

# **Beethoven First Symphony: An analyst's quest for unity.**

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My wife Jolande heard my repeated musings on the symphony for years and never cut me short. Astonishing!

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## Contents:

<b>1. Introduction.</b>	1
1:2 Preface: from the Writer to the Reader.	3
<b>2. The Case for Cell One: the Main Themes.</b>	4
2:2 A Survey of the Main Themes.	4
2:3 A Premature Summary of the Case for Cell One.	10
2:4 Permutation of the Pitches of Cell One.	13
2:5 A Moment of Crisis.	16
<b>3. Looking for the Subdominant.</b>	17
3:2 Review of the Subdominant in the Symphony.	28
<b>4. Another Cell? The Descending Fifth.</b>	29
4:2 Summary: Cell Two in the Symphony.	47
<b>5. The Role of Cell One in the Symphony as a Whole.</b>	48
5:1 Interlude: Interim Thoughts.	48
5:2 Analysis Resumed.	50
5:3 Interlude Continued.	60
5:4 Analysis Continued.	61
5:5 Insert: A Common Cadence?	65
5:6 Analysis Continued.	67
5:7 Interlude (another).	75
<b>6. The Introduction Reconsidered, the Four-note Cell Three - and into the Symphony again.</b>	76
6:2 A Theoretical Moment.	77
6:3 Cell Three in the Symphony.	79
6:4 Digression.	83
6:5 Analysis Resumed.	84
6:6 Small Interlude.	98
6:7 Analysis Continued.	99
6:8 Reflection.	111
<b>7. The Semitone in the Major Scale, the Scale in Theory and Practice in the Fourth Movement (and earlier).</b>	113
7:2 Interlude (long): How Thematic are Scales?	116
7:3 The Fourth Movement Reconsidered.	123
7:4 Scales in the Fourth Movement.	125
7:5 Theoretical Interlude.	131
7:6 The Major Scale Tetrads in the Symphony, Including the Introduction. ...	133
7:7 Connecting the Close and the Beginning.	136
<b>8. Conclusion.</b>	140
8:2 From the Writer to the Reader.	143
<b>Appendix: Conventional Segments of the Form for Each Movement.</b>	146

# **Beethoven First Symphony: An analyst's quest for unity**

## **SECTION 1**

### **Introduction.**

One issue which occurs to many who listen to classical music is the unity of a multi-movement work. Is a four-movement symphony a single work, or is it four pieces played in sequence? It has a single title and usually a shared work-number, but is it a singular thing or an album of pieces? If the answer is that it is a single work, then what are the connections that bind the movements together? What do they have in common?

The question partly arises from the inherited values through which we approach the repertoire. We generally value 'originality', which is prized over convention. We look for a work to have a unique identity, rather than taking that work as just one contribution to an intertextual community of pieces. This is somewhat paradoxical as there is a requirement for a context to demonstrate originality. An unexpected or original move in a conventional sonata form requires a context for this to be recognised as such.

The question of originality penetrates into the frame of the single work, where there are passages which appear highly characterised and idiosyncratic, and others which seem to use a more generic musical language. One might expect to find originality in the themes and common material in passagework. But is it really the case that there are firm boundaries between two extremes? To answer this we will have to examine both the particularities of the work and the generalities of the tonal language it employs.

Further, we have the gravitational pull of 'organicism' and its appeal to an interconnectedness in Nature that art ought to emulate. That is, in addition to conventional external forces which determine that something is a single artwork, there could be internal connections that bind the piece together.

One ought to bear in mind that our questions about a musical work might not be in the thoughts of people at the time of production and first performance. The questions we ask are formed from the history we have experienced and our contemporary concerns, and cross-examining works with such questions may produce strange results, as the works might not have been conceived in those terms. On the other hand, a general issue such as 'unity' might well be an issue both then and now. One could approach this by examining the cultural context of the piece. However, whatever the findings there, one would still have to look for the evidence for unity (or not) within the confines of the work itself. The work carries the evidence of its concerns.

We have the right to ask our questions as part of our development and thinking. With luck, and an open mind, the cross-examination could be more like a dialogue, where the work will offer thoughts the initial question had not anticipated. We do not know what we will find until we look.

Beethoven's first symphony has no obvious signs of the Romantic revolutions that were to come. It is a late Viennese Classical symphony, cast in the classical forms, in the same world, especially, as the late symphonies of Haydn. Looking forward, we know that these conventions were to be tested and twisted by Beethoven and others. That, of course, this work cannot know. Of course the work is written against the background of prior works, and knowledge of them will be embedded in the music. However, one still has to capture what this particular symphony contains before comparisons with other works can be made.

The study here considers what is within this work, with a filtering out of context. Logically the purest form of this empirical approach cannot exist, as it would require the construction of a language free from associations and historical definitions. To describe a chord as a dominant-seventh presupposes the harmonic world of Western classical music, within which this work exists, and this carries with it assumptions and values. On this basis the essay also uses the standard terminology for the sections of the form (e.g. first subject, recapitulation, coda etc.). I have been wary of suggesting, for example, that a theme is in 'an unexpected key' as this leads out from the specific work to the general context, but sometimes this line is crossed for a moment. In general, the essay is concerned with cross-relations within the symphony and not relations to the world outside.

To be clear, I do not think that the historical position of the work and the literature of music analysis are unimportant. On the contrary, artworks and musing on artworks ought to be intertwined with as many dimensions and views from as many perspectives as possible, as this is the dialogue which gives art much of its depth and meaning. This essay has a narrow focus, but it is within this wider context.

The study here is predisposed to believe that the work is unified and will firstly be looking to make that case. However, this is intended to be more of a methodological ruse rather than a pre-conclusion: at the end of the day one can still say the evidence is unconvincing or inconclusive. It is hard to imagine how to look for evidence for a work being un-unified. To make that case, one would surely have to first see if the work was unified and find no evidence for it, which leads us back to the same starting point, looking for unity.

This study makes another assumption: that the unifying factors are liable to be, or even ought to be, at the start of the work. The essay eschews any explicit reference to background knowledge, so this will have to rest on the proposition that it seems natural to state the topic at the outset, where the attention of the listener is fully engaged and has the most open set of expectations. In the case of Beethoven's First Symphony this is already interesting, as the work has a slow introduction. One might wonder if the introduction is simply a curtain raiser to the main event, and if the real drama begins with the Allegro.

One has to ask what are the elements which provide musical unity. This study takes the familiar view that this will be through motivic cross-reference, particularly in relation to pitch. A steeping in the work begins to suggest there are many other characteristics to explore, such as contour and direction of melodies, rhythmic placement in relation to the metre, registers and tessitura, dynamic contrast (and similarity) between sections or locally, diminuendos and crescendos together with sensations of travelling and arrival etc. All wonderfully intriguing – but for another day. This topic first.

## **1:2 Preface: from the Writer to the Reader.**

This essay started as a response to a question on motivic unity when I thought the student was skating over the surface. I set to work with the frame of mind of 'let me show you the sort of thing that might be done'. There were practical problems: the student was not at university and had limited access to the literature and during the coronavirus lockdown libraries were closed anyhow. I wanted to demonstrate what might be found in the work with just the score and recordings. I came to think of this as 'a naïve study'. True, both the object to be studied and the terms of the study are part of the inherited culture: so not really such an innocent encounter.

The term 'naïve', which I later dropped, indicated that the essay does not have any references to authors of well-known and developed analytical methods or the historical context of the work. Consequently, there are no footnotes and no bibliography. Furthermore, a decision was made not even to use the name of the composer. This was partly to reduce the historical element as far as possible, with the added aim of avoiding the nagging matter of intent by a creator. Sometimes the work is personified, as an affectation of writing style. The emphasis is on how things can be related within the work, and if these things can be found to have been drawn from specific elements in the common musical language.

One advantage of this focus is that it requires little technical language aside from the terms common when discussing tonal music. These include the terms of formal analysis (e.g. second subject, recapitulation etc.) not least as this allows a quick identification to be made of the passage being discussed. There is an outline of the form of the movements of the symphony in the appendix at the end of the essay.

What is this essay, then? Well, I hope it is an account of looking at the piece 'empirically' as far as I can achieve this. While the essay has reduced the tools and terminology to the minimum, I hope that the results (you will have to read to the end to know this) do in fact produce some surprising, or at least interesting, findings and observations. The findings certainly surprised me!





The second subject opening (bar 52, Ex 2/2) indeed has features in common with the first subject.

First movement second subject  
cell 1

Ex 2/2

*p*

There is an unadorned rising fourth, dominant to tonic, across the barline, short to long. One might think of this as the 'pure interval' and the first subject as 'with an added ornament', or one could say that the leading note has been filtered out for the second subject. In the recapitulation this theme then appears in C in bar 205, where the correspondence seems even stronger (Ex 2/3).

cell 1

Ex 2/3

*p*

We can take from this comparison the option of variation by filling in intervals (so towards the scale), or the filtering out of in-between pitches (so in the direction of the arpeggio). In Ex 2/3, if one liked, one could take the leading note as part of the cell. This cuts against the phrasing, but offers the possibility of transformation of pitches by permutation, for example that the GBC of the first subject becomes GCB in the second.

There is also a closing melodic fragment from bar 100 (Ex 2/4).

Ex 2/4

First movement closing subject

99 cell 1

*p* *sf* *sf* *sf* *ff*

cell 1! cell 1! cell 1!

This does permute the order of the intervals, so semitone rising and (filled) fourth falling – the truncated versions following give the central core of the motive. Or one could say (taking the transposition in the tonic from bar 253-259, Ex 2/5) that the original pitches GBC have become BCG.

First movement closing subject

Ex 2/5

253

*p* *sf* *sf* *sf* *sf* *ff*

(ii) Cell One in the Themes of the Slow Movement.

The slow second movement fugato theme (Ex 2/6) has the rising fourth as the initial gesture.

Second movement first subject

Ex 2/6

pp

cell 1

cell 1

As in the first movement, it is an anacrusis from the dominant to the tonic. It has a short note followed by a repeated notes (like bar 15, first movement) which can be heard as a divided long note. The rise has a version of cell one now on the pitches of tonic, mediant and subdominant, which duplicate the intervals of the cell on a different part of the scale.

The slow movement second theme melody (bar 26, Ex 2/7) lacks the interval of the fourth from cell one. There is a rising sixth, but the total duration of the second note is the bar, so this has the short/long relationship.

Second movement second subject

Ex 2/7

p

cell one

cell one

The instinct is to say that the fourth is essential for a connection to be made, and that this is too distant a resemblance to qualify. To make a connection we would have to introduce a transformation of 'increase or decrease of interval'. (Though were the first note a C then it would form cell one [CEF]: but it isn't.)

Not all is lost though, as while the melody only contentiously references cell one, the bass line (albeit using simple cadential clichés) does have the rising fourth across the barline, and indeed has the leading note before this (the issue of clichés and their relevance reappears later in this essay).

One could say here that cell one forms the accompaniment in the bass, and a countermelody has been added on top. If the bass is allowed as an instance of the cell, then it is another permutation: BGC. One might even hear the fourths and leading note in the bass around bar 32 as a reshuffling of the same few cards.

(iii) Cell One in the Themes of the Minuet.

The first eight bars of the minuet have cell one in full flow (Ex 2/8).

Minuet main subject  
Ex 2/8  
p  
cresc.  
f

The theme can be heard at first as the fourth G-C, second the fourth D-G, then third as a varied fourth G<sup>#</sup>-C, a small run up to D and a close on the dominant. The reprise has a different ending, even of these eight bars (Ex 2/9). The final six beats give the simplest shape to the phrase, four ascending fourths (with the third varied) ascending two octaves.

Minuet reprise  
Ex 2/9  
ff

To go beyond the incipit for a moment, this does seem to be a reference to the first subject area of the first movement. The relationship is far stronger than a simple use of the cell one and the fourth. The eight bars of the minuet can be taken as a version of the first seven bars of the Allegro first movement, including the final rise via C<sup>#</sup> to the top D, and one might say that the final G of the minuet 'stands for' the passage of the first movement dominant seventh chord from bars 25-30. It has the same function: a temporary move to the dominant (Ex 2/10).

First Movement  
Ex 2/10  
p  
sf

Furthermore, one aspect of the development of cell one in the first movement is taken into the minuet: the subdivision of a long note into two repeated notes. In the first movement the C's get repeated in quavers, in the minuet it is the E which is divided into crotchets.

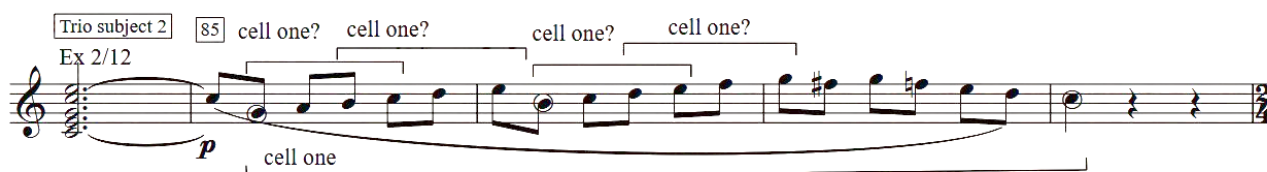
Not that the themes are identical of course, as the minuet is in triple time and now the ornamented arpeggios of the first movement are filled in with stepwise scales.

(iv) Cell One in the Themes of the Trio.

The trio mostly sets static chords in the wind against flowing quavers in the violins. The main motive is here, but it is considerably diluted. The opening (Ex 2/11) does have an anacrusis on the dominant note, but the C chord following has an E on top (though there is a C in the chord, of course).



The main direction of the violin melody (bars 85-88, Ex 2/12) is an arpeggio travelling upwards on the downbeats, reading CEG with a final C at the end.



Within this there are two scales of a sixth filling out the interval G-E and B-G. Only within this do we find cell one in quavers [C] GABC. It comes in the middle of the bar, not arriving on C across the barline. This might then look incidental, but it is indeed a filled-out fourth, and it is the specific G-C dominant – tonic fourth of the first movement.

Alternatively, one could notice that the scales leave from a G, then a B and arrive on a C at the end, so perhaps might be a slower cell one ornamented with scales of a sixth. Even further out one could say the sixth was made of overlapping fourths. This would move the cell onto the right metrical position, but all scales have fourths in them, so it is not certain that anything more than this is being pointed out.

(v) Cell One in the Themes of the Finale.

The lead-in to the fourth movement (bars 6-7, Ex 2/13) has the characteristic anacrusis from G filling in the fourth onto the downbeat with C, but now continues on up to the high G.

Fourth movement  
First subject  
Ex 2/13  
p  
cell one  
7  
cell one

The first four notes are cell one (contour, interval span, metrical position), filled-in with even notes at high speed, but are part of a scale which continues on to fill out the octave. The same scale reappears within the answering phrase in bars 10-11.

In the second subject (bar 56, Ex 2/14) the presence of cell one again has to be argued for.

Fourth movement  
Second subject  
Ex 2/14  
p  
56  
cell one  
cell one

There is no anacrusis, which is a big change, but the first two notes are the requested dominant and tonic (so a rising fourth), and the following note is indeed the leading note. So the central interval and the three pitches of the main motive are here.

Alternatively, one could take the first note of each bar and note that the 'lower voice' gives DF#G as evenly spaced pitches on the downbeat. The very fact that there are options makes the role of interpretation more evident.

### **2:3 A Premature Summary of the Case for Cell One.**

This summary does not amount to a full account of the presence of cell one in the symphony, as the description above is only of the main themes. That said, these are probably the most individual and characteristic elements in the symphony, so this is important. If the themes seemed totally unrelated then indeed it is hard to see why the work could not be described as a collection of random movements, no matter what else could be found in the work. There is probably enough evidence here for this not to be the case.

One can run back over the main themes of the movements and note there is a variety of transformations:

- i. In the fourth movement, the first theme cell one comes as the opening of an octave C scale on G in even semiquavers.
- ii. The minuet theme starts with the scale G-G (here with an F#) and on up to a D, in a 2+1 triple rhythm.
- iii. In the trio the second theme rises a sixth in even notes (with fourths inevitably embedded within them).
- iv. The first movement first subject has one pitch in the filled fourth.
- v. The second movement first subject has an open fourth.
- vi. The first movement second subject and the fourth movement second subject have open fourths (like the start of the slow second movement).

There is a gradation in the amount of fill, the range from even notes to a short note followed by a longer note, and variation in the distance that the ascent is extended. With the first theme of the last movement the symphony arrives at (nearly – wait!) the least characterful element – a scale of the notes of C, but running from G-G. It is very close to being nothing more than elementary material, but it can be traced back through a chain of variants to the opening of the first subject, itself something which, though far from elegant or sophisticated, is 'original' and specific to this work.

Both the second movement second subject and the beginning of the trio have the characteristics of cell one: except the opening interval has been increased to a major sixth. It may well be that the ear will hear more similarity between the first movement first subject and the trio than the first movement and the simple scale of the finale, and the fourth interval need not be the necessary criteria for connections, as it is one of the elements which can be varied. Perhaps the jump to E in these two themes has to do with bigger pitch concerns, rather than a deviation from a motivic edict.

Perhaps one should broaden the character to 'contour' and take differences as variations rather than lack of identity. Reducing to this element would give the options of up, down and the same. The first two could be called inversions. On the one hand this seems absurd as nearly everything becomes related, on the other how does one hear the second subject in the slow movement, and then the start of the development? And then the wind dialogue following? What is it they share and what are the differences? I hear the continuity of metre and rhythm as connecting together different intervals. But this is another study.

As a footnote to this, one can add some notes on the role of non-pitch elements. The first is that most of the themes start with an anacrusis, rising across the barline. There are ten themes listed considered so far (if one takes the trio as having a slow theme and a theme with quavers as two themes). Of these, only one starts on the downbeat: the second subject of the finale. Given that, as noted above, the content and the relative length of the anacrusis varies.

Most of the cells end on a metrical accent. Two exceptions are the trio second theme, where it is hard to make a decision as to whether there is any grouping of the quavers. The other is the finale theme (Ex 2/13).

Fourth movement  
First subject  
Ex 2/13

The finale theme rather neatly puts the barline in the middle of the semiquaver run (if one is interested in finding cell one), separating off the cell on GABC from the remaining DEFG – so the end high point G comes in mid-bar. A look ahead shows that the fall E-C, which takes up a bar at the start (bar 8, Ex 2/13 above) is compressed into a beat in bar 12 (Ex 2/15 below), which indicates that the piece plays with accent and metre in relation to the key pitches.

Fourth movement  
First subject continuation  
Ex 2/15

Additionally, the process observed in the first movement theme, the repetition of one of the notes in theme, is a common trait of the first subject in all four movements:

- The first subject first movement takes repeated tonics twice in bar 3 of the theme.
- The first subject in the slow second movement has the tonic twice before taking the tonic again as the upbeat of the next motive.
- The main subject of the minuet divides the minim E in two, later the dotted minim D into three.
- The finale theme repeats the G (and has some further repetitions as it unfolds). Three of these appear to be part of a family: the note after the anacrusis is re-struck.
- The second theme of the last movement has a similar character, although the anacrusis is different.
- The trio is based on a repeated chord.

- g. The second theme of the slow movement has repeated notes on beats one and three, so rather as if the middle beat (as found in the first theme in this movement) has been erased, and indeed they get filled in again with the Cs in the fifth bar (bar 31 Ex 2/7).

Second movement second subject

Ex 2/7 [27]

- h. The other two themes in the first movement do not have this characteristic at all.

Indeed, this is a topic which could be further explored. The continuation of the last movement theme (bars 15-19, Ex 2/15) has repeated notes in the melody as the line falls, and these make another kind of anacrusis, five repeated notes and an appoggiatura.

Fourth movement  
First subject continuation

Ex 2/15 [12]

Could this be a cell repeated in other movements?

Well, in the minuet in bar 11 we have two notes onto an appoggiatura (we are in triple time here remember), but at bar 19 (Ex 2/16) the lead in is extended to six beats. So not a question of exact identity, but of a feature - maybe a 'fingerprint', which can appear in different versions or stages of development.

