*mf distinto*

*mf cantabile*

411

Vln

Vc.

Pno

*quasi rubato*

*P*

414

Vln

Vc

Pno

417

Vln

Vc

Pno

**Ex. 2.4** *Piano Trio IV, Passacaille, scales, bars 410–419*

In this movement it is almost as if the substance of the passacaglia form is dead, but the ghost persists. Several listeners have pointed out the parallel with the scalic thematic work of the first movement, also a baroque structure (*Fuga*). This is perhaps

one of the most structurally telling aspects of the *Piano Trio*. In the great repertoire works, I have always been fascinated by the way in which any element – even a few bars randomly chosen – can stand for the whole piece. Every moment of the work is present at any moment. Such, at any rate, is my ideal of musical form.

#### **2.4 Structural variation: *The young are always right***

For this work I wanted a directly apprehensible form. The modus operandi in *The young are always right* is to state an idea in quiet, sometimes skeletal form and then to restate it massively amplified later in the work. This is a concept I learned from the tone-poems of Sibelius, who uses it to wonderful effect in works like *Pohjola's Daughter*. All the main ideas of *The young are always right* are stated in the first forty-three bars (Ex. 2.5).

Ex. 2.5 Expository themes and motifs in *The young are always right*, bars 1–43

$\text{♩} = 72$

A Str. *p*

B Ww. *p*

6 C Fl. + str. pizz + hp *f*

B2 Str. + hp. Timp. *p*

10 Str. A *p*

B3 Ww. + Str.

15 Str. A *f*

B4 *p*

20 Tr. D *f*

E Fl. *p*

Tbi. *mf*

Detailed description of the musical score: The score is divided into five systems, each starting with a double bar line and a measure number (6, 10, 15, 20). Each system contains two staves: a treble clef staff for the upper part and a bass clef staff for the lower part.   
 - System 1 (bars 1-5): Treble staff has a string quartet (Str.) playing a motif labeled 'A' with a piano (*p*) dynamic. The bass staff has a woodwind (Ww.) part labeled 'B' with a piano (*p*) dynamic.   
 - System 2 (bars 6-9): Treble staff has a flute (Fl.), strings (str.), pizzicato strings (pizz), and harp (hp) playing a motif labeled 'C' with a forte (*f*) dynamic. The bass staff has strings and harp (Str. + hp.) and timpani (Timp.) playing a motif labeled 'B2' with a piano (*p*) dynamic.   
 - System 3 (bars 10-14): Treble staff has strings (Str.) playing a motif labeled 'A' with a piano (*p*) dynamic. The bass staff has woodwinds (Ww.) and strings playing a motif labeled 'B3' with a piano (*p*) dynamic.   
 - System 4 (bars 15-19): Treble staff has strings (Str.) playing a motif labeled 'A' with a forte (*f*) dynamic. The bass staff has strings playing a motif labeled 'B4' with a piano (*p*) dynamic.   
 - System 5 (bars 20-23): Treble staff has a trumpet (Tr.) playing a motif labeled 'D' with a forte (*f*) dynamic. The bass staff has tuba (Tbi.) playing a motif labeled 'E' with a mezzo-forte (*mf*) dynamic.   
 The key signature has two flats (B-flat and E-flat), and the time signature is 3/4.

24

+ob.

Str. +hp.

*mf*

28

Cl. +hp.

B4

*f*

Timp.

*pp*

32

*cresc.*

*ff*

36

F  
Str.+ww

*p* *ff* *ff*

3 3 3 3 3 3 3 3 3 3

5 6

38

E2

Cl.

*p*

pizz 3

41

+Ob.+Fl.

G  
Brass

*f* *ff*

3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

The themes and motifs in Ex. 2.5 marked A to F can be summarized as follows:

A The 'dragon' chord scored for strings (see p. below).

B1 Main theme, antecedent

C Phrase division scored for clarinets, harp and timpani

B2 Main theme, varied antecedent

B3 Main theme, consequent

B4 Main theme, varied consequent

D Cadential figure

E Secondary theme, antecedent, solo flute

B5 Delayed climactic phrase of main theme

F Cadential figure, full orchestra

E2 Consequent of E

G Cadential figure, brass

Another key cadential idea is heard in the horns at bars 54–58:



52

Hr.

*ff*

*p* *f*

3

3

3

Str. + bass. + tbi

*p*

56

♩ = 92

Str.

*p*

**Ex. 2.6** Cadential idea in the horns, *The young are always right*, bars 53–58

Varied or expanded re-statements of all these ideas can be traced through the remainder of the work. They are illustrated in Exx. 2.7–2.11. The reader concerned to trace them through the work will find it useful to refer to the complete score.

Bars 162 ff. are the restatement of the opening theme, A:

162  $\text{♩} = 120$  vl.+vln+cl.

*f*

*p*

164 hr.stopped

*p*

*f*

*f*

166

mp

mp

**Ex. 2.7 Thematic derivation in *The young are always right*, bars 162–167**

Bars 174–178 (Ex. 2.8) re-work the D cadential figure leading into the E secondary theme:

174

177

cl.

hr.

*sub p* ————— *mf*

**Ex. 2.8 Motivic derivation in *The young are always right*, bars 174–178**

Bars 188–195 (Ex. 2.9) adumbrate the F cadential figure and the E secondary theme:

188

*ff*

*mf*

190

*p*

193

*f*

*p*

**Ex. 2.9 Thematic derivation in *The young are always right*, bars 188–195**

Bars 199–204 re-work the brass cadential theme from bars 42–43 (Ex. 2.10):

The image displays three systems of musical notation for piano and brass instruments. The first system, starting at bar 199, features a piano part with a treble clef and a bass clef. The treble clef part has a complex rhythmic pattern with many slurs and accents, while the bass clef part has a simpler, more melodic line. A dynamic marking of *ff* is present. The second system, starting at bar 202, shows the piano part with a treble clef and a bass clef. The treble clef part has a rhythmic pattern with many slurs and accents, while the bass clef part is mostly empty. The third system, starting at bar 204, shows the piano part with a treble clef and a bass clef. The treble clef part has a rhythmic pattern with many slurs and accents, while the bass clef part is mostly empty. Labels 'Brass' and 'Ww.' are placed above the treble clef part of each system, indicating the instrument playing the cadential figure.

199 *ff* Brass

202 Ww. Brass Ww.

204 Brass Ww. Brass

Ex. 2.10 Cadential figure derivation in *The young are always right*, bars 199–205

Finally, the horn-cadential idea from bars 53–58 becomes the link into the work's coda (Ex. 2.11):

The image shows a musical score for piano, divided into two systems. The first system, labeled '206', spans three measures. The treble clef part features a complex rhythmic pattern of eighth and sixteenth notes, with a trill (Tr.) in the final measure. The bass clef part has a simple accompaniment. Dynamics include  $fff$ . The second system, labeled '209', spans two measures. The treble clef part continues the rhythmic pattern, with a horn-like cadential figure (Hr.) in the final measure. The bass clef part has a more active accompaniment. Dynamics include  $fff$ . The score is in 7/8 time.

**Ex. 2.11** Cadential idea in the horns re-worked, *The young are always right*, bars 206–209

Such a list must make the musical structure appear baldly schematic. Yet I regard the working out of these parallels as among the most artistically successful aspects of the work. The secret of these parallels is to make the original ideas so at home in the new context that, far from seeming forced, they feel as if they have always been aspiring to this new condition. This is of course a considerable test of compositional technique. This developmental principle (for such I take it to be), especially as it appears in the works of Sibelius, seems to me to be far from exhausted in its implications for modern composers. In particular, it may offer composers new formal possibilities by reviving the variational principle separately from the conventional

demands of traditional motivic and thematic repetition. Yet in *The young are always right* I have not eschewed even the more conventional aspects of motivic development. This is a work designed for younger players, and it is important that its design be comparatively simple to grasp. In this way the work might stand as a kind of composer's as well as performer's orchestral primer for the advanced young musician.

## 2.5 Summary

Form is one of the biggest challenges for a composer. In his *Cours de Composition Musicale*, Vincent d'Indy makes these apposite remarks:

*Savoir construire, telle est en définitive la connaissance indispensable à tout compositeur de musique digne de ce nom. On croit trop facilement que les études d'harmonie, de contrepoint et de fugue, voire d'instrumentation, constituent à elles seules un bagage suffisant: fâcheuse erreur qui attribue aux outils la singulière vertu de conférer à l'ouvrier qui les possède la capacité de s'en bien servir!*<sup>24</sup>

(Knowing how to construct, such is the ability indispensable to any composer worthy of the name. It is too readily believed that studies of harmony, counterpoint and fugue, even of instrumentation, by themselves constitute a sufficient equipment; grievous error, which would attribute to the tools the strange virtue of teaching the worker who owns them how to use them!)

d'Indy's strictures are directed against compositional teaching methods which emphasize the bricks and mortar at the expense of the house. Yet d'Indy holds by the traditional equation of musical form with architecture. I find the comparison with architecture a not wholly satisfactory one. Visual form must be apprehended at a glance. Its rightness of proportion can only be perceived by taking in the whole picture at once. Musical form, by contrast, is temporal and therefore successive. The

<sup>24</sup> d'INDY, Vincent, *Cours de Composition Musicale, Deuxième Livre*, Paris: Durand 1912, vol. 2, p.15. The translation is mine.



rightness or wrongness of a gesture or proportion may become apparent only gradually. One could argue that because of its unique lack of semantic value, music uses form as a semantic substitute. The contrasts, dramatic shifts and variations of pace become the musical 'narrative'. Here I should declare a personal bias: the real formal challenges for a composer lie in the writing of large-scale works. If this statement contains an implied criticism even of composers as fine as Webern, so be it. Scale, even in the layman's sense of projecting music over a long span of time, is an authentic test of the composer's talent, and the mass-audience's admiration for Mahler and Shostakovich is in this respect not misplaced. A discussion such as this one inevitably focuses on nuts-and-bolts aspects of trying to ensure 'unity of space and time' in composing more extended pieces. And while my remarks about the necessity of avoiding redundant repetition, and hence of keeping an eye on what you have already done, still stand, it must also be said that a headlong spirit of striking forward is in my experience essential to the completing of big pieces. Orpheus's fateful mistake when leading Eurydice from the underworld was partly an aesthetic one.

### Chapter 3: MELODY, PITCH ORGANISATION and HARMONY

#### 3.1 Melody defined

Melody is perhaps the most talked about aspect of music, at any rate colloquially: a listener will tell you that he ‘enjoys anything with a good tune,’ thinking that the matter thus expressed is self-explanatory. Yet melody is perhaps the most difficult aspect of music to define. Webster’s first definition is of little help: *a sweet or agreeable succession or arrangement of sounds*. Conventionally, the word refers to a closed musical structure: something in the nature of traditional melody seems to demand that it has a perceptible *end*. Here Webster’s second definition is of more use: *a rhythmic succession of single tones organized as an aesthetic whole*.<sup>25</sup> It is also significant that the Greek *melos* means ‘limb’. It would appear that, for the Greeks, melody had the two-fold implication of attachment to a larger entity but also something self-contained. Even Wagner’s concept of ‘endless melody’ pays covert acknowledgement to this view. A modern composer will probably find it restrictive to discuss melody in these terms. Composers for this reason resort to non-committal terms like ‘line’. Yet it appears drastic to abandon altogether the older idea of melody. It has been the age-old test of natural ability in a composer to write a tune that is memorable, and I have not seen any convincing argument to say that this should now be otherwise. The concept of melody is, though, fraught with difficulty.

Even if melody is a defined unit like a sentence in prose, the consensus is that there must be some extension in time for a melody to be a good one. (People do not tend to

<sup>25</sup> Webster’s New College Dictionary, p. 683.

sing melodies two bars long.) Composing a melody then is a test of the composer's mastery of line, just as executing a firm outline without lifting the pencil from the paper is a test for the artist. In my earlier music I did not think about melody much. Melody seemed merely the natural result of explorations in other dimensions like rhythm and harmony. Produce something interesting in those areas, I persuaded myself, and melody would take care of itself. This now strikes me as being a false argument, and for these reasons. In the first place, melody that arises from the other parameters is often stilted and unconvincing and, in the second, it is surely tempting fate to leave to chance the aspect of a composition which the listener is most likely to retain. The labour which the melodic aspect of his music cost Beethoven is in this respect a salutary example.

### 3.2 Writing a melody

In thinking about melody, analogies from art and especially drawing seem to come to mind. One talks of a melody's curve, or parabola, or trajectory. One talks of balance, equilibrium, ambit, contour and so on. In his *Fundamentals of Musical Composition*, Schoenberg, an artist in his *alter ego*, even provides drawings of melodic contours.<sup>26</sup> The implicit idea is that a melody whose physical appearance in a score does not produce a satisfying line will also sound defective: either it peaks too early or late, or spends too much time on one plane, or is too symmetrical or jerky and disconnected. A good melody therefore has a variety to its shape that is satisfying and yet unpredictable. Schoenberg defines a musical sentence – a fundamentally melodic unit, even if it is harmonized – as the combination of antecedent and consequent. A

<sup>26</sup> SCHOENBERG (1977), pp. 113–115.

typical example would be the eight-bar classical period with four bars answered by four bars. The works presented in this folio which offer the best opportunities for melodic discussion are *Piano études Nos.1, 3 and 5* and *Apollo and Marysas*, especially Apollo's aria (bars 100–183).

*Piano étude No. 3* opens with one of my longest self-contained melodies:

## Etude 3

Kevin O Connell

$\text{♩} = 90$  A antecedent

Piano *mf* *leggiero*

7 A2 varied antecedent

Pno

13 B consequent

Pno

19

Pno

25 C extended cadential phrase

Pno

The image shows two systems of musical notation for a piano piece. The first system, labeled '31', covers bars 31 through 36. It features a treble clef with a key signature of one flat (B-flat) and a 4/4 time signature. The melody in the right hand consists of eighth and quarter notes, while the left hand provides a steady bass line with quarter notes. The second system, labeled '37', covers bars 37 through 43. It continues the same melodic and bass line patterns. A dynamic marking of 'f' (forte) appears in bar 38, and a trill is indicated in the right hand in bar 40. The piece concludes in bar 43 with a final cadence.

**Ex. 3.1 Extended melody in *Piano étude No. 3*, bars 1–43**

This melody will parse simply according to Schoenberg's precepts. Bars 1–8 form an antecedent phrase followed by a varied re-statement, bars 9 (beginning on b', dotted crotchet) –16. The consequent phrase begins on b', last crotchet of bars 17–35, and a coda begins at a', last crotchet of bar 36, and extends to bar 43. This is one of the longest melodies in my output, perhaps uncharacteristically so. It illustrates melodic procedure in a simple manner, partly because the accompanying texture is just that: a second and subsidiary voice that only occasionally expands to three voices.

This long melody might satisfy Schoenbergian criteria of construction, but its contour would scarcely suit his criteria of melodic shape. The antecedent unfolds around a pivotal b'; the consequent (bars 17–24) displaces this pitch with g sharp'= a flat', which assumes a somewhat neapolitan, flat-II, harmonic feel. The extended cadential phrase restores the pivotal b', but now with a distinct A flat colouring (bars 36 and 40). The effect is of a fairground tune.

*Piano étude No. 5* approaches the same problem in a different way. The theme here circles back upon itself in the manner illustrated in Ex. 3.2.

Piano Etude no.5. Melody rhythmically displaced by one semiquaver to the right per cycle. The top C''''s alternating with B's in the RH give the actual crotchet pulse against which successive statements of the melody are displaced, and therefore function as the Etude's 'metronome'

**Ex. 3.2 *Piano étude No. 5*, rhythmic displacements of main theme, bars 1–10**

It will be noted that each thematic repetition begins at a different part of the rhythmic cycle from the beginning, shifting a 'semiquaver to the right' each time. The right hand, stubbornly insisting on its top c'''' alternating with middle b, gives the real crotchet pulse by completely ignoring the internal rhythmic cycle of the melody. In other words, the top c'''' alternating with middle b functions as the metronome. It is the 'fixed point' within the Etude against which other events are measured. In fact the melody of this Etude might be described as an extended motif rather than as a melody proper. It's structural possibilities are as important as its intrinsic character.

The opening of *Piano étude No.1* is characteristic of my melodic procedures. Here, melody is a composite of two separate strands, the right hand's strand stated on its own at bars 1–2, and the two strands, right hand and left, stated together at bars 4–5:

The image shows a musical score for a piano piece. The top system is labeled 'Piano' and has a tempo marking '♩ = 72'. It contains five measures of music. The right-hand part (treble clef) features a melodic line with eighth notes and triplets. The left-hand part (bass clef) is mostly silent in the first three measures. A bracket labeled 'A' spans from the first measure to the end of the fifth measure. A second bracket labeled 'B' spans from the fourth measure to the end of the fifth measure. The text 'f grace notes before the beat' is written below the first measure of the right hand. The bottom system is labeled 'Pno' and contains two measures of music. The right hand continues the melodic line, and the left hand (bass clef) begins a melodic statement starting with a C sharp note. A bracket labeled 'B' spans across these two measures. The text 'Piano' is written to the left of the first measure of this system.

### Ex. 3.3 Thematic structure in *Piano étude No.1*, bars 1–5

This melody could, like that of *Piano étude No.3*, be parsed as antecedent-consequent. To the downbeat of bar 3 is the antecedent (A), and to the end of bar 5 a balancing and varied re-statement (consequent (B)). Another way of hearing this is to regard the consequent, B, as itself an antecedent phrase whose consequent is stated by the *left hand*, beginning at the start of bar 4. This terse melodic formulation introduces a kind of theme not allowed for by Schoenberg, namely one in which antecedent and consequent are stated *simultaneously* or in close *overlap*. In this respect it is worth noting that the pitches used by both hands are distinct from one another with the exception of C sharp/d flat', sounded at the beginning of bar 4. C sharp is the pivotal note linking the two hands' distinct but related melodic statements. A problem in analyzing melodies on the above lines is in fact establishing just where the *consequent* phrase occurs. It is as if contemporary melodies consist of nothing except antecedents. This problem is doubtless related to the nature of cadence, and the problem of accurately defining one in a non-tonal context. Much of



the frustration that ordinary listeners feel in listening to modern works might be the result of this problem. The principle of telescoping melodic elements into close contrapuntal patterns is one that interests me much. A somewhat different example can be heard in the duets for two trombones in *Tubilustrium*, the third of *Four Orchestral Pieces* (see bars 5–26). The effect is not so much contrapuntal as of a melodic compound of two complementary strands.

Is writing a memorable tune still possible? Yes, given a good enough composer. The perception nonetheless persists that it has become more difficult in. The explanation for this is partly a paradoxical one: the contrapuntal saturation which constituted one path to modern music, specifically in Schoenberg's music, melodised everything. Contemporary music at one level may contain too much melody. (The composer who tries to explain it in this way is, of course, greeted sceptically.) The other problem is the more frequently expressed one – that memorability entails tonality. The Pop world testifies to this widely held belief.

The nearest I have come in the works in this folio to an attempt at conventional vocal beauty is Apollo's large aria in *Apollo and Marsyas* (bars 100–183, soprano line):

Ex. 3.4 Baroque coloratura in *Apollo and Marsyas*, bars 153–157

152 *slightly slower* ♩ = 54

Cl. *pp semplice*

S. *p semplice*  
nec - te tri - bus no - de ter - nos, \_\_\_\_\_

B. sounds

Pno. *p*

155

Gtr. *p*

S. *con anima* *f*  
A - ma - ry - yl - li co -

Pno.

156

Cl. *ppp* *p*

Gtr.

S. lor - res;

Pno.

157

Fl. *mf*

Cl. *mf*

Tbn. *p* senza sord *mf*

Gtr. *p* *mf*

S. *p* *f* nec - te, nec - te, nec - te A - ma - ryl - li,

Pno.

Db. *f*

(Twine the three colours, Amaryllis, in three knots. Come, twine them Amaryllis.  
 Trans. E. V. Rieu. See footnote 27, p. 58 below.)

For this aria I adapted part of Virgil's *Fifth Eclogue*.<sup>27</sup> This poem is strophic and already suggestive of song. It is also a conventional lyric of heart-stricken love, and for this reason suits the dramatic context. Apollo has been taunted by Marsyas to sing. The implication is that the request from a satyr is beneath his dignity, but that he will condescend to sing anyway. A song of deep sentiment would have been contrary to the purpose here; Apollo does not need to prove anything except his amazing musical prowess, which he effortlessly proceeds to do. The song is affective in the baroque sense rather than expressive in the modern one. This fact allowed for the use of conventionalized melodic formulae like the diminished seventh (see bars 155 and 157), formulae which I would otherwise avoid. In the context of formulaic *bel canto* style, the vocal pyrotechnics of this aria, which culminates in d''' (bar 180), also became dramatically feasible.

### 3.3 Melodically generated form

This folio contains several works whose structure and form could be described as melodically generated. A good example is the first of *Four Orchestral Pieces, Vestiges*. This piece was the last of the four to be completed, and the one that caused me the most difficulty. The source of this difficulty was clear: I needed an opening idea which would be the key to the remainder of the piece, and without which work on the rest of the piece proved impossible. The idea that after two years of trial and rejection presented itself is a simple, almost primitive one: a flute solo over metronomic claves (bars 1–12). The intriguing thing about this theme is that it has a classic antecedent-consequent shape. (In Ex. 3.5 these are labeled A and B.) The

<sup>27</sup> VIRGIL, *The Pastoral Poems, Latin text with a translation* by E.V. Rieu, The Penguin Classics, 1961, pp. 94–96.

consequent is played by the harp at bars 9–11, with the clarinets providing a cadence at bars 11–12. Some composers find this shape difficult to handle within larger forms because of its end-stopped nature (see the remarks on cadence above, pp. 54–55). My way around this problem is often to state the antecedent phrase on its own without the concluding consequent to round it off, a technique, incidentally, which Vivaldi uses in *The Four Seasons* and which enables him to accommodate partial statements of *ritornelli* within first movements in particular. But it will be clear from the initial sketch of the theme of *Vestiges* (Ex. 3.5) that the theme, even in its complete form, is unresolved by a definite cadence. In this sense it is, even in its complete shape, an antecedent to a non-existent consequent:

The image contains two musical staves in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. The top staff shows a melodic line starting with a quarter note G4, followed by a quarter note A4, then a half note B4. The consequent phrase begins with a quarter note C5, followed by a quarter note D5, then a half note E5. The bottom staff shows the same material combined, with the antecedent phrase (A) and consequent phrase (B) clearly delineated by brackets and labels.

**Ex. 3.5 *Vestiges* main theme, bars 153–160**

In fact the true overall consequent to this initial thematic statement proves to be the second *ritornello* idea consisting of the diads in violins and flutes, bars 13–22 (see Ex. 2.1 above). Hence the two main melodic markers of the movement are linked at the beginning. The whole of the climactic passage of *Vestiges* gives more emphasis to

the B idea from Ex. 3.5 by lengthening the notes to crotchets; in fact, thus stretched, the B idea now becomes a true consequent (Ex. 3.6):

147

A

B

Musical score for measures 147-150. Measure 147 features a complex chordal texture in the upper staves and a descending line in the bass. Measure 148 is marked 'A' and shows a melodic line in the upper staves and a rhythmic pattern in the bass. Measure 149 is marked 'B' and features a melodic line in the upper staves and a rhythmic pattern in the bass. Measure 150 continues the rhythmic pattern in the bass.