Ex 2/16 [14] Minuet continuation



## 2:4 Permutation of the Pitches of Cell One.

To return to the main themes of the symphony and cell one, we can consider the possibility that there is an exploration of the permutation of the three pitches of cell one (and that all the other elements are subsidiary). Logically there are six permutations of cell one, as seen in the following list of examples:

1. GBC appears at the start of the Allegro, and arguably in the fourth movement second theme (at a distance of a minim, in the transposition DF#G), and in filled-out versions within other themes.

Ex 2/17a

First movement  
first subject

13

Ex 2/17b

Fourth movement  
Second subject

56

Ex 2/17c

Minuet  
opening

1

Ex 2/17d

Trio  
'consequent'

85

Ex 2/17e

Fourth movement  
Main theme

7

2. GCB is at the start of the first movement second subject and transposed in the recapitulation of the fourth movement second subject.

Ex 2/17f

First movement  
Second subject

206

Ex 2/17g

Fourth movement  
Second subject

192

3. BCG is at the closing theme of the first movement.

Ex 2/17h

254

First movement closing theme

4. BGC is somewhat hidden in the accompaniment in the second movement second subject.

Ex 2/17i

Second movement second subject

27

5. CBG is tenuously found in the second movement second subject.

Ex 2/17j

Second movement second subject

31

6. CGB is a forced interpretation of the first movement closing theme.

Ex 2/17k

First movement closing subject

254

The argument for there being a process of permutation gets weaker as we read through the list of examples above.

One can imagine that the analysts desire for neatness and completeness is not identical to a desire for 'unity in variety'. The analyst might want to see all the options explored to have completeness, but the work has only to provide references to a common pool of possibilities. Who aside from the analyst would catalogue the permutations of three notes in the themes to check they were all there?

Allowing that some connections are stronger than others, there does seem to be some good evidence to regard the four movements as unified by a network of connections related to cell one of the first movement.

There is some evidence of permutation of the three pitches, though not all the permutations can be found. However, all the themes have some relation to cell one, even if the analytic arguments seem to range from strong to very dubious.

## 2:5 A Moment of Crisis.

But one moment, the reader thinks, this is indeed a premature summary, as there has been no mention of the slow introduction to the symphony. Why not?

The answer is a rather embarrassing one for the case for the defence that the work is motivically unified: there is no immediate sign of cell one in the introduction. For sure, note-to-note there is no special pulling out of the G-C fourth. There is a scalic fourth at the start (Ex 2/18), that can be extracted from the higher notes of the first four bars (E-A), and another from the B of bar 5 to the E of bar 8.

Ex 2/18  
Introduction

The musical score for Ex 2/18, Introduction, is written in 2/4 time and C major. It consists of two staves. The first staff begins with a treble clef and a key signature of one flat (B-flat). The first measure is marked *fp* and contains a first ending bracket. The second measure is also marked *fp* and features a bracket labeled "cell 1?". The third measure is marked *cresc.*, the fourth *f*, the fifth *p*, the sixth *f*, the seventh *p*, and the eighth *f*. The second staff continues the melody, with measures marked *cresc.*, *f*, *p*, *f*, *p*, *f*, *p*, and *f* respectively. The piece concludes with a double bar line.

This is intriguing, because it looks like a broken ascent from E up to E, first E-A (chromatically), an octave drop, and then an ascent from B-E (basically diatonically). So, an octave scale of C major notes, but starting and ending on the mediant. Two ascending fourths, but a rather different cell one, as this is more a background structure than a surface motive. The inserted B-C in bar two is mysterious. There are two ascending fourths, but there is no sign of any special interest in the third pitch of the three-note cell.

The introduction offers us many semitones, and rather a mixed bag of lines underpinned by familiar chord progression. Well, familiar enough progressions: aside from the elephant in the room in that the symphony starts off in quite the wrong way by having a  $V^7-I$  cadence into F. If the premise is that the opening of the work contains the key which unlocks all the secrets, then maybe we have been looking on the wrong direction. Rather alarmingly, the key of F, or even the pitch F, is something which has hardly come up in the consideration of the way cell one appears in the themes of the work which follow the introduction. It is not as if cell one has to be deduced by analysis at the start of the Allegro, as it has four varied repetitions in the first four bars alone. This is a crisis realisation, as the whole symphony seems not to be unified by the cell which connects all themes of the later movements, because it is so weakly evident in the introduction.

Unpromising as it now seems, we could choose to sail on, even though the sea is choppy and there is no land in sight ahead. Or we could abandon the journey and say there is nothing to be found, or, even worse, we are incapable of finding anything. Anyway, we should recall the observations so far: there is something there, surely, and if so, there might well be something else if one only can find the direction. There are more things to be explored before the project of demonstrating the symphony as a unified work is dismissed as fantasy. So as a start: just how far is the key of F marked out or used in the rest of the symphony? If there is one single central topic, is the role of the subdominant the one?

## SECTION THREE

### Looking for the Subdominant.

If we pay attention to the very start of the slow introduction to the symphony there is something provoking in the way the piece begins with a dissonance. Not only that, but the B<sup>b</sup> added to the C chord immediately leads the harmony away from the expected tonic C (if one had read the programme) to the subdominant F (Ex 3/1).

Ex 3/1  
Adagio molto

1

*fp* *fp* *cresc.* *f* *p*

Different responses are possible: we could take the view that this is 'searching for the start of the symphony' and the search is depicted by first looking in the wrong direction. If so, then the first two chords might be near random – just one possible example of a progression drawn from a range of options with the requirement of being 'not in C major'.

Another possibility is that one hears the piece as starting in mid-flow. The culturally attuned listener knows that the exposition will be repeated (though far less likely the introduction will be as well), but perhaps the lead-back might come with the repeat of this section and the listener will have the 'back story' as to why the music opens as it does? Or perhaps the opening is alerting the listener for what will be a returning musical topic of the piece: the relation of the tonic to the subdominant.

As yet we have to hold an open mind on what exactly 'the subdominant' might mean: at the strongest it is the key of F with full harmonic support and context, perhaps at the next strongest F is emphasised as an F triad, and most malleable and least grounded could be the pitch of F, or even a specific register, such as F<sup>5</sup> at the top of the treble stave.

Alternatively (or additionally), it might be the fact the melody has a semitone, in this case rising, and here specifically E to F. We would have to allow the top line a privileged status over that of the more abstract chord and the even more abstract key. But to further the investigation we can pose the question whether this piece in C will be especially interested in the relation of the tonic (pitch, key or chord) to the subdominant.

(i) The Subdominant in the Introduction.

The introduction offers little more by way of 'explanation' of the first two chords. The following chord of G<sup>7</sup> turns the B<sup>b</sup> to B natural and comes with an F natural. An interrupted cadence leads to a chord of A minor, and then a slow progression through common chords (with some strengthening chromaticism for the lead to G and from G<sup>#</sup> to A) heads towards the C major of the Allegro. The chords with F in the bass are D minor in first inversion (bar 8, Ex 3/2), the next is an F chord till the wind turn it into a D minor chord (bar 10). F major, even as a chord, is hardly there, and if so, it is embedded within simple chord progressions.

Ex 3/2

Musical score for Ex 3/2, showing piano accompaniment. The score is in 2/4 time and consists of 10 measures. The first measure (bar 8) is marked with a box containing the number 8, and includes dynamics *f* and *tutti*. The second measure is marked with *p* and *cresc.*. The third measure is marked with *f*. The fourth measure is marked with *f*. The fifth measure is marked with *f*. The sixth measure is marked with *f*. The seventh measure is marked with *f*. The eighth measure is marked with *f*. The ninth measure is marked with *f*. The tenth measure is marked with *f*. The score includes markings for 'wind' and 'str' (strings) and 'tutti'.

(ii) The Subdominant in the Allegro.

The first subject area of the first movement is striking for its static harmony: five bars of C, one bar's preparation for five bars of D minor, one bar to link to basically eight bars of dominant before the transition theme comes – over a C pedal for nine bars!

The second subject (bar 53) is harmonically more mobile, but being, as expected, in the dominant has moved further away from our particular interest in F.

There is an addendum to the second subject (bar 77, Ex 3/3), which sets off down the circle of fifths (only passing through F in the form of an F<sup>7</sup> chord) and gets nearly as far as E<sup>b</sup> before backtracking, regaining the G as a centre (bar 88) and the exposition comes to an end.

Musical score for Ex 3/3, showing piano accompaniment. The score is in 2/4 time and consists of 10 measures. The first measure (bar 77) is marked with a box containing the number 77 and 'Ex 3/3', and includes dynamics *pp*. The score includes markings for 'wind' and 'str' (strings) and 'tutti'.

If we are interested in F as a character in this drama then we are disappointed. Maybe this is to be expected: expositions generally go up to the dominant and not down to the subdominant.

The development section offers renewed possibility and hope, as the plan of the section is open to much greater variety. Indeed, this looks to have some foundation, as after a move to the tonic minor (bar 122, Ex 3/4) the piece goes down the circle of fifths starting with F minor in bar 126. However, F minor is not a destination, certainly in terms of duration. B<sup>b</sup>, once reached in bar 130, is prolonged as a focus for fourteen bars, as if uncertain if it were going to turn into a dominant seventh or not, before the fall continues further to E<sup>b</sup> (bar 144). We pass through F (minor) again at bar 148 but now heading in the reverse direction, upwards towards the G minor of bar 151.

122 Ex 3/4

The area of F minor is something passed through on the way to further destinations, and has the same texture, dynamic and motivic play as the music before and after it. It is not marked out as anything in particular. An astute listener might then have expected the G root in the bass to become the root of the dominant on G, and so signal the recapitulation in C. This is not what happens, or at least not without a further diversion and delay. The piece moves with great drama to a high pedal tone of E blasted out by the horns and trumpets, harmonised by chords of A minor and its dominant for a full fourteen bars (Ex 3/5).

Ex 3/5

159

The dominant seventh on G which comes after this is for wind alone, starting piano, before the full unison reappearance of the first subject (bar 178).

Would we have noted the role of F in the development if we did not have a prior agenda? Probably not: the drop to the key B<sup>b</sup> and the interruption and extension of the pitch E seem to have much greater import.

But as hope fades a small crumb is offered, the first deviation from the exposition in the recapitulation is a descent from C to an F chord (bar 190, Ex 3/6). Not that this seems to affect much, as the high F becomes the starting point of a stepwise rise and crescendo up a ninth to G (bar 198), which sets up the dominant preparation of the return of the second subject (bar 206). In the new transposition, one segment of this (bars 230-233) could be seen as a compressed review of the journey of the development (bar 122: C minor, bar 126: F minor, bar 130: B<sup>b</sup>, and bar 144: E<sup>b</sup>). Could be? Be that as it may, F is not a destination. The section ends with conventional cadential moves, sometimes using chord IV and sometimes chord VI. C major is achieved and then underlined (bar 259). Is it all over?

187 Ex 3/6

Well, not quite, as rather like the end of the exposition and the development sections, a simple triad (here C) gains a seventh, so the coda does at least head off to F (bar 263, Ex 3/7). The subdominant is there, but it is gone in a flash, replaced by an A<sup>7</sup> chord (bar 265) and one is led round the circle of fifths back to C (bar 271). The introduction could be seen as being in two parts: starting in F and working, with growing excitement, to the tonic C in bar 8, then a second section which first celebrates the key with alternating forte chords, before sinking back to piano for the opening allegro.

259 Ex 3/7

The passage from bars 263-276 can also be divided into two. Like the introduction it has a V-I progression to F and grows in intensity to the arrival at the tonic in bar 271, which is emphasised by alternating chords. With the tonic regained the alternating chords are faintly like those in bars eight and ten of the introduction, and the bass line making the interrupted cadence via a G<sup>#</sup> (as in bar 9) informs the harmony in both places.



The coda has no decrescendo, and the opening motive of the Allegro is hammered home in the bass. The final twenty-two bars of the coda are all on the chord of C, with motives drawn from the Allegro. These cross-connections might be something, but it is all rather general and the version in the coda is much simplified. After the resolution of the C<sup>7</sup> chord the F chord appears within standard harmonic formulas, and has no special underlining.

Taking the Adagio and Allegro as a self-contained unit, one can consider if the opening two chords of the symphony have affected the keys used in the rest of the movement. The position is uncomfortable, as while on the one hand there is nothing glaringly obvious and dramatic about appearances of the subdominant, on the other there are moves down the circle of fifths in the development section and at the beginning of the coda. It seems harsh to totally disregard those connections, but if one were looking to construct an argument that the first two chords of the introduction are central to the later music then one might like to see a stronger impact than this.

There is something here, but not that much.

### (iii) The Subdominant in the Slow Movement.

The slow second movement is in the key of F, so this at least is a fact to place on the scales in favour of the importance of the subdominant. While this is true, it is also unsurprising, as the classical slow movement is generally in another key and the subdominant is a standard option. One could argue backwards, and suggest that because the slow movement was to be in F that this was something to be referenced at the start of the symphony. It is not obvious why one would want to point out a conventional aspect of the symphonic form in this way, but if one were looking to 'unify the artwork' this might be a thought.

The harmonic motion inside the movement has some charm, as the fugato opening (standing for a first subject) has entries in F, C then F. The second subject area (bar 27) returns us to C major, as the dominant of F. There are three segments (bars 27, 42 and 53) which all fall harmonically from the sharp side towards C, so F major does not appear.

The development section makes a surprise journey to D<sup>b</sup> (bar 71 Ex 3/8) which unwinds onto a long preparation on the dominant C (bar 81) before the ornamented recapitulation in bar 101.

Ex 3/8

The final cadence is altered to allow the second subject area to appear in the home key of F (bar 127). The coda comes in two segments: the first taking the opening fugato theme as the starting point and the second (bar 182) the dotted repeated notes.

Within the frame of harmonic motion there is little here other than commonplace moves round the circle of fifths. The main keys are the tonic F and dominant C (and the dominant of the dominant). The move to D<sup>b</sup> marks a breakout from these closely related keys, but there seems no obvious connection made between this key and anything in the exposition and recapitulation.

Looking at the plan of the symphony from this point one can say that the moves to the dominant C in the slow movement brings the key back to that of the symphony as a whole. Looking forward one can see that the furthest limit in the minuet development section is also D<sup>b</sup>.

#### (iv) The Subdominant in the Minuet and Trio.

The eight-bar opening section of the minuet shoots up an octave and a half, and closes on the dominant chord: a subdominant chord in passing but no underlining as a key.

The development makes an interesting journey all the way to D<sup>b</sup> (bar 25), then creeps chromatically back to C (Ex 3/9), where there is a joyous return of the opening theme.

Ex 3/9

The image shows a musical score for piano accompaniment, labeled 'Ex 3/9'. It consists of two systems of staves. The first system is in 3/4 time and begins with a piano (*pp*) dynamic. A box containing the number '33' is placed above the first few notes. The second system continues the piece, featuring a *cresc.* (crescendo) marking and a *f* (forte) dynamic marking. The score includes various chordal textures and melodic lines in both the right and left hands.

Something needs to happen here, as the first eight bars headed to the dominant, and this section is required to end in the tonic.

The ascent is now pushed further to the full two octaves up to G (bar 52, Ex 3/10), but still closing on the dominant like the opening.

Ex 3/10

The musical score for Ex 3/10 consists of two staves, treble and bass. Bar 51 is marked with a box containing the number 51. The music features a series of chords and a melodic line in the bass. Dynamics include 'f' (forte) in bars 52, 53, and 54. The key signature has one sharp (F#).

The next four bars are an ascending C scale (broken in two) which includes a move to F halfway through before the tonic C is regained (bars 52-56). This destabilises the dominant and is an odd modulation down a step, fleeting though this is.

In the long coda there is a nice play with the Neapolitan chord as an ornament to the C chord (the same D<sup>b</sup> chord as the goal of the journey earlier), alternating with a diminished seventh with a D natural (rather like the slow movement in bars 82 and 84). The movement runs out with arpeggios up and down on the tonic and dominant. There is scant sign of the key of F in the minuet, though one might note the pitch F is there in the D<sup>b</sup> chord (as in bar 33).

Similarly, the trio has no special role for the key of F harmonically, even though IV in C is found, and even gets some sforzando marks (bars 127 and 131). The F chord does support the high F of the flute melody (bar 54), but as this is embedded in a I, IV, I<sup>c</sup>, V progression the chord does not draw much attention itself. The pitch F, though, is much in evidence, especially as upper neighbour note to the E below. One could simply say that in the trio the pitch F is often there, the chord in passing, and the key not at all.

If the theme of the symphony is the relation of the subdominant key to the tonic then in the minuet and trio it flashes past in the harmonisation of the C scale in the minuet in bars 51- 56. There are many interesting harmonic moves in the pair of movements, but the subdominant key is not amongst the more striking.

(v) The Subdominant in the Finale: Adagio and Allegro.

In the last movement most of the first subject exposition never touches the subdominant. The harmonies are on the sharp side, using the circle of fifths leading to C, as in A, D, G, C. Even the F chord is avoided, and the harmony prefers to use  $ii^7$  ( $Dm^7$ ) in the cadences.

When the move is made to the dominant for the second subject (bar 30), F major becomes ever more distant. The second subject is resolutely in G, with chords drawn from the sharp side of the circle of fifths.

The section ends with a linking passage (bar 86, Ex 3/11) which has an ornamented scale of CDEF, where the F comes as the seventh in a  $G^7$  chord, a structural moment of some drama. On the first hearing this facilitates the move back to the repeat of the exposition, and the second time leads into the development section (bar 96).

86 Ex 3/11

The musical score for Ex 3/11, bars 86-95, is presented in two systems. The first system (bars 86-90) shows a melodic line in the right hand with a strong emphasis on the F# note, which acts as the seventh of a G7 chord. The left hand provides a steady bass line. Dynamics are marked as *sf* (sforzando). The second system (bars 91-95) continues the melodic development, with dynamics ranging from *sf* to *fp* (fortissimo piano). The key signature remains one sharp.

The greater freedom of the development section offers the possibility of referencing the key of the opening of the symphony. Well, the piece first bypasses F major (by means of a diminished seventh and a move to D minor in bar 98), before crashing in under the subdominant in the key of  $B^b$  (bar 108, Ex 3/12).

Ex 3/12

102

The musical score for Ex 3/12, bars 102-108, is presented in two systems. The first system (bars 102-106) shows a melodic line in the right hand with a strong emphasis on the F# note, which acts as the seventh of a G7 chord. The left hand provides a steady bass line. Dynamics are marked as *p* (piano) and *pp* (pianissimo). The second system (bars 107-108) continues the melodic development, with dynamics ranging from *pp* to *ff* (fortissimo). The key signature changes to two flats ( $B^b$ ).

Indeed, this does lead to F (bar 122), arriving as chord V of B<sup>b</sup>, which remains an insecure centre to bar 138, but then heads off with growing determination to a sustained G dominant seventh preparation (bar 148). The V<sup>7</sup> chord disappears in some contrary-motion scales, which are the return of the first subject in C major (bar 162).

The surprise chord of the development, underlined fortissimo, is B<sup>b</sup> major, not a feature of the introduction.

The pitch F, though, does make a greater claim for attention. First the bass rises to F as the seventh over G (bar 141, Ex 3/13), the wind arrive (bar 154) and the violins rush to join in the following bar.

Ex 3/13

The musical score for Ex 3/13 is presented in four systems. The first system covers bars 140 to 144, with a box around the number 140. The piano part (left) features chords in the right hand and a rhythmic pattern in the left hand, with dynamics *f*, *ff*, and *sf*. The bassoon part (right) has a melodic line with dynamics *f* and *sf*. The second system covers bars 145 to 149, with dynamics *f* and *sf*. The third system covers bars 150 to 154, with a box around the number 154. Dynamics include *f*, *ff*, and *sf*. The fourth system covers bars 155 to 159, with dynamics *f* and *p*. The piano part shows a transition from a strong dynamic to a piano dynamic, while the bassoon part continues with a melodic line.

One could hear the development section from the end of the B<sup>b</sup> chord (bar 116) as one long crescendo rising in register to this high pitch F. But is the key of F marked out? Without the question being posed by the opening of the symphony as a prompt, it would be an odd thing to fix on.

So, with casual bonhomie the first subject returns (bar 162) and we set off again. As the first subject comes to an end the question arises as how the move to the recapitulation of the second subject will be made: one would be least surprised to find a rewritten transition followed by the second subject in the tonic C. Considerably more unexpected would be to find the second subject returning in the key of F: which is exactly what happens (bar 192).

In a standard sonata form, the exposition moves from I-V (here, from C to G, a fifth up). If one then begins the recapitulation on IV then the second subject will automatically appear in I (F to C), with no more work necessary for the movement to end in the home key. So the subdominant can appear in a recapitulation, but as the key of the first subject, not the second. In this case it is the other way round, and if nothing were done the piece would finish in F. The danger is smoothly and quickly addressed.

Example 3/14 helps see how this is done. The theme in the exposition (bar 56) has an initial four bars with a characteristic swing down in the bass to the dominant on the second beat. The slightly varied repeat of this is initially obscured, as bar 60 is used to finish off the first four bars and the head motive with the dotted crotchet D is lost.

Ex 3/14i

The musical score consists of three systems of piano music. Each system has a treble and bass clef. The first system (bars 56-59) starts with a piano (*p*) dynamic. The second system (bars 60-63) is a repeat of the first system. The third system (bars 64-69) begins with a crescendo (*cresc.*) and ends with a forte (*f*) dynamic. The bass line in the third system shows a change from D to G in bar 66 and to C in bar 69.

Bar 64 sets off as if for a third run round but with more quavers in the melody, however in the third bar (bar 66) the 'pedal' second beat bass note becomes a G, and in bar 69 it is a C. The theme then has two rather static four-bar phrases and one more mobile six-bar phrase.

In the recapitulation (bar 192) the first four bars are a tone down (in F not G), but all that is required is an alteration to the last bar of the second four-bar phrase (bar 199) and the music can be shifted up a fourth and the theme is no longer in the subdominant but in the required tonic. The simplicity of the bass misleads the ear, and one might even hear bars 199 and 200 as related to bars 65 and 66, which is the wrong part of phrase structure.

Ex 3/14ii 192 as 56 tone down

196 as 60 tone down 63 rewritten

200 as 60 fourth up

204 as 64 fourth up

*cresc.* *f*

Anyhow, as if to convince the listener that not much has happened, there is a repeat of the second four bars in C from bar 200. So the recapitulation version has three four-bar phrases and one six-bar phrase, making a total of eighteen bars, as opposed to the exposition version of fourteen. Rather strangely the return to F in bar 207 is accepted by the ear as chord IV in C as the music progresses. There might be something of the technique of the conjurer in this, as if using a distraction technique to hide the fact that there was ever a modulation there at all.

This lead-out of the subdominant is without drama, and the smoothness of the transition seems designed not to disturb the easy-going good humour of the theme. In the context of any symphony this would be interesting, but pretty much an incidental event. Here, because of the way the work begins it attracts more attention. It is doubly odd, as on the one hand it is a quite strange thing to happen at all, but on the other it seems to have been smoothed into the surrounding flow rather than highlighted as a dramatic point.

The ending of the recapitulation is somewhat rewritten and arrives on a G<sup>7</sup> chord in bar 236. This rewriting does not add anything on the significance of the key of F. The coda (bar 238) reinforces the move to the tonic with a series of cadences, working back down the circle of fifths to the tonic. Therefore, F as the fifth below C does not feature.

### **3:2 Review of the Subdominant in the Symphony.**

From this survey of the harmony, one has noted the following significant moments where the key of F appears:

- i. In the first movement the deviation in the transition heading through F (bar 77).
- ii. In the first movement at the start of the coda (bar 263).
- iii. The key of the slow second movement as a whole.
- iv. In the minuet a harmonisation of a C scale using passing modulation into F (bars 53-4).
- v. In the finale the transition from B<sup>b</sup> to G near the end of the development section (bar 122), which might be a byproduct of going to B<sup>b</sup> before this.
- vi. The key of the second subject recapitulation bar 192 (which is quite surprising).

The moves outside C and its closely related keys are to B<sup>b</sup> (then E<sup>b</sup>) in the development in the first movement, to D<sup>b</sup> in the slow movement, to D<sup>b</sup> in the trio and to B<sup>b</sup> in the finale. This has the attraction of being nearly symmetrical (though one should bear in mind that the D<sup>b</sup> is in the context of F in the slow movement and in the context of C in the trio).

It is the case that these two chords (B<sup>b</sup> and D<sup>b</sup>) do contain the pitch F, and if one adds in the move to D minor in bar 19 of the first movement, and then searches out some chords of F minor (e.g. first movement, bar 229) and really hunts for the chord of B<sup>b</sup> minor (there is one in bar 79 of the slow movement), then all of the six possible triads containing F are to be found in the piece, sometimes underlined with dramatic power.

One would have to ask if this use of structuring by chords with a common tone in this way is part of the vocabulary of classical music, which surely more usually uses a tone from the tonic triad. It seems improbably subtle as a connecting device.

We can say that at the start it is reasonable to imagine the relation of the tonic to the subdominant is candidate for unity of the symphony. On examination there seems to be a disproportion between the peculiarity of the opening gesture and the conventional or incidental ways the subdominant appears later. There is no sustained interest in F as a key, nor is there any dramatic use of the subdominant in the main body of the work.

The opening still remains a peculiarity, seemingly disconnected from the work as a whole.



## SECTION 4

### Another Cell? The Descending Fifth.

Taking a view of the symphony so far, it seems that cell one, with the interval of the ascending fourth and a leading note, is the commanding motivic character onstage. The subdominant seems to have some role, but there are other candidates for the role of unifying factor which have not been explored. For sure there is at least one other character which is also worthy of examination. It appears as a quick run-down from G to C (bars 12-13) in the first movement (Ex 4/1).



#### (i) Cell Two in the First Movement Exposition.

As a matter of strict logic, cell one might not be the very first thing at the start of the Allegro. There is the dotted minim on C after the barline, and this is the moment of arrival of a little scale down from the G above. It has the appearance of being a little gesture joining together the dominant preparation of the introduction and the start of the Allegro in C. As a matter of fact, the demisemiquavers are before the double barline marking the start of the Allegro, so strictly speaking most of the scale is in the introduction, though of course the ear cannot hear this visual notation. However, it does not seem to be purely functional and incidental, as there it is again in bars 18-19 (Ex 4/2), leading into the repeat of the of the first segment, now on D.



One could perform a mental experiment and test whether cell two is in fact the start of the Allegro theme (and try to imagine cell one as a consequent), or if it is a transition before the 'theme proper' begins. Or indeed if the theme actually begins on the barline with the dotted minim. All are possible, though the alert reader will see that by numbering the cells the writer here has made a choice in this! Other interpretations are possible, though.

There are further hesitations to note before looking at this cell as a counter-pole, as it does have similarities with cell one. Both move from G to C, and both are anacrusis figures with a longer note after the barline. The dissimilarities are that the contours are opposite and the interval covered downwards is a fifth, not a fourth. But just how different are these cells? Perhaps they are twin brothers separated at birth and later found to be siblings? One will have to hold that in mind when considering the transformation of the motive.

Cell two is next heard in the transition theme at bar 34, and varied in bar 36 (Ex 4/3).

Ex 4/3

The four descending semiquavers before the barline are there, but the local context changes and with this the direction of the last interval and the exact interval of descent. Here the first cell is a diminished (not a perfect) fifth and the second turns back up across the barline.

Bar 38 has a descent, now in quavers and a gap, but quite like bars 34-5. Bar 40 then adds in the 'bar 36 variant' and turns back up across the barline. If these are all connected, then perhaps bar 46 (Ex 4/4) is also linked, where now as the scale (in quavers) is there before the barline, stepwise, and followed by a descending fifth after the barline.

Ex 4/4

This version of the motive (if it is related) in itself is rather bland, but is swapped between the wind and the bass strings, and is stated six times, so it gets well embedded in the ear.

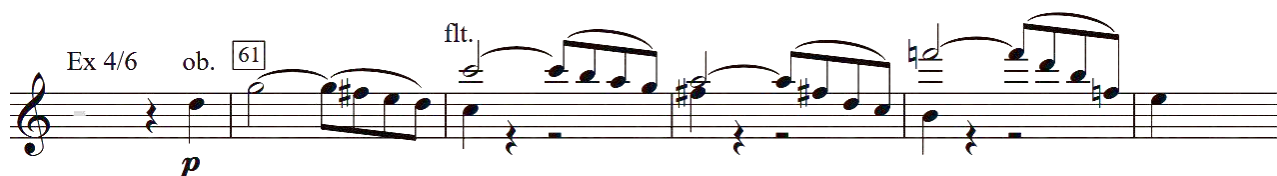
The second subject (bar 52, Ex 4/5) then takes this quaver version of the scale and uses it for, well, the end of cell two in the oboe, but also acts as a handover of the theme to the flute.

Ex 4/5

Rather nicely, this motive has the rising fourth of cell one, followed by the descending fifth of cell two which retains something of the role as 'connector'. The background model for the theme is a series of diatonic fifths, which are the pitches of arrival of the motive: G in bar 53, C in 54, F# in 55, and B in bar 56.

This sequence is obscured by the transformation of the scale into arpeggios – though all are descending and arriving on these pitches. Further, the start note of the motives are no longer the note of arrival. These variations of cell two maintain the same rhythm and contour, but the stepwise movement of the first two become gapped (in different ways) in the last two.

The repetition of the theme (Ex 4/6), with strings alternating with wind, has a fourth version of the quavers in bar 64, which extends the fall in fifths to E in bar 65.



For the moment one should note that in the course of the theme 'cell two' is changed from a descending scale into a descending arpeggio, holding other characteristics in common. There will be more to be said on this sort of transformation and the issue of identity later.

In bar 73 (Ex 4/7) a rising fourth in the bass is set against the fifth B-E falling in the treble, (though this scale comes from further back to make a falling seventh).



Following this, the direction of the scales is swapped between the treble and bass, and while one could say that from bar 75 to 76 the top scale has cell one across the barline, and the bass has cell two: but they are pretty well dissolved into the elementary material of contrary-motion scales. Here we can see that cell one and cell two are mirrored: in this case the treble rises to the tonic while the bass descends to the third.

The bass melody in the closing section starting at bar 77 (Ex 4/8) begins with a recall of the first motive of the second subject, similarly falling in perfect fifths G, C, F before turning the scale in the opposite direction and rising a fourth: the circle of fifths for the keys still runs downwards, first to B<sup>b</sup> then E<sup>b</sup>, before variants of cell one lead back to the dominant G of bar 88.



The transformation in bars 78 and 79 has cells one and two with as much in common as different. They are both moving from dominant to tonic, and they have the exact same rhythm and metrical placement. Cell two descends by step, but cell one requires a chromatic note to fill in the smaller space (as seen already in bar 73, Ex 4/7 above).

Melodically the end of the section (bar 79, Ex 4/9) eventually falls to the tonic G, but only from the fourth above (CBAG), and the previous two phrases have the descending fourths F-C, then D-A.

Ex 4/9

Perhaps this is a mixing of the characteristics of cell one and cell two, the descending direction of cell two but with the interval of cell one. Is this improbably heavy work for a subsidiary theme? Or is this a mixing together of characteristics an absorption of the cells back into the raw material?

This notion of mixing gets some encouragement, as very end of the exposition (bar 100, ex 4/10) has a motive which sits neatly between the characteristics of call one and two.

Ex 4/10

The opening permutes the pitches of cell one into leading note, tonic, dominant below, that is still a fourth with a filling semitone at the top, but here the motive is descending at the end rather than rising. The motive is shortened to the important fourth in bar 103 and repeated again in bars 104 and 105, as if to emphasise the importance of the interval. With the repeat of the exposition which follows then cell one has the characteristic of a gapped inversion of bar 101.

First movement first subject

Ex 2/1

A conceptual scheme for some of the themes in the exposition might be that the cells one and two are first at either end of the theme (bars 12 and 17, Ex 2/1 above), and become closer together as the theme is compressed (bars 33-38, Ex 4/3 below).

Ex 4/3

The two cells are unified into the same motive (bars 52-54 etc, Ex 4/5).

Ex 4/5

ob 1

53

flt 1

Cell Two

*p*

The cells are presented simultaneously as raw material (bars 73-76, Ex 4/7).

Ex 4/7

73

*sf*

*sf*

They have characteristics exchanged in the bass (bars 77-88, Ex 4/8).

Ex 4/8

77

*pp*

The two cells are finally compressed into the same motive (bars 102-3, Ex 4/10).

Ex 4/10

100

*p*

*sf*

*sf*

*sf*

*sf*

*ff*

This would make a very satisfying and coherent story. Or one could say cell two first starts, reappears in the middle, then acts as an ending. However, this has all happened within the space of the exposition of the first movement, and there is a great deal more music to consider!

(ii) Cell Two in the First Movement Development Section.

A quaver version of cell two reappears in the development in bars 136-7 and 142-3 (Ex 4/11).

Ex 4/11

142

*sf* *p*

At first it is embedded in outlining the notes of the dominant seventh, and the section comes to a close after the sforzando in bar 142 emphasises the fifth descent A<sup>b</sup>-D, and the impasse is broken with the scale E<sup>b</sup>-E<sup>b</sup>, (obviously with the descent B<sup>b</sup>-E<sup>b</sup> as the last five notes,) arriving in bar 144. Once again it is a simple descending scale, but one aspect of the scale that had previously been separated out before once again becoming part of the more general. Like a wave dying down into the surface of the sea.

Then comes the big drama of the development section: the move to A minor. It is something like a world turned upside down for a moment. The high wind at bars 163 and 166 seem to have cell two falling from F to B, now slowed into crotchets (Ex 4/12).

Ex 4/12

166

*ff* *sf* *sf* *sf* *ff*

Next, in bars 168-9, the motive has its head cut off (with sforzandos) so it becomes a falling fourth. It now has the interval of cell one, but with the direction of cell two. As if in counterbalance the strings have the rhythm, interval and metrical placement of cell two (in bars 167-8, 168-9, 169-70) but ascending rather descending!

The climax of the development is the simultaneous presence of the cells with their identities mixed and inverted. If the motive at bars 102-3 is a happy unification, here there is conflict and opposition. There is much confusion and dispute, even as to where the accent should be in the bar. The wind then turn and spot the way through, the strings grab the chance to reestablish the role of cell two as link, and the recapitulation (with a blasting unanimous assertion of cell one) is found to be surprisingly near at hand (Ex 4/13).

Ex 4/13

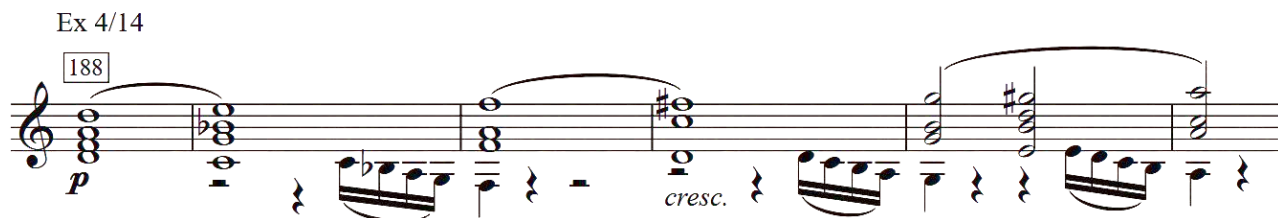
172

wind *sf* *p* *ff* *sf*

strings *tutte*

(iii) Cell Two in the First Movement Recapitulation and Coda.

The recapitulation follows the course of exposition for eleven bars, after which the key drops to F. This is introduced by cell two in bar 189 (Ex 4/14), and each of the rising scale steps GAB<sup>b</sup>CD (bar by bar) uses cell two again, with a clear identity and role, a preface to every chord change.

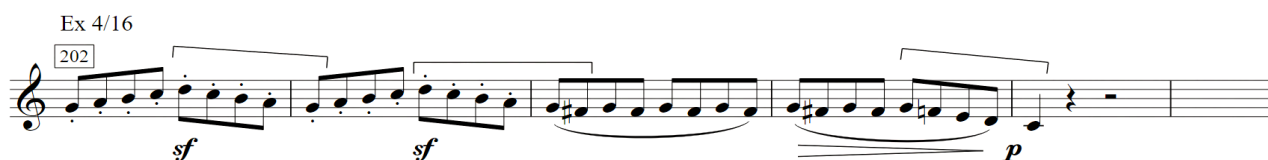


The harmony changes at the half-bar and the cell continues to appear as preface to the chords of F, D<sup>7</sup>, and G (the sought for dominant) in Ex 4/15.



Cell two is still used, now as a preface to the notes of a C triad, with the consequence that the exact intervals in the descent of the fifth get warped: first the last note rises rather than falls (bar 199), then the scale is gapped (bar 200). The identity, because of the local history is evident, but this is a process of dilution of the character of the motive. One might note that this overt use of cell two is in the recomposition of a transition section, as if the role of the motive as 'connector' has been expanded here.

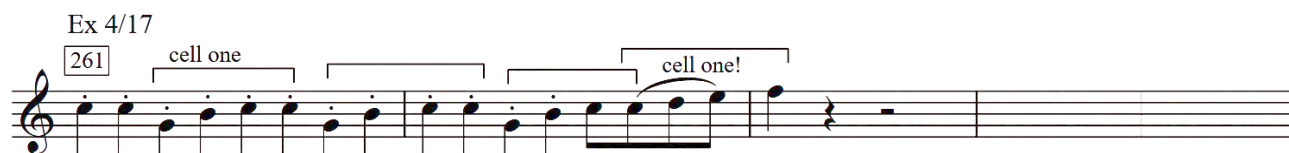
The close on the dominant is prolonged by rising and falling scales of a fifth (Ex 4/16), so cells one and two are rammed together, with the falling D-G in quavers stressed by a sforzando (bars 202, 203).



Thus the recomposition of the transition takes the opportunity to bring cell two centre stage to a quite radical degree: and as the segment peters out the link to the reprise of the second subject comes with a descending (linking) fifth in bars 205-6. This is perhaps a reestablishment of the identity of cell two, and a counterbalance to the different kind of assertiveness of cell one found at the moment of recapitulation.

The remainder of the recapitulation can be passed over as being much the same relation to cell two as the exposition.

Interestingly, when the coda also takes the earliest opportunity to move to the subdominant (bar 263, Ex 4/17), we do not find the 'normal' linking descending fifth cell two, but a much smoother rising fourth.



Cell one can be a conjunction too. Indeed, it is cell one which appears within all the chords from bar 269: there seems to be a desire to maintain continuity in the texture all the way through the crescendo to the reappearance of the tonic chord in bar 271.

From there on the music is ever more triadic and by the close even the ornamental (?) B of cell one has disappeared. The rising arpeggios reach their apogee on the G of bar 289 (Ex 4/18) and there is a two-stage descent to middle C.



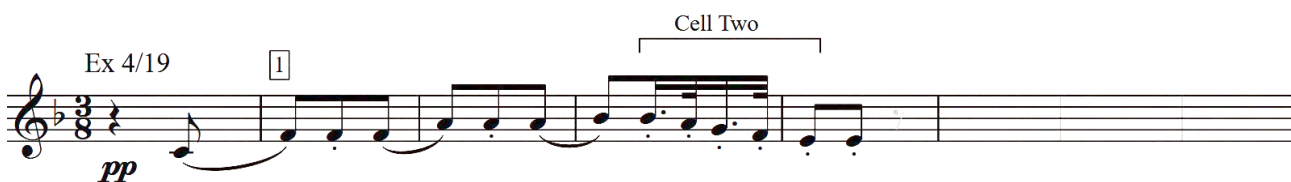
The last eleven bars have nothing but the pitches of the C major triad: the ascending fourths something like cell one and the fifths descending like cell two. But if one did not move from one pitch to another then a piece would be a monotone! This is now very close to the raw material itself.

So far, then, cell two looks like a potential candidate for the role of a subsidiary character in the drama of the symphony. On we go to see where, and in what forms, it appears later.



(iv) Cell Two in the Slow Movement.

The slow second movement theme has a version of the falling fifth, but now in the middle of the theme, not the end (bars 3-4, Ex 4/19).



It is a stepwise descent, but rather than outlining the perfect fifth, (typically dominant to tonic) here it fills in the tritone B<sup>b</sup>-E. It is in the more sedate tempo of the Andante, and is in dotted notes rather than the even rush characteristic of its first appearance. In the countersubject the tritone is filled in contrary motion, so now ascending B-F (Ex 4/20) as well as descending. However, in the repeat of the theme back in F this ascending version does not appear, and the texture is more like melody and accompaniment rather than a play of contrapuntal lines, and the falling tritone is uncontested as the focus.