149

Musical score for measures 149-152. Measure 149 features a melodic line in the upper staves and a rhythmic pattern in the bass. Measure 150 continues the melodic line in the upper staves and the rhythmic pattern in the bass. Measure 151 continues the melodic line in the upper staves and the rhythmic pattern in the bass. Measure 152 continues the melodic line in the upper staves and the rhythmic pattern in the bass.

## Ex. 3.6 cont.

152

A

155

B



## Ex. 3.6 cont.

158

A and B combine into one melody

Ex. 3.6 *Vestiges*, climactic thematic statements, bars 147–164

The theme is thus treated with considerable flexibility. At the climactic statement at bars 157–163 the antecedent and consequent are seamlessly conflated. The theme recurs at several points in the course of the work, including the climax (see the discussion of the form of *Vestiges* above, pp.14–16). Note that this rather fugitive theme is at the climax spelt out in a massively literal way (bars 146–166); it is also, I believe, very dramatic. The treatment of this theme illustrates my conviction that the ‘blessed structures,’<sup>28</sup> including thematic repetition, can themselves be the source of a work’s drama.

The structure of *Piano étude No.3* is almost entirely melodic. The melody comes back in a form more or less identical to the initial statement (bars 1–14), but the context, especially in the rhythmic dimension, is different. Hence at bars 71–91, the new context is clearly 4/4 as distinct from the 3/4 of the opening statement. Bars 103–

<sup>28</sup> LOWELL, Robert, *Epilogue*, in *The Norton Anthology of Poetry*, edited by Margaret Ferguson, Mary Jo Salter and Jon Stallworthy, W.W. Norton and Company, 1996, p. 1498.

126 are another re-statement of the theme in a 6/8 context.

This aspect of *Piano étude No.3* refers to a recurrent idea throughout the *Five Piano études*: the maintaining of fixed points against mobile points. This Etude is a clear example, where the extended theme is the ‘fixed’ point that refuses to adjust its rhythmic shape and proportions, and the increasingly elaborate accompanimental figurations at each recurrence are the mobile points. In this Etude the theme is the bumpkin at the ball, sticking to the few steps he knows as the increasingly drunk revelers encircle him in ever more elaborate patterns.

*Piano étude No. 2* is another melodically generated form whose structure is somewhat more schematic. What I term the *M* and *m* hexachords<sup>29</sup> are the only pitch sources for this work. The Etude’s six-note fugal subject is a linear statement of the *m* hexachord, as is the countersubject (Ex. 3.7).

<sup>29</sup> The *M* hexachord consists of two major triads a tritone apart. Its complement consists of two minor triads a tritone apart; I call this complement the *m* hexachord. A piece can be based on one or the other or both chords. *M* enjoys no kind of priority over *m* in this respect. They are in fact the same chord as to intervallic content, as is explained in Ex. 3.7 below.

The image displays six staves of musical notation in treble clef, illustrating the *m* and *M* hexachords in various linear forms. The first staff shows the *m* hexachord (F#4, G#5, A#6) and the *M* hexachord (Bb4, Cb5, Db6). The second staff shows the *m* hexachord with intervallic labels 7, 11, 9, 10, 8. The third staff, labeled 'm, melodic retrograde', shows the *m* hexachord with intervallic labels 4, 2, 3, 1, 5. The fourth staff, labeled 'm, intervallic retrograde (ir)', shows the *m* hexachord with intervallic labels 8, 10, 9, 11, 7. The fifth staff, labeled 'complement of ir, which duplicates M, and demonstrates that the two hexachords, m and M, are in fact the same chord, having identical interval-class content', shows the *M* hexachord with intervallic labels 8, 10, 9, 11, 7. The sixth staff, labeled 'm inverted', shows the *m* hexachord with intervallic labels 5, 1, 3, 2, 4.

**Ex. 3.7 Pitch materials for *Piano étude No.2*. The *m* and *M* hexachords are stated in various linear forms.**

The *M* and *m* hexachords have some interesting theoretical qualities. The second staff of Ex. 3.7 is a linear distribution of the *m* hexachord. If one compares *m* with its complement (fifth staff) it becomes clear that the latter is the *M* hexachord, in other words two *major* triads a tritone apart. It is also *m*'s intervallic retrograde, and is in fact the same chord, having the same intervallic content (7,11, 9, 10, 8). This mention of intervallic retrograde gives rise to another point. The operations to which I subject these hexachords differ in some respects from Schoenberg's classic operations. For example, I allow for an *intervallic* as well as a *melodic* retrograde. Hence in the above example the third staff, marked '*m*, intervallic retrograde' (ir for short) spells the

prime (marked  $m$ ) backwards, but with reference to the *interval classes* (8, 10, 9.....) and not the pitches themselves.

*Piano étude No. 2* uses the  $m$  hexachord as its six-note fugal subject. The order of the four fugal entries is:

$m$   
 $m$ -complement  
 $m$ -ir  
 $m$ -inversion

(Refer to Ex. 3.7 for abbreviations)

The interesting structural question arises with the continuations of voices, beginning with the countersubjects. Their method of derivation is simple rotation. Hence the first countersubject, beginning with the  $g''$ , bar 7, is an  $m$  statement beginning on its second pitch. Similarly, the second countersubject, beginning with  $e''$  at bar 13, is an  $m$ -complement statement beginning on its second pitch. Fig. 2 shows in tabular form the order and content of entries from bars 1–25. Numbers after slashes denote the number of the rotation of the hexachord used. The hexachords are as above:  $m = m$  in its prime form;  $m$ -comp = the pitch-class complement of  $m$ ;  $m$ -ir = the intervallic retrograde of  $m$ ; and  $m$ -inv = the inversion of  $m$ .

**Fig. 3 Order and content of fugal entries in *Piano étude No. 2*, bars 1–25**

	Bar no. 1	7	13	19	25
Subject 1	<i>m</i>	<i>m/1</i>	<i>m/2</i>	<i>m/3</i>	<i>m/4</i>
Subject 2		<i>m-comp</i>	<i>m-comp/1</i>	<i>m-comp/2</i>	<i>m-comp/3</i>
Subject 3			<i>m-ir</i>	<i>m-ir/1</i>	<i>m-ir/2</i>
Subject 4				<i>m-inv</i>	<i>m-inv/1</i>

A further consideration in the distribution of these pitches is register. Here the governing principle is that of avoiding blatant octave duplications. Hence the two iterations of e'', bars 12 and 13, are confined to the same register, and the e flat'', d sharp'' and again e flat'' at bars 18 and 19 – all functions of different hexachordal statements – are likewise confined to one register. This need to avoid close octave proximities is one source of the peculiar sound-world of this Etude, for the adjustments for octave avoidance necessarily contort the melodic shape of individual lines. The fugal subject of *Piano étude No. 2* is therefore an *intervallic succession* rather than a *melodic shape*. This procedure recalls Webern's *String Quartet* op. 28 where canons are woven intervallically and often with complete disregard for the melodic shape of the *dux*.

The pitches of *Piano étude No. 2* are derived from a perpetual rotational cycling of the *m* hexachord and its derivatives described above. This, it has to be admitted,

results in a certain sameness in the pitch material. Such generative processes, whether applied to pitch or rhythm, can exclude the necessary element of surprise from the composing process. Hence a certain ambivalence in my feelings about this work. These are doubtless compounded by the experience of a Tchaikovsky Prize finalist coming from Moscow to give the work's premiere in Ireland and playing the piece so badly that I had to insist on his withdrawing it from his scheduled tour. This unhappy episode was a reminder of how far the world of the traditional virtuoso is from the concerns of the living composer, and doubtless *vice versa*. The work remains for me a necessary exercise in working with certain kinds of harmonic and rhythmic material. Works like *Piano étude No. 2*, while playing a necessary part in a composer's development, are not often among the pieces which he regards with the most affection.

The opening passage of *Piano étude No. 2* shows the influence of one of John Cage's ideas on my work. In Cage's later works, such as the *String Quartet*, all the players are given the same part with no indications of tempo or cues.<sup>30</sup> The audible result is somewhere between what I think of as either a floating canon or a blurred unison. The opening of *Piano étude No. 2* is my attempt at a stricter auditory realization of such a concept. (The concept is also the basis of the second movement of my *String Quartet*.) With this concept, melody becomes a kind of heterophony, a self-generating web of sound in which the canonic idea is exploited as much for its harmonic as melodic potential. The *locus classicus* of all such procedures is of course

<sup>30</sup> See PRITCHETT, James, *The Music of John Cage*, Cambridge University Press: 1996, pp. 203–204. See also, MORAN, Peter, 'On Kevin O Connell's *String Quartet*', M.A. submission, University of York, 2005.

Webern, and especially works like the *String Quartet* op. 28.<sup>31</sup> Some time before writing my *Etudes* and *String Quartet*, I rehearsed a performance of Webern's Quartet with students in the music department of Trinity College Dublin. The work has always been a part of my classes in twentieth century musical analysis. It was interesting in rehearsing the work to discover how disjointed configurations of notes (relative to the natural flow of the score) had to be rehearsed as groups. The reason was that these fragments were canonically related. Almost the entire fabric of Webern's *String Quartet* is canonically woven, a principle which applies even to the few homophonic passages, like the opening of the second movement. Yet I do not believe that canonic procedures by themselves are a solution to the problem of rationalizing the vertical and horizontal dimensions that has so exercised modern composers. *Piano étude No. 2* turned out in this respect to be the *ne plus ultra*. Any technique which grows from horizontal manipulations will produce at best partially satisfactory results harmonically. Harmony demands its own procedures.

### 3.4 Harmony

Much contemporary discussion of harmony deals with the abstract quantity of pitch organisation rather than the more concrete one of harmony in the sense of audible chords and progressions. This discussion will partly deal with pitch organization also. Yet I am always reluctant to let go of the accepted meaning of a term and much of this discussion will focus on chords and their construction.

Harmony can be a difficult subject for modern composers, or merely an insignificant

<sup>31</sup> WEBERN, Anton, *String Quartet* op. 28, miniature score, Boosey and Hawkes.

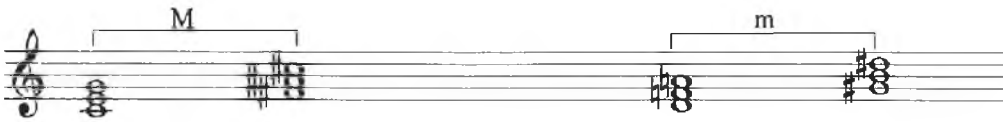
one. Its importance in my music derives from its importance to me as a listener. Much of what I find memorable in music comes from harmony. Composition for me usually begins with a chord or chord progression. This fundamental idea will seldom sound 'important'; it might be two eight-note chords, whose relation to one another produces a spark. Most of my chamber opera *My Love My Umbrella* (1997) stemmed from two such chords, discovered by improvising at the piano. More recently, a shorter work like *Three Songs* was composed without harmonic pre-planning. Perhaps the ultimate test of what Yeats called 'all our stitching and unstitching' is to compose a work in which the harmonic gestures, drawn freehand so to speak, fall convincingly on the ear.<sup>32</sup>

Harmonic planning is nonetheless a vital aspect of longer pieces in particular, and in my recent music, harmonic progressions tend to take the form of pre-conceived rather than spontaneously worked out constructions. An example of this is what I call the major and minor hexachords, or *M* and *m* for short. While working on my *Piano études* I made the simple discovery that for a chord consisting of two major triads a tri-tone apart, the remaining six pitches of the full chromatic (or Forteian complement) will form a hexachord of two minor triads, also a tri-tone apart (see Ex.3.8).<sup>33</sup>

<sup>32</sup> YEATS, W.B., *Adam's Curse*, in *W.B. Yeats, Collected Poems*, London: Macmillan, 1978, pp. 88–90.

<sup>33</sup> For a discussion of complementarity, see FORTE, Allen, *The Structure of Atonal Music*, Yale University Press, 1973, pp. 73–83.

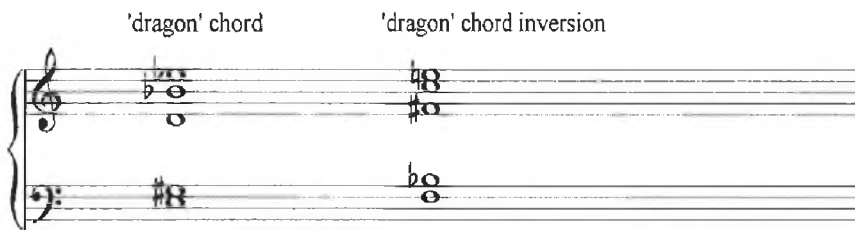




**Ex. 3.8** The major and minor hexachords (*M* and *m* respectively). These chords stated together make up the complete chromatic. Their intervallic content is the same, and they are therefore theoretically, if not acoustically, the same chord.

This acoustically intriguing fact formed the harmonic and melodic underpinning of several works: *Piano études Nos. 2* and *4*; the first and last movements of my *Piano Trio* (2004); and much of *Orchestral Piece No. 4, Prelude with Carillon*.

Another source of pitch material is what I call the 'Dragon' chord because of its importance in my song cycle on poems of Marianne Moore, *O to Be a Dragon*.<sup>33</sup> This chord plays a key role in *Orchestral Piece No. 4, Prelude with Carillon*. Some of its permutations and derivations are illustrated in examples 3.9–3.15.



**Ex. 3.9** Dragon chord with inversion

<sup>33</sup> O'CONNELL, Kevin, *O to be a Dragon*, seven songs on poems by Marianne Moore for baritone and piano, 1999.

Ex. 3.9 shows the dragon chord with its inversion. Ex. 3.10 shows the chord subjected to some standard serial operations. The first of these is multiplication, in which each note of the chord becomes the bass of the chord, with the structure of the chord remaining intervallically the same each time.<sup>34</sup> The second is rotation, a process strictly analogous to standard triadic inversion in the tonal system.<sup>35</sup> Each note of the chord again takes its turn as the bass, but the upper notes are re-orderings of those of the first chord:

**Ex. 3.10 Dragon chord with multiplications and rotations**

Ex. 3.11 shows exactly the same procedures applied to the dragon chord inversion.

**Ex. 3.11 Dragon chord inversion with multiplications and rotations**

<sup>34</sup> Both Pierre Boulez and Milton Babbitt use the term multiplication in different senses. I use it here in the sense nearer to that of Boulez, in which a chord can be transposed to any of its notes functioning as the bass note. See, BOULEZ, Pierre, *Boulez on Music Today*, translated by Susan Bradshaw and Richard Rodney Bennett, Faber and Faber: London, 1975, pp. 79–80.

<sup>35</sup> This technique, much used by Stravinsky, was invented by Ernst Krenek. See TARUSKIN, Richard, *The Oxford History of Western Music*, Vol. 5, New York: Oxford University Press, pp. 38–40, and 123–125.

One of the most interesting results of these procedures is the already obvious one: in each case they provide two different harmonizations of the same bass.

Ex. 3.12 shows a further operation. The whole of the 'dragon' rotation cycle is now transposed to the level of the original dragon chord, E. Ex. 3.13 is the same process applied to the inversion cycle, the pedal note in this case of course being F.

'dragon' chord rotations are transposed to 'E pedal'

### Ex. 3.12 Dragon 'pedal' chords

'dragon' inversion chord rotations are transposed to 'F pedal'

### Ex. 3.13 Dragon inversion 'pedal' chords

Examples 3.14 and 3.15 show the final stage in this process. The dragon pedal chords, originally on E (Ex. 3.10) are transposed to the inversion pitch level of F. Example 3.13 does the reverse, taking the whole of the inversion pedal cycle on F (Ex. 3.11) and transposing it to the dragon chord level of E. The intention here is exactly as with the multiplication and rotation cycles: to provide an identical bass (in these cases the pedal notes of E and F) with two different harmonizations.

the dragon chord progression is transposed to the 'F level' of the inversion

**Ex. 3.14 Dragon chords transposed**

the dragon chord inversion progression is transposed to the 'E level' of the dragon chord

**Ex. 3.15 Dragon inversion chords transpose**

A survey of the score of *Prelude with Carillon* will show that passages with E and F pedals are important features in the harmonic language of the piece. Ex. 3.16 shows how bars 14–24 of *Prelude with Carillon*, which form the work's 'second subject', are derived from Ex. 3.12. Bars 14–16 are a kind of antecedent statement. Bars 17–19 derive from Ex. 3.15, while bars 20–22 derive from the first half of Ex. 3.10. The harmonic constants are the E pedal (a recurrent feature of this piece) and the upper pedal of e flat''. Both pedals are derived from the dragon chord in its prime form.<sup>37</sup> The important oboe theme at bars 20–24 is derived from the upper voices of Ex. 3.15. This theme is the most important element in the long-range thematic 'dissolve' which brings the work to a close, again sounded against the E pedal in the double basses (bars 154–177).

<sup>37</sup> For a discussion of pedals, see, GOEHR, Alexander, 'Poetics of my music,' in *Finding the Key, Selected Writings of Alexander Goehr*, Faber: London 1998, pp.73–74.

13 ♩ = ♩ = 120

Pno.

15

Pno.

19 ♩ = 144

Pno.

pp

pp

vd

pp

**Ex. 3.16** Dragon chord 'pedal' harmony on E in no. 4 of *Four Orchestral Pieces, Prelude with Carillon*, bars 14–22

### 3.5 The chordal structure of *Vestiges*

The first of *Four Orchestral Pieces, Vestiges*, illustrates chord derivation of a different kind. A brief observation on chord derivations might first be in order here. A fundamental challenge in writing chordally is to ensure contrast within unity by deriving enough variants from the initial progression. The techniques for accomplishing this, such as the variants over a common bass line discussed in relation to Exx. 3.10–3.15 above, are essentially variational procedures. Perhaps the ultimate manifestation of this in my work is the chamber opera *My Love My Umbrella* (1997), the first act of which is derived from one short chord progression, and the second from another. In this opera, the method of varying these two progressions was simple.

I used the largest manuscript sheets available to make multiple ‘re-spellings’ of the initial progressions. The basic rule I set myself was to alter pitches by means of accidentals rather than shift the status of a note to the adjacent line or space. Hence the pitch F would be changed to F double-flat or F double-sharp rather than E flat or G respectively. In this way the basic progression always ‘looked’ the same in the sense of maintaining its line-space physiognomy from version to version. But the sound of the chords of course was gradually transformed. In *Vestiges* I proceed as follows. An initial four-voice chord progression is constructed along principles suggested by theorist George Perle.<sup>38</sup> Briefly, an interval in Perle’s nomenclature can be described as the sum of its two pitch classes, with C forming a conventional zero. Hence the dyad C–E is sum-4 (=0+4), D–F sharp is sum-8 (2+6) etc. (Sum-12 of course = sum-0.) The chords of Ex. 3.17 are arrived at by mounting a sum-0 dyad (E–G sharp) on a sum-9 (C–A) for each chord:

<sup>38</sup> For a discussion of twelve-tone symmetries, see PERLE, George, *Twelve-tone Tonality*, University of California Press, 1996. A more cogent exposition of the same ideas can be found in PERLE, *The Listening Composer*, UCP, Lecture V, ‘Composing with Symmetries’, pp. 123–170. See also LANSKY, Paul, ‘Being and Going, for George Perle’s 80<sup>th</sup> birthday,’ <http://silvertone.princeton.edu/~paul/perle.html>.

Cycle 2: bass staff shifts one chord to the left;  
this process can be duplicated 5 times in all

Cycle 2: bass staff shifts one chord to the left;  
this process can be duplicated 5 times in all

raise top line a semitone

Cycle 2: bass staff shifts one chord to the left;  
this process can be duplicated 5 times in all

raise alto line a semitone

Cycle 2: bass staff shifts one chord to the left;  
this process can be duplicated 5 times in all

lower top line a semitone, raise bass a semitone

(lower alto a semitone, raise bass a semitone)

voicings

Ex. 3.17 *Vestiges* brass chord derivations

A further principle of derivation is interjected at this point and is shown also at Ex. 3.17. The bass stave dyads are shifted 'one to the left' so that a further cycle of five complete progressions becomes possible. Note that the new chord-cycles are formed purely on a rotational 'slide-rule' basis; no pitches are altered. Ex. 3.17, fifth system, also illustrates the next step in the derivation process: the original chord sequence is altered by adjustments making up 'sum-10' sonorities. These adjustments follow no particular pattern though often stepwise adjustments in a particular voice will be emphasised. The new '0+10' chord sequence can then be cyclically treated in the same manner as the first. Ex. 3.17 shows how further adjustments are arrived at by making alterations (usually semitonal) in selected voices. Sometimes more than one voice at a time is adjusted. Ex. 3.18 shows the application of these chords in the brass interjections at bars 59–72:



59 ♩+♩=♩=86

Musical score for measures 59-62. It consists of four staves. The top two staves are treble clef and contain whole rests. The third staff is bass clef and contains a melodic line with eighth notes, including a triplet of eighth notes. The fourth staff is bass clef and contains a bass line with eighth notes and a triplet of eighth notes. The tempo marking is ♩+♩=♩=86.

63 0+9

0+9 first rotation cycle

Musical score for measures 63-66. It consists of four staves. The top two staves are treble clef and contain a complex melodic line with many accidentals and slurs. The third staff is bass clef and contains a melodic line with eighth notes and a triplet of eighth notes. The fourth staff is bass clef and contains a bass line with eighth notes and a triplet of eighth notes. The tempo marking is 0+9.

66 0+9 second rotation cycle

69 0+9 third rotation cycle

72 ♩ = 108

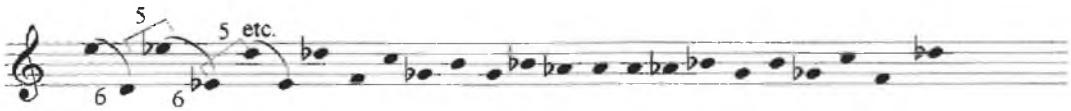
Ex. 3.18 Cyclic chords for brass, *Vestiges*, bars 59–72, derived from Ex. 3.17

An isorhythmic aspect of this passage will not escape notice. The boxed notes

represent statements of the '0+9' chord cycles in the horns. The two lower staves represent the trombones and tuba, which play their own cycle of chords, unvarying both in pitch and rhythm. These cycles begin at bars 59, 64, and 70 (beginning on the second crotchet beat). The rhythmic relation between the two harmonic levels (that represented by the horns, and that represented by the trombones and tuba) is yet another variant on the 'fixed versus moving' principle referred to several times in this essay.

This method of derivation for the brass chords in Ex. 3.18 is simple, with one form of sum-dyad superimposed upon another. The *ritornello* chord progression, which occurs throughout the movement (see pp. 17–20 above), is more sophisticated in its structure (Ex. 3.19):

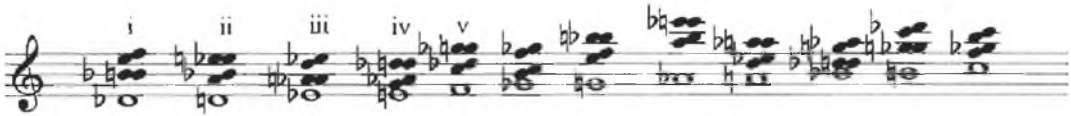
## 1. sum 11- cycle 1 (6+5)



## 2. sum 11- cycle 2 (0+11)



3. Conflate pivot tones from each cycle with each of the dyads on either side of it. This forms five-note chords:



## 4. Voicing of five-note chords



**Ex. 3.19 *Vestiges*. sum-11 dyads and the resulting five-note chords are the basis of the *ritornello*. (See bars 73–77)**

This chord sequence begins as the two possible sum-11 interval cycles (lines 1 and 2 of Ex. 3.19). Sum-11 cycles can be formed by combining a 6-sum with a 5-sum (line 1) or a 0-sum with an 11-sum (line 2). The five-note chords at line 3 are formed as follows. Each pitch of the original cycles can form a pivot between the two notes on either side of it, making a three-note sequence. (For pitches at either end of a cycle, the cycle is treated as circular, so that the next pitch after the end will be the first.) If the pivot-tones common to both rows are conflated and the two dyads added, one from each row, five-note chords result. These are shown at line 3 of Ex. 3.19. Line 4 shows the voicing of the chords to be heard in the strings at bars 73–77.

From this analysis it will be clear that this quite extended work draws on a variety of methods of chord construction. This procedure appears to me quite feasible for large-scale pieces with a variety of material. In shorter works like *Slåttar* or the four solos at the end of my folio, I generally find it better to employ a single procedure.

### 3.6 Colouristic harmony

For all that the discussion of harmony so far has emphasized harmony as chords without reference to instrumental timbre, my music contains several examples of what could be termed 'colour harmony', especially in chamber and orchestral contexts. An example has already been cited in Chapter 1: the string glissandi chords in *Vestiges*, bars 175–180. Another example of non-functional harmonic colour is the rapid piano cluster-chords near the end of *The young are always right*, bars 218 and 223. A third example is the orchestral setting of the rather spectral melody which occurs in *Slåttar* (*Four Orchestral Pieces*, No.2, Fig. M–N in full score). This melody in its original form in the solo double bass version is scored mainly as harmonics, which have a curiously asthmatic quality on that instrument. The problem in the orchestral version was how to duplicate this effect. My solution to this problem was to give the melody complete to the first violins. The melody is accompanied by a composite *klangfarbenmelodie* of natural and artificial harmonics played by the other strings:

The image displays a musical score for a piece titled 'Slattår, Fig. M-N'. The score is arranged in two systems. The first system includes staves for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vcl.), and Double Bass (Db.). The second system includes staves for Trumpet (Timp.) and Trombone (Tr.). The score is marked with various dynamics and tempo changes. Section 'L' is marked 'Moderato' with a tempo of J=120. Section 'M' is marked 'Molto tranquillo' with a tempo of J=60. Section 'N' is marked with a tempo of J=90. Section 'O' is also marked with a tempo of J=90. The score includes various musical notations such as slurs, accents, and dynamic markings like 'pp', 'mp', and 'ff'.

**Ex. 3.20** Melody in string harmonics, *Slattår*, Fig. M–N

This melodic statement in harmonics must performe be rather disjointed because of its distribution among so many instruments. A further consideration is that the natural harmonics in particular are unlikely to be entirely in tune with the violin statement of the melody, nor should they be. By these means I hoped to recreate the strange sounds of the original double bass version.

### 3.7 Chord progression in *Piano étude No.4*

*Piano étude No.4* is a study in chords. The chord progressions I devised for this Etude are illustrated at Ex. 3.20. In this discussion I will first explain the chord-cycles and their derivations abstractly, and then some of their applications in the Etude. I begin

with the *m* hexachord (Ex. 3.21):

Line 1. The *m* hexachord multiplications (=transpositions) - 6 chords

Line 2. The above chords inverted

Line 3. This progression rearranges the chords of line two so that their bass approximates as near as possible to that of line 1. Note that two bass notes, marked with asterisks, are not common

**Ex. 3.21 *Piano étude No. 4*, chords. The chords of the Etude are derived from the *m* hexachord**

The remaining five chords at Ex. 3.21, line 1, are the multiplications of the *m* hexachord, each note of the original in turn becoming the bass of the unchanging structure. Lines 2 and 3 illustrate the derivation of the inversions of this cycle. (Line 2's bass is derived from the top notes of line 1.) If one compares the bass of line 1 with that of line 2, it becomes clear that four notes are duplicated. This means that it would be possible to rearrange the inversion chords from line 2 into a bass progression similar to that of the prime chords at line 1. This is what happens at line 3, where the bass-line duplicates all but two of the pitches of the original bass, G and C sharp (marked with asterisks in the example).

The next stage in this process concerns voicings of the above chords (Ex 3.22):

The image shows a musical score for Ex. 3.22, Piano etude No. 4, consisting of two staves (treble and bass clef) and six measures. The chords are labeled a, b, c, d, e, and f. Chords b, e, and f have an asterisk (\*) below them, indicating a specific voicing. The notation includes various chord symbols and accidentals.

**Ex. 3.22 *Piano etude No. 4*, chords with voicing**

Ex. 3.22 takes as its point of departure the ‘resultant’ third line of Ex. 3.21. Ex. 3.22 is a voicing of the first chord of this line with resultant rotations. These chords are marked *a* with the rotations *b*, *c*, *d*, *e*, *f*. I will from now on refer to the chords of Ex. 3.21 as the *number* chords, and to those of Ex. 3.22 as the *letter* chords. (Note that Ex. 3.22 must be read as two-stave.) Ex. 3.23 illustrates the combination of number chords with letter chords:



The fourth and sixth chords duplicate pitches f sharp, a, c and d sharp

d/6 is missing:

f/4 is missing:

### Ex. 3.23 *Piano étude No.4*, number and letter chords combined

All the combination chords form twelve-tone aggregates with the exception of d/6 and f/4. Both of these chords lack the pitches F sharp, A, C and D sharp, and both duplicate the pitches B flat, B, E and F.

The application of these chords in *Piano étude No. 4* takes various forms. The opening of the Etude states the bass pitches of the inversion-cycle's bass, beginning on E flat, as a kind of 'ground bass' figure, immediately answered by a statement of the original chord cycle (bars 1–12):

## Piano Etude no. 4

$\text{♩} = 90$

*f* m-inversion on chords, bass

m-prime chords, cycle

*p sonore*

9 inversion chords, new ordering, bass

*mf*

inversion chords, new ordering, cycle

17 *p*

'voiced' chords, cycle

24 *f* *p*

'voiced' chords, inversion cycle

30 *ff* *pp* *ff*

Ex. 3.24 Piano étude No. 4, bars 1–36, homophonic chords

Bars 13–18 then state the bass line of the re-ordered inversion chords, followed by the chords themselves at bars 19–24. Bars 25–30 state the first cycle of ‘voiced chords’ followed by their inversion cycle, bars 31–36. In thus stating the chord cycles, I was aware of a problem of a too regular periodicity: the chords are stated in bald declarative fashion rather like the *Catacombs* movement of *Pictures at an Exhibition*.<sup>39</sup> One way of cross-cutting the regular six-bar phrases is to use grace notes to etch out melodic fragments from the chords. The grace notes sometimes trace the melodic shape of the *m* hexachord; where melodic fragments can be traced in both hands, a canon sometimes results. The first such melodic statement is in the left hand at bars 9–12. This is clearly the first four pitches of the inversion-cycle bass line, beginning on b flat’. A canon is stated at bars 19–24: the *dux* is the first three bass notes in this passage, C, G, F sharp’; the *comes* consists of the right-hand pitches with grace notes, c’, g’ and f sharp’ (bars 22–24).

The pitch-working in this Etude is as strict as it is in *Piano étude No. 2*. Even the four ‘redundant’ pitches of B flat, B, E and F (see Ex. 3.21 above) are used as a link into the work’s central section (bars 43–46).

### 3.7 Chord progression?

For any composer used to serial techniques and hexachordal manipulations, most of these procedures for constructing and deriving chords are fairly standard, though a composer’s way of using them will reflect his own needs and biases. The question

<sup>39</sup> MOUSSORGSKY, Modest, *Pictures at an Exhibition*, Piano score, Edition Peters, *Catacombae*, p. 23.

may fairly be asked: can such procedures constitute chord progression in the traditional sense of a 'logical' sequence? This question has much pre-occupied me. The answer might appear to be a definite no. Modern composers do not wish to be hampered by old-fashioned ideas of chord progression and functional bass. The obvious retort to this is to demand why composers go to such trouble to organize their harmonic material rather than simply invent chords instinctively or – as it sometimes appears – randomly. There must surely be some kind of pay-off for the often considerable effort expended. On the relation of the actual sound of chords to the composer's originating structures, a cautionary remark of George Perle's is relevant:<sup>40</sup>

*Obviously, if the harmonic formation contains only two notes, the vertical and the horizontal adjacencies will be identical. And if it contains twelve notes it will have no relation to a unique linear arrangement since it could function as a verticalisation of any set.*

The implication is that the twelve-tone provenance of any chord of between three notes and eleven is likely to be debatable. This in no way invalidates an aurally 'well-chosen chord,' of course; but Perle's remark underlines the innate linear bias of traditional twelve-tone thinking, however composers try to argue otherwise. The more positive message to be taken from Perle's observation is that, no matter how pre-determined the harmonic language of a piece, the composer must still compose with his ear. One might take issue with the final element of Perle's remark by observing that even in complete twelve-tone chords, matters of distribution and spacing can be strong determinants of the audible character of a chord; in this sense not all twelve-tone chords are the same. (In fairness it should be said that it is matters

<sup>40</sup> PERLE, George, *Serial Composition and Atonality*, London: Faber, 1962, p. 87.

of twelve-tone derivation which Perle is here discussing.)

Chord progression from the middle-baroque onwards was posited on the functional bass with a strong teleological, or goal-directed, bias. In other words, the listener needed to feel that the music was taking him somewhere. Hence the importance of cadence in the common practice period. The main obstacle to the sense of progression in modern harmony seems to me to be precisely this: the lack of functional bass. Alexander Goehr has even sought to revive the practice of figured bass in a post-Schoenbergian context, and has produced much beautiful music with the help of this technique.<sup>41</sup> The main objection to this procedure, it seems to me, is that one is left with a concept of 'functional bass' to which the upper harmonies (of a generally non-triadic kind, even in Goehr's music) seem not to belong. There is a disjunction between the directional bass-line and an overall harmonic structure that is intuitive and non-directional in a decidedly post-tonal way. In my music, I have sometimes felt closest to the harmonic practices of the composers of the early baroque such as Monteverdi and Schütz for whom 'harmony' co-existed with 'harmonic progression' in a loose rather than a strict conjunction. A good example is the famous aria *Possente spirto* sung by Orfeo to lull Charon to sleep.<sup>42</sup> Monteverdi bases this aria – the longest set-piece in *Orfeo* – on a sequence of chords which is recycled almost the whole way through. Some commentators have found in this procedure an anticipation of chaconne and other baroque procedures. It is striking, though, that Monteverdi treats the chords as *succession* rather than progression: metrically, they are too widely

<sup>41</sup> See GOEHR (1998), pp.240–244, for a discussion of figured bass.

<sup>42</sup> MONTEVERDI, Claudio, *L'Orfeo, Favola in Musica* ed. Denis Stevens, London: Novello 1968, pp.80–92. For a discussion of changing attitudes to seventeenth century harmony, see O CONNELL, Kevin, 'Stanford and the Gods of Modern Music', *Musical Times*, Spring 2005, pp. 33–44.

spaced for the listener to gain any kind of accumulative purchase on them. The function of the bass in the music of this period is indeed a difficult one to define. Clearly the era of polyphony with equal voices is gone; but the bass line is as yet far from fulfilling the directional role of the later baroque. I find in the early baroque the nearest parallel to the modern composer's harmonic predicament, which might be summarized by saying that in the absence of a unifying harmonic theory one must nonetheless proceed to compose, even harmonically.

Whether or not the listener hears the harmony of a piece like *Piano étude No.4* as progression-based, it will be clear from this discussion that I adhere to the traditional concept of harmony to the extent of believing that harmony exists in the vertical dimension of music and can only be perceived one chord, or chordal prolongation, at a time. I sympathise with Stravinsky when he explains that he hears even the densest contrapuntal passages of works like Webern's *Symphony* vertically, as chords.<sup>43</sup> This explains my problem with some methods of tonal organization in recent music. For example, my music shows little of the kind of intervallic layering characteristic of Elliott Carter.<sup>44</sup> It will be clear in the context of my bias in favour of 'harmony as chords' why this is so. A projection by, say, a violin of the interval of the sixth (either melodically or harmonically) will make sense by itself, as will a projection by the viola of perfect fifths. The auditory problem arises when both lines are combined and even more added, as happens in several of Carter's pieces such as his *Duo for Violin and Piano* and the *Triple Duo*. The result when such lines are combined can be quite confusing, the listening ear finding itself embarrassed by complications that the

<sup>43</sup> CRAFT, Robert, *Conversations with Igor Stravinsky*, London: Faber Music Ltd. 1959, pp. 128–129.

<sup>44</sup> SCHIFF (1998), pp. 119–121.

score-reading eye does not even perceive. Experience of performances of my music has perhaps made me more conservative in my estimate of what even a sympathetic audience can absorb harmonically. My most demanding score in this respect is probably the *String Quartet* of 2000. The *Piano Trio* of 2004 is already an attempt to simplify and make clearer some of the procedures of the earlier work.

### 3.8 The figuration problem

The subject of harmony opens up the related issue of figuration. The word figuration implies that there is an underlying structure, usually melody or harmony, to be ‘figured’, just as ornamentation must have something to ornament. Expressed in these terms, the composer’s dilemma becomes obvious. If there is no tonal structure, can figuration be possible? The composer who gave the most uncompromising answer to this question was, of course, Webern, in whose later music figuration almost entirely disappears. Such a solution will be of more use to the composer who wishes to write only tiny concentrated pieces than for one interested in symphony or opera. One solution I have used is to begin from a standpoint of melodies with long notes in which the note-lengths are gradually compressed. This procedure usually involves close canonic imitations, as at the opening of *Piano étude No. 2*, which is a four-voice fugue. Here the initial melodic *longus* of a semibreve within a 5/4 bar is compressed gradually until the closely woven skein of entries can get no closer and is forced to break into a rapid figuration melisma. Thus the figuration at the end of this *étude* is simply the opening of the work heard in a kind of ‘fast-forward’:

148

Pno

*sub mf*

*p*

*mf*

*p*

150

Pno

*mf*

*p*

152

Pno

*mf*

*8va*



The image displays a musical score for a piano étude, specifically focusing on bars 148 through 165. The score is written for piano (Pno) and is divided into four systems. The first system, starting at bar 154, features a right-hand melody with a dynamic marking of *ff* and a left-hand accompaniment. A bracket above the first system is labeled *8va*. The second system, starting at bar 157, shows a continuation of the rapid figuration in both hands, with a dynamic marking of *fff martellato RH*. A bracket below the second system is labeled *8vb*. The third system, starting at bar 160, includes dynamic markings of *p* and *ff*. The fourth system, starting at bar 163, features a tempo marking of  $\text{♩} = 72$  and continues the rapid figuration. The score is marked with various dynamics and articulations, including accents and slurs.

Ex. 3.25 Piano étude No. 2, bars 148–165, rapid figuration

(The second movement of my *String Quartet* (2000) also reverses this process, forming a kind of tempo-palindrome.) A drawback to this way of composing is that figuration becomes dependent on the procedure: pieces have to be quite long, and one must wait some time before hearing the continuous rapid notes that fulfill at least one requirement of figuration. Indeed, any surface manifestation in music, especially melody, which must continuously refer to structural concerns is likely to be weak. (This I believe is a problem in this Etude especially.)

### 3.10 Scales

*Piano étude No. 1* shows another way of deriving pitch materials. The pitches of this work derive from synthetically constructed scales. These are shown in Ex. 3.26. The derived scales in the example are all whole-tone transpositions of the original. When I examined all the derived scales, beginning on each degree of the whole-tone scale, some interesting things emerged. A set of hexachords from every second scale were near-identical (see the fragments marked 'x' in Ex. 3.26). These fragments suggested a pitch parallel to the rhythmic processes I had also worked out for this Etude. The rhythmic processes enabled melodic fragments, for example scales, to proceed in parallel at marginally different speeds. It will be clear from the 'x' fragments of the scales that the scales on which the etude is largely based likewise have a close but not exact resemblance. I call this kind of similarity, whether of scales, chords or rhythms *the principle of near-identity*.

The 2 all-interval tetrachords (0137 and 0146) conflated into a scale

intervals: 1 1 2 2 2 4      4 1 2 2 1 2

intervals re-cycled      then transposed to +10 = -2 level

composite scale

t-10

t-8

t-6

t-4

t-2

Ex. 3.26 *Piano étude No.1, scales*

These near-identical scale fragments are the source of much of the pitch material in *Piano étude No.1*. The idea was to have pitch-procedures akin to the slightly skewed rhythmic procedures which govern this Etude and which ensure that the two hands are never in exact rhythmic synchronization:

The image displays four systems of musical notation for a piano piece, labeled 'Pno'. The first system (bars 54-55) features a 5:4 time signature. The right hand plays a scale fragment with a 5:4 interval, while the left hand plays a similar fragment. Dynamics include *p* and *mf*. The second system (bars 56-57) shows a 5:4 interval in the right hand and a 5:4 interval in the left hand. The third system (bars 57-58) includes a tempo marking of  $\text{♩} = \text{♩} \text{ } J = 90$ . The fourth system (bars 59-60) shows a 5:4 interval in the right hand and a 5:4 interval in the left hand, with dynamics *p* and *ff*.

Ex. 3.27 *Piano étude No.1*, bars 54–59, disjunct scales

Ex. 3.26 above illustrates how unpredictable the compositional process can be. As the

start of the example shows, I began playing with the two possible all-interval tetrachords: 0146 and 0137.<sup>45</sup> This suggests that the nature of the Etude was to be mainly chordal. In fact, as the example illustrates, I instead took the direction of conflating the chords into a composite scale, and the texture of the Etude is in fact much more a kind of lean two-part counterpoint than chordal.

The pitch-working of *Motus* for bass clarinet is also derived from scales, or what I call tropes. For this work I wanted to write long chains of pitches to ensure a flowing melodic line. The method of deriving the pitches is shown at Ex. 3.28. The initial hexachord at the top of the page is an ‘interval palindrome’: 21312. The method of extrapolating the tropes is then obvious. The second line adds the interval of 4: 2131413121. The next line adds 5: 21314151413121. This procedure is pushed all the way to interval-class 11 (bottom of the page). An intriguing aspect of this procedure is the ambit encompassed by the outer pitches of each cycle. For example, the ‘outer ambit’ of the initial hexachord is a major sixth, C–A. That of the first trope is a perfect fifth, C–G, and so on. I think of tropes with identical outer ambits as having a familial relationship; but these relationships are not yet systematically exploited in *Motus*, which was my first use of this technique.

<sup>45</sup> These are chords 0Z29 and 4-Z15 respectively in Forte’s list. See FORTE (1973), p.179. Each of these chords can yield all possible intervals.

The image displays a musical score for bass clarinet, consisting of ten staves of music. Each staff begins with a treble clef and a key signature of one sharp (F#). The notes are primarily half notes and quarter notes, with some eighth notes. Above each note, a number indicates the finger to be used (1-5). The music progresses through various intervals and scales, demonstrating different melodic tropes. The notation includes natural signs, sharps, and flats to indicate pitch changes.

**Ex. 3.28 *Motus* for bass clarinet: tropes**

**3.11 Summary**

If harmony is a substantial audible fact in my music, I have to confess it is not an easy subject for a composer to discuss. In the end, the composer's instinct is the main determinant. Also, sketches showing how you arrived at certain progressions can be slow to yield up their secrets after the creative path that led you to them has been covered over. Memory quickly covers its traces.

The question may fairly be asked: are harmonic structures such as the *M* and *m* chords a kind of 'tonic sonority' for a composition, or a source of melodies and harmonies, or a purely intellectual construct that should not concern the listener at

all? They clearly partake in some measure of all three. But their purpose is finally to lend the music direction and coherence. In this respect they differ fundamentally from the procedures of some post-1945 music. The kind of numerical rigour that underlines, for example, Stockhausen's *Piano Piece X*, has very little interest for me.<sup>46</sup> The *M* and *m* hexachords described at Ex. 3.8 (p.70 above) have some intriguing 'numerical' properties. But my real interest in them is founded on one of the simplest of audible harmonic facts, the difference between major and minor triads. This difference 'flavours' the two chords regardless of the permutations one subjects them to. In other words, harmony and harmonic progression must be audibly comprehensible. Indeed, ensuring harmonic coherence is in my view the greatest challenge now facing composers.

<sup>46</sup> HENCK (1980). Henck demonstrates that nearly every aspect of the piece is derived from operations centering on the number seven.

## Chapter 4: RHYTHM

### 4.1 The relation between long notes and short notes

The problem of rhythm and rhythmic integration ultimately comes back to the relation between long and short notes. Indeed, extended to melody, harmony and counterpoint, the relation between long and short could be said to govern every aspect of music. Why should this be? The very foundations of rhythm in language emphasised the difference between long syllables and short, also referred to as stressed and unstressed. The theory of long and short, stressed and unstressed, was itself carried forward into monophonic music, including Gregorian Chant.

A more complex stage was reached with the discovery of polyphony ca.1000 CE. This gave rise to rhythmic principles which governed the vertical as well as horizontal aspects. In other words, mensural notation had to be invented. Later developments are generally dictated by the need to regulate the relation between long and short:

### **Fig. 4 Evolution of rhythm**

- § Medieval prolation (Phillipe de Vitry)
- § Medieval isorhythm (Machaut)
- § Mensural canon (Ockeghem, Dufay)
- § Renaissance polyphony; cantus firmus
- § Division or variation technique



- § Baroque melody and bass polarisation; chorale prelude
- § Classical harmony and counterpoint
- § Messiaen; non-retrogradable rhythms
- § Tempo modulation and minimalist phasing
- § Serial rhythmic organization

Phillipe de Vitry put music firmly on the modern path by taking longer notes like the breve and subdividing them into smaller units. This principle governed European rhythmic thinking almost until Stravinsky's ballet *The Rite of Spring* of 1913. Stravinsky's score revolutionised rhythm by reversing this process. No longer are smaller rhythmic units arrived at by sub-dividing larger, but larger groupings are arrived at by adding or multiplying smaller. The consequences of this revolution are still with us. The last three innovations listed above are unthinkable without Stravinsky's radical step. One facet of Stravinsky's revolution in particular has interested me. Stravinsky's use of small units rendered infinitely elastic the length of 'beats' or bundles of small units, which no longer had to proceed in a chronometrically regular pulse. The result was the possibility of a kind of continuous notated rubato. The *Danse Sacrale* from the end of *The Rite of Spring* is a clear example: here the basic pulse-unit of a semiquaver is grouped into uneven 'beats' of two and three.

## 4.2 Rhythmic ratios

I can best illustrate this crucial matter of the flexibility of beat or pulse by referring to

my *Piano étude No. 1*. Ex. 4.1 illustrates the rhythmic grid of this Etude.

The image shows three staves of musical notation. The top staff is labeled 'RATIO' and 'MM. 144' and has a 5/4 time signature. The middle staff is labeled 'MM. 108' and has a 5/4 time signature with a '6' above the notes. The bottom staff is labeled 'MM. 90' and has a 5/4 time signature. The notes are aligned vertically across the staves to show the polyrhythmic relationship.