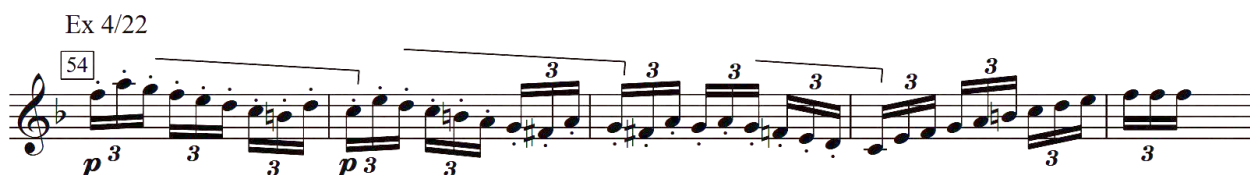


For a while cell 2 then disappears.

The first segment of closing material in bars 42-6 (Ex 4/21) does have a fall from the dominant to the tonic over five bars, but this is an arpeggio, not a scale (though the section does have the dotted semiquaver figures of bars 3-4). Can one really take this as a version of cell two? (In the repeat of phrase 46-53 the arpeggio has only G to E, the C saved for the final bars, perhaps simply for the sake of variation).



The final segment of the movement (from bar 54, Ex 4/22) does have descending scale fragments, now in triplets. These can be said to close with cell two (indeed falling onto G as well as C), before turning upwards in a rising scale, which by definition will incorporate cell one (bar 57).



If cell two is present in the development section, then it is greatly slowed down, and can be defined simply as stepwise descent. The first melodic steps (at the distance of two-bar intervals) are from the G<sup>b</sup> over the A<sup>b</sup> chord (bar 73, Ex 4/23) via F, E<sup>b</sup>, D<sup>b</sup>, then after a diversion via B natural, to a C. Indeed, slightly like the falling tritone of bars 3-4, but much slower.



If this is admitted, one could push the case further, and say the close on the dominant preparation also has a descending arpeggio embedded in it. The harmonic notes in the first violin from bar 83 outline a downward arpeggio of a dominant seventh on C, then, overlapping with the C, a descending line (Ex 4/24), B<sup>b</sup> (bar 90) A and G (bar 91) where the F is promised, but not yet delivered.



The melody rises again to the B<sup>b</sup> and eventually closes with a scale in even notes down to the low F, again with the inevitable filled fifth, G-C (bars 100-1). So a greatly extended fall of a fifth.

One factor in being hesitant about this analysis is the particular problem for cell two in triple metre, as there are four notes in the anacrusis in the original version, but there are either three quavers or six semiquavers in 3/8 (if starting in the downbeat).

So while the new lines added to the fugato theme in bar 101 (Ex 4/25) appear like an echo of the descending fifth of bar 100 (and arguably cell two), they turn into longer scalic runs of semiquavers, change direction, get gapped and turn into arpeggiated accompaniment where there is a tangle of filled ascending and descending intervals. It starts as if recalling cell two, but is subject to rapid transformations.



A worry grows that something with a clear identity is now being related to any descent where in truth there is 'nothing there'. But unexpectedly bar 124 (Ex 4/26) an ornamental turn on C (in the parallel place to bar 24) is replaced with a rather nice example of cell two.



As it happens this is not dominant to tonic, but a fall to the dominant chord. As a consequence, the parallel line falling a third below covers the tritone B<sup>b</sup>-E so much in evidence earlier. A rather pleasing combination.

The coda (from bar 162) takes the central bars of the theme (4-7) and uses them to get to the high E<sup>b</sup> over an F chord. The line unwinds stepwise down from there, before arriving on the F in bar 182.

The movement closes with two scales falling from the high B<sup>b</sup> (as the seventh in C<sup>7</sup>) down to the tonic an octave and a fourth lower. The head of the motive is drawn from bar 3, the middle of the theme of the movement (Ex 4/27). How effective in making connections the simple device of giving the fall in dotted notes is, as opposed to even semiquavers!



The repeat of the descending scale (and inevitably the notes of cell two) is balanced by a scale in contrary motion – and at the end of the ascent a connection to cell one can be made again, of course. Cell one and cell two as different sides of the same coin, maybe, once they are extended into general scalic movement - but this is all very wispy and insubstantial.

(v) Cell Two in the Minuet and Trio.

The first eight bars of the minuet are about a linear ascent: so not cell two.

The development section from bar 8 sets a descent in the treble against a rising motive in the bass. It eventually arrives by way of an ornamented scalic descent from B<sup>b</sup> on D<sup>b</sup> in bar 25. This descent is then mirrored by a creeping ascent back to the key of C and the reprise.

The closing segment of the coda from bar 70 (Ex 4/28) arpeggiates up the tonic triad (with the filling-in notes typical of cell one) then down the dominant seventh, till finally there is a close in a descending C arpeggio. Indeed, the notes GEC are in the run down from the octave and the cell runs across the barline. If one wanted, one could fill in the arpeggio with quavers and make the cell GFEDC, but that does not happen and in the minuet the character of cell two seems to have just faded away.

Ex 4/28  
70  
*cresc.* *f sf ff sf*

Just as one wondered if it were a chimera the trio resurrects cell two, perhaps for the purpose of contrast. There is no sighting in the sustained wind chords, but the quaver runs in the violins (Ex 4/29) first two ascending scale fragments, and after a little turn, there we are, the descending fifth is back, G-C, upbeat to downbeat (bars 87-8).

Ex 4/29  
85  
*p*

One might expect (even hope for) the same result when the motive is applied to the following D chord (Ex 4/30), but the different chord changes in bars 95-6 result in a falling seventh, of which the last fifth is F-B. There are opportunities for a descending fifth over the conventional cadential chord progressions, but the chances are not taken.

Ex 4/30  
93  
*p*

The development section, on the other hand, brings cell two into the foreground. The falling fifth A-D in bars 106-7 is harmonically slightly odd, as the A extends the dominant into a ninth chord.

Cell two is then separated off (Ex 4/31), and there is an alternation between A-D and F-B, like someone trying to choose between things held in either hand. Or bemused by the difference between a perfect fifth and diminished fifth. It looks like the D-A will win (three repetitions without a break), before the F-B option is shown to lead back (via filled fifth G-C!) down to the tonic C. Cell two has its moments in the symphony, and this is one of them.

Ex 4/31

113

*decresc.* *pp*

*p*

The reprise in the trio is more 'based on the opening' than a repeat of the material. Once again two motives appear to be in competition. The first is a falling arpeggio down to the dominant (bar 127), the second (bar 129) is a version (rising) of cell one connecting G to the C above. What of cell two as a descending scale? It seems to be dispensable, peripheral.

#### (vi) Cell Two in the Finale.

Cell two requires an ingenious advocate in the finale, and the greater the ingenuity required, the more uncertain the interpretation feels. This is partially because the last movement seems to have a much greater interest in the third of the scale, E, than the earlier movements. A series of them appear on the downbeats of bars 8, 10 and 12 in the main theme (Ex 4/32). It can be seen again in the stepwise rise CDE in bars 8-10, (and this reappears in bars 34-36).

Ex 4/32

6

*p*

This new interest can be seen in the bass motives from bar 15 (Ex 4/33), where the motive begins like cell one, but is then extended for an additional two notes, so that in the second of these the span of scale runs from G though C up to E. It seems an odd time to introduce a new topic, but that is what it looks like.

Ex 4/33

14

*p*

One might want to hear the arpeggio GEC in bars 7-8 as the gapped falling fifth balancing the opening stepwise rise (Ex 4/32).

Ex 4/32

6

*p*

It then reappears (bars 11-12), where it pushes on, but in both instances the accent falls on the E, not the outer G and C. There is more resemblance with the falling fifth covering the last segment of the theme (bars 13-18, Ex 4/34), but this appears to be a rather generic end to a melody anyhow. As regards cell two this is the best the main theme offers, which is not much at all.

Ex 4/34

13

*p*

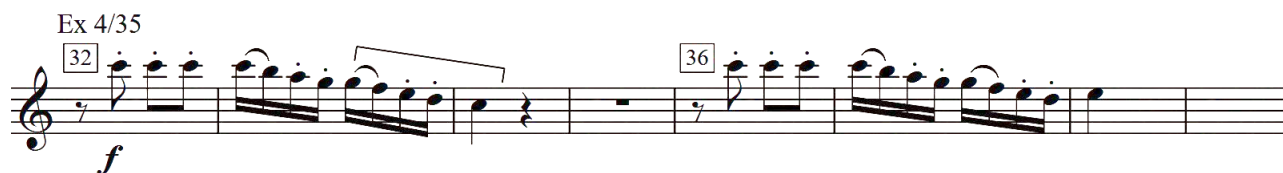
The problem in trying to identify variants of cell two is that it has, to be truthful, a rather banal profile in the first instance. It is hardly raised above the surface of the elemental language and in transformations the links become ever more speculative. An ornamented descending line will sometimes cover a fifth, and this forms the basis of the classical language, so it would only have great significance if related to something with a more specific character.

As an alternative, one might be able to make something of the way the quick semiquavers within the first movement get expanded into longer scale segments in different ways (and in a further study the symphony as a whole). One could regard the filled descending fifth as one stage of a process, rather than as a fixed entity. For example, it might become filtered and gapped. Or it might be slowed and ornamented.

So in the last movement one can recount possible markers on such trajectories of variations as:

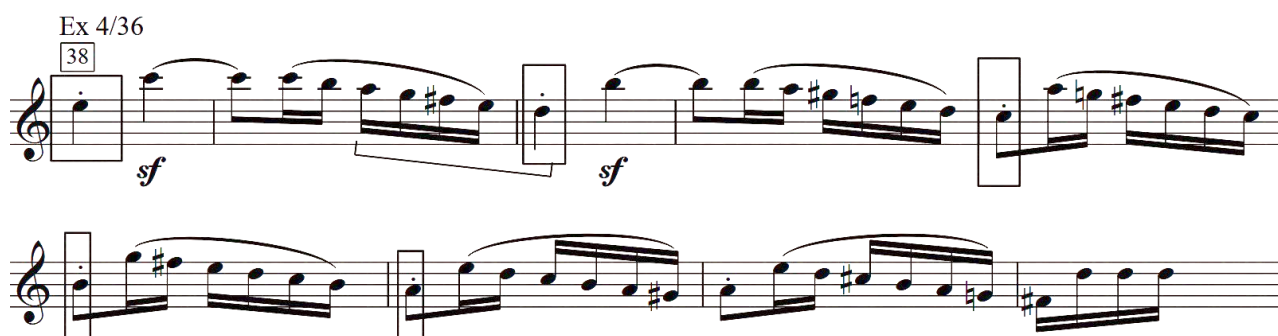
- i. Bars 33 and 37 (Ex 4/35), where the scale has repeated G's, so emphasising cell two (though the second turns up rather than falling).

Ex 4/35



- ii. Bars 39-45 (Ex 4/36) where the falling semiquavers have five descending notes at the end (except into bar 45) though the exact intervals vary according to their position in the tonal scale (and these are an ornamentation of another slower descending scale).

Ex 4/36




- iii. The theme at bar 46 (Ex 4/37) has a rising gesture followed by a falling tonic triad (rather like the opening theme of the movement), and it does arrive on the tonic over the barline, like cell two. It is well integrated into the theme though, and this is not even the close of this theme.

Ex 4/37



- iv. At bars 76-78 (Ex 4/38) cell two is buried in the cadence (in the 2<sup>nd</sup> violin for example), well hidden within the conventions of the cadence.

Ex 4/38



- v. In bars 96-7 (Ex 4/39) cell two is at the end of the scale in the bass in the first-time bars leading back to the repeat of the exposition.

Ex 4/39

96

*fp*

- vi. In the development section it inevitably comes with any descending scale (Ex 4/40), so in bars 123-4 and 125-6 (but turning up at the end): 127-8, 129-130, 131-2, 133-4, 135-6, 137-8, 138-9; all of the same type, six descending semiquavers as an anacrusis. The point of arrival shifts from the half-bar to the downbeat (this shape has been seen before in the passage from bar 39 onwards).

Ex 4/40

123

127

*sempre p*

131

136

*cresc.*

*f*

- vii. The arrival at the dominant chord is underlined by a descending fifth in the bass (Ex 4/41).

Ex 4/41

151

*sf*

*ff*

- viii. And finally in bars 162-4 in the quaver scales in thirds (Ex 4/42). This looks like being a member of family cell two as it has descending fifths, and as in the first movement has the role of linking, here overlapping with the return of the main theme (much the same as bar 96.).

Ex 4/42

162

*sf*

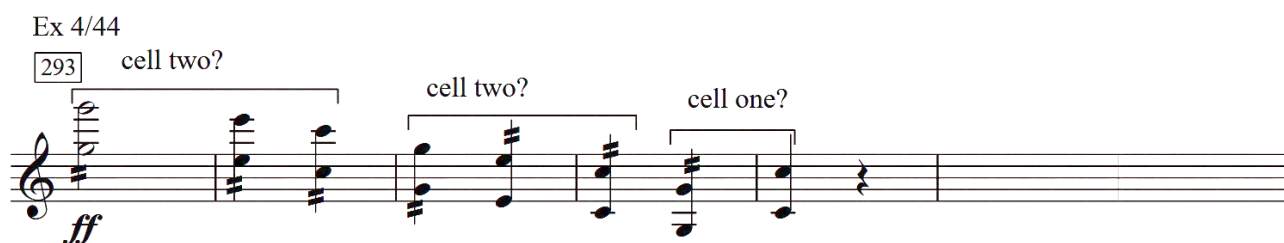


In the recapitulation the transition is much truncated, and as part of the changes there are two more reappearances of the six-note anacrusis figure (bars 188-9) which are transpositions of bars 139-40. Interesting as the alterations are, there is little to suggest cell two until the close of the repetition of the theme in bars 250 onwards (a re-run of bars 14-30), and from bar 258 a thumping close down to the tonic C, which has pulled the descending G-C into the melodic line.

At this point the music material is reduced down further towards elementary materials. The horns and oboes have a twice-stated eight-bar phrase with a rising melodic curve. Added to this are scales aplenty, in the first instance all ascending. As the cadence is repeated descending scales are added as well (bar 282, Ex 4/43), so arguably cell two does appear. It is less cadential in this version, as while C is the bottom member of the thirds the upper E keeps the music unfulfilled, and anyhow the phrase continues on to a D and F. And this rather unglamorous and unobtrusive appearance is the final trace of cell two as a scale figure.



The movement closes with arpeggios and rising scales. The question was raised if the GEC arpeggio in the main theme retained the faint scent of cell two, and maybe this can be recalled in considering bars 293-297 (Ex 4/44).



The proposition becomes slightly more attractive if the final turning round rising interval G-C is thought to be a reference to cell one. This would then suggest two cell two descending arpeggios and one rising cell one. The effect of these bars is more throwaway than such theorising suggests, and the interpretation is very strained. The material has been filtered down to the C triad: cell two, if there at all, is the faintest mist rather than a tangible body. Or perhaps it has totally evaporated?

(vii) Cell Two in the Introduction.

However, again we have not considered the beginning of the work, where one might expect the topics of the work to be introduced. There is a possible case to be made for cell two in the introduction, but it does not leap to the ear. Bars 9-10 (Ex 4/45) have the descent G-C (here harmonised as an interrupted cadence).

Ex 4/45

The image shows a musical score for two staves. The top staff is labeled 'wind' and the bottom staff is labeled 'violins'. The wind staff has a melodic line with a bracket over bars 9-10. The violins staff has a descending line with dynamics *p*, *cresc.*, and *f*. The score is in 4/4 time and starts with a box containing the number 9.

One would have to argue that the ear will not be listening to the first violins as carrying the principal melody and say that perhaps this is an ornamental upper line above the fifth descent in the second violins, or alternatively that it is under the highest line, which is in the flute and doubled by the oboe.

This is a fair bit of interpretation to lay on the simplest of gestures and the extraction of something far from underlined. It is already a fair way into the introduction and is one of the more conventional gestures offered so far. Is that the way a topic for the work would be introduced?

One could make a narrative of this, and say the introduction sets out the protean elements which are then more fully characterised in the main themes of the movements. One could invoke images like 'a world being formed from the atoms of the universe', 'chaos into order'. Or one could say the descending fifth is not a much of a character in the introduction at all.

## **4:2 Summary: Cell Two in the Symphony.**

There are obvious reappearances of quick descending scales within different places in the first movement and in places across the rest of the symphony, especially the Trio. There are problems if the cell is defined centrally by pitch, as this forms the basis of many types of linear movement at different speeds and levels. It is easy to see the negative side to this and note the lack of special identity.

On the other hand, one could say that the general nature of a descending scalic fragment is compressed and brought forward from this level to become foreground melodic fragments. Then the function of cell two would be to connect the general to something which does have a particularity.

All said, this cell is unsatisfactory as a unifying device for the symphony, and the connection to (opposition to, or transformation of) cell one remains uncertain. It is not really present enough to take on the weight of such a role, interesting as it is as an incidental feature. For sure it does provide moments of cross-reference between different places in the work, but there is only the faintest sign of it in swathes of significant material.

One might take the view that cell two is one of a few elements which reappear across the work and there is no one single element which is present in all the music.

The author ponders how far this desire for a single unifying principle is to do with an aesthetic of argument (compactness, neatness, logicity, etc.) which are not the same criteria one would judge the experience of a symphony. Nor need such analytic values appear if one looks for a means by which the separate movements of a work might be bound together. Still, there is a pull towards this as an ideal and not every avenue has yet been explored.

The first thing to do is to return to cell one, which does appear to have a substantial role. So far we have only looked at the main themes, so it would be prudent to check through the other passages in the symphony to see how the motive fares in more developmental sections. The issue of the connection of the introduction (or not) to the whole is still there, but maybe looking at how the cell is treated and used throughout the work will offer some ideas as to how things might relate across the entire symphony.

## SECTION 5

### The Role of Cell One in the Symphony as a Whole.

#### 5:1 Interlude: Interim Thoughts.

To reiterate the initial supposition, the unification of a musical work might be achieved by taking a motive (or cell) and using this in the main themes of all the movements of a work. In practice this will then be the material used for developments and so will permeate the entire work.

As suggested above, in Beethoven's First Symphony it looks as if the opening motive of the first movement Allegro could have this role. Arguably it is in the optimal position: at the start of the main body of the work, although this does leave the question of the connection of the introduction. We have seen that there is quite good evidence that cell one can be related to all the main themes of the symphony, with varying degrees of certitude and interpretation.

However, as yet the rest of the music of the symphony has been left unexamined in relation to cell one. In particular one would like to know if the characteristics of the cell are indeed taken up in developmental and transitional material. After all, the main themes are not identical, and perhaps the main body of the music is more concerned with the different distinguishing aspects of the themes, rather than the elements that connect them together.

In approaching this one should note that the initial cell is made of the commonplace materials of the classical tonal language: an anacrusis from the dominant to the tonic. Thus any perfect cadence has the opportunity to refer to this. One might say that the cadential motive in the first movement at bars 102-3 (Ex 5/1) could appear in many tonal works: that is probably true.



On the other hand, these intervals have been foregrounded in the first subject, so that something generic can be related to something more characteristic. Our view of the general is coloured by the context, which has marked out some things for attention. Indeed, this is part of the psychology of this movement, as there are passages which appear to have thematic significance, like the second subject (Ex 5/6).



And there are other bars which seems to be less characterful (bars 69-74, Ex 5/7).

Ex 5/7  
1: 69

The music has a gradation from the generic to the idiosyncratic but they are made from the same material within the same rules of tonality, so are intrinsically connected.

The author is aware that in tracking where the cell can be found the reader will at some (or many) points become exasperated. As the writer I had many hesitations as to whether to include a comment, and wondering if I was finding faces in the clouds.

Logically, if there is a gradation it will cross a border from appearing certain to where it seems fanciful. Each reader and listener will draw the border in a different place. The author changed his mind in an hour, and then back. This section is the most troublesome to read, as at various points a reader will develop severe scepticism. If it is any consolation it was also troublesome to write!

I note a psychological pull towards seeing the finding of connections as positive support for a hypothesis, and this signals 'success', but a moment's thought comes with the recognition that the work is untouched either way.