#### Ex. 4.1 Rhythmic ratios in *Piano étude No. 1*

What I call the 'tonic' pulse is actually 90 per minute, not the 72 of the work's beginning. From the tonic pulse of 90 it is easy to extrapolate 72 in one direction, and 108 in the other. The resultant tempo ratio is very simple (see Fig. 5).

**Fig. 5 *Piano étude No. 1* rhythmic ratios summarised**

MM. speed:	72 (44)	90	108
Ratio:	4 (8)	5	6

The tempo ratio is 4:5:6. This Etude is polyrhythmic, therefore, not in the simplistic sense of having three tempi unfolding simultaneously on three different planes, but rather in the sense that the three possible 'tempo paths' are perpetually available and the music could take any one or two of them at a given moment. It is strictly in this sense that I am interested in polyrhythm. Continuous polyrhythms of the kind found in the *Cortège du Sage* section of *The Rite of Spring* and in off-shoots like the music

of Conlon Nancarrow have a limited interest for me: they force the music into patterns with limited harmonic movement or contrapuntal interest.

### 4.3 Rhythmic canon

This matter of the flexibility of pulse leads directly to the matter of fugue and canon. Canon in my music is as often rhythmic as it is melodic or harmonic.<sup>47</sup> For example, the open-string texture at the start of *Slåttar* is canonic in construction, with a pattern of eight semiquavers stated against a pattern of nine (See Ex. 2.3). At each recurrence of this canonic *ritornello* (see the discussion above, pp.20-26) the pattern is further complicated by the addition of another pulse-line such as seven or ten. The available patterns of pitch and/or rhythmic imitation are many. I have been most interested in the following (Fig. 6).

**Fig. 6 Three types of canonic imitation**

<b>1. Static</b>
<b>dux.</b> . . . . .
<b>comes</b> . . . . .
(Exact imitation at a fixed interval)
<b>2. Static, but differentiated</b>
<b>dux.</b> . . . . .
<b>comes</b> .....
(Voices at different tempi, but each maintaining a fixed proportional relation to the other)
<b>3. Dynamic</b>
<b>dux</b> . . . . .
<b>comes.</b> . . . . .
(one voice remains static, the other speeds or slows in relation to it)

<sup>47</sup> For an interesting discussion of canon, see BENJAMIN, George, 'Canonic Codes', in *Sing, Ariel; Essays and Thoughts for Alexander Goehr's Seventieth Birthday*, edited by Alison Latham, Ashgate 2003, pp.21–32.

The static relation can be heard at the opening of *Piano étude No. 2*. This Etude is a fugue in four voices. The four entries of the subject occur at bars 1, 7, 13, and 19. Note that though the note-lengths are the same, an element of fluidity is ensured by the placing of these semibreves irregularly within a *five-crotchet bar* (Ex. 4.2):

## Piano Etude 2

Fuga a 4 voci

$\text{♩} = 72$

Piano

6

Pno

10

Pno

14

Pno

18

Pno

21

Pno

Ex. 4.2 Staggered fugal entries in *Piano étude No. 2*, bars 1–23

The result is a kind of notated rubato. This Etude is one of my most radical

experiments with metrical perception. The Etude in fact presents a continuous *accelerando* using a very limited set of pitches (see above, pp. 65–67). The effect I am striving for may perhaps best be illustrated by a method I have used for teaching thematic unity in Beethoven's piano sonatas. In my lecture on Beethoven's Sonata in C sharp minor Op. 27 No. 2 (*The Moonlight*) I ask the students to point out the relationship between the opening of the first and last movements. As the first movement is an *Adagio* and the last a tempestuous *Presto*, this request is understandably greeted with puzzled expressions. I have found the best way of making the point is to sit at the piano and play the finale's opening *at the speed of the Adagio*. The parallel becomes immediately and astonishingly apparent. By the same token, the rapid passage-work with which *Piano étude No. 2* ends is simply the staggered semibreves of the opening at thirty-two times the speed. How perceptible these relationships are is an open question. But it has been a recurrent aspect of Western music for composers to make new demands of performers and listeners who in turn respond, sometimes sooner, sometimes later. In this respect, arguments about 'what you can hear' are often beside the point. It is sometimes the composer's task to be ahead of the listener. An example of static but differentiated rhythmic levels occurs in *Piano étude No.1*, bars 28–33. These scales moving at different speeds illustrate the 5:4 (8) polyrhythm:

29

Pno *mp*

30

Pno

31

Pno

32

Pno

33

Pno

The musical score for Piano étude No. 1, bars 29-33, is presented in five systems. Each system consists of a grand staff with a left hand and a right hand. The left hand part is primarily chordal, with some eighth-note patterns in the lower register. The right hand part is a continuous eighth-note scale. The first system (bar 29) includes a mezzo-piano (*mp*) dynamic marking. The second system (bar 30) continues the scale and chordal accompaniment. The third system (bar 31) shows the scale moving through various intervals. The fourth system (bar 32) maintains the same texture. The fifth system (bar 33) concludes with a triplet of eighth notes in the right hand, indicated by a bracket and the number '3'.

Ex. 4.3 *Piano étude No. 1*, bars 29–33, scales moving at different speeds

Later in the same Etude there is an example of a dynamic (though not strictly canonic) relation. This occurs at bars 65–75. The two hands begin this passage at widely divergent points. The left hand decides to catch up, gradually getting closer to the right:



64

Pno

$\text{♩} = 90$

*sub f*

67

Pno

*sub pp rh legato*

*f*

*ff*

69

Pno

*f*

*f*

70

Pno

*f*

*ff*

71

Pno

*f*

*f*

**Ex. 4.4** *Piano étude No. 1*, bars 64–71, the hands play at different speeds, the ratio gradually altering as the left hand speeds up in relation to the right.

*Piano étude No. 1* illustrates the polyrhythmic derivation of tempo modulations in explicit form. The recurrent procedure is for a simple cross-rhythm to be set up using a common *tactus* – say the semiquaver – and for one of the hands to

marginally speed up while the other maintains its original pulse. This procedure explains the sometimes fearsome visual appearance of this score (Ex. 4.5).

35

Pno

8va p

stacc. e legg.

♩ = ♩

37

Pno

38

Pno

**Ex. 4.5** *Piano étude No. 1*, bars 35–38: the hands articulate different pulses, but with a common semiquaver speed.

Ex. 4.5 shows 'simple' cross-rhythm where the two hands play contrasting music, but within the same tactus. Ex. 4.6 shows the development of this passage into a more complex pattern as the right hand speeds to crotchet = 112:

The musical score consists of three systems of piano accompaniment. The first system, starting at measure 40, shows both hands with five-measure rests. The second system, starting at measure 41, shows the right hand playing a complex rhythmic pattern at a tempo of crotchet = 112, while the left hand plays a simpler pattern at the original tempo. The third system, starting at measure 42, continues this pattern. The score includes dynamic markings such as *pp* and *mp*, and various articulation marks like accents and slurs.

**Ex. 4.6 *Piano étude No. 1*: the right hand speeds to crotchet = 112 while the left hand remains at the original speed of crotchet = 72, bars 40–42**

(The unvaryingly paced left hand articulations in Exx. 4.4 and 4.5 are printed in

larger notes for clarity.) I wanted in *Piano étude no. 1* to give the impression of the pianist's hands each having a marginally different idea of what the tempo is. Sometimes the ambit of disagreement widens and it is as if two different pieces are being performed. At other moments, the hands coincide, usually on the initial 'folk' idea, for example at bars 81–83. Even at this point, however, the coincidence feels more like collision.

*Piano étude No. 2* is complex in its rhythmic unfolding. This fugue in four voices is a perpetual accelerando created by means of a technique I first used in the second movement of my *String Quartet*. The traditional method of creating accelerando is to make notes shorter. In this piece I keep notes the same length for as long as possible while shortening the bar-lengths into which they fit. This forces a gradual shortening of note values, at which point the process begins again. Finally, the skein of imitation-points becomes so dense that it is impossible to sustain, and what should be contrapuntal entries are conjoined into a seamless melodic line (see bars 155 ff.). In a reversal of their generic order, counterpoint has turned into melody.

#### **4.4 Rhythmic inversion**

The first movement of *Piano Trio* employs rhythm in a canonic-fugal context in a way somewhat different from any of those outlined above. The concept of this movement is that a rhythmic *gestalt* (shape or formula) of 55 quavers in length gradually shifts its shape so as to turn into its own 'negative'. In other words, rests become notes and notes become rests. The process is illustrated in Ex. 4.7. This diagram makes it clear that the transformations are 'left-leaning', as notes gradually

encroach into rests, but leaving rests in their turn to the ‘right.’ Each of the fugal entries in this movement is an articulation of one of these *gestalt*-transformations. This process was an attempt to negotiate the theoretically thorny issue of ‘inverted rhythm’. I accept the consensus among musicians that inversion of rhythm as a perceptual reality is scarcely conceivable. Even Milton Babbitt’s elegant formulation of inverted rhythm is based on a numerical rather than perceptual reality.

A digression on this subject is in order. Babbitt’s serial procedures allow almost all musical parameters to be described as integers.<sup>48</sup> The process is most easily illustrated in relation to pitch, where intervals and their inversions are calculated by a simple process of subtraction, *mod*-12. Hence the inversion of the interval of three semitones is nine, of four, eight, and so on. Babbitt’s next step is to apply integer-naming to rhythmic durations. When durations are expressed as integers, it is a short step to subjecting them to the same classic serial processes as pitches, including inversion. Charles Wuorinen stresses the importance of a numerical representation:

*Let us note once more the tremendous power given us by a neutral representation and a generalized definition of fundamental operations and elements. Here, because of numerical notation and definition, we can effortlessly transfer the entire apparatus of relationships from pitch to time.*<sup>49</sup>

Even this cursory summary of Babbitt’s rhythmic inversion makes it clear that inversion as applied to rhythm is at best a free analogy to the same process applied to pitch. Most obviously, the calculation of durations and their inversions *mod*-12,

<sup>48</sup> See BABBITT, Milton, ‘Twelve-tone rhythmic structure and the electronic medium (1962)’, reprinted in *The Collected Essays of Milton Babbitt*, edited by Stephen Peles, New Jersey: Princeton University Press 2003, pp. 109–140. A more accessible discussion of this subject is to be found in WUORINEN, Charles, *Simple Composition*, Edition Peters 1979, Chapter 10, pp. 130–141.

<sup>49</sup> WUORINEN (1979). p.137.

unavoidable in relation to pitches, is purely arbitrary applied to durations.<sup>50</sup> Of course, Babbitt and his followers argue that *mod*-12 is not the only numerical basis of rhythmic operations, and rightly so; but my limited experience of using these procedures is that the number twelve exerts a strong pull, and that the choice of any other modulo is in any case as arbitrary as the choice of twelve. These remarks are by no means intended as a negative critique of Babbitt's procedures: few musicians have dedicated so much elegant and stringent thought to the problems involved in organizing pitch and rhythm. They are merely intended to reinforce my initial proposition that 'rhythmic inversion' is at best a technically analogous procedure to pitch inversion, with little perceptual actuality. And of course none of this is to argue that a composer's attempt to deal in such intangibles might not yield auditory results of great interest for other reasons. My only essay in experimenting with serial rhythmic manipulation is the short piano piece, *90 seconds for Annaghmakerrig*. In general, though, the rhythmic principles outlined here are of a more personal kind, and this piece is not entirely characteristic of my work.

The process of 'rhythmic inversion' in the first movement of the *Piano Trio* is illustrated in Ex. 4.7, which is to be read as follows. The top line in small notes represents the rhythmic *gestalt* (shape or basic formula) stated as an abstract series of durations: this line is not heard in the music itself. Line 1 represents the first musical statement of the *gestalt* as a distribution of articulations and rests. This line is stated by the violin as the fugal subject, bars 1–14. As one reads down the page from line to

<sup>50</sup> See PERLE (1962), p.147: 'Rhythmic inversion offers a certain conceptual difficulty if this term is understood to signify a directional operation, the "turning upside down" of a series of rhythmic elements. In terms of the permutations of the elements of the set, however, *rhythmic inversion of a set of durational values is exactly analogous to inversion of a set of pitches.*' (Italics mine)

line, it is clear that a very gradual process of transformation takes place. This process consists in the *gestalt* gradually 'leaning left' as notes almost imperceptibly encroach on the space of what had been rests. Note that this process is applied (though less consistently) to the ends of notes as well as the beginnings. The gradual shifts are not systematic; in some lines a note will not be altered at all. But the drift of the alterations is nonetheless unmistakable. Line 17 of Ex. 4.7 represents the logical endpoint of this procedure: the *gestalt* has turned into its own reverse or 'negative', notes becoming rests, and rests notes: the rhythm is 'inverted.' This will become immediately clear when one compares line 1 with line 17.<sup>51</sup>

<sup>51</sup> The ideas behind this movement were indirectly influenced by Pierre Boulez's discussion of rhythmic proportions. See BOULEZ (1975), pp. 54–57.

**Ex. 4.7 *Piano trio I, Fuga a 4 voci*, rhythmic inversion by means of ‘left-leaning’ transformations**

My attempt to musicalise this kind of procedure seldom stops, however, at the statement of such bald theoretical concepts. Ex. 4.8 illustrates the next step in the procedure. Line (i) of Ex. 4.8 is the original 55-quaver *gestalt*, not heard in the music. Line (ii) shows the first of the left-leaning transformations. The interest of this example is in the third line, where the discrete durational units of (ii) are internally divided to form a rhythmically new derivative. All the ‘derived’ rhythmic lines of this movement use this procedure.

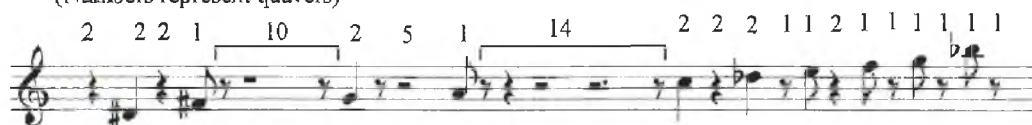


**Ex. 4.8 *Piano Trio I: Fuga*; ‘*hauptrhythmus*’ transformation. The *hauptrhythmus* transformation (ii) is in turn transformed by a process of ‘re-spelling’ (iii)**

Following through the application of this principle in the fugue is not difficult. The violin articulates line 1 of Ex. 4.7, bars 1–7, the cello articulates a free statement of line 2, bars 7–14, and the piano’s left hand plays a version of line 3, bars 14–21. Another point is worth noting. Each melodic line of the fugue does not work its way through the 17 lines of Ex. 4.7 sequentially. Rather, each statement of a line moves automatically to its ‘negative’ or inversion (Ex. 4.9).

A The violin states the first transformation of the 55-quaver rhythm gestalt, bars 1-7

(Numbers represent quavers)



B The rhythmic 'inversion' of the above, beginning final d flat " of bar 7 to bar 14. This line is written here in rhythmic retrograde to facilitate comparison with A above: notes become rests, rests notes.



#### Ex. 4.9 Rhythmic inversion in the *Piano Trio, I, Fuga a 4 voci*, violin bars 1–14

Ex. 4.9. shows the rhythmic basis of the first two thematic statements in the violin. The second line in this example is given in retrograde for ease of comparison with the first, and to illustrate the way in which bars 7–14 become the rhythmic 'negative' of bars 1–7.

### 4.5 Re-spelling

Ex. 4.6 opens up an interesting possibility which is explored more fully in the finale of the *Piano Trio*. This involves taking what I think of as the 'secondary gaps' created by a cross-rhythm and treating them as discrete rhythmic units. By a secondary gap I mean the numerically widening temporal distance between the statements of both lines. (For this purpose you could say that the two rhythmic lines are conflated into one): Ex. 4.10 illustrates this process as carried out at the beginning of the fourth movement, *Passacaille*. The whole of this movement is based on a

cross-pulse of ten semiquavers against nine. At bar 2, the gap between them is a semiquaver; it then becomes two, then three, and so on. If these gaps are themselves treated as rhythmic units, they can be subjected to all the usual rhythmic modifications: triplets can be imposed on them, or they can be split into asymmetrical groupings (Ex. 4.10):

## Ex. 4.9 Piano Trio, iv, Passacaille, rhythmic grid

NB. Numbers in this diagram work as follows. An italic number above or below a note-group is an ordinary tuplet sign. A number-sequence in plain type shows a numerical progression of articulations, eg 12345..... or 6543.....

The diagram shows the basic cross-pulse of 9 semiquavers (violin at the start of the movement) against 10 (cello) on which the movement is based. The 'mediating line' is derived from one of the most interesting by-products of cross-rhythm, namely the ever-expanding time interval between each of the ADJACENT articulations. The interval in bar 2 is one semiquaver, in bar 3 is 2, and so on. The mediating line makes it clear that I can consider its 'secondary gaps' as discrete temporal units themselves, and as such suitable for internal alteration to triplets etc.

The diagram illustrates the rhythmic grid for the first system of Ex. 4.9. It consists of five staves in 2/4 time. The top staff is the Violin part, labeled 'Violin cycle of 9 semiquavers', with articulation numbers 4, 3, 2, 5, 4, 3, 3, 3, 2, 1, 4 above it. The second staff is the Cello part, labeled 'Cello cycle of 10 semiquavers', with articulation numbers 4, 3, 2, 1, 1, 2, 3, 4 below it. The third staff is the 'mediating line', showing the intervals between adjacent articulations with numbers 2, 3, 4, 5, 6 above it. The fourth and fifth staves show the combined rhythmic patterns of the violin and cello, with arrows indicating the alignment of notes between the two parts.

The diagram illustrates the rhythmic grid for the second system of Ex. 4.10. It consists of five staves in 2/4 time. The top staff is the Violin part, labeled 'Violin cycle of 9 semiquavers', with articulation numbers 4, 3, 3 above it. The second staff is the Cello part, labeled 'Cello cycle of 10 semiquavers', with articulation numbers 7, 8, 9 above it. The third staff is the 'mediating line', showing the intervals between adjacent articulations with numbers 7, 8, 9 above it. The fourth and fifth staves show the combined rhythmic patterns of the violin and cello, with arrows indicating the alignment of notes between the two parts. A box labeled 'new cycle begins' is placed at the end of the system.

## Ex. 4.10 Piano trio IV, Passacaille, metrical grid

On this matter of rhythmic groupings, Ex. 4.10 illustrates another practice I have found interesting. The main pulsation points of the polyrhythm (nine and ten

semiquavers) themselves allow of interesting internal divisions along arithmetical lines. Hence a 9-group can be divided as a five-plus-four, or vice versa, or as a four-three-two; and a 10-group can be a four-three-two-one, and so on. Where progressive divisions are impossible I introduce irrational note values: for example, a duration of eleven semiquavers can be divided into four dotted semiquavers followed by five semiquavers. Also, where a continuation of the arithmetical sequence is impossible I permit a repetition of the previous unit. Hence within 15 metric units, five-four-three-three is a legitimate sequence. I call these sequences *accelerandi* and *decelerandi* of articulation groups, regardless of internal adjustments to actual note-lengths. They are the source of much of the metrical irregularity in this movement. In two other works, *Tuned in Fits* for string quartet and *Chorale, Toccata and Fugue* for organ, these *accelerandi* and *decelerandi* are extensively employed to considerable rhythmic and expressive effect.

The aspect of rhythmic re-spelling, so crucial to the construction of this passacaglia, is variously illustrated at Ex. 4.11. I will describe this process for Ex. 4.11 in detail.

A This line represents the continuation of 9 semiquavers within a speed of crotchet-72  
bar:525 bar:528 bar:530 bar:532

♩ = 108

This line represents the continuation of 10 semiquavers within a speed of crotchet-72

The middle line represents actual figurations within the new tempo of crotchet = 108. Meanwhile the unvarying 9/10 cross-pulsation which is the structural spine of the entire movement continues in its unvarying tempo of 9 semiquavers played against 10 within a tempo of crotchet = 72

B This system is a 're-spelling' of A above  
bar:533 bar:535 bar:536 bar:539 bar:540 bar:542

#### Ex. 4.11 *Piano trio, IV Passacaille, climax, bars 525–542*

Ex. 4.11 applies to bars 525–542 of the score, which is the climax of the movement and of the entire work. This passage is within the local tempo of crotchet = 108. The middle line of Ex. 4.11 A, shows the figuration played largely by violin and cello. The upper and lower lines show the resonant chord-pulsations played by the piano. These chords are in fact the rhythmic articulation of the 9/10 cross-rhythm within the ‘tonic’ tempo for the movement of crotchet = 72. This cycle continues until bar 532 which completes the initial ascent to the climactic moment of bar 542. Bars 533–542, which complete the climactic ascent, are, as Ex. 4.11, B makes clear, the *rhythmic re-spelling* of bars 525–532. This passage is perhaps the ultimate poetic realization of all my experimenting with antecedent-consequent gestures, for this in one sense is what is happening in this passage, with bars 533–542 as a ‘varied’ consequent statement to 525–532’s antecedent. This explains the sense of breakthrough which I felt in writing this passage, for its structure seems no longer to hinge on a perception of such an

underlying division: if the listener feels any small perceptible break, it is as likely as not to be from bars 531–532. In fact the entire eighteen bars rush in a single sweep to the definitive downbeat of bar 543, one of the very few moments in this movement when violin and cello seem to reach rhythmic unanimity, and the activating point for the re-establishment of the coda's tonic pulse of MM.72.

#### **4.4 Rhythmic scales in *Motus***

In *Motus* for bass clarinet, I take my rhythmic thinking a stage further. The familial resemblance between this work and *Slåttar* will be clear even to the casual listener: the setting up of an initial cross-pulse (in *Motus*, at bar 9) from which subsequent, more fantastical inventions sprout like branches and twigs. The innovation in *Motus* is to treat the 'meta-pulses', in other words the often very long bundles of short units, as of more significance than the small units themselves, which determine more or less everything which happens in *Slåttar*. This point is best illustrated by the 'cross-over' point of *Motus* where the pulse starts re-tracing its steps back to that of the opening: crotchet equals 90 (dotted crotchet = 60). This point happens between bars 79 and 80. At this point in the work, bar 79 is moving along a pulse-path of crotchet = 135, while bar 80 is moving in one of crotchet = 112.5.

78  $\text{♩} = 135$   
B. Cl.  $f$

80  $\text{♩} = 144$   
B. Cl.  $pp$   $mp$   $p < f$   $p < f$   $p < f$   $p < f$

82  
B. Cl.  $pp$   $f$

**Ex. 4.12 *Motus* 'cross-over point' between the two tempo paths, bars 78–82**

Within this grid, the MM. pulse for the whole of bar 79 is semiquaver at MM. 540, divided by 17 = MM. 32 (for the entire bar). Meanwhile, bar 80's 27 demisemiquavers at crotchet = 112.5 work out at an overall 'bar pulse' of approximately MM. 33. In other words, the two bars are for practical purposes identical in length. The point I would like to reiterate is that the 'macro' consideration of long-beat units was more determinant than the 'micro' one of short units. The two tempo paths of *Motus* are illustrated in Ex. 4.13:



All pulses derive from quaver = 180

MM 900

MM 450

MM 300

MM 225

MM 180

MM 150

MM 128

MM 112.5

MM 100

MM 90

MM 82

MM 75

MM 69

MM 64

MM 60

MM 56

MM 56

MM 56

MM 900

MM 540

MM 270

MM 180

MM 135

MM 108

MM 90

MM 77

MM 67.5

MM 60

MM 540

MM 54

MM 49

MM 45

MM 41.5

MM 41.5

MM 41.5

MM 36

### Ex. 4.13 *Motus* for bass clarinet: timescale

I should note here that absolute mathematical equivalence in the matter of ‘macro-durations’ is of little interest to me, because I believe it to be of little practical use. In

the rhythmic and temporal dimensions in particular, workable approximations are of much more value to the composer who wants to give the player an imaginative, playable score.

The relation of long to short notes is very important to my approach to music and this raises the simple question, why? Clearly there is no accounting for preferences. One might simply say, so it is. But my fascination with this aspect of music goes back a long way. As a student I remember being riveted by the problems of composing chorale preludes in the manner of Bach. These works are among the very greatest treatments of the long note/short note dichotomy ever composed.<sup>52</sup> Particularly intriguing were those preludes in which Bach would treat the chorale theme in canon with itself and compose two additional contrapuntal threads, which for good measure would be in completely independent canon with one another.<sup>30</sup> This level of simultaneous hearing of different time-strands has never in my judgment been surpassed. A famous passage which perhaps comes closest to them is the coda of Mozart's *Jupiter* Symphony. In this movement Mozart in an astonishing fugue demonstrates that the five themes of the finale are all in invertible counterpoint with one another. This is as much a rhythmic feat as anything else. The themes by themselves are not so complex as to exclude contrapuntal combination; but when one allows for their varying stress patterns, Mozart's astonishing skill becomes evident.

<sup>52</sup> See, for example, the chorale prelude *Jesus Christus, unser Heiland* BWV 665 in BACH, J.S., *Orgelwerke, Band II*, Urtext der neuen Bach-Ausgabe, Bärenreiter 1958, p. 87.

#### 4.7 Notation

The works in this folio show an evolving attitude towards rhythmic notation. In my earlier music I often favoured a complex notation with many time-changes and complex ratios. The first work I had professionally performed, *Variants for Six Instruments* (1980), represented a serial *ne plus ultra* in this respect. My more recent works, such as *Four Orchestral Pieces*, attempt a simpler notation. Very complex ratios and time-changes are avoided. This trend is partly the result of much experience of working with conductors and players. Greater self-imposed limitations, far from decreasing the rhythmic interest of the music, have often enriched it. A simple meter can force the composer to ingenious and musically inventive solutions to a problem.

This tendency towards notational simplicity is common. Stravinsky's later music is much less profligate of time-changes than his Russian works. The recent music of Elliott Carter shows a marked preference for an unvarying metrical unit, as does that of Harrison Birtwistle. This unit in the work of both composers is mainly visual rather than aural: the true metrical and stress patterns often cut across it. But the use of a regular unit does show that viability in performance is an important element in the composer's calculations.

A greater degree of complexity is evident in the solo and chamber works. Players in a solo or chamber context are generally more tolerant of complexity than those in an orchestral one. Some passages in the *Piano Trio* nonetheless push ensemble-

virtuosity to the extreme, and the performance by the members of Lontano Ensemble is a tribute to their rhythmic sense. Solo writing presents a different case again, and generally the least complicated one. This is mainly because the main challenge of ensemble rhythms – co-ordination – is not an issue. I have been surprised that even such a metrical behemoth as *Piano étude No. 1* has provoked few rhythmic queries from the many pianists who have played it.

A different set of issues arises with *Piano étude No. 2*. This work presents problems of notation to which there are probably no ideal solutions. The first page is a good example. The present notation, preserving the integrity of the semibreves, is an attempt to clarify the contrapuntal nature of the lines and the fact that, for all its surface disjunction, this work is a fugue. From the player's viewpoint, however, it makes the exact beginnings of some notes tricky to determine, and the ends of several even trickier. As the rhythmic shortenings described above begin to happen, the attempt to notate the durations with this kind of purity becomes impossible: dotted values and ties have to be used. And yet it seemed all the more important to me to keep the sense of 'common durations' for the one passage of the work – the opening – which permits it. This notation says something not only about the opening but about most of the work, for even the later, shorter tied values, so much more complex in their notation, are 'single durations.' Generalisations in the area of notation are difficult to make, but my present position in this matter is that the composer should take pains to make his notation as simple as is compatible with his creative intentions.

## Chapter 5: SUMMARY and CONCLUSION

*Aux livres de Colette pourquoi des gloses? Et quels commentaires? Le critique ne sait ou se prendre, parce qu'il n'y a rien à expliquer, rien à critiquer; il n'y a qu'à admirer.*

(To what purpose notes on the books of Colette? And what commentaries? Criticism does not know where to turn, because there is nothing to explain, nothing to criticize; there are only things to admire.)

Montherlant<sup>53</sup>

Musicians are generally happiest explaining those aspects of music which are most amenable to explanation: technical issues, row-derivations, rhythmic operations and formal procedures. This is understandable, and this essay is no exception to the rule. But analysis does not always touch upon the aspects of composition that a composer thinks of as the most important, for example inspiration.

Another aspect which is difficult to explain is the difference between craft and technique. My working distinction between these two says that craft is knowing what to do, while technique is knowing why you do it. The distinction can be important, for a composer whose craft exceeds his technique (Max Reger springs to mind) can indulge a craftly prejudice in favour of, say, recondite counterpoint which, within the broader sense of his music, obscures the expressive purpose. The point I wish to emphasise in this conclusion is that even the most abstrusely technical manipulations should have an expressive point to them. For example, the guiding cross-rhythm of the *Piano Trio* fourth movement, *Passacaille*, does not exist in some oblique relation to the sense of frenzy in the music; on the contrary, it is its root and source. Nor do I

<sup>53</sup> MONTHERLANT, Henri de, *Essais*, Bibliothèque NRF de la Pléiade, Éditions Gallimard, 1963, p. 1132. The translation is mine.

believe that this sense of frenzy could have been adequately conveyed by some kind of 'free' composition; the demands of the 'blessèd structures' must in my experience be met. The objection might be raised that another composer using exactly the same rhythmic frame would write an entirely different piece. But this argument supports my position rather than the objector's, for pre-compositional schemes do not, despite a common prejudice, compose the piece for you. The room for personal invention is still almost limitless.

The writing of this essay has had the unforeseen benefit of clarifying some of my inner processes to myself. Perhaps one point stands out as much as any. It was a decisive moment in my development when I discovered that it was possible to look at ideas in more than one way. (The choice of verb here is advised: composing is a highly visual activity and composers often see variational possibilities before they hear them.) Fundamental to my way of composing is to state an idea and then to find a way of re-slanting it. This principle underlies too many of the procedures outlined in this essay for me to list all of them: the 're-spelling' of rhythmic *gestalten*; the principle of *ritornello*; the manipulation of chord sequences to preserve their original shape while turning them into something new; the extension, contraction and variation of melodic tropes to give the sense of 'always different, always the same'; the re-working of large-scale structural gestures in the quasi-symphonic context of pieces like *Vestiges* and *The Young are always right*. These techniques are essentially ways of playing with musical memory and retentiveness.

A work which I have found interesting in this respect is *Play* by Samuel Beckett.<sup>54</sup> This piece is in two sections. The three characters, confined to garbage bins, indulge in a quick-patter exchange which is gradually revealed to be the tawdry details of a love-triangle. The structural fascination of this piece stems, I believe, from its relation to the two-act *Waiting for Godot* in which, as it has famously been said, nothing happens twice. In *Play* Beckett takes this state of affairs to its ludicrous extreme: the second half of the play is a literal repetition of the first. The audience take some time to realize the trick that Beckett is playing on them, and this is the secret of the play's power. Our perception of even a literal copy, when temporally distributed as in a play or musical work, is bound to be incremental. Perversely, it is dynamic, not static. This state of affairs is acknowledged in the exposition repeat of sonata form movements. A different and highly virtuoso example of this repetition principle from the musical repertoire is the finale of Berg's *Kammerkonzert*, a movement in which the very orthodox classical concept of recapitulation is taken to the same kind of crazy extreme as it is in Beckett's *Play*. In this finale, Berg adumbrates all the music of the previous two movements at often break-neck speed: the effect is of a madly comical cinematic fast-forward.<sup>55</sup> It is a brilliant technical achievement which can leave even seasoned Bergians emotionally cold. But I have always admired the movement for its brilliance in re-hearing earlier material in radically new ways.

These remarks lead on to another more general concern. I have observed (p. 47) that structure is the musician's substitute for narrative. This in turn implies coherence and

<sup>54</sup> BECKETT, Samuel, *Play*, in *Collected Shorter Plays of Samuel Beckett*, London: Faber and Faber, 1990, p. 145.

<sup>55</sup> BERG, Alban, *Kammerkonzert*, bars 535–785.

comprehensibility. And I wish my music to be comprehensible. In effect, this means the listener being able to feel an inner logic, even when he cannot explain it. Does this theme really lead into that one? Do these two ideas form a true counterpoint to one another? Does the unfolding of this movement carry an inner dramatic conviction? It strikes me as essential for a composer to ask himself these questions. Too much of what is muffled and half-realised in composition takes cover behind fudge-words like 'disjunction', 'discontinuity' and the heavily worked 'ambiguity.' It seems superfluous to say that if the composer does not have a good idea of where his piece is going, the listener cannot be expected to.

These remarks inevitably lead to a consideration of form and formal coherence. In my capacity as music analyst as well as composer, I have been much exercised by the simple question of what makes long pieces work. Whether in Sibelius or Berg, there is an underlying 'plot' which unifies the surface detail. It is often a surprise to music-lovers with no training to discover that what they really appreciate in Beethoven and Mozart is not so much the melodies and harmony as the structure. This discovery comes to them with the force of revelation. I have sought to achieve this kind of revelation. The works submitted here testify to the struggles and varying degrees of success I have had; but composition without at least attempting to engage in the 'drama of form' seems to me worthless. There is a sense in which, in a fully realized musical work, the structure is self-abolishing. Its role is not so much to assert its power in the listener's response as to die there. Yet this end cannot be achieved, as some composers wishfully think, by merely ignoring the claims of structure. On the contrary, the structural imperative must be fully acknowledged, just as the ultimate



practice of virtue (in the Christian sense) can alone convince you of its uselessness, and hence of the power of grace.

The demands of the intellect do not exclude those of the heart. A balance between their necessary claims results in the only definition of art I can be comfortable with. To express the matter another way, the composer needs to be objective about his subjectivity. On this matter, Christoph Wolff observes of Bach and his early commentators:

*And neither Schubart nor the others saw any incongruity between the two images of Bach, as someone strictly adhering to the established rules of composition and as someone setting his own rules. Indeed, they understood his art as the paradigm for reconciling what would ordinarily be conflicting stances. And when the authors of the Obituary speak of Bach's 'ingenious and unusual ideas' on the one hand and his extraordinary command of the 'hidden secrets of harmony' on the other, they identify an essential element in Bach's approach to musical composition: the tension between protecting objective precepts and pursuing subjective goals.<sup>56</sup>*

Balancing the tension between objective precepts and subjective goals is the only creative path which I can follow with any conviction.

For a composer, theory by itself can never propose any kind of end, with all the implications of that word. An essay and folio of works such as this has to be offered with the same proviso with which a composer presents a new work. For the reader or listener they represent the composer's point of arrival; for the composer they are a point of departure for new works. There comes a point where the composer must leave the listener in the hands of the music itself.

<sup>56</sup> WOLFF, Christoph, *Johann Sebastian Bach, The Learned Musician*, London, New York: Oxford University Press, 2002, p. 468.

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# **FOUR ORCHESTRAL PIECES**

**2003-2006**

For large orchestra

1. *Vestiges*
2. *Sláttar*
3. *Tubilsutrium (Minna Keal in memoriam)*
4. *Prelude with Carillon*

**Duration 25 minutes**

## Instrumentation

The score is notated in C

3 Flutes including Alto and Piccolo

2 Oboes

Cor Anglais

2 Clarinets in B flat

Bass Clarinet in B flat

2 Bassoons

Contrabassoon

4 Horns in F

3 Trumpets in C

2 Trombones

Bass Trombone

Tuba

Timpani

4 Percussion

Harp

Piano and Celesta

Violins 1 and 2

Violas

Violoncellos

Double Basses

Percussion 1

Claves

Side Drum

2 Woodblocks

Large sus. Cymbal

Guiro

Bass Drum

Percussion 2

Claves

Bass Drum

3 Templeblocks

Whip

Tam-Tam

2 Triangles, small and large

Tambourine

Maracas

Tenor Drum

Sus. Cymbal

Percussion 3

Xylophone

Vibraphone (movt. 4)

Tubular bells

Glockenspiel (movt. 1)

2 Cowbells

Sus. Cymbal

Bass Drum

Percussion 4

Whip

Vibraphone (movt. 1)

Glockenspiel (movt. 4)

For Nial Doyle  
1. Vestiges

Kevin O'Connell (2005)

$\text{♩} = 108$

Flute /piccolo

Flute 1  
I solo  
p

Flute 2

Oboe 1

Oboe 2

Cor Anglais

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

Bassoon 1  
p

Bassoon 2  
p

Contrabassoon

Horn in F 1 and 2

Horn in F 3 and 4

Trumpet in C 1

Trumpet in C 2

Trumpet in C 3

Trombone 1

Trombone 2

Bass Trombone

Tuba

Timpani

Percussion 1  
Claves  
p

Percussion 2

Percussion 3 (xylo glock T. Bells vib)

Percussion 4 & Glock

Harp  
pp  
G♯

Piano & Celesta

Violin I  
 $\text{♩} = 108$   
div. ba.  
p

Violin II

Viola

Violoncello

Double Bass



Musical score for measures 14-24. Instruments include Flute 1 (Fl. 1), Oboe 1 (Ob. 1), Oboe 2 (Ob. 2), Clarinet 1 (Cl. 1), Clarinet 2 (Cl. 2), Percussion 2 (Perc. 2), Horn 1/2 (Hp.), Viola 1 (Vla. 1), and Viola 2 (Vla. 2). Dynamics include *p*, *pp*, and *ppp*. A box labeled "Claves" is present above the Perc. 2 staff.

Musical score for measures 25-34. Instruments include Flute 1 (Fl. 1), Oboe 1 (Ob. 1), Oboe 2 (Ob. 2), Horn 1/2 (Hn. 1/2), Horn 3/4 (Hn. 3/4), Trombone 1 (Tbn. 1), Percussion 2 (Perc. 2), Horn 1/2 (Hp.), Viola 1 (Vla. 1), Viola 2 (Vla. 2), and Double Bass (Db.). Dynamics include *p*, *pp*, *mp*, *mf*, and *f*. Performance instructions include "con sord" and "arco". A tempo marking  $\text{♩} = \text{♩} = 144$  is present.

Violin I, Violin II, Viola, Violoncello

Flute I, Flute II, Oboe I, Oboe II

Clarinet I, Clarinet II, Bassoon I, Bassoon II, English Horn

Trumpet I, Trumpet II, Trombone I, Trombone II, Trombone III, Trumpet III

Drum, Percussion, Tuba, Euphonium, Bass Trombone, Tuba II, Tuba III

40

**B**

Fl./Picc. *p* *pp* *p* *pp* *p*

Fl. 1 *pp* *p*

Fl. 2 *p* *pp*

& Cl. *p* *pp*

Hp. *p*

Vln. I *unis arco* *p* *pp*

Vln. II *unis arco* *pp*

Vc. *arco* *p*

*flute*

45

Fl./Picc. *f*

Fl. I *f*

Pno. *f*

55

L/Picc

FL1

FL2

CL1

CL2

take Flute

pp

pp

bn. 1

bn. 2

Tbn.

Tba.

Pno.

61

brassy

norm.

brassy

brassy

norm.

brassy

ff

ff

p

f

ff

ff

p

f

ff

ff

p

f

*J* = 108

71

In. 3/4

Trpt. 1

Trpt. 2

bn. 1

bn. 2

Tbn.

Tba.

D

*J* = 108

In. I

In. II

Vla.

Vc.

**E**

tranquillo e poco meno mosso

78

Fl. Picc. *p*

Fl. I *p*

Fl. II *p* *Alto*

Tbn. *ff*

Pt. I *mf* *ff* *mf* *ff* *mf* *ff*

Pt. 2 *mf* *ff* *mf* *ff* *mf* *ff*

Pt. 3 *mf* *ff* *mf* *ff* *mf* *ff*

Dr. 2 *p* *f* *p* *f* *p* *f*

**E**

tranquillo e poco meno mosso

In. I *pp* *div. a 3*

Db. *ff*

a tempo  $\text{♩} = 108$

87

Fl./Picc. take picc. *f*

Fl. 1

Fl. 2 take flute *f*

Cl. 1 *f* quasi 3/4

Cl. 2 *f*

Cbss. *f*

In. 1/2 *mf* *f* *mf*

In. 3/4 *mf* *f* *mf*

Pl. I

Tba.

Trc. I. 2 woodblocks *mf*

Drum. 3 temple blocks *mf*

K. G. 2 cowbells *mf*

In. I a tempo  $\text{♩} = 108$  *mf*

97

1/Picc. *ff* *picc.*

Cl. 1 *mp* *p*

Cl. 2 *mp* *p*

Sn. 1 *ff* *mf* *ff*

Sn. 2 *ff* *mf* *ff*

Tbn. *ff* *mf* *ff*

Trp. 1/2 *f*

Trp. 3/4 *f*

Pt. 1 *f* *ff*

Pt. 2 *f* *ff*

Pt. 3 *f* *ff*

Tba. *f*

Trc. I.

Trsn.

Dr. C. *to xylo*



F

101

Pic.

Fl. 1

Fl. 2

Ob. 1

Ob. 2

C.A.

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Cbsn.

In. 1/2

In. 3/4

Tbn. 1

Tbn. 2

Tbn.

Tba.

Timp.

& C)

erc 4.

Hp.

Pno.

Vln. I

Vln. II

Vla.

Vc.

Db.

ff

f

p

rit.

arco

norm

col legno battuto

Stop

BASSAI BOON

**G**  
poco meno mosso  $\text{♩} = 92-96$  tempo rubato

107

mf cant 3

*f*

*f*

*mf*

Hp

EFICAM  
BODS

D<sub>4</sub>

F<sub>4</sub>

G<sub>4</sub>

A<sub>4</sub>

B<sub>4</sub>

C<sub>5</sub>

C<sub>4</sub> F<sub>4</sub>

F<sub>4</sub> B<sub>4</sub> C<sub>5</sub>

112

*f*

*f*

*ff*

*mf*

*f*

Hp

C<sub>4</sub>

F<sub>4</sub>

G<sub>4</sub> D<sub>4</sub>

E<sub>4</sub> F<sub>4</sub>

E<sub>4</sub> B<sub>4</sub> C<sub>5</sub>

E<sub>4</sub> B<sub>4</sub> C<sub>5</sub>

**H**  
poco tranquillo

117

Fl. 1

Fl. 2

Ob. 1

Hp

*pp*

*pp*

*p*

*f*

*ff*

*f*

*ff*

E<sub>4</sub> D<sub>4</sub>

G<sub>4</sub>

A<sub>4</sub>

B<sub>4</sub>

C<sub>5</sub>

E<sub>4</sub> F<sub>4</sub>

E<sub>4</sub> B<sub>4</sub> C<sub>5</sub>

**H**  
poco tranquillo

Vln. I

Vln. II

Vla.

*pp*

*pp*

*pp*

*pp*

*pp*

1 solo

4 desks div pizz

1 solo

2 desks div pizz

2 desks div

unis

I

poco accel. . . . . a tempo

Fl. I

Fl. II

Pno.

I

poco accel. . . . . a tempo

Vln. I

Vln. II

Vla.

Vc.

J

131

Cl. I

Cl. II

B. Cl.

Sn. 2

Cbse.

Pno.

J

Vln. I

Vln. II

Vc.

gli altri

Db.

tutti pizz.

solo

accl.

154

accl.

lake piccolo

Picc.

Picc.

127

Fl. 1

Fl. 2

Ob. 1

Ob. 2

C.A.

Cl. 1

Cl. 2

Bsn.

Tbn. 1

Tbn. 2

Tpt. 1

Tpt. 2

Tpt. 3

Tba.

SD

Pno.

Vln. I

Vln. II

Vla.

Vc.

Db.

pp

f

ff

p

mf

sf

arco

div a 1

div a 2

div a 3

div a 4

Tutti

unis.

pizz.

arco

This page of a musical score, numbered 155, contains the following parts and markings:

- Flutes (Fl. 1, Fl. 2):** Standard melodic lines with dynamic markings.
- Oboes (Ob. 1, Ob. 2):** Melodic lines with dynamic markings.
- Clarinets (Cl. 1, Cl. 2):** Melodic lines with dynamic markings.
- Bassoons (Bsn. 1, Bsn. 2):** Rhythmic patterns with dynamic markings.
- Horns (In. 1/2, In. 3/4):** Rhythmic patterns with dynamic markings.
- Trumpets (Tpt. 1, 2, 3):** Melodic lines with dynamic markings.
- Trombones (Tbn. 1, 2, 3):** Melodic lines with dynamic markings.
- Percussion (Perc. 1, 2 & Gong):** Includes instructions for **gong**, **trip**, and **sup cymbal**.
- Piano (Pno):** Accompanying chords and textures with dynamic markings.
- Violins (Vln. I, Vln. II):** Melodic lines with dynamic markings and the instruction **col legno battuto** (with the wood of the bow).
- Viola (Via.):** Melodic line with dynamic markings and the instruction **col legno battuto**.
- Double Bass (Db.):** Melodic line with dynamic markings.

The score is marked with a tempo of **J=126** and includes various dynamic markings such as **ff** (fortissimo) and **p** (piano).

This page of a musical score, numbered 156, contains the following parts and markings:

- Piccolo:** Part of the woodwind section.
- Fl. I & II:** Flute parts.
- Cl. Bb & C:** Clarinet parts in Bb and C.
- Bsn.:** Bassoon part.
- Tr. I & II:** Trumpet parts.
- Tbn. I & II:** Trombone parts.
- Tba.:** Tuba part.
- Mp.:** Mellophone part.
- Perc.:** Percussion part with specific instructions:
  - snare: *scrape with glock beater*
  - cymbal: *use glock beater*
  - glock: *glock*
  - vibraphone: *Vibra*
  - Other markings: *with motor*
- Hp.:** Harp part.
- Pno.:** Piano part.
- Viol. I & II:** Violin parts.
- Vla.:** Viola part.
- Vcl.:** Violoncello part.
- Db.:** Double Bass part.

The score is characterized by dense rhythmic textures, frequent use of *ff* (fortissimo) dynamics, and various articulation and performance techniques such as *div* (divisi), *norm.* (normal), and *pizz.* (pizzicato).

Picc.  
Fl. 1  
Fl. 2  
Ob. 1  
Ob. 2  
C.A.  
Cl. 1  
Cl. 2  
B. Cl.  
Bsn. 1  
Bsn. 2  
Cb. Sn.

Woodwind and Percussion section score for measures 157-160. Includes parts for Piccolo, Flutes 1 & 2, Oboes 1 & 2, Cor Anglais, Clarinets 1 & 2, Bass Clarinet, Bassoons 1 & 2, and Contrabassoon. Dynamics range from *pp* to *ff*. A *rit.* marking is present at the end of measure 159.