If one could say that the work has themes which are connected, but that the developments explore other aspects, that observation too would be worthwhile, as it brings forward to consciousness some evidence. This obvious truth runs against the grain of the rhetoric of writing (and even more reading) which would like a 'solution' to a 'problem'. As if the artwork were a crime to be solved. The analyst as Sherlock Holmes and the reader as Dr Watson. The author finds this a very attractive model, of course, and mentally returns to it constantly, despite knowing it is idiotic. The reader will form their own opinion, but I ask them to wait to the end before making a judgement.

This section might in places take on the appearance of a list, for which the author apologises. It is necessary, though, because part of the answer to the question is to do with quantity. If the characteristics of cell one are found in nearly every phrase then it gives us one image, if it only appears in the themes then it offers another. It is also necessary as most instances raise the issue of how forced the interpretation is, as the cell comes in a myriad of guises, and exactly the same problem rarely presents itself twice.

## 5:2 Analysis Resumed.

### (i) Cell One in the Exposition of the First Movement.

It will be useful to state again the characteristics of the first appearance of cell one (Ex 5/2):

- i. It covers the interval of the rising fourth, specifically the dominant to the tonic.
- ii. It connects the dominant to the tonic by adding the leading note as part of the anacrusis, (an interval of a semitone, to be discussed later).
- iii. It is an anacrusis figure, with a one beat upbeat going across the barline to a longer downbeat.
- iv. There is a characteristic military dotted quaver/semiquaver rhythm to the anacrusis.

One can identify four variations or developments of cell one already in the first five bars (Ex 5/2):

Ex 5/2

1. The initial cell arrives on the C as a dotted minim (so the cell in total four crotchets long).
2. The first variant retains the dotted figure upbeat, but shortens the C to two repeated quavers (so it is two crotchets long).
3. The second variant turns the dotted figure upbeat into even quavers and keeps the repeated Cs.
4. The third variant has two quaver upbeats and extends the motive up in crotchets. It is a C major arpeggio, with the addition of the characteristic leading note. One might want to divide the last cell into ten crotchets: 4+6.

The changes are mostly to the rhythm: the pitch succession GBC appears five times in this passage. The rising fourth is a constant, but the rhythm (and speed) changes. The totality may be said to be an arpeggio of C major from G up an eleventh to C, with additional (ornamental?) B's.

In bars 19-23 the pattern is repeated, but on the triad of D minor. In bar 25 (Ex 5/3) the first two pitches of the motive are retained, but the following D outlines a triad of G, soon turning to G<sup>7</sup>. The rhythmic pattern is of two short versions with repeated notes at the end, followed by one long version with a dotted minim, which is repeated. One notes that how little a change is needed for the identity of the cell to be questionable.

Ex 5/3

The cell resonates in the cadence in bars 30-31, which does briefly have the pitches BGC, and (stretching a point) is extended to GBC in bars 32-33. Indeed, these are pitches normally found in cadential formulas: one will not take the time to note all these occurrences, but the fact this is possible is interesting.

The cell disappears for a few bars, and then returns in a rising sequence in bar 41 (Ex 5/4).

Ex 5/4  
1: 41

At first each of the pitches of the C major scale is prefaced by its dominant and leading tone, but the final GABC only have the fourth below. The speeding up of the unfolding of the scale of C does give cell one pitches near the end, BGC in bars 45-46.

To find cell one in the underlining of the dominant in bars 45-52 (Ex 5/5) requires a rather questionable highlighting of the pitches GBC as smashed out by the first violins, but in a secondary voice. One assumes the ear will be following the quaver main melodies in the wind and bass, with the falling fifth of cell two, rather than the conventional cadential formulas.

Ex 5/5  
1: 45

The second subject (Ex 5/6) does have some characteristics drawn from cell one, as discussed earlier. One can add to this the accompaniment of the violins in bar 53 which begins with a back reference to the first subject. One can also find the cell (transposed) in the bass in the V-I cadence of bar 57 (and in 58). This is repeated again when the bassoons take up the accompaniment in bar 61, but the different direction of the harmony makes later connections strained.

Ex 5/6  
1: 53

The second subject has the background structure of filled descending diatonic fifths. This can be seen in that the arrival notes of the figures are G (bar 53) C#B. The first two of these are joined by stepwise scales, jumping up an octave in the middle. The third and fourth fills are varied: the oboe in bar 55 makes the join by arpeggio and the flute in bar 56, has the same rhythm and contour, but is a mixture of arpeggio and scale.

Hidden in here are two pairs of rising fourths: the oboe G of bar 53 connects to the flute C in bar 54. Now, had the sequence (of fourths) been continued then the next two pitches would have been F# (oboe bar 55) and B (flute bar 56). With the variations the starting pitches of the last two motives are A rising and then D, so the subject of four bars has two pairs of rising fourths (G-C and A-D). The interval is there, but one has to dig deep to find it after the opening two pitches.

In Bars 61- 65 the theme is repeated, where the last segment is further varied and the fourth, and the reference to cell one, is lost.

The cadences in G (Ex 5/7) do have the ascending fourth in the melody (bars 70-71 & 72-73), now filled in. A variant is taken up in the bass in bars 73-4. To really push an interpretation one might note the bass (bars 69-70 & 71-2) has the pitches B[A]GC as goals which may be heard as variants.

Ex 5/7

Of course it is the case that an ascending fourth arrives at the same goal as a descending fifth. The bass in bar 77 (Ex 5/8) starts with the descending fifth version, taking up the start of the second subject as in 53-4, but the move round the circle of fifths also can ascend, so in bars 79-80 one has the rhythm of the second subject, but the intervals of the motive as seen in 70-1 and 73-4.

Ex 5/8



As an accompaniment figure the cell mutates according to the harmonies, including ascending filled fourths as anacrusis in bars 82-3 and 83-4. The mutating motive is a countermelody to a slow melody in the wind above, which, with falling fourths, seems distant from cell one.

The arrival on the dominant in bar 88 (Ex 5/9) is marked by the return of cell one as from the start of the movement, here alternating in the bass and the treble.



The very closing bars of the development (bars 100-106, Ex 5/10) can plausibly be taken as a variant of the main motive, as mentioned in section 2. The fourth is descending not ascending, but the leading-note anacrusis is reinforced with sforzando accents, and the phrase rocks between the tonic and the dominant a fourth below.



Hidden behind this the cadential figure in the wind (Ex 5/11) also relates to the cell (and its expanded form in falling to the low B, as seen in the violins). The author has stared at the lower line which does have the pitches of cell one. Is it a reference? It is rather bland and conventional.



To draw out the big points about the exposition: the cell can be seen in the first subject area (bars 13-14 & 19-20); in the transition (bar 41); as the opening interval of the second subject (bars 52-53) and as the accompaniment to the transition theme (79 onwards); cell one is restated in the cadential closure of bars 88-90, and, with a permutation of the elements, is the basis of the closing theme in bars 100-6. In addition, the cell does not seem to be far away in many intervening passages.

That said, the cell quickly mutates it into something related but lacking full identity. The violins in bars 90 and 91 retain the repeated quavers and contour of bar 15, but the span of the cell is now a third: there is a gradation of identity. However, cell one reappears unequivocally enough to make it a point of reference for the whole exposition.

(ii) Cell One in the Recapitulation and Coda of the First Movement.

The argument for cell one as the main topic of the movement seems confirmed by the fortissimo unison arrival at the moment of recapitulation. If the opening of the Allegro has this theme rather faintly in the distance, here we are face-to-face with the theme, which blasts out with military determination (Ex 5/12). The transition to the second subject (from bar 188) is radically rewritten, and these eighteen bars or so are the longest passage where cell one seems totally hidden. The second subject at bar 205 has many details rewritten, but there does not appear to be much of consequence as regards cell one, and indeed through the remainder of the recapitulation.

Ex 5/12  
1: 178

There is no repeat indicated of the development and recapitulation, so these two sections run straight to the coda and the end. The coda begins by subverting the tonic C chord by adding a B<sup>b</sup> (Ex 5/13), to push the key towards F. In this it is following the course of the lead-back to the repeat of the exposition, which needs to fall down a fifth G to C, and (as noted above) an alert listener might be wondering about the role of the key of F. Interestingly, there is no concern about maintaining the main motive at pitch (GBC, bar 262) against this B<sup>b</sup>, and the resultant clashes! The little diversion outside of C is underlined by using an ascending fourth, with the variant of three ascending quavers onto the tonic, the fourth being filled out (diatonically) in bars 263-4, and then as part of the modulations in bars 266-7 and 270-1.

Ex 5/13  
1: 260

The return to the tonic C is interrupted (to chord VI) in bars 273 and 275 (memories of bar 2 and bars 9-10), before arriving by way of a standard cadence in bars 276-7 (with echoes of bars 31-33) onto the tonic chord, with cell one in the first violins (Ex 5/14).

Ex 5/14  
274

Cell one repeats in the bass against simple rising arpeggios of C in the treble, as if the leading note were filtered out from the end of the opening theme; as if, indeed, the idiosyncratic element is stripped away to leave the (almost) raw material of the arpeggiated tonic triad. The cell disappears from the bass and the last eleven bars have only the notes of the tonic triad.

Cell one might not have been totally dissolved into the tonic triad, because the pattern of descending chords from bar 289 is broken (for 'no reason') to give the ascending G-C at the start of 292 (Ex 5/15). Significant or not?

Ex 5/15

The musical notation shows a sequence of chords in treble clef. A box labeled '1: 289' highlights the start of the sequence. The music begins with a double forte (ff) dynamic. The sequence consists of several chords with a descending pattern of notes, which is broken at the end to show an ascending G-C motion.

(iii) Cell One in the Development Section of the First Movement.

Cell one is overtly present through the whole of the development section, which is the strongest piece of evidence of its centrality in this movement and perhaps the entire piece. I offer a list, but hope the identity is so uncontroversial that music examples are not needed:

110-112 On the A triad.

114-116 On the D triad.

118-120 On the G triad.

122-125 The crotchet arpeggio version, with leading note, on a C minor chord three times.

125-126 A filled rising fourth C-F.

126-128 Arpeggio version on the F minor chord three times.

129-130 Filled fourth in crotchets to B<sup>b</sup> chord.

130-132 Crotchet version to B<sup>b</sup> in bass, to E<sup>b</sup> in flute.

144-147 Dotted quaver version on E<sup>b</sup> triad.

147-151 Bare fourth, followed by dotted quaver version on F minor chord five times.

151-155 Sequence of above now on G minor triad five times.

155-157 Onto a D minor triad two times.

157-159 Onto an A minor triad two times.

160-161 Onto an E major triad (V of A minor).

164-165 Onto an E major triad.

In this section it seems like the cell has been 'applied to' a chord progression, rather than there being a focus on the cell with supporting harmonies. There is little in the way of motivic development, and the cells do not coalesce to form coherent, extended melodies. There is a temptation to focus on the keys passed through because of this, but one should note they are one part of a dramatic structure - which includes the rate of harmonic change, the density of the orchestration, the use of registers and the dynamics. The fragmentary application of the motives is itself emotionally evocative. To make a corny simile, much of the development is like a walk in a wood which becomes dark and overgrown and the direction uncertain, and it is with great relief that the path leads quickly past the roaring bear of the minor key (bar 160) out to the sunny fields of home (bar 178). Maybe the sense that there is a wandering journey through different keys is important, but it is the wandering that is important and not the keys themselves. There is no doubting that the arrival is important, as while the Allegro opens softly with strings in a low register, the return is the full orchestra, unison, hammering out the motive fortissimo in all registers.

It seems fair to summarise that no matter where in the movement we are, cell one is never long out of earshot, and when not there it is anticipated. The cell is indeed a unifying factor.

(iv) Cell One in the Slow Movement.

The first theme in the slow second movement (Ex 5/16) uses an opening rising fourth, dominant to tonic, as in the theme of the first movement. As before it is an anacrusis, a short note followed by a long (divided) note. The connections, though small, are certain. The following pitches (FAB<sup>b</sup>) are the intervals of cell one, but starting on the tonic F.



In the fugal exposition that follows (Ex 5/17), it looks as if the tonal answer changes the opening interval to a fifth, F to C: for lovers of connections this seems a shame, as otherwise the exact same pitches as the main motive (G-C) would reappear in this different context. Well, the pattern of entries of the subject is unusual: first in F, then C, then the start in C again, then F.



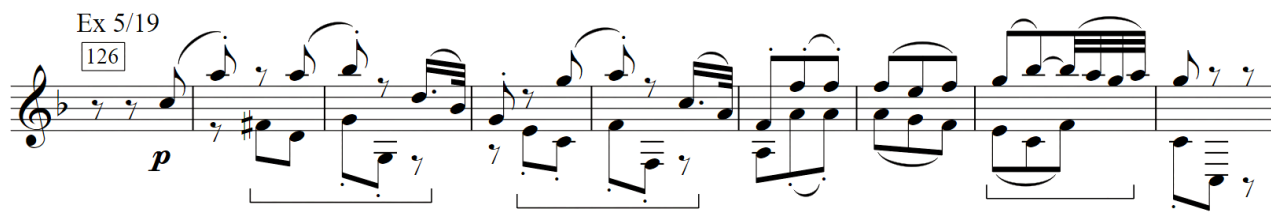
This plan means that the entry is already in the key C at the end of bar 10, which indeed allows the desired G to C appear, as if a real answer and relates to the same dominant to tonic of cell one in the first movement. For a moment it looks as if it will then follow the pattern as before and ascend an arpeggio to the high C, but line is absorbed into the return of the subject in F in bar 12.

The motivic play from 19-25 (Ex 5/18) in the violins can appear to be a twisting around to find the G-C fourth, and it even gains an ornamental B natural in bar 24. There are three versions of the dotted character of cell one in bars 23-5, though of course the fourth here is descending, not ascending, the extra filling note is an A and not a B, and so is at a fair distance from sharing a clear identity.



The lower line (bars 19-25) has the character of a partial reference to the fugato theme, if rather improbably as a retrograde (is this possible?) B<sup>b</sup>AFC. Intriguingly, the falling fourths in the bass are stressed by the sforzandi, while the B<sup>b</sup>-A comes without an accent. (But how close the violins are with their falling fourth to forming parallel fifths with the bass! Contrary motion in the bass would have made this smoother, but then the interval would be diluted.)

The second theme (bar 26) again looks more related to the fugato theme than cell one, having a vague resemblance which seems to be brought out further in the recapitulation (bar 126, Ex 5/19).



This rather quirkily drops two fragments of the melody down an octave, leaving the remainder in the upper register. Partly this is to allow an interplay between the violins and the flute, but nevertheless it is an odd filtering of the original melody.

The similarities include the way the rising seventh C-B<sup>b</sup> is outlined (like the fugato theme), the FEF turn, the ornamented B<sup>b</sup>AG at the end. But, of course, stronger than this is the swoop over the barline in both motives, with the third beat sliding across to the first.

The passage is also an alternating dialogue between the violins and the bass. The violin melody keeps the anacrusis, but the size of the intervals and the direction are varied, and a great deal of explanation would have to be made to find any fourths in the line at all.

It is not the case that the motive has quite disappeared though, for there it is in the bass: the dominant - leading note - tonic now transformed in the leading note - dominant - tonic. Again, a common cadential formula, but the association is strengthened by the push of the anacrusis over the barline.

The bass accompaniment motives from bar 42 (Ex 5/20) could be distant variants of cell one, though the lack of the rising fourth weakens the link. That said, the bass does have the semitone rising over the barline in a dotted rhythm.



Is this something?

In some versions of this motive the outer fourths allow an interpretation of a connection to cell one. However, one seems to have crossed a line to argue this.

The fast-dripping triplets of bar 54 onwards are set over a hemiola accompaniment. The motivic connections are now truly diluted, but the variation in the repeat of the phrase at bar 58 (Ex 5/21) could seem designed to pull out the descending fourths FCG. The closing rising fourths G-C in bars 61 and 62 are unambiguous, stating the opening interval of the movement, the fourth of cell one, now back in the key of C major.

Ex 5/21

2: 58



An enthusiast might note that the timpani has the same rising fourth G to C. A sceptic might counter that these are the only two pitches it has anyway! It is true on the one hand it has very few words (one?) in its vocabulary, but on the other it can, and does, give us the G-C interval rather nicely at the end of this section.

The development takes a principle of variation (seen in bar 26 onwards) and makes more play with this. The retained elements are the anacrusis, short-long duration and rising. Changing are the intervals - though the fourth is not excluded, as it is found from bar 65 to bar 66, as part of an arpeggio. The preparation on the dominant from bar 81 'fills in' the quaver on beat two (Ex 5/22), so bringing things closer to the fugato theme, and the span of the motive is a fourth (GA<sup>b</sup>BC).

Ex 5/22

2: 81



This becomes blurred by the hemiolas from bar 86. The filled fourth is alluded to, and this leads into a play with chromatic lower neighbour notes: buried in the chords is the descending scale in crotchets C (bar 85) B<sup>b</sup>, A, G, F, E, D, B<sup>b</sup>, A, G, each with its lower chromatic note. Maybe the apotheosis of the B-C from cell one: even if not, then certainly a remarkable swarm of semitones.

The recapitulation of the fugal opening comes with additional scalic ornamentation. The head of this is two demisemiquavers rising up stepwise. This can be described as a rising anacrusis by step, but we seem to be a great distance from the character of cell one with this. There are filled rising fourths (the bass in bars 103-4, and within 104 Ex 5/23), but perhaps it would be more remarkable if there were no such events.

Ex 5/23

2: 101



The remainder of the recapitulation is as before in the exposition, with the second theme reappearing in the tonic F.

The long coda (bar 162) underlines the connection between the beginning and end of the exposition as the cadential rising fourth (now C to F) from the end of the exposition continues into the fugal subject with the same fourth: the fourth can be the motivic opening and the closing cadence (bars 161-2, Ex 5/24).

Ex 5/24

2: 161

The musical notation shows a single staff in treble clef with a key signature of one flat. It begins with a quarter rest, followed by a quarter note C4, a quarter rest, and a quarter note F4. This is followed by a series of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4. The piece concludes with a piano (*p*) dynamic marking.

The passage following (from bar 182) compresses the fugal theme (Ex 5/25). The higher horn tune has FAB<sup>b</sup>GF, so starts with a fourth and semitone (cell one) before returning to F. (How neat that while the oboes from bar 182 have the silent second beat of theme two, the horns fill this in with the repeated notes of theme one!)

Ex 5/25

2: 182

The musical notation shows a single staff in treble clef with a key signature of one flat. It features two parts: 'obs' (oboes) and 'hrns' (horns). The oboe part consists of eighth notes: F4, A4, B4, C5, B4, A4, G4, F4. The horn part consists of repeated eighth notes: F4, F4, F4, F4, F4, F4, F4, F4. The piece concludes with a piano (*p*) dynamic marking.

Right at the very end (bar 190, Ex 5/26) the first violins hesitatingly fill in with a C, prefaced with a little grace note B natural. Oddly this allows the filled fourth GABC to appear, though split across the orchestra.

Ex 5/26

2: 190

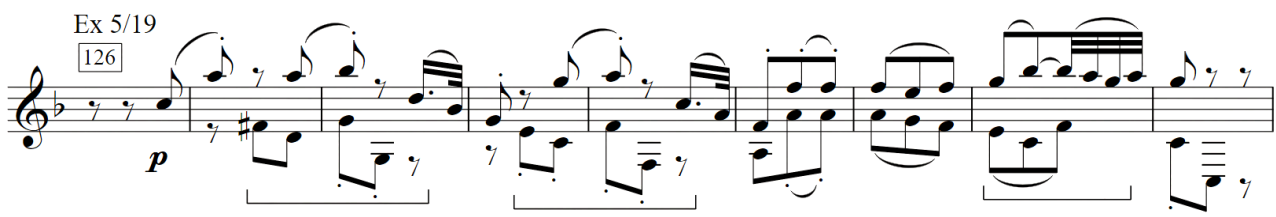
The musical notation shows a single staff in treble clef with a key signature of one flat. It features several parts: '1st vlms', 'hrns', '1st vlms', 'hrns', '2nd vlms', 'obs, hrns', '+ 1lt 1st vlms', and 'tutte'. The first violin part begins with a grace note B4 followed by a quarter note C5. The horns and second violins play a series of eighth notes: G4, A4, B4, C5, B4, A4, G4, F4. The piece concludes with a piano (*p*) dynamic marking.