In. 1/2  
In. 3/4  
Tpt. 1  
Tpt. 2  
Tpt. 3  
Trbn. 1  
Trbn. 2  
Tbn.  
Tba.

Trumpet and Trombone section score for measures 157-160. Includes parts for Trumpets 1, 2, and 3, and Trombones 1, 2, Tenor, and Bass. Dynamics range from *pp* to *ff*. A *rit.* marking is present at the end of measure 159.

erc. 1  
erc. 2  
& G.  
erc. 4  
Hp.

Cymbals and Harp section score for measures 157-160. Includes parts for Cymbals 1 & 2, Gong, and Harp. Dynamics range from *pp* to *ff*. A *rit.* marking is present at the end of measure 159.

Vln. 1  
Vln. II  
Vla.  
Ve.  
Db.

String section score for measures 157-160. Includes parts for Violins 1 & 2, Viola, Violoncello, and Double Bass. Dynamics range from *pp* to *ff*. A *rit.* marking is present at the end of measure 159. A *unis* marking is present above the Violin 1 staff in measure 159.



Tempo 1  $\text{♩} = 108$

rall. . . . .

lake flute

Picc. *pp*

Fl. I *pp*

Fl. 2 *pp*

Ob. 1 *pp*

Ob. 2 *pp*

Hr. *pp*

Hp. *pp*

Pno. *pp*

Fl. *pp*

Tempo 1  $\text{♩} = 108$

rall. . . . .

M

8 soli sul pont.

In. I *p*

In. II *pp*

Vla. *pp*

Vc. *pp*

Db. *pp*

div.

6 soli

6 soli. col legno battuto

174

I./Picc. *pp*

Fl. I *pp* *p*

Fl. II

Cl. I *pp*

Tpt. I *con sord.* *ppp*

Trc 2. [Small Tr.] *pp*

Hp. *sim* *lc*

Pno. *pp*

Vln. I

Vln. II *gliss.* *gliss.*

Vla. *gliss.* *gliss.*

Vc. *gliss.*

185

Picc.

Fl. I

Fl. II

Fl. III

Fl. IV

Cl. I

Cl. II

Cl. III

Cl. IV

Trp. I

Trp. II

Trp. III

Trp. IV

Ob.

Cor. I

Cor. II

Vcllo

Violoncello

Cont.

Pi.

Dr.

*p* *mp* *ppp* *con sord.* *norm.* *div.* *tutti* *un.* *un.* *un.* *un.* *pizz.* *ff* *mf*

**N**

194

Fl/Picc  
Fl. I  
Ob. 1  
Ob. 2  
Bsn. 1  
Bsn. 2  
Tpt. 1  
Tpt. 2  
Vln. I  
Vln. II

*poco f cant.*  
*con sord.*  
*ppp*

*p*  
*p*  
*p*

*ppp*  
*ppp*

div. 1  
div. 2  
div. 3  
div. 4

201

Fl. I  
Fl. II  
Ob. 1  
Ob. 2  
C.A.  
B. Cl.  
Bsn. 1  
Bsn. 2  
Tpt. 2  
Vln. I  
Vln. II  
Vla.  
Vc.

*p* < *pp*  
*p* < *pp*  
*p* < *pp*  
*p* < *pp*

*p* < *mf* *p* < *mf* *p* < *mf* *p* < *mf* *p* < *mf* *p* < *mf* *pp*  
*mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *pp*  
*mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *pp*  
*mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *mp* < *mf* *pp*

arco  
unis

*pp*

div. 2

*pp*

212

Fl. 1

1.

*pp*

Tpt. 2

con sord

*pp*

*pp*

Tbn. 1

con sord

*pp*

Hp.

*pp*

Vln. 1

*pp*

Vc.

1. solo

*pp*

For Gareth Costello  
2. Slattar

Kevin O Connell

Timpani *J = 90* *soft heads*  
Violin I *J = 90*  
Violin II  
Violoncello  
Double Bass *f*

14 **A** **B**  
Imp.  
In. II  
Via.  
Vc.  
Db.

26 *J = 120*  
Imp.  
In. I  
In. II  
Via.  
Vc.  
Db.

**C**

Sostenuto

**D**

*And. J. = 100*

38

Musical score for sections C and D, measures 38 to 55. The score includes parts for Impulsione (Imp.), Violini I and II (In. I, In. II), Viola (Via.), Violoncello (Vc.), and Contrabbasso (Cb.). Section C is marked "Sostenuto" and section D is marked "And. J. = 100". Dynamic markings include *mp*, *mf*, *ff*, *f*, *p*, *p subito*, and *div.*. Performance instructions include *unis. 3*, *div. pizz.*, *unis. arco.*, *unis. 3*, *3*, and *3*.

**E**

*And. J. = 144*

46

Musical score for section E, measures 46 to 53. The score includes parts for Impulsione (Imp.), Violini I and II (In. I, In. II), Viola (Via.), Violoncello (Vc.), and Contrabbasso (Cb.). Section E is marked "And. J. = 144". Dynamic markings include *div. pizz.*, *unis. arco.*, *pizz.*, *div.*, *unis. arco.*, *pizz. div.*, and *p*. Performance instructions include *unis. arco.*, *div. pizz.*, and *pizz. div.*.

**F**

*And.*

54

Musical score for section F, measures 54 to 61. The score includes parts for Violini I and II (In. I, In. II), Viola (Via.), Violoncello (Vc.), and Contrabbasso (Cb.). Section F is marked "And.". Dynamic markings include *div. pizz.*, *unis. arco.*, *unis. arco.*, *div. pizz.*, *f*, *unis. arco.*, *unis. arco.*, *div. pizz.*, *f*, *arco unis.*, *f*, *ff*, and *ff*. Performance instructions include *unis. arco.*, *div. pizz.*, *arco unis.*, and *ff*.

61 **G**  $\text{♩} = 90$  **H** hard sticks *ff*

*p* *ff*

74 **I** *div.*

*div.*

84



**J**  $\text{♩} = 120$

Violin I: *mf* < *mf* *p* *mf* < *mf* *f* *ff* *a* *a* *a* *p*

Violin II: *mf* < *mf* *p* *mf* < *mf* *f* *ff* *a* *a* *a* *p*

Viola: *p* *f* *ff* *p*

Violoncello: *p* *f* *ff* *p*

Double Bass: *p* *f* *ff* *p*

**K**  $\text{♩} = 80$

Violin I: *pp* *unis.* *pp* *div. pizz.* *mp*

Violin II: *mp* *pp* *arco* *pp*

Viola: *pp* *mp* *pizz.* *mp*

99  $\text{♩} = 180$  *molto rall.*

Violin I: *pp* *arco* *ff*

Violin II: *pp* *arco* *ff*

Viola: *pp* *div.* *unis. arco* *ff*

Violoncello: *pp* *div.* *unis. arco* *ff*

Double Bass: *pp* *arco* *ff*

**L**

sostenuto  
♩ = 72, ma flessibile

**M** molto tranquillo

sul tasto unis. ♩ = 60

Musical score for measures 102-113. The score is for a string quartet (Violin I, Violin II, Viola, and Violoncello) and a Double Bass. The tempo is marked 'sostenuto' with a quarter note equal to 72, but it is noted as 'ma flessibile'. The dynamics range from *pp* to *mp*. The Violin I part features a melodic line with various articulations and dynamics. The Violin II part provides harmonic support. The Viola and Violoncello parts play a rhythmic accompaniment. The Double Bass part has a steady bass line.

**N**

♩ = 90

**O**

Musical score for measures 114-175. This section includes a Timpani part at the top. The string quartet continues with a tempo of ♩ = 90. The dynamics are more varied, including *ff* and *pp*. The Violin I part has a prominent melodic line with accents and dynamic markings. The Violin II part has a more active role with slurs and accents. The Viola and Violoncello parts have a rhythmic accompaniment. The Double Bass part has a steady bass line. The Timpani part has a rhythmic pattern.

176

Musical score for measures 176-185. This section continues the string quartet and Double Bass parts. The dynamics are primarily *ff* and *p*. The Violin I part has a melodic line with accents and dynamic markings. The Violin II part has a more active role with slurs and accents. The Viola and Violoncello parts have a rhythmic accompaniment. The Double Bass part has a steady bass line.

126

imp.

In. I

In. II

Vla.

Vc.

Db.

$\text{♩} = 120$ , flessibile, molto sostenuto

$\text{♩} = 120$ , flessibile, molto sostenuto

*p*

unis.

pizz.

*pp* leggero

## Q

146

imp.

In. I

In. II

Vla.

Vc.

Db.

accel.

accel.

*gliss.*

*gliss.*

*gliss.*

div.

*p*

pizz.

*mp*

*mf*

arco

div.

*p*

*mp*

*mf*

*p*

*p*

arco

*p*

## R

133

In. I

In. II

Vla.

Vc.

Db.

$\text{♩} = 180$

*f*

*p*

*f*

*p*

*f*

*p*

*f*

*p*

*f*

*p*

138

mp *mp* *ff*

In I *ff* *ff* *ff*

In II *ff* *ff* *ff*

Vla. *ff* *ff* *ff*

Vc. *ff* *ff* *ff*

Db. *ff* *ff* *ff*

Detailed description: This page of a musical score, numbered 169, contains measures 138, 139, and 140. The score is arranged in six staves. The top staff is labeled 'mp' and begins with a dynamic marking of *mp*, which changes to *ff* at the start of measure 139. The subsequent five staves are labeled 'In I', 'In II', 'Vla.', 'Vc.', and 'Db.' respectively. Each of these five staves starts with a dynamic marking of *ff* and maintains this dynamic throughout the measures. The music consists of rhythmic patterns with various articulations and slurs. The page number '138' is written in the top left corner of the first staff.

Missa Keel in Memoriam  
3. Tubilustrum

*J* = 60

Flute

Flute/piccolo

Flute 1

Flute 2

Oboe 1

Oboe 2

Cor Anglais

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

Bassoon 1

Bassoon 2

Contrabassoon

Horn in F 1 and 2

Horn in F 3 and 4

Trumpet in C 1

Trumpet in C 2

Trumpet in C 3

Trombone 1

Trombone 2

Bass Trombone

Tube

Timpani

Percussion 1

Percussion 2

Percussion

on 3 (xylo glock T. Bells vib)

Percussion 4 & Glock

Harp

Piano & Celesta

*J* = 60

Violin I

Violin II

Viola

Violoncello

Double Bass

*f* declamatory

*f* declamatory

*f* declamatory

*f* cant

Ga

lib

C Tpt. 1  
C Tpt. 2  
C Tpt. 3  
Tbn. 1  
Tbn. 2  
Db.

Musical score for trumpets and trombones. The top three staves are for C Trumpets 1, 2, and 3. The next two staves are for Trombones 1 and 2. The bottom staff is for Double Bass. The score includes dynamics such as *mp* and *f*, and a *solo* marking for the Trombone 2 part.

Bsn. 1  
Bsn. 2  
Cbn.  
Hn. 1/2  
Hn. 3/4  
C Tpt. 1  
C Tpt. 2  
Tbn. 1  
Tbn. 2  
B. Tbn.  
Tba.  
Perc. I.  
X & G.  
Db.

A

Musical score for brass and percussion. The staves include Baritone 1 and 2, Contrabass, Horns 1/2 and 3/4, C Trumpets 1 and 2, Trombones 1 and 2, Baritone Trombone, and Tuba. The percussion part includes Percussion I and X & Gong. The score includes dynamics such as *f*, *ff*, *mf*, and *mp*, and a *soft beaters* marking for the percussion. A rehearsal mark 'A' is present at the beginning of the section.

**B**

17 rall. flute J=53

The musical score is arranged in a standard orchestral format. The top staves are for the woodwinds: Piccolo, Flute 1 and 2, Oboe 1 and 2, Clarinet 1, and Bassoon 1 and 2. Below these are the brass sections: Trumpet 1 and 2, Trombone 1 and 2, and Timpani. The bottom staves are for the percussion: Snare Drum, Cymbals, and Timpani. The score is divided into three measures. The first measure starts with a 'rall.' marking. The flute parts have a 'flute' marking. The percussion parts include a guiro and soft beaters. Dynamics range from piano (p) to fortissimo (ff). The score includes various musical notations such as slurs, accents, and dynamic markings.

C

1./Picc

Fl. 1

Fl. 2

Ob. 1

Ob. 2

C.A.

Cl. 1

Cl. 2

B. Cl.

Bsn. 1

Bsn. 2

Cbssn.

In. 1/2

In. 3/4

Trp. 1

Trp. 2

Trp. 3

Tbn. 1

Tbn. 2

Tbn.

Timp

erc. 1

erc. 2

*p*

*f*

*pp*

*ff*

*p < f*

*pp*

*ff*

[guiro]

Tambourine scrape edge

maracas

This page of a musical score, numbered 173, is marked with a 'C' in a box. It contains 18 staves of music for various instruments. The woodwind section includes Piccolo (Picc), Flutes (Fl. 1, Fl. 2), Oboes (Ob. 1, Ob. 2), Cor Anglais (C.A.), Clarinets (Cl. 1, Cl. 2), Bass Clarinet (B. Cl.), Bassoons (Bsn. 1, Bsn. 2), and Contrabassoon (Cbssn.). The brass section includes Horns (In. 1/2, In. 3/4), Trumpets (Trp. 1, Trp. 2, Trp. 3), Trombones (Tbn. 1, Tbn. 2, Tbn.), and Timpani (Timp). The percussion section includes two pairs of Cymbals (erc. 1, erc. 2). The score features complex rhythmic patterns, including triplets and sixteenth-note runs. Dynamic markings range from piano (*p*) to fortissimo (*ff*), with some passages marked *pp* or *p < f*. A 'solo' marking is present for the second Trombone part. Percussion parts include guiro, Tambourine (scrape edge), and maracas.





29

Fl./Picc. *p*

Fl. 1 *p*

Fl. 2 *p*

Ob. 1 *p* *f* *p* *f* *p* *f* *p* *f*

Ob. 2 *p* *p* *p* *p*

C.A. *p* *f* *p* *f* *p* *f* *p* *f*

Cl. 1 *p* *f* *p* *f* *p* *f*

Cl. 2 *p* *f* *p* *f* *p* *f*

B. Cl. *p* *f* *p* *f* *p* *f*

Hn. 1/2 *p* *f* *p* *f* *p* *f* *p* *f*

Hn. 3/4 *p* *f* *p* *f* *p* *f* *p* *f*

C Tpt. 1 *p* *f* *p* *f*

C Tpt. 2 *p* *f* *p* *f*

C Tpt. 3 *p* *f* *p* *f*

Perc. 1. *p* *f* *p* *f* *p* *f*

Perc. 2. *p* *f* *p* *f*

Hrp. *f* *ff* *f* *ff* *f* *ff* *mp* *pp* *mp* *pp*

Vln. I  $\text{♩} = 60$

Vln. II

Vla.

Vc.

Db.

**F**

*J* = 40

*I. solo*

Musical score for measures 31-40. The score includes parts for Flute I (Fl. I), Flute II (Fl. II), Violin I (Vn. I), Violin II (Vn. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (Db.). The Flute I part is marked *I. solo* and *p*. The strings and other woodwinds have dynamic markings of *f* and *p*. A tempo marking of *J* = 40 is present.

Musical score for measures 37-40. The score includes parts for Piccolo (Picc.), Flute I (Fl. I), Flute II (Fl. II), Clarinet I (Cl. I), Bassoon (Bsn.), Trombone (Tbn.), and Double Bass (Db.). The Flute I part continues with a melodic line. The Bassoon part has a *poco* marking. The Trombone and Double Bass parts have *pp* markings.

G

10

Picc

Fl. 1

Fl. 2

Cl. 1

Cl. 2

Cl. 3

Bsn.

Tba.

Db.

*sfz*

*f*

*ff*

*sfz*

*sfz*

*sfz*

41

Picc

Fl. 1

Fl. 2

Cl. 1

Bsn.

Tba.

Supp. Cymb  
brush

Dr. I.

Db.

*mf*

*p*

*ff*

*sfz*

*sfz*

*sfz*

*sfz*

10 [SD]

*ff*

*sfz*

*sfz*

*sfz*

*sfz*

H

*J* = 53

Fl. 1 *ff* *p*

Fl. 2 *ff* *p*

Cbn. *ff*

In. 1/2 *f* *ff*

In. 3/4 *f* *ff*

Tpt. 1 *f* *ff*

Tpt. 2 *f* *ff*

Tpt. 3 *f* *ff*

Tbn. 1 *f* *ff*

Tbn. 2 *f* *ff*

Tbn. *f* *ff*

Tba. *ff*

Drum 1 *SD* *ff* to guiro

Drum 2 *Tempo blocks* *ff*

& Gong *BD* *p* *f*

Harp *Or* *p*

Vln. I *J* = 53 *ff* *pizz* *p*

Vln. II *ff* *pizz* *p*

Vla. *pizz* *div.* *p*

Db. *ff*

46

Fl. 1  
Fl. 2  
Cl. 1  
Cl. 2  
Bsn. 1  
Bsn. 2  
Cbsn.  
In. 1/2  
In. 3/4  
Tbn. 1  
Tbn. 2  
Trc. 1  
Trc. 2  
& C.  
Hp.  
Vln. I  
Vln. II  
Vla.  
Vc.

*ppp*  
1, 2  
*ppp*

*p*  
*p*  
*p* < *f* *p* < *f* *p* < *f*  
*p* < *f* *p* < *f* *p* < *f*  
*p* < *f* *p* < *f* *p* < *f*  
*p*  
*p* < *f* *p* < *f* *p* < *f*  
*p* < *f* *p* < *f* *p* < *f*  
*ff* *p* *ff*  
*ff* *p* *ff*  
guiro  
Temple blocks  
BD  
*ff*  
Bb  
div.  
7  
Tempo primo J = 60  
unis  
*p* < *f* *p* < *f* *p* < *f*  
col leg. *f*  
col leg. *f*  
pizz.  
*p* < *f* *p* < *f* *p* < *f*

50

Fl. 1

Fl. 2

Ob. 1

Ob. 2

Cl. 1

Cl. 2

Bsn. 1

Bsn. 2

Tpt. 1

Tpt. 2

Tpt. 3

Tbn. 1

Tbn. 2

Tbn.

Timp.

Cym

Temple blocks

BD

Hr.

Vln. 1

Vln. 2

Vla.

Vc.

Db.

*p*

*p < f*

*f*

*ff*

*arco*

*norm*

take piccolo

(to upper semitone)

Piccolo

to [SD]

to tam/am

Tambour

Fl./Picc. *f* *ff* take flute *mf* flute

Fl. 1 *mf*

Fl. 2 *f* *ff* take flute *mf* flute

Ob. 1 *f* *ff*

Ob. 2 *f* *ff*

C. A. *ff*

Bsn. 1 *ff*

Bsn. 2 *f*

Tpt. 1 *ff* *f* *mf*

Tpt. 2 *ff* *mf* *f* *ff* *mf*

Tpt. 3 *ff* *mf* *f* *ff* *mf*

Tbn. 1 *f* *ff* *p* *f* *ff*

Tbn. 2 *f* *ff* *p* *mf* *f* *ff*

3. Tbn. *f* *ff* *p* *mf* *f* *ff*

Tba. *ff* *p* *mf*

Perc. 1 [SD] *f* *mf*

Perc. 2 [Tambourin] *f*

[SD] *f*

Vln. I

Vln. II

Db.



57

Musical score for measures 57-60. The score includes parts for Flute 1, Bassoon 1, Bassoon 2, Trumpet 1, Trombone 1, Violin 1, Violin 2, Viola, Violoncello, and Double Bass. The music is in 4/4 time. Dynamics include *mf*, *mp*, and *pp*. The Viola part includes markings for *norm.* and *arco*. The Double Bass part includes a *pp* marking.

**L**

Musical score for measures 61-64. The score includes parts for Bass Clarinet, Bassoon 1, Bassoon 2, Contrabassoon, and Trombone 1. The music is in 4/4 time. Dynamics include *p*, *pp*, and *ppp*. The Trombone 1 part includes a *solo* marking. The Bass Clarinet part includes a *p* marking.

# 4. Prelude with Carillon

$\text{♩} = 144$

Flute

Flute/piccolo

Flute 1

Flute 2

Oboe 1

Oboe 2

Cor Anglais

Clarinet 1 in Bb

Clarinet 2 in Bb

Bass Clarinet in Bb

Bassoon 1

Bassoon 2

Contrabassoon

Horn in F 1 and 2

Horn in F 3 and 4

Trumpet in C 1

Trumpet in C 2

Trumpet in C 3

Trombone 1

Trombone 2

Bass Trombone

Tuba

Timpani

Percussion 1

Percussion 2

Percussion

(xylo glock T. Bells vib)

Percussion 4 & Glock

Harp

Celesta

Piano & Celesta

Violin I

Violin II

Viola

Violoncello

Double Bass

$\text{♩} = 144$

1/Picc  
Fl. 1  
Fl. 2  
Ob. 1  
Ob. 2  
Cl. 1  
Cl. 2  
B. Cl.  
Ban. 2  
Chan.  
Tbn. 2  
Tbn. 1  
Tbn.  
Tba.  
Timp.  
Crc. I.

Vln. I  
Vln. II  
Vla.  
Vc.  
Db.

13 J = 120

Ob. 1

Ob. 2

B. Cl.

Cor. 2

C. Trn.

Tbn.

Timp.

Hr.

Vla.

Vc.

Db.

*mf* *p*

*mf* *p*

*mp*

*mp*

*p*

*f* *p*

*f* *iv*

*mp*

*mp*

*mp* *arco* *p*

Detailed description: This page of a musical score, numbered 185, contains ten staves. The top five staves are for woodwinds: Oboe 1, Oboe 2, Bass Clarinet, Cor Anglais 2, and Contrabassoon. The next three staves are for brass: Trombone, Trumpet, and Horn. The bottom two staves are for strings: Viola and Double Bass. The score is in 3/4 time with a tempo marking of quarter note = 120. The key signature has one flat. The woodwind parts feature melodic lines with dynamic markings such as *mf* and *p*. The brass parts include a prominent horn line with a dynamic marking of *f* and a *iv* (fourth) fingering. The string parts include a double bass line with *arco* (arco) markings and dynamic markings of *mp* and *p*. The page is divided into measures by vertical bar lines.

This page of a musical score, numbered 186, contains measures 17 through 21. The score is arranged in two systems of staves. The first system includes Flute I (Fl. I), Flute II (Fl. II), Clarinet I (Cl. I), Clarinet II (Cl. II), Bassoon I (Bsn. 1), Bassoon II (Bsn. 2), and Bassoon III (Bsn. 3). The second system includes Violin I (Vn. I), Violin II (Vn. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (Db.).

Measure 17 features a dynamic of *p* (piano) for the woodwinds. Measure 18 shows dynamics of *mf* (mezzo-forte) and *f* (forte) for the woodwinds, and *pp* (pianissimo) for the strings. Measure 19 continues with *f* and *p* dynamics. Measure 20 shows *mf* and *f* dynamics for the woodwinds, and *pp* for the strings. Measure 21 features *pp* dynamics for the strings, with *div* (divisi) and *unis* (unison) markings for the Violin I, Violin II, and Viola parts. The score includes various musical notations such as slurs, ties, and dynamic markings.