The B-C is passed to the second violins and the flute, almost as if they wanted to deny that the movement is in F, or that one can still touch cell one (at pitch) even at this inappropriate moment. All who can then insist loudly that the movement will now close in F. The cadence, of course, contains a move from E to F (notably in the flute and second violins, who were repeating the B-C immediately before) so maybe even here cell one is found, but now indeed in the more appropriate key of F.

### 5:3 Interlude Continued.

What can be drawn from this? The material of the slow movement is rather naïve, so connections are there to be found. The opening theme has connections to cell one as regards opening interval, rhythm (the dotted rhythms, the repeated notes following the strong beat), metrical placement (the anacrusis).

The movement then seems to take this theme as the basis of further transformations, which mostly take us away from the characteristics of cell one, most notably in the development section. Of course, the cell is already transformed when taken into the slow movement: this is in a slower tempo, in triple metre. However, the further transformations suggest something working by 'chaining'.



For example, one could say that the theme at bar 126 (Ex 5/19 above) has aspects in common with the theme at bar 1 (Ex 5/16 below), and bar 1 has things in common with cell one of the first movement. But there is nothing much shared by cell one and the bar 126 theme.



It is probable that scrutinising the music in this way will produce cross-references, as an inevitable product of the process of enquiry and the general nature of the criteria. The temptation is to think there is a need to demonstrate that the second movement is a variation on the characteristics of the first movement, which itself has been reduced to the characteristics of cell one. There would then be an 'explanation' of the different kinds of music found in the slow movement.

To demonstrate such connections would be to be 'successful'. But suppose the reader thinks this has failed? Well, this section of this essay would be demonstrating (it is hoped) just how far from being connected the two movements are. If I say that two people standing three feet apart are clearly intimate, another might say this is a considerable distance, and indicates coolness between them. However, the two interpretations do not disagree on the distance, but what this signifies. One might say that there are weak connections here, but one could emphasise the connections or the weakness.



## 5:4 Analysis Continued.

### (v) Cell One in the Minuet.

The first eight bars can be regarded as instances of cell one filled-in and placed next to each other to shoot up like a rocket (Ex 5/27).

Ex 5/27

Musical notation for Ex 5/27, a treble clef staff in 3/4 time. It shows an eight-measure phrase starting with a box labeled '3:1' over the first three measures. Dynamics include piano (*p*), crescendo (*cresc.*), and forte (*f*).

The cell mutates in the repetitions but the whole is contained within the bounds of two four-bar phrases. As was mentioned above, the eight bars could be taken as a rewriting of the first seven bars of the first movement, including the rise via C# to the D. The themes are far from identical of course, because of the filled in intervals and the triple metre.

Moving on, one might note the rhythmic resemblance between bars 8-12 on with the minuet theme (Ex 5/28), but the rise at the start of bar 9 now goes nowhere, and it needs a knock to move down in 11-12. The opening tune is all ascent, this version is a near monotone. Is there a relation? Logic says this is a move too far and cannot be defended. The objection is that the intervals, contour and pitches are totally different, even if the rhythm and phrasing scarcely different. But what does the ear say? We surely cannot hear cell one, but we can hear the relation between the various four and eight-bar phrases.

Ex 5/28

Musical notation for Ex 5/28, a treble clef staff in 3/4 time. It shows an eight-measure phrase starting with a box labeled '3:9' over the first three measures. Dynamics alternate between piano (*p*) and forte (*f*).

With a sense of strain one could suggest how the cell is present in the bass in bars 9-18 (Ex 5/29).

Ex 5/29

Musical notation for Ex 5/29, a bass clef staff in 3/4 time. It shows two lines of notation. The first line has an eight-measure phrase starting with a box labeled '3:9' over the first three measures. Dynamics include piano (*p*), forte (*f*), and piano (*p*). The second line continues with dynamics including forte (*f*), fortissimo (*ff*), sforzando (*sf*), *sf*, *sf*, and *sfz*.

This material can be related to the minuet melody in bar 4, where the interval has been turned into a diminished fourth. The bass line emphasises the end of the cell, but there is a B is just before this, so it could read [B] DE<sup>b</sup>. Bar 13 then forms part of the sequence where the interval is now the perfect fourth [G] ABC (cell one at pitch), and bar 16 cuts off the first note [E<sup>b</sup>] FGA<sup>b</sup>. Bars 21-25 take the rising third (FG<sup>b</sup>A<sup>b</sup>) of the end in slow tempo and use it to cadence onto D<sup>b</sup> (FG<sup>b</sup>A<sup>b</sup>D<sup>b</sup>). Weak if one wants to maintain the fourth as a badge of identity, but a clear enough example of a chain of transformation.

The rising fourths of the cello and violas in bars 25-32 allow things to calm down (Ex 5/30), though uneasily in a 'wrong' key, a semitone up from C. There is a chromatic creep back up to C, which arrives in advance of the crescendo and the return of the opening theme (bar 44), as if left unawares that the journey was so quickly achieved.

3: 25

Ex 5/30

The theme sets off as before but now continues on up, filling out the full two octaves: the C#DG replaced by a filled fourth D-G (Ex 5/31), giving three versions of the minuet's version of cell one. The requirement to get back to C expands these first eight bars to fourteen, which negotiate the move back to C.

Ex 5/31

3: 45

The scale of C major which follows (Ex 5/32) is split registrally in the middle, so the first half has C-F, and the second G-C: indeed the two fourths found in the rising scale of C. With this we are home again in the tonic.

Ex 5/32

3: 52

In the coda the first bit of motivic play from bars 58 to 66 (Ex 5/33) can be heard as a transformation of the opening of the minuet (with the semitones of the start of the middle section), as it starts with the same rhythm.

Ex 5/33

3: 58

The straight line of ascending pitches is transformed and the motive is now compressed to the notes either side of C, with an alteration as to whether the higher note should be D<sup>b</sup> or D. The interval of the fourth is the main element which has disappeared, so its relation to the first movement is back along a chain: bars 58-60 are like 1-2, and the minuet 1-2 is like the first movement 13-14, but using different criteria for the connections.

The second motive of the coda (from bar 66, Ex 5/34) is of a tonic arpeggio ascending (with the upper fourth filled, as in the main minuet theme) followed by a descending dominant seventh arpeggio. The filled fourth arrives on the downbeat and the movement is closed by a falling tonic arpeggio.

Ex 5/34

3: 66

*p*

*cresc.*

76

*f sf ff sf*

There is something more to be said, though. There could be a difference of opinion as to whether the G of bar 74 is part of the lower triad (as arrival point) or the fourth filled out (as starting point). The question is raised because the G is accented and comes a crotchet early. Looked at in one way, it slightly separates, and makes more audible, the three-note figure ABC in bar 77. The ear has also been prepared for this separation of the last three notes, as this is the basis of the bass motive from bar 11 in the minuet. But if one has little scale fragments then there certainly will be cross connections.

Almost as an aside, it can be noted that one transformation is that the centre of the four-bar phrase is cut (so that bars 1/2/3/4 become 1/4, thwarting the rise to the top C). The rising arpeggio has a very odd rhythmic quirk, and to help accommodate this the pitches at the bottom are more separated than the pitches at the top. A rising tonic arpeggio with a B added, yes, we know this from the first movement bars 16 and 17. Now it is further filled in with an A, and we heard an example of this process at the start of this movement.

This points to a simple truth: the extension of cell one at the start of the first movement (bars 16-17) takes the fourth G-(B)-C into the next octave by means of an arpeggio with the B appearing as a filler: CEG[B]C. The end of the minuet (CEGABC) is then very close to this: arpeggio and now fully filled fourth.

Ex 5/31

3: 45

*f*

*ff*

*sf*

This connection between octaves is also made in the recapitulation of the minuet theme, as the D to G around bar 47 (Ex 5/31 above) is the same (in rhythm and articulation) as the extension up to the high G around bar 51. It slides past the ear as it is in the simplest of phrase structures: GABC; DEF#G; G#ABC; DEF#G.

(vi) Cell One in the Trio.

To find cell one in the first half of the trio requires some imagination, as seen in the discussion in Section Two. One can add to those comments a note on the cadence in bars 102-103 (Ex 5/35). Here the rising fourth (starting with a sforzando) adds an extra A and F# to fill out the bar so the fourth will appear on the two downbeats.



One can note that the harmony of the opening section vaguely follows the plan of the first movement Allegro opening bars. As before there are segments on C and D (here joined by an A minor chord), moving to the dominant G.

The 'development' is concerned with the descending figure (cell two) as discussed in Section Three. Locally one might hear the descending run down from A to D as a playful inversion of the D to A in the cadence of the first half, but this takes us well out of the realm of cell one.

The reprise seems to have the function of bringing the cadential figure of bars 102-3 ever closer to the main motive. In bars 129-30 (Ex 5/36) the lower G takes a lower neighbour note of F# before filling out the journey to C. This leaves the G-C interval on the adjacent downbeats, and increases the resemblance to cell one.



Bars 133-138 then give three variants. The first is at bar 129, but the second gives just the last five notes, again with an accent on the first G. The figure now has just one extra G added to the rising fourth G-C compared with the minuet rising scale version. In recompense for this snipping off the tail of the figure and holding the remainder up for examination, the last figure has to get itself on the right foot with some additions at the beginning G and F#s before ending as the variant we saw in bar 102-3.

This somewhat stumbling pattern of accents from bar 133 (4 + 3 + 2 + 4) is oddly similar to the slow movement bar 20 violins [6 +] 4 + 3 + (2 + 4). This observation invites an investigation of how the purely rhythmic aspects of variation and transformation can be tracked through the symphony. The reader might point out that the pitch element is sometimes abstracted from the motives, so why not the same for the rhythm? One could say that it seems reasonable that rhythm is a tool through which to explore pitch-relationships, but that it is odd to think of things the other way round. The author makes a mental note this might be an interesting later study. He agrees this is not wholly satisfactory.

## 5:5 Insert: A Common Cadence?

The trio might have slight connections to the first movement, but these are commonplace materials. For example, the melody of the cadences from bar 126 move by the bar (with faster quaver ornamentation by the violins).

The line reads: AGFE; AGBC and then the stuttering repetition of B to C and an upper D (Ex 5/37).

Ex 5/37

3: 127

One can compare this with:

i. The violin line in the first movement (bar 271, Ex 5/38): AGFE; AGFE; AGBC.

Ex 5/38

3: 271

ii. Or the first movement (bar 229, Ex 5/39): [C] AGBC (flutes ascend, violins descend).

Ex 5/39

3: 229

iii. Or earlier in bars 31-2 (Ex 5/40): AGBC.

Ex 5/40

1: 31

iv. Or the minuet (bars 56-8, Ex 5/41): [C] AGBC.

Ex 5/41




3: 56

*sf*

Detailed description: This musical example shows a single staff in treble clef with a 3/4 time signature. It begins with a box containing '3: 56'. The first measure contains a half note G4 and a quarter note B4. The second measure contains a half note C5. The third measure contains a half note B4. The fourth measure contains a half note A4. The fifth measure contains a half note G4. The sixth measure contains a half note F4. The seventh measure contains a half note E4. The eighth measure contains a half note D4. The ninth measure contains a half note C4. The tenth measure contains a half note B3. The eleventh measure contains a half note A3. The twelfth measure contains a half note G3. The thirteenth measure contains a half note F3. The fourteenth measure contains a half note E3. The fifteenth measure contains a half note D3. The sixteenth measure contains a half note C3. The dynamic marking *sf* is placed below the first measure.

v. Or indeed to go forwards into the last movement bar 219 onwards (Ex 5/42): AGBC; AGBC.

Ex 5/42



4: 219

*sf sf sf sf sf sf sf ff*

flts obs flts

vln I vln I vln I vln I

Detailed description: This musical example shows a single staff in treble clef with a 4/4 time signature. It begins with a box containing '4: 219'. The first measure contains a half note G4 and a half note B4, with the dynamic marking *sf* below. The second measure contains a half note C5 and a half note B4, with the dynamic marking *sf* below and the instrument marking 'flts' above. The third measure contains a half note B4 and a half note A4, with the dynamic marking *sf* below and the instrument marking 'vln I' below. The fourth measure contains a half note A4 and a half note G4, with the dynamic marking *sf* below and the instrument marking 'obs' above. The fifth measure contains a half note G4 and a half note F4, with the dynamic marking *sf* below and the instrument marking 'vln I' below. The sixth measure contains a half note F4 and a half note E4, with the dynamic marking *sf* below and the instrument marking 'flts' above. The seventh measure contains a half note E4 and a half note D4, with the dynamic marking *sf* below and the instrument marking 'vln I' below. The eighth measure contains a half note D4 and a half note C4, with the dynamic marking *sf* below and the instrument marking 'vln I' below. The ninth measure contains a half note C4 and a half note B3, with the dynamic marking *sf* below and the instrument marking 'vln I' below. The tenth measure contains a half note B3 and a half note A3, with the dynamic marking *ff* below and the instrument marking 'vln I' below.

One could say it is a filled version of cell one, with a permutation of the four pitches to make the cell one notes (AGBC) prominent. Or one could say this is nothing but the noise of the mechanics of the language. Such a cadence (or not exactly) has not been found in the slow movement, so this is not even neat and tidy.

“The cadence unifies all the movements in the work, except the slow movement”.

That sounds pretty poor. But is a criterion of tidiness, if held by an analyst, shared by a listener? Or (to consider pulling back the curtain), a composer? Another possibility is that the work is not unified by a single cell, but there are cross-references between the movements made by a variety of means. Like cell two it appears frequently, in different contexts, but is not ubiquitous.

## 5:6 Analysis Continued.

### (vii) Cell One in the Finale.

The finale opens with an adagio introduction. After a resounding stamp on the pitch G, the violins bit by bit present increasingly large segments of a C scale starting on G. The scale which completes the run from G to G is then the start of the first theme (Ex 5/43).

Ex 5/43

4:1 Adagio *ff p* *p pp p* Allegro molto e vivace

We should note that in the last movement introduction the 'ground level' lowest note is always the G. One can see that there is a run-up before the beat, arriving on a single note after the barline, so an anacrusis figure. As the interval expands so the rhythm of the upbeat changes, as after all it has more pitches in it. That said, there are some curiosities here.

The dotted semiquaver/demisemiquaver of bar 1 is surprisingly (pleasingly?) like the first movement (Ex 5/44). When it gains an upbeat demisemiquaver in bar 2 it is rather like the closing passage in the second movement bar from 42 (and more loosely the coda at bar 188-9) while at the same time it fills in the interval of the rising fourth with the dotted rhythm of cell one.

Ex 5/44

1: 13 42 2: 101 3: 85 *pp p*

The rhythm of G-D is the same as the violins in the slow second movement (bar 112), and which itself was taken over from the countermelody introduced in bar 101 by the cellos. (However, the contour of the two is different).

Is the rise from G to E like the one in the trio bars 85-6? A little bit.

For sure each of the rhythms of the cells are highly varied, and while maybe the focus is on the tension of the addition of the pitches, the rhythmic differences add an element of hesitation and uncertainty.

The final lead-in (bars 6-7, Ex 5/45) has the characteristic cell one anacrusis from G filling in the fourth onto the downbeat C, but now continues on up to the high G. The ending of the segment appears disconcertingly new: the seventh in bar 6 makes the E of bar 8 something of a resolution, and the end of the two-bar phrase surely sounds like a descending C triad, with an accent (by metre and duration) on the E. One can see that both cell one and cell two are bounded by the dominant and tonic – no emphasis on the mediant (though one might take consolation that this eight-bar phrase is bounded by the high and low G).

Ex 5/45  
4: 6

The answering eight bars are a slightly ornamented descent from G to C. If there is a reference to cell one here, it would have to be in the bass, where the first two filled rising fourths across the barline are extended up a further third (Ex 5/46).

Ex 5/46  
4: 14

In the next segment (bar 23) the texture is inverted (Ex 5/47) and this bass figure is given to the violins before reverting to the bass from bar 27.

Ex 5/47  
4: 22

The ornamented repeat of the phrase takes the violin melody first to F (bar 24) and then to E (bar 26), where it sticks until the route to C via D is open. The consequence is that the fall from F to E is underlined. This seems to be something altogether different: a special interest in the mediant, first seen in the first phrase of this movement, is continued.



The brass refuse to let the cadence close at bar 30 and ascend up to an E, which the strings at first attempt to wipe away with more scalic runs C to C (Ex 5/48).



The filled rising third (CDE) seems very distant from the characteristics of cell one. It begins to look like the interest in the last movement is on the mediant, and notes falling from above the tonic. There is a run up at the start, but much more time is spent on the curve back down.

The transition has a new theme starting in the bass from bar 46 (Ex 5/49).



This theme outlines the seventh of a dominant seventh with a mostly scalic ascent, and then arpeggiates down the G tonic chord. The pitches DF#G are present as an example of cell one (and indeed as is GBC), but they are embedded in the line, and have the wrong metrical accent.

Well, perhaps the theme is only a little bit new, as the rhythm, contour and metrical placement of the start are a very small step away from the motive in the bass in the main theme from bar 15 (Ex 5/46).



That said, this transition motive is cut from the parallel passage from bars 183-190, which might indicate its lesser status.

The second subject (bar 56, Ex 5/50) again appears to favour the third of the key, which is not part of cell one. There is an ascent to the B in bar 58, and the lowest note is the B in 60. However, cell one can be derived from this (as discussed in Section Two).

Ex 5/50  
4: 56

*p*

64

*cresc.*

*f*

One could take the first note of each bar and note that the 'lower voice' in the melody goes D (bar 56), F# (bar 57), G (bar 58), but it then continues to A, then B down an octave. This fourth does seem to be an inconsequential element here, as it is the ascent from G which is separated off and developed: G in bar 60, to B in bar 62, then G in bar 64: ABCDEF arriving in bar 70.

The first three notes of the theme are indeed those of cell one, with a permutation – but it does go across the barline and has a repeated final note. Further on, cell one appears at 69-70, in the transposition CEF. The pitches are in the original order and the final note arrives after the barline. The sequence arguably has a bar cut after bar 69 (the sequence does not occur on the pitch E) which causes this cell to appear. Small details indeed, but not nothing.

The second subject accompaniment gives the background bare bones of the lines and chords (Ex 5/51). The rising parallel thirds: G/B; A/C; B/D, are rather like the transition theme at bar 30. It is almost as if the earlier transition theme were an unornamented version of the second subject harmony. However, there is nothing special about the I-V-I-V progression they share.

Ex 5/51  
4: 56

*p*

After two cadential figures, the scales starting in bar 86 in the second violins help the link back to the reprise or the move forward to the development section (Ex 5/52). This is rather reminiscent of the run-in within the introduction to this movement.

Ex 5/52  
4: 86



The scales have the three-semiquaver anacrusis typical of the movement and expand to an octave. The scales at first use the pitches of G major but slide into C in bar 90. In the lead back to make the reprise, the F falls to the E of a C chord (eventually), but going into the development section the E resolution in bar 98 is part of a diminished seventh chord.

The development section uses the scale of the start of the main theme over a series of modulating chords. The starting point in bars 96-7 is exactly the scale from the beginning, but it is halted in its tracks by the diminished seventh chord of bar 98. There is a gradual and halting ascent: to A in bar 102, then with some alteration to the internal intervals of the scale, arriving at B<sup>b</sup> in bar 108.

The rising scales from bar 114 are of the type seen at the start of this movement, but from bar 116 a further note is added (as in bar 86 on) and the line moves up by step (Ex 5/53). Contrary-motion scales are added from bar 123, but with six semiquavers before the barline.

Ex 5/53  
4:122



The scale type becomes dominant from bar 130: both the rising and descending scales have six semiquavers onto a quaver, so now outlining a seventh, and these overlay a sequence running round the circle of fifths: A in bar 130, D in 132, G in 134, C in 136, and F in bar 138 (Ex 5/54). Given the metrical stress, if cell one is present then it would be at the end, not the start of the runs, and then arguably only in the ascending runs. It begins to seem one is chasing a will-o'-the-wisp.

Ex 5/54  
4: 130



At bar 148 the ascending scales fill out octaves on GBDF, and as the wind scuttle down the violins reenter with the opening theme of the movement. The first theme is restated, though the recapitulation soon looks for new ground.

The second subject appears in the rather odd key of F at bar 192 (as noted earlier). It is prefaced by a little pitter-patter on the C and B, picking up on a predilection for ornamenting the dominant note with the sharp fourth (Ex 5/55).

Ex 5/55  
4: 189

*p*

This seems a rather subtle joke (if that is what this is), as this uses the notes of the expected C major while heading towards F, and indeed uses the BC so prominent earlier in the work. Rather than continue in C major, the C is taken as the dominant, but as it is the starting note of the second subject melody, the move is very smooth. In any event, the move to C major, though urgent, is soon made seamlessly and the music proceeds much as in the exposition.

The final ritornello is prefaced by the seventh filled version of the scale: six semiquavers, here always onto the second beat, before the motive shifts back one semiquaver (bar 242 Ex 5/56).

Ex 5/56  
4: 237

*p* *pp*

242

*p*

The opening theme is restated, but the cadence overlaps with a motive from the horns and oboes which rises up CDC, EFE, with cadences at the end (Ex 5/57).

Ex 5/57  
4: 266

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

This could be a variant of the theme at bar 30 (which might relate to the second subject), but given the identity there was the simplest of harmonic progressions, and this version is slightly different, this seems a slight connection. That said, the shape of both phrases is to move up from a C to the E above. This is not cell one, which typically moves from the dominant to leading note to tonic. A straw to clutch at is the fourth C-F (and a possibility of cell one appearing as CEF), but this has quite a different place in the tonal system. However, there was a similar 'incidental' use of the cell (tonic, mediant, subdominant) prominently at the start of the slow movement. Maybe not so incidental after all?

As the coda progresses even the scale G-G is avoided as the last appearance of this version of the rising scale is in the reprise of the theme in bar 247. The scales after this start on C or E. The final bars (Ex 5/58) do offer the faintest trace of the cell: the falling arpeggio does circle up the fourth, so closing CGC, which it did not need to do, and the final cadences emphasise the B-C (as well they might in any V-I closure).



If one was looking for the end to offer an unequivocal back reference to the main motive of the first movement then one is disappointed. The cadences at the end of the symphony scarcely appear to relate to cell one, which this essay has proposed as the main contender for the role of primary unifying factor.

#### (viii) Short Overview of Cell One in the Last Movement.

The last movement seemed to be looking from the start to shift the focus away from cell one. It is possible by dissection to locate cell one through the main body of the movement, but this becomes even more obscure in the coda. One might expect a coda to recall or summon up, not diverge or avoid.

The main theme of the movement buries the motivic connection in the commonplace material of a run-in scale, and the emphasis is repeatedly made on the mediant, which is the note of the triad not present in cell one.

If one was hoping for a triumphant apotheosis of the cell of the opening of the Allegro, then the ending is a disappointment. It appears not just to drift into common elements of the classical music language (many, many scales!), but even to avoid the cell which has given the symphony so much of its character and identity.

Perhaps this was a gradual process, and the direction was signalled by the way the minuet theme firstly fills in the interval, taking away some of the character the gap gave, and then distorts the themes ever further away from the core interest.

So maybe not a 'core' at all then? Perhaps a process, where the last movement is only tangentially (or sequentially) related to the first, and the coda moves on yet further? Or, to drop the idea of a narrative direction, even more shapeless, a patchwork of themes more or less related, where the end and the beginning are not especially privileged?

(ix) Cell One in the Introduction.

Once again one should note that there is still a need to discuss the opening introduction of the symphony, now in relation to cell one.

There is little sign there of a central role for the GBC cell. There are fourths, but they are be found more often as goals over four-bar phrases, not as motivic fragments. It seems the task is to revisit the introduction and see if there is another way to formulate the material to reveal a relationship to the later material of the work.

The search for cells one and two was based on their prominence in the early bars of the Allegro.

The symphony was examined for any special relation to the subdominant, based on the opening chords of the introduction, but is there something else in the introduction which underpins the work as a whole? We have the advantage now of knowing that cell one is very important in the work, even though there are passages which seem at a distance from this.

## **5:7 Interlude (another).**

So far the attempt has been made to locate individual and characteristic fragments and trace these through the music. It has been found that this leads to some difficulties, as the cells shade off into common elements of the classical style. It has been suggested that this analytical difficulty could be the result of a misapprehension. If one considers any of the movements of the symphony then within it there is a gradation from 'original theme' to 'tonal material'.

This work does not look to be 'thematic' at every point, but slides from the idiosyncratic to the conventional. Perhaps it is like the difference between the foreground and the background in a painting: some moments are in sharper focus and have more contrasted colours than others. Thematic areas could be viewed as figures in a landscape.

That the analysis struggles to draw a line between the two is a function of how the work is, and one is free to value this negatively or positively. One might choose to say that the work degrades into commonplaces. Alternatively, one might say that there is an awareness of the need to have a difference between important segments and unimportant, as if all are equally important then none is particularly important.

I note the attraction of a pleasing narrative ("the work fans out from a concentration on the motive of the first movement while retaining a relation to this as core"; or "once the core motive is established the music is free to flow between the characterful and specific, and the generic") to which the music can be deemed to conform. That is, the satisfaction is in the coherent description. The analysis above has spanned the range from the 'significant' to what have been seen as ever more questionable interpretations as the music becomes more general. The case for cell one being the unifying element is not a disaster, but it is unsatisfactory partly because of the uncertainty caused by the dilution of idiosyncratic motives.

However, there is an alternative approach. One could start with the general nature of the tonal system (or selected elements of it) and move in the opposite direction into the piece and see if that connects characteristics of the significant moments. We are armed with a hard-won familiarity with the nature of the motivic material of the work, so this is a less daunting path than it could have been.

The introduction to the work has not yet been related to the rest of the work, which is surely a requirement.

True, to claim that the work ends less thematically than the main body of the work could be descriptive rather than evaluative. It could sound very reasonable and worthy. One could say that the personalities of the specific characters are dissolved in the cheerful delight in a functioning, communicating language.

This interpretation (let us not say 'spin') also has something of the flavour of a school football team well beaten and the headmaster saying afterwards that it is the taking part, not the winning that counts. That is true, noble and mature. But which would one prefer: to win or lose? After all, the winner took part too (I note that winning appears to be to find unity rather than note the lack of it). So in that spirit - chastened, but hopeful - we move onward.

## SECTION 6

### **The Introduction Reconsidered, the Four-note Cell Three - and into the Symphony again.**

So far in this essay the approach has been to listen and look at the work and note the prominent cells. While the focus was on the intervallic content, cells appeared with all musical characteristics and these were filtered down to the intervals which gave the cells their core identity.

The discussion has been to ask if other moments in the work share the characteristics of the cell. That there are problems in this was quickly evident, as there is a gradation of similarity and no obvious way to set a marker as to what can be seen as related or unrelated.

Typically, the problem seemed most difficult in the passages in the score where it seemed that the musical narrative is using more generic material before the next more characteristic theme appears.

The direction of analytical narrative has been from strong identity to hazy or improbable relationship. This sometimes turned into a description where the particular was described as being absorbed into the general, with the analyst staring into the haze searching for the still present traces of the key cells. (Sometimes with interesting results: but it is rather similar to watching a bird fly off into the distance, when one wonders if it has disappeared but stares for the faintest dot in a refusal to let go).

As it happens this 'arrival at identity' and 'disappearing into the clouds' can be seen as a narrative for the symphony, but it should be held in mind that that the alternation of sharpness and blurriness is part of the character of the music throughout: every moment of passagework is less individual and every theme more sharply drawn, as in foreground and background.

An alternative is to go in the opposite direction, from the general to the particular. Maybe it is possible to arrive at themes from the more generic material, rather than the other way round, as it has been seen there are traces of the motives throughout the score. The passagework is still particular to the piece, and not all passagework is the same in every piece.

However, one can go back a stage further and go down into the raw materials of the tonal language itself, then come forward into the piece to see which aspects have been foregrounded. I would like to claim this process is neutral. I am not sure that it is.

Firstly, there is the magnetic attraction of making a single, inclusive explanation. The second is that I am not psychologically neutral as to whether the piece is motivically unified or not, somewhat in the position of a judge who secretly likes the accused more than the plaintiff. I hope the reader shares the prejudice.

I will admit I would like the piece to be motivically unified, but perhaps worryingly more for the satisfaction of making a pleasing description than demonstrating an aesthetic case for the piece.



## 6:2 A Theoretical Moment.

If one looks at the major scale it has a unique and special interval content. One can list these in C major:

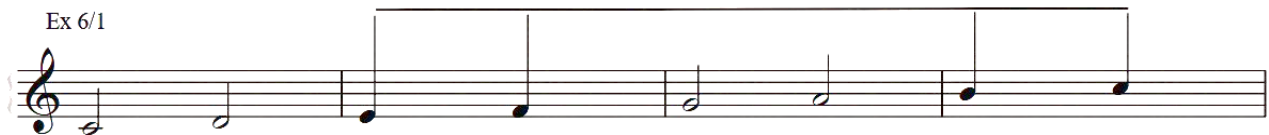
One tritone:	BF.
Two semitones:	EF ; BC.
Three major thirds:	CE ; FA ; GB.
Four minor thirds:	DF ; EG ; AC ; BD.
Five whole tones:	CD ; DE ; FG ; GA ; AB.
Six perfect fourths:	CF ; DG ; EA ; GC ; AD ; BE.

The single tritone is shared with the furthest key: F#, but all the other interval collections are unique to the key of C major. (The discussion here is restricted to the major keys).

Individual intervals are held in common with other scales, so are not in themselves key defining: EF also appears in the scale of F Major, and GC also appears in the scales of A<sup>b</sup>, B<sup>b</sup>, E<sup>b</sup>, F, and G.

The two semitone intervals (Ex 6/1) are the minimum there can be (of all the same interval type) to define a scale and key.

Cell three: in the major scale



It is these four pitches, EFBC, which appear (in this order) at the start of the introduction as the melodic line (Ex 6/2).

Ex 6/2

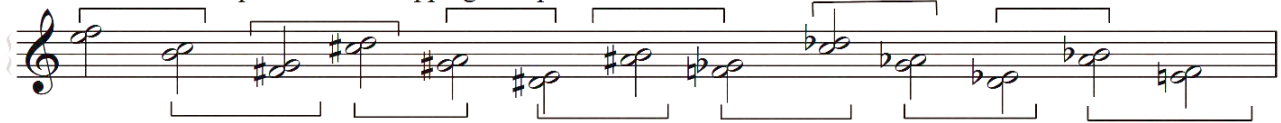
Musical notation for Ex 6/2. It shows a melodic line on a five-line staff in C major. The notes are E4, F4, B4, C5. The notation includes dynamic markings: *fp*, *fp*, *cresc.*, *f*, and *p*. A first ending bracket labeled 'I:1' is placed over the first two notes, E4 and F4.

This is striking enough for one to postulate that this is another cell: It will be cell three.

Note that the pitches are, as part of the key of C major, not ordered, so their appearance in bars 1-2 (EFBC) is an example of the cell which take a specific form when used in the symphony.

Taken as a pair, one can chain the pitches and runs round the circle of fifths: EF/BC are found in C Major, BC/F#G are found in G, F#G/C#D are found in D etc. (Ex 6/3).

Ex 6/3 Cell three: sequence of overlapping transpositions



One can set these out in a linear sequence: EF; BC; F#G; C#D; G#A etc, and add to them the other elements of the cell and create a fair impression of a series of perfect cadences (Ex 6/4).

Ex 6/4 Cell three: sequence of cadential resolutions



Note that the leading note rises and the 'seventh' falls, that each bar has a transposition of cell three, and within each voice the consecutive pairs of semitones also form a transposition of cell three.

### 6:3 Cell Three in the Symphony.

So the proposal is that it is not the chord progression at the start which is of primary importance, with the melodic top line as an incidental aspect of this, but it is the top line which is of interest, and the harmony is a 'supporting filling-out' of these pitches.

The first two bars have two rising semitones melodically, E-F and B-C. These are the two semitones of the key of C and (unharmonised) appear only in the key of C of all the major keys. Let us see where this takes us.

These two semitones are the first two pitches in the melodic line of the symphony. (Yes indeed, the line goes on from there, but one has to grant these two bars are a unit).

As noted above the semitones might ascend or descend. In the first two bars the melodic semitones ascend and are the leading note to the false tonic in the first perfect cadence, then appear again in an interrupted cadence (Ex 6/5).

Ex 6/5

*f* *p* *f* *p* *cresc.* *f* *p*

*cresc.* *f*

Indeed, one can see that the four pitches are contained within the V<sup>7</sup>-I cadence (or V<sup>7</sup>-VI) if placed vertically as seen in bars 2 (and 12-13, Ex 6/2). The E goes to F in bar 1, and F falls to E in bar 2. The B goes to C in bar two, and C (as part of a G V-I cadence) falls to B in bar 4.

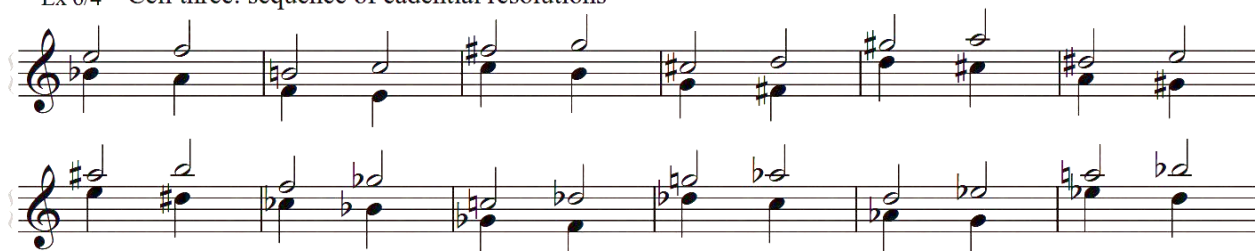
Ex 6/2

*fp* *fp* *cresc.* *f* *p*

This looks like a promising direction to explore. Cell one is first presented in the Allegro in bars 13-14 as a fourth with the additional semitone, specifically the B to C. This is an odd compromise.

If we look again at Ex 6/4 we can see that the C major version of the cell (bar 2) does not have the dominant pitch G. However, bar 3 shares three pitches with bar two, and these are those of the first versions of cell one (GBC). If it had the fourth member (the F#) then the cell would be heard in the key of G.

Ex 6/4 Cell three: sequence of cadential resolutions



On the positive side, one can see that cell one not only has the characteristic interval of the semitone, which appears as an addition to the notes of the C major triad in bars 13-17, but the semitone is specifically that of B-C, as found in the second bar of the symphony. Note that the emphasis in cell one is now on the semitone, not the fourth, as was done above.

If one regards cell one as a collection of intervals, irrespective of specific pitches, this is little matter, but cell one has been often observed as being the specific pitches GBC. It is true that cell three in C major 'contains' cell one on the general level of interval content (or in the transposition CEF), and the core pitches of the initial versions (EFBC and GBC) share only the pitches B and C. (Which might not be such a small 'only' but perhaps more a 'significantly' at the end of the day.)

On the other hand, cell three has little obvious in common with cell two, but there are some serious doubts as to how independent this cell is from cell one anyhow, and it seems to disappear in substantial passages in the symphony. It is a character, but not a lead role.

This then gives a model to follow through the course of the introduction. It was noted earlier that there was a rising fourth running chromatically from the opening E to the A (Ex 6/5), but at that stage it was not seen as especially like cell one, aside from the rising fourth element, and it was (disappointingly?) without the pitches GBC.

Ex 6/5



It looks different if one is highlighting the semitone as the interval of interest, as now we hear a rising line of semitones, breaking off a fourth above. It is very neat that the two fourths are each given four bars to unfold, and they do this so differently.

One can now look at the next phrase, bars 5-8, in a different way (Ex 6/5).

Ex 6/5

It is another fourth, rising from B to E. The whole line can be regarded as a continuous line from the E at the beginning, with an octave displacement in the middle with the violin line finishing on the same E it started on. (Note in bar 7 there is a lovely ornamental rise to the high A as a reminder of the high point – and even the pitches AFE [a retrograde transposition of cell one] leading into the cadence!)

The whole line is not fully chromatic (it lacks A# and D#) and the C# in the second phrase prevents there being a neat model of a rising fourth chromatically filled followed by a fourth diatonically filled.

The point to be underlined here is that there are two scalic segments, each starting with one of the semitones in the C scale (EF, BC, cell three), and each rising up a fourth. One might hold onto the thought that both the start pitch and the end pitch are E, as the emphasis on this pitch was the cause of some bafflement in the last chapter when considering the last movement. The importance of the pitch E (as part of the semitone pair) in the opening bars encourages further investigation.

Bar 10 (Ex 6/6) brings an interrupted cadence onto A, a cadence which certainly contains F falling to E and B rising to C (even though the answer to the question as to which the main melodic line is less sure). Then in the lead into the final perfect cadence the wind emphasise the semitone EFE, (bars 10-11), leading onto the tritone FB and the cadence on C.

Ex 6/6

The pitches of cell three appear as the top melodic line, and are also compressed harmonically across the barline as part of the V<sup>7</sup> cadence. It looks like the analyst will be required to examine the symphony over again to see how ubiquitous cell three is.

Firstly though, we should consider the opening a little longer. Just why are the pairs of semitones this way round (E-F; B-C) at the start of the introduction? Why are the semitones both rising?

Ex 6/5

One can imagine the work starting with a  $V^7$  to I which would reinforce C major. The B could rise and the F fall to E as part of a single gesture. Or it could be interrupted as in bar 4. One could, at the simplest, reverse bars 1/2 and 3/4. This would have the additional advantage of pushing the B-C forward at the earliest opportunity, and this would then be taken up in the Allegro.

Ex 6/2

This is exactly what does not happen: the surprising thought occurs that the harmony might be far less important than the melody. One can note that the order of the semitone, E-F then B-C is the order of the pitches in the ascending major scale (if starting on the tonic, or even the mediant).

That is, one can think of this as a filtering of the rising major scale, and that consequently a scale, as and when it comes, will have this succession contained in it. We have already seen the way cell one is gapped in the first movement, filtered to pure interval in the second and filled in stepwise in the third. Filling and filtering are integral to development and variation in this work.

The engaged reader will wonder if there is any evidence that this theoretical model, and the topic of the two semitones in the scale, can be seen elsewhere in the symphony. And the writer believes that it can, but can think of no easy alternative except to examine the work to see what looking at the work through this filter - EFBC, cell three - reveals.

## 6:4 Digression.

This is one argument of this essay: if one starts with the identity of the motive and then considers the piece then the motive will often disappear into the generality of the tonal material. But the other direction is to look at the basic material of the tonal language and see the composition as making an emphasis on some particularities, where the motives are intensifications of characteristics inherent in the language. Such a shift in perspective invests the passages of more generic material with a greater connection to the whole, as they are not being defined negatively in terms of 'absence of thematic material', but to be listened to attentively as the source of the particularities of the composition.

This then affects the uncertainty a listener may have with an analysis and (for example) the question of the uniqueness of a piece. One might say that a scale or an arpeggio is a commonplace, and a line should not be crossed between the particularities of a piece and the general attributes of tonal language. Or, that to make a claim for motivic relation between a commonplace and an identifiable characteristic is to impose a wishful desire for coherence against the broader context of the composition. This is to set up an oppositional relation between 'character' and 'commonplace'. It is suggested here that because the characteristic gestures of a piece are formed from the nature of the tonal language there is no such firm line, but that characteristic motives pull into the foreground selected characteristics which are inherent in the language.

Adopting the stance that this particular work arises from general tonal theory can change the way the piece is heard, as instead of the piece ending in the banalities of scales and arpeggios, it could be said to end with a triumphant concentration of the language into its essentials, which are the source of the work. If adopted as a perspective, then hearing faint allusions becomes a positive act of intelligent listening, rather than the creation of eye-driven illusion driven by fanciful indulgence and speculation. Indeed, a fervent adherent of this viewpoint could insist that not to hear the particularities in the general material, rather than being a failure of the work to be integrated, could be seen as a failure of the listener to be attentive enough.