23  $\text{♩} = 144$

Fl./Picc. *pp* *mf*

Fl. I *p* *mf* *p*

Fl. II *pp* *mf* *p* *mf*

Ob. I *p* *mf* *p* *mf*

Cl. I *p* *mf* *p* *mf*

Cl. II *p* *mf*

C Tpt. 1 *p* con sord

C Tpt. 2 *p* con sord

C Tpt. 3 *p* con sord

Perc. I 2 wb l/l

Cussion Tenor drum maracas

$\text{♩} = 144$

Vln. I *pp norm*

Vln. II *p norm* *mf* *p* div a 3

Vla.

$\text{♩} = \text{♩} = 96$

Fl. 1  
Fl. 2  
Ob. 1  
C. A.  
B. Cl.  
Bsn. 1  
Bsn. 2

Tpt. 1  
Tpt. 2  
Tpt. 3

senza sord

Perc. 1  
Cussion

2 wb  
maraca  
cym =  
ure w n. malar

Hp.

$\text{♩} = \text{♩} = 96$

Vln. I  
Vln. II  
Vla.

pizz  
mf  
H<sub>1</sub>  
mf norm

36

Ob. I

C. A.

Cl. I

B. Cl.

Bsn. 1

Bsn. 2

Perc. I.

2 wb

Take Clava

Hp.

Vln. I

Vln. II

Vla.

Vc.

Db.

*f*

*p*

*mf*

*pp*

*>p*

*p leggiero*

*pp*

*mf*

*f*

*pp*

*mf*

*f*

*pp*

*mf*

*f*

*pp*

*mf*

*f*

poco sul pont

unus poco sul pont

div poco sul pont

poco sul pont

pp

mf

pp

mf

pp

mf

pp

mf

pp

mf

pp

mf

pp

mf

pp

mf

pp

mf

poco piu mosso ..... a tempo

div

unus div

div

unus div



D

poco piu mosso ...

♩ = 144

rit. . . . .

Musical score for woodwinds and strings. The score includes parts for Fl. 1/Picc., Fl. 2, Cl. 1, Cl. 2, B. Cl., Bsn. 1, Bsn. 2, Hn. 1/2, and Hn. 3/4. The Fl. 1/Picc. part is marked 'solo' and includes dynamics from *p* to *f*. The Cl. 1 part has dynamics *p*, *mf*, and *f*. The Cl. 2 part has dynamics *p* and *f*. The B. Cl. part has dynamics *p* and *f*. The Bsn. 1 part has dynamics *p* and *f*. The Bsn. 2 part has dynamics *p* and *f*. The Hn. 1/2 part has dynamics *p* and *mf*. The Hn. 3/4 part has dynamics *p* and *f*.

2 Triangles  
large and small

To Tenor drum and susp. cym.

susp. cym

Musical score for Percussion and Harp. The Percussion part includes 2 Triangles (large and small) and Tenor drum and susp. cym. The Harp part includes chords Eb G la B b and Ab. The Harp part has dynamics *p* and *mf*.

D

poco piu mosso ...

♩ = 144

rit. . . . .

Musical score for Violins, Viola, and Violoncello. The Violin I (Vln. I) and Violin II (Vln. II) parts are marked *pp* and *f*. The Viola part is marked *pp* and *f*. The Violoncello (Vc.) part is marked *pp* and *f*. The Violin II and Violoncello parts include the instruction 'div. pizz' (divisi pizzicato) and a dynamic *p*.

E

♩ = 72

FL/Picc. *mf*

Fl. 1 *p mf*

Fl. 2 *mf*

Ob. 1 *p mf f*

C.A. *mf f*

Cl. 1 *mf f*

Cl. 2 *mp mf*

B. Cl. *p mp mf p f*

Bsn. 1 *N p mf p*

Bsn. 2 *N mf f*

Perc. I. *claves p mp mf*

Cussion *Td mp p mp mf*

Hp. *p f*

E

♩ = 72

Vln. I *pp norm mf p f*

Vln. II *arco unis pp mf p f*

Vla. *norm pp mf p f*

Vc. *arco pp norm mf p f*

Db. *pizz p f*

unis

div

This page of a musical score, numbered 192, contains the following parts and markings:

- Woodwinds:** Flute 1 (Fl. 1), Flute 2 (Fl. 2), Oboe 1 (Ob. 1), Oboe 2 (Ob. 2), Clarinet 1 (Cl. 1), Clarinet 2 (Cl. 2), Bassoon 1 (Bsn. 1), Bassoon 2 (Bsn. 2), and Contrabassoon (Cbsn.).
- Brass:** Horn 1 (Hr. 1), Horn 2 (Hr. 2), Trombone 1 (Trbn. 1), Trombone 2 (Trbn. 2), and Tuba (Tbn.).
- Percussion:** Cymbal (cymb), Suspended Cymbal (susp. cym), and Snare Drum (sn. dr.).
- Keyboard:** Piano (Hp.).
- Strings:** Violin 1 (Vln. I), Violin 2 (Vln. II), Viola (Vla.), Violoncello (Vcl.), and Double Bass (Db.).

Dynamic markings and performance instructions include:

- p* (piano), *f* (forte), *ff* (fortissimo), *mp* (mezzo-piano), and *pp* (pianissimo).
- Performance directions such as *div* (divisi) and *arco* (arco).
- Tempo marking: *J = 144*.
- Section marker: **F**.

$\text{♩} = \text{♩}, \text{♩} = 216$

$\text{♩} = \text{♩}, \text{♩} = 108$  energico

poco rall. . . .

Fl./Picc. *p* *f* *p* *f* *p* *f* *pp*

Fl. 1 *f* *pp*

Fl. 2 *p* *f* *p* *f* *p* *f* *pp*

Ob. 1 *p* *f* *p* *f* *p* *f*

Ob. 2 *p* *f* *p* *f* *p* *f*

Cl. 1

In. 1/2 *I. solo*

Perc. 1. *cymb (soft sticks)* *p* *mf* *p* *mf* *p* *f* *Take guiro*

Bassoon *cymb tri beater* *p* *mf* *p* *mf* *p* *mf* *p* *mf* *p* *mf* *p* *f* *Triangolo* *ff* *tr*

& G) *vib* Motor on *vib* *ff* *tr*

Perc. 4. *glock* sounds octave higher *ff* *tr*

Hrp. *ff* *tr*

Pno. *celeste*

$\text{♩} = \text{♩}, \text{♩} = 216$

$\text{♩} = \text{♩}, \text{♩} = 108$  energico

poco rall. . . .

Vln. I *p* *f* *p* *f* *p* *f*

Vln. II *div* *p* *f* *p* *f* *p* *f*

65 a tempo  $\text{♩} = 108$  poco rall. . . . . a tempo  $\text{♩} = 108$  poco rall. . . . . a tempo  $\text{♩} = 108$

Fl./Pic.  
Fl. 1  
Fl. 2  
Hr. 1/2  
Cussion  
K & G  
Perc 4.  
Hp.  
Pho.



poco rall.  $\text{♩} = \text{♩} = 108$  with deliberation

Fl./Picc. *f* *mf*

Fl. 1 *f*

Fl. 2 *f* *mf*

Ob. 1 *mf*

Ob. 2 *mf*

C.A. *pp* *f* *mf*

Cl. 1 *pp* *f* *mf*

Cl. 2 *pp* *f* *mf*

B. Cl. *pp* *f* *mf*

Bsn. 1 *mf*

Bsn. 2 *mf*

Cbsn. *mf*

1 and 2

Trc. 1 *mf* *f*

Trc. 2 *mf* *f*

Bassoon *mf* *p* *mf*

Hp. *p* *mf*

Pno. *p* *mf*



poco rall.  $\text{♩} = \text{♩} = 108$  with deliberation

Vln. I *pizz*

Vln. II *pizz*

I

77  $\text{♩} = 144$   $\text{♩} = 144$  scherzando poco rall. a tempo  $\text{♩} = 144$

I./Picc.  $mf$   $sub\ f$

Fl. I.  $f$

Fl. 2.  $mf$   $sub\ f$

Ob. 1.  $f$   $mf$   $sub\ f$

Ob. 2.  $f$   $mf$   $sub\ f$

C.A.

Cl. 1.  $f$   $mf$   $sub\ f$

Cl. 2.  $f$   $mf$   $sub\ f$

Pt. 1.  $f$

to side drum

to temple blocks

I

$\text{♩} = 144$   $\text{♩} = 144$  scherzando poco rall. a tempo  $\text{♩} = 144$

Vln. I.  $f$   $div. b$

Vln. II.  $f$   $div.$   $div. a. 3$   $arco$   $p$

Vla.

Vc.

slightly slower

accel.

**J**  
a tempo  $\text{♩} = 144$

M

Fl./Pic. *ff*

Fl. I *p distinto* *dim* *ff*

Fl. II *p distinto* *ff*

Ob. 1 *p* *ff*

Ob. 2 *p* *ff*

C.A. *p* *ff*

Cl. I *ff*

Cl. 2 *ff*

Tr. 1/2 *ff* *tristoso*

slightly slower

accel.

**J**  
a tempo  $\text{♩} = 144$

Vln. I *unis.* *p* *ff*

Vln. II *pizz.* *p* *ff*

Vla. *pizz.* *p* *ff*

Vc.



K

poco rit. . . . . a tempo  $\text{♩} = 144$

This page of a musical score, numbered 198, features a key signature of one flat (B-flat) and a tempo of quarter note = 144. The score is divided into two systems. The first system includes staves for Flute 1 & 2 (Fl. 1, 2), Oboe 1 & 2 (Ob. 1, 2), Clarinet in A (C.A.), Clarinet in B-flat 1 & 2 (Cl. 1, 2), Bass Clarinet (B. Cl.), Bassoon 1 & 2 (Bsn. 1, 2), and Contrabassoon (Cbsn.). The second system includes Horns in F (Hn. 1/2, 3/4) and Trombone (Tbn.). The percussion part (Timp.) is also present. The score contains various dynamics such as *ff*, *f*, and *p*, and includes performance instructions like *poco rit.* and *a tempo*. The Flute 1 & 2 part begins with a *p* dynamic and features a melodic line with grace notes. The Oboe and Clarinet parts have *ff* dynamics. The Bass Clarinet and Bassoon parts have *f* dynamics. The Horns and Trombone parts have *f* dynamics. The percussion part has a *f* dynamic. The score is marked with a 'K' in a box at the top right.

95 poco rit. . . . . a tempo ♩ = 144

Fl./Picc. *f p ff*

Fl. I *f*

Fl. II *p ff*

Ob. 1 *f*

Ob. 2 *p f*

Cl. I *f p ff f p*

Cl. 2 *f p ff f p*

Bsn. 1 *f p*

Bsn. 2 *f p*

Cbsn. *p f p*

Hn. 1/2 *ff p f p*

Hn. 3/4 *ff p mf p*

Tba.

ussion *p mf p* temple blocks

Vln. I *f* arco *f ff p* div

Vln. II *f* arco *f ff p* div

Vla. *ff p*

Vc. *ff p* pizz





1. 1. *p* *mp*

2. *p* *mp*

A. *p* *mp*

Cl. 1. *p* *mp*

Cl. 2. *p* *mp*

Cl. *mp* *p* *mp*

1. *mp*

1.2. *p*

1.3. *p*

1. *ff*

2. *p*

Tbn. *ff*

G. *ff*

Tub bells

Tub bells

1.2. *ff* *p* *ff*

1.3. *ff* *p* *ff*

1. *ff* *f*

2. *p*

Tbn. *ff*

G. *ff*

Tub bells

Tub bells

$\text{♩} = 120$

slower

sub a tempo  $\text{♩} = 180$

poco rall.

sub a tempo  $\text{♩} = 120$

This page of an orchestral score, numbered 203, contains the following parts and markings:

- Flutes 1 & 2 (Fl. 1, Fl. 2):** *ff*, *mf*, *p*
- Oboes 1 & 2 (Ob. 1, Ob. 2):** *ff*, *mf*, *p*
- Clarinets 1 & 2 (Cl. 1, Cl. 2):** *p*
- Bass Clarinet (B. Cl.):** *p*, *mf*, *p*
- Trumpets 1 & 2 (Trn. 1, Trn. 2):** *p*, *mp*, *ff*
- Trombones 1 & 2 (Tbn. 1, Tbn. 2):** *p*
- Baritone (Bsn. 1, Bsn. 2):** *p*, *mf*, *p*, *ff*
- Contra Bassoon (Cbsn.):** *mp*, *p*, *ff*, *solo*
- Horn 1/2 (Hn. 1/2):** *p*, *mp*, *ff*
- Horn 3/4 (Hn. 3/4):** *p*, *mp*, *ff*
- Percussion (Perc. I):** *p*, *All.*, *susp cym*, *Tub bells*
- X & Gong (X & G.):** *ff*
- Violins I & II (Vin. I, Vin. II):** *p*
- Viola (Via.):** *p*
- Violoncello (Vc.):** *p*
- Double Bass (Db.):** *p*

Tempo markings: *slower*, *sub a tempo* ( $\text{♩} = 180$ ), *poco rall.*, *sub a tempo* ( $\text{♩} = 120$ ).

117

1/Picc

Fl. 1

Fl. 2

Ob. 1

Ob. 2

C.A.

Cl. 1

Cl. 2

B. Cl.

Bsn. 2

Ctn.

In. 1/2

In. 3/4

Tpt. 1

Tpt. 2

Tpt. 3

Tbn. 1

Tbn. 2

Tbn.

Tba.

Temp.

perc. 1.

perc. 2.

& G)

Vln. I

Vln. II

Vla.

Vc.

Db.

*p*

*ff*

*f*

*sfz*

*soft heads*

*susp. cym. use side drum sticks*

*tub bells*

*pizz.*

**O**

127  $J = 180$

FL. 1 *f* *ff*

FL. 2 *ff*

Ob. 1 *ff*

Cl. 1 *f* *ff*

Cl. 2 *f* *ff*

B. Cl. *ff*

Sn. 1 *f* *ff*

Sn. 2 *f* *ff*

Cbsn. *f* *ff*

Tpt. 1 *f*

Tpt. 2 *f*

Tpt. 3 *f*

Tbn. 1 *f*

Tbn. 2 *f*

Tbn. *f*

Tba. *f* *ff*

Timp. *f* *mf* *f*

Vln. I  $J = 180$  *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

Db. *ff* *arco*



139

1/Picc. *ff*

Fl. 1 *ff* *p*

Fl. 2 *ff* *p*

Ob. 1 *ff*

Ob. 2 *ff*

Cl. 1 *ff* *p*

Cl. 2 *ff*

B. Cl. *ff*

Bsn. 1 *ff*

Bsn. 2 *ff*

Cbsn. *ff*

In. 1/2 *1 and 3* *ff*

In. 3/4 *2 and 4* *ff*

Tpt. 1 *ff*

Tpt. 2 *ff*

Tpt. 3 *ff*

Tbn. 1 *ff*

Tbn. 2 *ff*

Tbn. *ff*

Tba. *ff*

Timpani *ff*

Vin. I *ff* *J = 144* *div* *pp*

Vin. II *ff* *pp*

Vla. *ff*

Vc. *ff*

Db. *ff*

/Picc. *mp* *molto*

Fl. I *mp* *molto*

Fl. II *mp* *molto*

Ob. I *mp cantabile*

Ob. II *H mp cantabile*

Cl. I *p* *molto*

Cl. II *p* *molto*

Cl. Bass *p*

Sax. I *p*

Sax. II *p*

Tr. 1 *p*

Tr. 2 *p*

Tr. 3 *p*

Tr. 4 *p*

Tr. 5 *p*

Tr. 6 *p*

Tr. 7 *p*

Tr. 8 *p*

Guitro *p*

Tambourine *mp* *p*

Hp. *pp*

Pno. *pp* *molto*

Vln. I *J. = 72* *Molto leggero* *N* *uniso* *div.* *uniso* *div.* *uniso* *div.* *uniso* *div.* *rit.* *uniso* *molto*

*fpp*

Vln. II *div.* *molto*

Vcl. *pp* *fpp* *fpp* *molto*

Db. *pizz.* *molto*

Q a tempo J=72

138

L/Picc

Fl.1

Fl.2

Ob. 1

Ob. 2

C.A.

Cl. 1

Cl. 2

B. Cl.

Sax. 1

Sax. 2

Cbsn.

In. 1/2

In. 3/4

Tpt. 1

Tpt. 2

Tpt. 3

Tbn. 1

Tbn. 2

Tbn.

Tba.

Timp.

perc 2.

perc 4.

Pno.

Vln. I

Vln. II

Vla.

Vcl.

Db.

hard sticks

B.D Hard Stick

glock

unis

arco





sub. a tempo

Flpic. *sub. ff* *mf*

Fl. 1 *sub. ff* *mf*

Fl. 2 *sub. ff* *mf*

Ob. 1 *sub. ff* *f* *mf*

Ob. 2 *sub. ff* *f* *mf*

C.A. *sub. ff* *f*

Cl. 1 *sub. ff* *f* *mf*

Cl. 2 *sub. ff* *f* *mf*

Cl. *sub. ff*

Tr. 1 *sub. ff* *f* *mf*

Tr. 2 *sub. ff* *f* *mf*

Bsn. *sub. ff* *f* *mf*

Tr. 1/2 *f* *sub. ff* *mf*

Tr. 3/4 *f* *sub. ff* *mf*

Pi. 1 *sub. ff*

Pi. 2 *sub. ff*

Pi. 3 *sub. ff*

Bn. 1 *sub. ff*

Bn. 2 *sub. ff*

Tbn. *sub. ff*

Tba. *sub. ff*

Imp. *sub. ff*

Dr. 1 *sub. ff* side drum *go to large supn cym*

Dr. 2 *sub. ff* large triangle *take maracas*

Dr. 3 *sub. ff* block *sub. ff*

Pno. *sub. ff*

sub. a tempo

Vn. I *sub. ff*

Vn. II *sub. ff*

Vla. *sub. ff*

Vc. *sub. ff*

Db. *sub. ff*

133  $\text{♩} = 72$

**T** subito piu mosso  $\text{♩} = 120$

a tempo  $\text{♩} = 72$

Fl. 1  $p$   $f$   $p$

Fl. 2  $p$

Ob. 1  $p$   $f$   $p$   $f$   $p$   $f$   $p$

Ob. 2  $f$   $p$

C.A.  $f$   $p$   $f$   $p$

Cl. 1  $p$   $f$   $p$

Cl. 2  $p$   $f$   $p$

B. Cl.  $p$   $f$   $p$

Bsn. 1  $p$   $mf$   $f$

Bsn. 2  $p$   $f$   $p$

Cbsn.  $p$   $f$   $p$

Tpt. 1 sord  $p$   $mf$

Db.  $\text{♩} = 72$  subito piu mosso  $\text{♩} = 120$  a tempo  $\text{♩} = 72$   $p$

163

Fl. 1

Fl. 2

ob. 1

ob. 2

C.A.

Cl. 1

Cl. 2

Cl.

bn. 1

bn. 2

bsn.

1/2

3/4

subito piu mosso

$J = 120$

$J = 60$

mp

vn. 1

vn. 2

va.

vc.

vb.



subito piu mosso  
♩ = 120

171

Fl. 1

Fl. 2

Ob. 2

C. A.

Cl. 1

Cl. 2

B. Cl.

Ban. 2

Cbn.

Hn. 1/2

Hn. 3/4

Perc. I.

ussion

Large susp cym  
scrape with triangle beater

maracas  
shake

subito piu mosso  
♩ = 120

Vln. I

Vln. II

Vla.

Vc.

Db.

**FIVE PIANO ETUDES**

**2000-2006**

**Duration ca. 20 minutes**

# Etude 1

Kevin O Connell

$\text{♩} = 72$

Piano

*f* grace notes before the beat

Pno

Pno

*p*

Pno

Pno

*fff*

12

Pno

*f*

14

Pno

*p*

*staccato e leggiero*

16

Pno

18

Pno

5

5

5

♩5 = ♩

8vb

20

Pno

$\text{♩} = 90$

6

6

10

10

10

$\text{♩} + \text{♩} = \text{♩} = 108$

22  $\text{♩} + \text{♩} = 108$  *8va*

Pno

24  $\text{♩} = \text{♩} \text{ ♩} = 144$

Pno

25

Pno

26 *8ba* *8vb* *mf*

Pno

28  $\text{♩} + \text{♩} = 144 \text{ ♩} = 90$  *pp*

Pno

29

Pno

*mp*

Measures 29-30: The left hand plays a series of chords in the bass clef, while the right hand plays a rhythmic pattern of eighth notes in the bass clef. The dynamic is marked *mp*.

30

Pno

Measures 30-31: The left hand continues with chords, and the right hand continues with eighth notes. The key signature changes to one sharp (F#).

31

Pno

Measures 31-32: The left hand continues with chords, and the right hand continues with eighth notes. The key signature changes to two sharps (F#, C#).

32

Pno

Measures 32-33: The left hand continues with chords, and the right hand continues with eighth notes. The key signature changes to three sharps (F#, C#, G#).

33

Pno

Measure 33: The left hand continues with chords, and the right hand continues with eighth notes. The key signature changes to four sharps (F#, C#, G#, D#). The right hand part features a triplet of eighth notes.

34  $\text{♩} = 90$   $8^{\text{va}}$

Pno *f*

Pno *8<sup>va</sup> p*  
*stacc. e legg.*

35  $\text{♩} = \text{♩}$

Pno *p*  
*stacc. e legg.*

Pno *p*

37

Pno *p*

Pno *p*

38

Pno *p*

Pno *p*

39

Pno

40

Pno

*pp*

*mp*

5

5

5

$\text{♩} = \text{♪} = 112.5$

41

Pno

42

Pno



43

Pno

44

Pno

45

Pno

46

Pno

47

Pno

48

Pno

*dim*

2/4 16

2/4 16

Detailed description: This system contains measures 48 and 49. Measure 48 features a treble clef with a series of eighth notes and a bass clef with a single eighth note. Measure 49 continues the treble line with eighth notes and adds a bass line with eighth notes. The tempo is 16 beats per measure.

49

Pno

*mf*

*mp*

9/16 16

9/16 16

Detailed description: This system contains measures 49 and 50. Measure 49 has a treble clef with eighth notes and a bass clef with eighth notes. Measure 50 continues the treble line and adds a bass line with eighth notes. The tempo is 16 beats per measure.

50

Pno

*ppp*  
(♩ = 72)

*p*

9/16 16

4/4 16

Detailed description: This system contains measures 50 and 51. Measure 50 has a treble clef with a long note and a bass clef with a long note. Measure 51 continues the treble line with a long note and adds a bass line with a long note. The tempo is 72 beats per measure.

51

Pno

*p misterioso*

♩ = 72

4/4 16

4/4 16

Detailed description: This system contains measures 51 and 52. Measure 51 has a treble clef with eighth notes and a bass clef with eighth notes. Measure 52 continues the treble line with eighth notes and adds a bass line with eighth notes. The tempo is 72 beats per measure.

52

Pno

*r.h. simile*

5:4

5:4

4/4 16

4/4 16

Detailed description: This system contains measures 52 and 53. Measure 52 has a treble clef with eighth notes and a bass clef with eighth notes. Measure 53 continues the treble line with eighth notes and adds a bass line with eighth notes. The tempo is 16 beats per measure.

5:4

54

Pno

Musical score for measures 54-55, piano part. Measure 54 features a complex chordal texture in the right hand with a melodic line in the left hand. Measure 55 continues this texture with a dynamic marking of *p* and a *mf* marking in the bass line.

55

Pno

Musical score for measures 55-56, piano part. Measure 55 shows a melodic line in the right hand and a bass line with a *mf* marking. Measure 56 features a complex chordal texture in the right hand with a melodic line in the left hand.

56

Pno

Musical score for measures 56-57, piano part. Measure 56 features a complex chordal texture in the right hand with a melodic line in the left hand. Measure 57 continues this texture with a dynamic marking of *p* and a *mf* marking in the bass line.

♩5 = ♩   ♩ = 90

57

Pno

Musical score for measures 57-58, piano part. Measure 57 features a complex chordal texture in the right hand with a melodic line in the left hand. Measure 58 continues this texture with a dynamic marking of *p* and a *mf* marking in the bass line.

58

Pno

*ff* *v.* *8va*

*P* *6* *6*

60

Pno

*p* *3:2* *3:2* *3:2* *3:2* ♩ = ♩ = 135

*ff* ♩ = 90 *ff*

*v.* *8vb* *v.* *8vb*

62

Pno

*cantabile*

*ff* *v.* *8vb* *ff* *v.* *8vb*

64

Pno

♩ = 90

*sub f*

*ff* *v.* *8ba* *ff* *v.* *8ba*

66

Pno

*f* *sub pp* *r.h. legato* *f*

68

Pno

*ff* *8va*

69

Pno

*f* *f* *8va*

70

Pno

*f* *ff* *8va*

8va

71

Pno

*f* *f* *f*

8va

72

Pno

*ff* *f*

8va

73

Pno

*f* *f* *f* *f*

8va

74

Pno

*f* *ff* *ff* *ff*

(8)

75

Pno

(lh  $\text{♩} = 72$ )

*ppp*

*fff*

(8)

76  $\text{♩} = 72$

Pno

*sub ppp l.h. without accents*

5 5 5

*sub pp*

8<sup>ab</sup>

(8)

77  $\text{♩} = 90$

Pno

8

(8)

78

Pno

*staccato*

8

(8)

79

Pno

(8) -----

80

Pno

81  $\text{♩} = \text{♩} = 72$  Wild!

*fff*

*p ad lib* quasi cadenza

Ped.

83

Pno

*fff*

*p sim.*

Ped.

84  $\text{♩} = \text{♩} = 90$

*p*

6:5

Pno



86 *6,5*  $\text{♩} = 108$  *8va*-----

Pno *ff* *mf*

(8)-----

88 *ff* *sub pp* *8va*-----

90 *fff*

92 **tempo primo**  $\text{♩} = 72$

Pno

# Etude 2

Fuga a 4 voci

Kevin O Connell

$\text{♩} = 72$

Piano

Pno

Pno

Pno

Pno

Pno

Pno

25 *sf* *f* *p* *p* *f* *p* *sf*

Pno

28 *sf* *f* *p* *sf* *f* *p* *sf* *f* *p*

Pno

31 *f* *p* *sf* *f* *p* *sf* *f* *p*

Pno

34 *f* *p* *sf* *f* *p* *sf* *f* *p*

Pno

37 *mf* *risoluto* *f* *mf* *f* *sim* *mf* *f* *sim* *mf* *f*

$\text{♩} \text{3} = \text{♩} \approx 108$

Piano score for measures 41-43. The system consists of two staves. Measure 41 starts with a treble clef and a bass clef. The right hand has a melodic line with a fermata over the final note, marked *mf*. The left hand has a bass line with a fermata over the final note, marked *f*. A dynamic change from *mf* to *f* occurs in measure 42. Measure 43 features a triplet in the right hand. A key signature change to one flat is indicated below the staff.

Piano score for measures 44-45. The system consists of two staves. Measure 44 starts with a treble clef and a bass clef. The right hand has a melodic line with a fermata, marked *p*. The left hand has a bass line with a fermata, marked *f*. A dynamic change from *p* to *f* occurs in measure 45. Measure 45 features a triplet in the right hand and a dynamic change from *f* to *mf*. A key signature change to two flats is indicated below the staff.

Piano score for measures 46-47. The system consists of two staves. Measure 46 starts with a treble clef and a bass clef. The right hand has a melodic line with a fermata, marked *p*. The left hand has a bass line with a fermata, marked *f*. A dynamic change from *p* to *f* occurs in measure 47. Measure 47 features a triplet in the right hand and a dynamic change from *f* to *mf*. A key signature change to two flats is indicated below the staff.

Piano score for measures 48-50. The system consists of two staves. Measure 48 starts with a treble clef and a bass clef. The right hand has a melodic line with a fermata, marked *p*. The left hand has a bass line with a fermata, marked *f*. A dynamic change from *p* to *f* occurs in measure 49. Measure 50 features a triplet in the right hand and a dynamic change from *f* to *p*. A key signature change to one flat is indicated below the staff.

Piano score for measures 51-52. The system consists of two staves. Measure 51 starts with a treble clef and a bass clef. The right hand has a melodic line with a fermata, marked *p*. The left hand has a bass line with a fermata, marked *f*. A dynamic change from *p* to *f* occurs in measure 52. Measure 52 features a triplet in the right hand and a dynamic change from *f* to *mf*. A key signature change to one flat is indicated below the staff.

53

Pno

*p*

*f*

3

3

55

Pno

*mf*

*f*

*mf*

*f*

58

Pno

*mf*

61

Pno

*f*

64

Pno

67

Pno

70

Pno

73

Pno

Pno

76

16

Pno

79

Pno

*distinto*

81

Pno

83

Pno

85

Pno

87

Pno

89

Pno

*fantastico*

*f* *mf* *mf*

91

Pno

94

Pno

97



100

Pno

103

Pno

106

Pno

109

Pno

113

Pno

118

Pno

122

Pno

*p* leggiero

128

Pno

$\text{♩} + \text{♩} = \text{♩} = 86$

*mf*

5:4

134

5:4

Pno

141

5:4

Pno

$\text{♩}7 = \text{♩}13/\text{♩} = \text{ca } 43$

145

Pno

148

Pno

*sub mf*

sub *mf*

*p*

*mf*

*p*

150

Pno

*mf*

*p*

*mf*

*p*

152

Pno

*mf*

*sw*

*mf*

*sw*

8va

Pno

154

*ff*

*fff martellato* RH

8vb

Pno

157

8vb

Pno

160

*p* *ff*

8vb

♩ = 72

Pno

163

Pno

166 *p* *f* *p*

Pno

171 *f* *p* *f* *p* *f* *p*

Pno

182 *p* *f* *p* *legato e leggiero*

Pno

187 *p* *pp*

# Etude 3

Kevin O Connell

$\text{♩} = 90$

Piano

*mf* *leggiero*

Piano

Piano

Piano

Piano

31

Pno

Musical score for piano, measures 31-36. The score is in G major and 4/4 time. It features a melody in the right hand and a bass line in the left hand. The key signature has one sharp (F#). The time signature changes from 4/4 to 3/4 at measure 34. Dynamics include accents and a forte (f) marking at measure 35.

37

Pno

Musical score for piano, measures 37-42. The score is in G major and 4/4 time. It features a melody in the right hand and a bass line in the left hand. The key signature has one sharp (F#). Dynamics include accents and a forte (f) marking at measure 39.

43

Pno

Musical score for piano, measures 43-47. The score is in G major and 4/4 time. It features a melody in the right hand and a bass line in the left hand. The key signature has one sharp (F#). Dynamics include piano (p) and forte (f) markings.

48

Pno

Musical score for piano, measures 48-51. The score is in G major and 4/4 time. It features a melody in the right hand and a bass line in the left hand. The key signature has one sharp (F#). The time signature changes from 4/4 to 3/4 at measure 50. Dynamics include piano (p) marking.

52

Pno

Musical score for piano, measures 52-55. The score is in G major and 4/4 time. It features a melody in the right hand and a bass line in the left hand. The key signature has one sharp (F#). Dynamics include piano (p) marking.



56

Pno

60

Pno

64

Pno

68

Pno

*f*

*p*

Sub...

72

Pno

sub *f* r.h. only *p*

76 *8va*  
Pno *r.h. cresc.*

80 *8va*  
Pno *f* *p*

84 *8va*

87 *8va* *distinto*

91 *cresc*

96 247

Pno

*f*

101

Pno

*f ben articolato*

106

Pno

110

Pno

114

Pno

117

Pno

Musical score for piano, measures 117-120. The right hand has a melodic line with a slur over measures 117-119. The left hand has a rhythmic accompaniment with various accidentals and dynamics.

121

Pno

Musical score for piano, measures 121-124. The right hand has a melodic line with a slur over measures 121-123. The left hand has a rhythmic accompaniment with various accidentals and dynamics.

125

Pno

*furioso*

Musical score for piano, measures 125-128. The right hand has a melodic line with a slur over measures 125-127. The left hand has a rhythmic accompaniment with various accidentals and dynamics. The word *furioso* is written in the middle of the system.

129

Pno

Musical score for piano, measures 129-132. The right hand has a melodic line with a slur over measures 129-131. The left hand has a rhythmic accompaniment with various accidentals and dynamics.

Pno

132  $b\#$

*dim e poco rall*

Pno

slower  $J. = 108$

134

*sub. fff*

Pno

137

8va

Pno

140

8va

*8va*

Pno

*a tempo*  $\text{♩} = 90$

Pno

*p*

Pno

Pno

Pno

*cantabile*

Pno

163

*pp*

Pno

165

*pp*

Pno

168

*pp*

Pno

171

*pp*

Pno

174

*pp*

177

Pno



180

Pno

*pp*



186

Pno

*dim*



191

Pno

*l.h. quasi accelerando until end.*



195

Pno

*ppp*





# Etude 4

Measures 1-8 of Etude 4. The piece is in 4/4 time and D major. The right hand has whole rests for the first six measures, followed by a descending eighth-note scale in the seventh and eighth measures. The left hand plays a steady eighth-note bass line.

Measures 9-16 of Etude 4. The right hand plays a descending eighth-note scale in the first four measures, then has whole rests. The left hand continues the eighth-note bass line.

Measures 17-23 of Etude 4. The right hand has whole rests for the first three measures, then plays a descending eighth-note scale in the last three measures. The left hand continues the eighth-note bass line.

Measures 24-30 of Etude 4. The right hand plays a descending eighth-note scale in the first six measures, then has whole rests. The left hand continues the eighth-note bass line.

Measures 31-38 of Etude 4. The right hand plays a descending eighth-note scale in the first six measures, then has whole rests. The left hand continues the eighth-note bass line.

38

Musical score for measures 38-43. The system consists of two staves. The upper staff is in treble clef with a key signature of two sharps (F# and C#). The lower staff is in bass clef. The music features a complex texture with many beamed notes and rests. Measure 43 ends with a fermata over a whole note.

44

Musical score for measures 44-49. The system consists of two staves. The upper staff is in treble clef with a key signature of one flat (Bb). The lower staff is in bass clef. The music is characterized by dense, multi-measure rests in the upper staff and complex, multi-measure chords in the lower staff. Measure 49 ends with a fermata over a whole note.

50

Musical score for measures 50-56. The system consists of two staves. The upper staff is in treble clef with a key signature of two sharps (F# and C#). The lower staff is in bass clef. The music features a complex texture with many beamed notes and rests. Measure 56 ends with a fermata over a whole note.

57

Musical score for measures 57-61. The system consists of two staves. The upper staff is in treble clef with a key signature of two sharps (F# and C#). The lower staff is in bass clef. The music features a complex texture with many beamed notes and rests. Measure 61 ends with a fermata over a whole note.

62

Musical score for measures 62-67. The system consists of two staves. The upper staff is in treble clef with a key signature of one flat (Bb). The lower staff is in bass clef. The music features a complex texture with many beamed notes and rests. Measure 67 ends with a fermata over a whole note.

70

Musical score for measures 70-73, system 1. The score is written on a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is 16/8. The music consists of several measures with various notes, rests, and accidentals. A dashed line is present on the right side of the page.

73

Musical score for measures 70-73, system 2. The score is written on a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is 16/8. The music consists of several measures with various notes, rests, and accidentals.

66

Musical score for measures 66-75. The score is written on two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has two sharps (F# and C#). Measure 66 features a melodic line in the upper staff with a slur and a fermata over the final note. The lower staff provides harmonic accompaniment with chords and moving lines. Measures 67-75 continue the melodic and harmonic development, with various articulations and dynamics.

68

Musical score for measures 68-75. The score is written on two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has two sharps (F# and C#). Measure 68 features a melodic line in the upper staff with a slur and a fermata over the final note. The lower staff provides harmonic accompaniment with chords and moving lines. Measures 69-75 continue the melodic and harmonic development, with various articulations and dynamics.

8va

75 256

Musical notation for measures 75 and 76. Measure 75 features a series of five triplets in both the treble and bass staves. Measure 76 continues with a melodic line in the treble and a bass line in the bass staff.

77

Musical notation for measures 77 and 78. Measure 77 shows a complex melodic pattern in the treble staff. Measure 78 features a bass line with a prominent tritone interval.

79

Musical notation for measures 79 and 80. Measure 79 has a treble staff with a series of chords and a bass line with a descending line. Measure 80 continues the bass line with a tritone.

81

Musical notation for measures 81 and 82. Measure 81 has a treble staff with a melodic line and a bass line with a tritone. Measure 82 features a treble staff with a melodic line and a bass line with a tritone.

84

Musical notation for measures 84, 85, 86, and 87. Measure 84 has a treble staff with a chord and a bass line with a tritone. Measure 85 has a treble staff with a chord and a bass line with a tritone. Measure 86 has a treble staff with a chord and a bass line with a tritone. Measure 87 has a treble staff with a chord and a bass line with a tritone. The page number 32 is visible in the bottom right corner.

876

103

This system contains measures 876 through 881. It features a treble and bass staff with complex chordal textures and melodic lines. Measure 876 is marked with a first ending bracket. Measure 881 includes a fermata over a chord.

66

This system contains measures 882 through 887. The music continues with dense harmonic structures and melodic movement in both hands.

93

This system contains measures 888 through 893. The notation includes various rhythmic values and accidentals, maintaining the complex texture.

257

89

This system contains measures 894 through 899. It features a treble staff with a melodic line and a bass staff with a more rhythmic accompaniment. Measure 897 has a fermata. Measure 899 is marked with a first ending bracket.

107

Musical score for measures 107-115. The system consists of three staves: a grand staff (treble and bass clefs) and a separate treble clef staff. The grand staff contains chords and some melodic fragments. The separate staff contains a melodic line with various accidentals and dynamics. The key signature changes from one sharp to two sharps between measures 107 and 108.

116

Musical score for measures 116-124. The system consists of three staves: a grand staff (treble and bass clefs) and a separate treble clef staff. The grand staff contains chords and some melodic fragments. The separate staff contains a melodic line with various accidentals and dynamics. The key signature changes from two sharps to one sharp between measures 116 and 117.

125

8va

Musical score for measures 125-129. The system consists of three staves: a grand staff (treble and bass clefs) and a separate treble clef staff. The grand staff contains chords and some melodic fragments. The separate staff contains a melodic line with various accidentals and dynamics. A dashed line labeled '8va' spans across the top of the system, indicating an octave shift for the melodic line. The key signature changes from one sharp to two sharps between measures 125 and 126.

11

9

8

5

♩ = 72

# Etude 5



Musical score for measures 20 and 21. The right hand features a complex melodic line with many accidentals and a triplet in measure 20. The left hand has a simple accompaniment. A dashed line indicates a first ending in measure 21.

Musical score for measures 18 and 19. The right hand has a melodic line with many accidentals. The left hand has a simple accompaniment. A dashed line indicates a first ending in measure 19.

Musical score for measures 16 and 17. The right hand has a melodic line with many accidentals and a 'sub' marking above measure 17. The left hand has a simple accompaniment. A dashed line indicates a first ending in measure 17.

Musical score for measures 14 and 15. The right hand has a melodic line with many accidentals and a '5' marking above measure 14. The left hand has a simple accompaniment. A dashed line indicates a first ending in measure 15.

Musical score for measures 12 and 13. The right hand has a melodic line with many accidentals. The left hand has a simple accompaniment. A dashed line indicates a first ending in measure 13.

24

Musical score for measures 24-25. The system consists of two staves. The upper staff is in treble clef and contains a complex melodic line with many accidentals. The lower staff is in bass clef and contains a bass line with some rests and chords. The key signature has one sharp (F#).

26

Musical score for measures 26-27. The system consists of two staves. The upper staff is in treble clef and contains a complex melodic line with many accidentals. The lower staff is in bass clef and contains a bass line with some rests and chords. The key signature has one sharp (F#). A fermata is placed over the final note of the upper staff in measure 27. The text "Sub...!" is written below the bass staff in measure 27.

♩5 = ♩, ♩ = 112

28

Musical score for measures 28-29. The system consists of two staves. The upper staff is in treble clef and contains a complex melodic line with many accidentals. The lower staff is in bass clef and contains a bass line with some rests and chords. The key signature has one sharp (F#). The text "15<sup>ma</sup>" is written above the bass staff in both measures 28 and 29.

30

Musical score for measures 30-31. The system consists of two staves. The upper staff is in treble clef and contains a complex melodic line with many accidentals. The lower staff is in bass clef and contains a bass line with some rests and chords. The key signature has one sharp (F#). The time signature changes from 4/4 to 3/4 at the start of measure 31.

32

Musical score for measures 32-33. The system consists of two staves. The upper staff is in treble clef and contains a complex melodic line with many accidentals. The lower staff is in bass clef and contains a bass line with some rests and chords. The key signature has one sharp (F#). The time signature changes from 3/4 to 6/8 at the start of measure 33.

34

Musical notation for measures 34 and 35. The piece is in 3/4 time. Measure 34 contains a treble clef, a key signature of one sharp (F#), and a common time signature. The melody in the right hand consists of eighth notes, with a triplet of eighth notes in the final measure. The left hand provides a steady accompaniment of eighth notes. A dynamic marking of *mf* is present at the start of measure 35.

36

$\text{♩} = \text{♩} \text{ } \text{♩} = 112$

Musical notation for measures 36 and 37. Measure 36 continues the melody from the previous system. Measure 37 features a *Sw* (Sustained) marking above the staff. The right hand melody includes a triplet of eighth notes. The left hand accompaniment remains consistent.

38

Musical notation for measures 38 and 39. Measure 38 begins with a *Sw* marking. The right hand melody shows a descending line of eighth notes. Measure 39 continues this descending line. The left hand accompaniment consists of eighth notes.

40

Musical notation for measures 40, 41, and 42. Measure 40 starts with a *Sw* marking. Measure 41 contains a *ff* (fortissimo) dynamic marking. Measure 42 ends with a double bar line and a repeat sign. The right hand melody is more active, featuring sixteenth notes and eighth notes. The left hand accompaniment is also more complex, with sixteenth notes.

43

$\text{♩} = \text{♩} \text{ } \text{♩} = 148$

Musical notation for measures 43, 44, 45, and 46. Measure 43 begins with a new tempo marking:  $\text{♩} = \text{♩} \text{ } \text{♩} = 148$ . The right hand melody is more melodic, featuring quarter and eighth notes. The left hand accompaniment is simpler, with quarter notes. The piece concludes with a double bar line and a repeat sign in measure 46.

47

Musical notation for measures 47-50. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The music features a complex melodic line in the right hand with various accidentals (sharps, flats, naturals) and a steady accompaniment in the left hand. Measure 50 ends with a double bar line and repeat dots.

♩ = ♩ ♩ = 72      ♩ = 5 →      ♩ = 90

8<sup>va</sup>-----|

51

Musical notation for measures 51-52. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Measure 51 contains a quintuplet in the right hand. Measure 52 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 52 ends with a double bar line and repeat dots.

8<sup>ub</sup>-----|

8<sup>va</sup>-----|

53

Musical notation for measures 53-55. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Measure 53 contains a triplet in the right hand. Measure 54 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 55 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 55 ends with a double bar line and repeat dots.

8<sup>ub</sup>-----|      8<sup>ub</sup> |      8<sup>ub</sup> |      8<sup>ub</sup> |      8<sup>ub</sup> |

56

Musical notation for measures 56-58. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Measure 56 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 57 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 58 features a complex melodic line in the right hand and a rhythmic accompaniment in the left hand. Measure 58 ends with a double bar line and repeat dots.

8<sup>ub</sup>-----|

Musical score system 99, featuring a treble and bass staff. The treble staff contains a melodic line with a fermata over a dotted quarter note. The bass staff contains a rhythmic accompaniment with a fermata over a dotted quarter note. The system is numbered 99 in the bottom right corner.

Musical score system 64, featuring a treble and bass staff. The treble staff contains a melodic line with a fermata over a dotted quarter note. The bass staff contains a rhythmic accompaniment with a fermata over a dotted quarter note. The system is numbered 64 in the bottom right corner. A tempo marking  $\text{♩} = 165$  is located below the bass staff.

Musical score system 62, featuring a treble and bass staff. The treble staff contains a melodic line with a fermata over a dotted quarter note. The bass staff contains a rhythmic accompaniment with a fermata over a dotted quarter note. The system is numbered 62 in the bottom right corner.

Musical score system 60, featuring a treble and bass staff. The treble staff contains a melodic line with a fermata over a dotted quarter note. The bass staff contains a rhythmic accompaniment with a fermata over a dotted quarter note. The system is numbered 60 in the bottom right corner.

Musical score system 59, featuring a treble and bass staff. The treble staff contains a melodic line with a fermata over a dotted quarter note. The bass staff contains a rhythmic accompaniment with a fermata over a dotted quarter note. The system is numbered 59 in the bottom right corner.

67

Musical notation for measures 67-68. The system consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Measure 67 contains a complex melodic line with many accidentals. Measure 68 features a bass line with a '5' fingering and a '7' time signature.

69

Musical notation for measures 69-72. The system consists of two staves. Measure 69 continues the melodic line. Measure 70 has a tempo marking of  $\text{♩} = 90$ . Measures 71 and 72 show a series of chords in the right hand and a bass line in the left hand.

73

Musical notation for measures 73-76. The system consists of two staves. Measure 73 has a '6' fingering. Measure 74 has a '7' fingering. Measures 75 and 76 feature a series of chords in the right hand and a bass line in the left hand.

77

Musical notation for measures 77-78. The system consists of two staves. Measure 77 features a complex melodic line with many accidentals. Measure 78 features a bass line with a '9' fingering.

78

Musical notation for measures 78-81. The system consists of two staves. Measure 78 features a complex melodic line with many accidentals. Measures 79, 80, and 81 feature a bass line with a '15<sup>ma</sup>' fingering.

84

*15<sup>ma</sup>*

*15<sup>ma</sup>*

The image shows a musical score for five measures, numbered 84 to 88. The music is written on a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The key signature has one flat (B-flat). The time signature is 4/4. In measure 84, there is a 15th-measure rest in the treble staff, indicated by a dashed line and the label "15<sup>ma</sup>". The melody begins in measure 85 with a quarter note G4, followed by quarter notes A4, B4, and C5. Measure 86 contains a quarter note G4, quarter notes A4 and B4, and a quarter note C5. Measure 87 features a 15th-measure rest in the treble staff, indicated by a dashed line and the label "15<sup>ma</sup>", followed by a quarter note G4. Measure 88 contains a quarter note G4, quarter notes A4 and B4, and a quarter note C5. The bass staff contains whole rests for all five measures.