To maintain this idea that this symphony can be considered as an exposition of some fundamental characteristics of the tonal system, this essay is avoiding mentioning the name of the composer. The suppression of this ghostly fiction is replaced with imagining that the work itself intends to be heard in particular ways, by the nature of its structuring. Anthropomorphic, indeed, but surely permissible if conscious and slightly tongue in cheek. This is to hold off the question of composer's intent, by describing what can be found within the confines of the work. A listener is required to realise these connections after all, and the symphony is a part of a common culture to which a listener will also be part. And of course there are indeed many different perspectives to bring to bear on a symphony: this essay is attempting just one.

## 6:5 Analysis Resumed.

### (i) Cell Three in the First Movement Introduction.

There are two additional minor points one might consider in the introduction. The first is the relation of the bass line to the melody in bars 5-8 (Ex 6/7).

Ex 6/7



A curiosity is the way the bass falls from the E of bar 6 to the B of bar 7, two first inversion chords next to each other. It is ornamented, but the E arrives from the F of the V<sup>7</sup> chord (bar 6) and B will resolve to the C of the C chord (bar 8). So it is an ornamented linear version of cell three. This can then be considered in relation to the melodic line it supports: the melodic B rising to C (bars 5-6) is harmonised by F-E in the bass (cell three as two-part harmony). At the end of the phrase the melodic FE is supported by B [G] C in the bass, again cell three, registrally inverted, again as the basis of a two-part harmony. Secondly, there is the octave run in the strings in bar 12 (Ex 6/8).

Ex 6/8

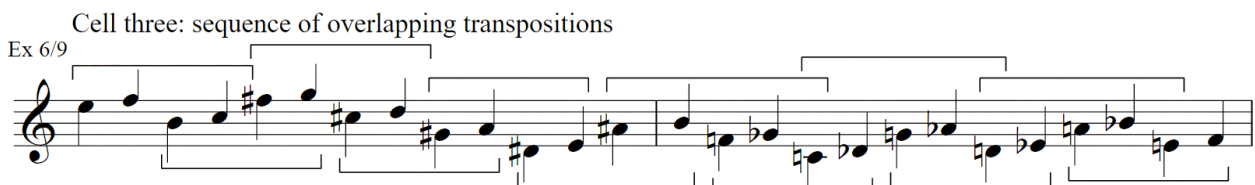


This has a relation to the scale at the start of the fourth movement, in that it is G-G, and has a C on a stronger beat in the middle. One can note that it is not in even semiquavers at the beginning, and the scale is modified at the end to be a G major scale – even though the background harmony in the wind holds an F natural against the F#! (One might recall that GBC requires an F# to complete the cell three collection).

Also suggested in the first four bars, but not developed, is a sequence of semitones, which would run E-F, B-C, F#-G, C#D, G#A, D#E, etc. (Ex 6/9).

Cell three: sequence of overlapping transpositions

Ex 6/9



This would chain transpositions of cell three. It is true that the lower line, B-C in bar 2, when taken up again in bar 5, does eventually rise through a C#-D (as if anticipating the first subject theme), but the chromatic sequence peters out and has no clear destination or shape.



(ii) Cell Three in the First Movement First Subject.

The first subject (Ex 6/10) can be characterised as the notes of a C arpeggio, running up from a G, with the addition of the semitone B-C.

Ex 6/10  
I: 13



Detailed description: The musical notation shows a single staff in treble clef with a common time signature (C). The notes are G4, A4, B4, C5, G4, F4, E4, D4. The first four notes (G-A-B-C) are beamed together. A dynamic marking 'p' is placed below the first note. A box containing 'I: 13' is positioned above the first two notes.

The semitone is prominent because it is the only non-triadic element. One should also note that the B comes as part of the anacrusis, throwing the accent on the C as arrival from the semitone below. This is also the case for the following (half-filled) fourths and the crotchet arpeggio of bars 16-17.

The repeat of the theme on D is made by way of chromatic slide from C to C#, and it is the C# as leading note which is the alien object in the D minor version of the theme. This is mildly reminiscent of the [B] C, C#, D embedded in the introduction, but it is not clear what the consequence is for setting off in this direction in the exposition proper. The key soon returns to C in bar 33, and while the cadence does contain a rising B-C and a falling F-E one would have to argue hard for this being especially marked, though (naturally?) the B-C is the melody in the cadential close. It is an instance of commonplace material related to idiosyncratic material.

Getting closer to a clear sighting is the second of the two four-bar phrases that follow (Ex 6/11).

Ex 6/11  
I: 33  
vln 1



Detailed description: The musical notation consists of two staves of music. The first staff is labeled 'vln 1' and contains four measures. The first measure has a dynamic marking 'sf' and a box 'I: 33' above it. The second measure has a bracket over it labeled 'flts'. The third measure has a dynamic marking 'sf'. The second staff contains four measures, with a box '39' above the first measure and a dynamic marking 'sf' below the third measure. The notation includes various note values, beams, and slurs.

The flutes answer from bar 34 onwards outlines the tritone of the dominant seventh, and this is filled out in quavers in bar 39 when the F gains an ornamental E and the B's of bar 39 resolve to the C of bar 41. Still very conventional, but not as generic as a V7-I cadence. However, one might believe the B-C is the much greater interest, and this continues to be emphasised in bars 45-51. This is partly because there is another agenda: the G chords (now on the downbeat) are to be taken as the new tonic going forward.

(iii) Cell Three in the First Movement Second Subject.

The second subject is of particular interest in relation to cell three, and gains significance partly by its important role within the form. The structure of the theme is based on ascending fourths or descending fifths. On the one hand this allows the rising fourth of cell one to be made prominent, or, on the other, the fourths can be inverted (so descending fifths) and filled out with little scales (cell two).

The example given first (Ex 6/12), is the transposition as found in the recapitulation starting before bar 206, as this is in the key of C major and makes comparison with other aspects of the development (and cell three) more immediate.

Ex 6/12

1: 206

*p*

1: 214

*p*

The theme is in two parts: the first is of melodic descents, and then a series of cadences from bars 210 and 213 (we will ignore the cadences for the moment). The first four bars are then repeated, though the ending is altered to enable a different continuation from bars 218-222 (and leads on to new material from there). The two phrases are 8+8 bars (each divisible 4+4), but the descending run in the first four bars links through, so spanning five bars (with an upbeat).

One can see that the background structure is of a series of falling fifths (Ex 6/13), one per bar, running from a G (the upbeat) through to an A.

Ex 6/13

One can then imagine that the fifths could be joined together by scales (cell two, indeed) as in Ex 6/14. This is logical, but rather plain.

Ex 6/14

hypothetical

The first point is that it is a diatonic circle of fifths, using the notes of C major scale, rather than a sequence of perfect fifths. This gives a sense of identity because of its tonal stability and consequently the sequence contains the tritone F-B.

Looking at the eight-bar phrases, one problem is how to join to the following group of four bars. The first of these at bar 210 has a couple of V-I cadences in C and a lead to G, and then on to the repeat of the theme in C at bar 214.

If bar 210 is to be a G chord then the lead-in needs to arrive on something other than an A, so an alteration is made by shifting the run up a tone so as to arrive on a B. In the repeat of the theme the consequent is altered as the goal is now a C chord in bar 222. This this is worked back to the end of the first part of the theme in 217 where the B is flattened to allow the C chord to arrive on an F chord in 218. The theme can now arrive on the background A, but 'at the cost' of a chromatic alteration to the B. While the endings of the four-bar phrases vary, they do retain a relationship to the model.

This would leave us with four identical motives aside from the very end, with little differentiation. The piece offers the solution that the first two motives will be the same ('pure' descending fifths) and the last two stretch out the scale into arpeggios by entering on a higher pitch than the model.

So in bars 207 and 208 the melodic line enters a third above the model note, and in bar 217 extends this to a diminished fifth higher. In the first phrase melody there are then two descending fifths: C-F in bars 206/7 answered by D-G in 208/9.

The second time the last of these is altered again so C-F and D-B<sup>b</sup>. The (over) enthusiastic analyst notes that the original sequence does not get all the way round the diatonic collection but runs only from G-A – and these variations add the missing D.

That said, the analyst should be more interested in the pitches the model has as the central core, the pitches the phrases arrive at, rather than the pitches of departure. The G is an upbeat (so not arrival) and the last pitch can be an A or a B.

This leaves a central core of pitches, CFBE as the notes of arrival of the four one-bar units. Why be interested? Because these are the pitches of cell three now reordered to show the content of 'fourths' rather than demonstrate their semitones! The pitches of the first two bars of the introduction have become the scaffolding of the second subject! In the exposition this is in the dominant (Ex 6/15) which interestingly shares the pitches GBC.

The image displays three staves of musical notation. The top two staves are melodic lines in treble clef, beginning with a piano (*p*) dynamic. The first staff is labeled 'Ex 6/15' and '1: 53', and the second staff is labeled '1: 61'. Both melodic lines feature a descending scale with various ornaments and phrasing. The third staff shows a harmonic accompaniment with whole notes and a final bracketed phrase.

It is a commonplace to approach the tonic from above in the circle of fifths - let us say ADGC - as this sets up the tonic as a point of arrival (as in the last movement bars 15 onwards,) and the intervals are all perfect fifths. Moving down the circle of fifths from the tonic weakens the tonic (one remembers the subdominant chord at the start of the symphony) and one soon runs into the tritone. The circle at this point is not made of pure fourths or fifths, but are the pitches of the diatonic scale, the fundamental material of the tonal language. This CFBE tetrad is central to the shape of this material and the structure picks out an idiosyncratic aspect of the tonal system.

If enthusiasm is now aroused for cell three then it can be seen in the following cadences of the consequent phrases: now the cell (bar 57, Ex 6/16) is in two-part harmony, the bass F# rising to G and the melody C falling to B (or in the recapitulation bar 210 B-C and F-E). Cell one can found in the simple cadence too: the bass DF#G are the required pitches.

Ex 6/16  
1: 57 *sf*

There is a second consequent passage in bars 64- 67 (Ex 6/17).

Ex 6/17  
1:65

The top wind line has the semitone above EFE and the bass strings the semitone pair below CBC. The tritone produced between them is now filled out as a diminished seventh, and the violin line first resolves the A<sup>b</sup> down to a G, in bar 66 and then resolves the semitone up G<sup>#</sup> to A in bar 67. A neat demonstration of the way a pitch can face either way in a 'cell three cadence', and another aspect of the role of the semitone in the tonal system.

However, even in a study of this protracted length one cannot consider every V-I cadence (and others) to estimate the degree to which these intervals and pitches are prominent. The reader is free to do that.

(iv) Cell Three in the First Movement Closing Material.

That said, the closing motive from bar 99 clearly sets up the F#G; CB as part of the main melodic lines. The cadence into bar 102 (Ex 6/18) contains the C to B, and these are the two pitches to be taken up with the repeat of the exposition and the return cell one.

Ex 6/18  
1:100

Well, the sceptic notes, this does not obviate the fact that the segment emphasises the F#-G. While this is true, the cell three link becomes clearer in the recapitulation at 257 (Ex 6/19).

Ex 6/19  
1:257

The subsidiary pitches F-E of cell three appear in bars 257/8, then the motive is reduced with the accent on the B (so the semitone shared with cell one) before the final cadence in bars 258/9. The enthusiast might even note the last three pitches (GBC) are immediately taken up in the coda as cell one in the original rhythmic formulation. The BC pitches appear as the beginning of the closing motive (BCG), in the perfect cadence (GBC) and then as the main motive of the movement. In this sequence cell one can be seen as transformed (by permutation), generalised (in the perfect cadence), and particularised (as in the return of the motive).

In the recapitulation from bar 188 one sees that the transition passage (from bar 23) is rewritten (Ex 6/20).

Ex 6/20  
1:188

One might expect that the alteration would give some other version of the topics of the piece. One could certainly argue the section now emphasises the rising semitone, as set up in cell three.

Instead of dropping back to the tonic C from the D minor chord, the key is now pushed down to F (as if remembering the first chords of the introduction), but rather than underline this the F in bar 190 initiates a near-chromatic scale rising up to a G. (There is no D# in either octave - the same pitch missing from the introduction opening line, oddly).

Ex 6/20  
1: 188

The musical score consists of two staves. The first staff contains measures 188 to 195. Measure 188 begins with a piano (*p*) dynamic. The second measure includes a *cresc.* marking. The third measure is marked *ff*. The score concludes with a double bar line and repeat dots. The notation includes various chord symbols and a melodic line with a near-chromatic scale.

The harmony accentuates most of the notes of the scale of F (less so E), each note coming as a tonic chord preceded by its dominant seventh:

[d] ; [C<sup>7</sup>] F ; [D<sup>7</sup>] G ; [E<sup>7</sup>] a ; [F<sup>7</sup>] B<sup>b</sup> ; [G<sup>7</sup>] C ; [A<sup>7</sup>] d ; [C<sup>7</sup>] F ; [D<sup>7</sup>] G.

The chord progression d, C<sup>7</sup>, F, D<sup>7</sup>, G appears at the start and the end. This allows the recall of cell two with the descending fifth across the barline, and later the half-bar.

The first transition has references to cell one, but it is not obvious what the references are in the second version: if these are just the semitones this is not especially remarkable. The chord progression does provide the framework for nine ornamental appearances of cell two, of course.

(v) Cell Three in the First Movement Development Section.

The first three phrases of the development (bar 110 onwards) make a play of the semitone difference between the dominant seventh and diminished seventh (Ex 6/21) in another example of play with semitones (taken up again in bar 218). One could register that it foregrounds the flat ninth in a dominant ninth chord, and this might very naturally resolve onto a minor chord, and this comes with full force some bars later.

Ex 6/21

1: 110

It is at the end of the development section where we find one of the most striking uses of the semitone pairs FE and CB, now within the context of the relative minor. The lead-in to the chord of A minor starting in bar 157 begins the build-up (Ex 6/22).

Ex 6/22

1: 157

First, a scale fragment doubled in the thirds falls FEDC, which is repeated with a contrary motion scale in the flute: G#ABC. Then the bass falls AGFE and the arrival on the E chord is suddenly fortissimo and for full orchestra. The arrival on the E is not only from a falling F but also from a rising D#, so arriving by semitone step from each direction. The wind then extends the falling scale FEDCB, doubled in thirds (Ex 6/23).

Ex 6/23

1: 162

This gives us a filled-out tritone, with the cell three notes FE and CB at the ends of the motive.

The phrase is repeated in bar 166 (Ex 6/24), and then the end EDCB is repeated a further two times – so the F-E element is cut, but the emphasis on C to B remains across the barline.

Ex 6/24  
I: 166

The brass then hammer out a pedal tone E. One could track through the passage to see which of the semitones, BC or EF, is given the greatest weight, but there is no doubt that the fall from F to E in bar 160 is one of the biggest moments of drama in the work and the goal of the development section. The other semitone (CB) is marked out as the end of the higher melodic lines in this section.

One ought to underline the way the passage takes the pitches BC [D] EF - which we know from the C major context - and here re-contextualises them in A minor. Cell three is unique to C major if one considers just the major scales: but there is an intersection of all four pitches with A minor. Indeed, uniquely so. There is not so much minor key music in the symphony as a whole, so this moment is marked out in this regard as well.

There is some case to be made for A minor as a key of interest (it is the chord of the interrupted cadences within the introduction in bars two and ten, for example), but this is but a little to put on the scales when one considers the emphasis on cell three as specific pitches found so far in the movement. Again it looks like crucial tonal areas are the result of interest in specific pitches (which crystallise into keys) rather than the keys determining the pitches.

In any event, the music reduces to repeated pounding on the pitch E. How odd this is: there is one passing E in the first subject and no emphasis on E in the second subject. Maybe this moment is disconnected then? Difference rather than connection is always an option after all. But this is not the case, for we have already pondered over why the E is the first note of the melody of the composition, at that moment the third of the C<sup>7</sup> chord. It does resonate with this, as the end in bar 172 has a similar orchestral gesture in that the strings drop out leaving the wind getting quieter. But further, because we are interested in the pitches then we note that the E at the end of the development section rises to an F, and this then is revealed as (or becomes) the seventh of a G chord.

The E-F pitches in the introduction are part of a V-I progression, but here is something else altogether. The E and F are the pitches in common between the two passages, but here reharmonised. The contexts are significant moments: one is at the start of the piece, the next at the most intense point of the development section and the third just before the moment of recapitulation. These are strong arguments for its centrality, and gives a possible reason as to why the dominant preparation for the recapitulation is so short.



(vi) Cell Three in the First Movement Recapitulation and Coda.

The recapitulation can be passed over rapidly. There are two nice V<sup>7</sup>-I cadences. The first from bars 228-9 has the bass falling F-E and the treble rising B to C before the more standard root position version from bars 229 to 230 (Ex 6/25).

Ex 6/25



1: 228

*ff*

The second is in the accompaniment to the closing theme in bar 253 onwards (Ex 6/26), where the F to E lies under the melody B to C, but now with sforzandi on the V<sup>7</sup> offbeats rather than with accents with chord I on the downbeats.

Ex 6/26



1: 255

*sf* *sf* *ff*

In the coda from bar 271 there are a couple of interrupted cadences which could be related to the end of the development section, or the introduction (bar 8 on), and these come with the standard contrary motion voice-leading in the V<sup>7</sup> cadence. From then to the close it is all a C major chord, first with cell one's added B and then from bar 282 nothing other than the three notes of the triad.

(vii) Cell Three in the Slow Movement.

The gently rocking tempo and metre of the slow second movement is matched with a simplicity of harmonic and melodic material, so it is no surprise that the key pitches of the dominant seventh and tonic chords are adjacent to each other. The main material does appear to play with cell three, for while the underpinning harmony uses the convention cadential material, there is enough in the lines themselves for connections to be made.

The first theme has a rising seventh followed by a descending tritone scale (Ex 6/27). As would be expected the seventh (here B<sup>b</sup>) moves down to A, and the E (as leading note) rises to F.

Ex 6/27



2:1

*pp*

In the answer in C (Ex 6/28), the top of the phrase in the lower voice becomes EFE and at the end of the phrase the B rises to C. So cell three (in the answer with the initial pitches) is embedded in the theme. The countersubject in the second violin runs in contrary motion, so mirrors CBC over the EFE, then has EFE over the BCB, and the ending back in F has the E-F mirrored by the B<sup>b</sup>-A.

Ex 6/28

Cell three appears in two transpositions, which share the semitone EF. In the closing segment from bars 18-26 (Ex 6/29), the bass has the B<sup>b</sup>-A, while the upper parts are based on an alternation of E and F (doubled in thirds).

Ex 6/29

The second theme (bar 26, Ex 6/30) certainly resembles the first theme, and both end with a circling about in the tritone area, eventually settling on the supertonic.

Ex 6/30

Similarly, cell three can be found in the segment at bars 42-46 (Ex 6/31), for example the bass in bars 42-3 and 44-5, and there are the standard pairs of semitones in the V<sup>7</sup> cadence at the end. The extended repeat of this is chromatically extended up from E to A (rather like the upper line in the opening of the introduction).

Ex 6/31

The closing passage has the semitones in the standard places in V<sup>7</sup>-I cadences, as can be seen in the oboes and clarinets. These are in C, so duplicate the cell three in the original transposition, and these then appear in F in the recapitulation of course.

As a summary, cell three can be found in the exposition, often behaves in the conventional manner and is well buried in the harmonic language. However, there are elements which go beyond the conventional as they are foregrounded by the melodic lines.

The development section has a move to D<sup>b</sup> major by way of an A<sup>b7</sup> chord: G<sup>b</sup> falls to F and C rises to D<sup>b</sup> (Ex 6/32). It is interesting that the move back to the dominant C chord is via an Italian sixth, with the pitches D<sup>b</sup>, B and F. As is usual for the BCEF cell, the B rises and the F falls, but here the harmonic context is a substantial variant to the normal V<sup>7</sup>-I. This essay has offered no discussion for the move to D<sup>b</sup> in this movement so far: could one reason be that the piece moves here just so the pitches of cell three (in the original transposition level) can be re-contextualised in this way?

Ex 6/32

Musical score for Ex 6/32, starting at 2:75. The score is in bass clef with a key signature of two flats. It consists of two staves of music. The first staff has a box labeled '2: 75' above it. The music features dense chordal textures with semitone intervals between notes. Dynamics include *sfp* and *sf*.

The close of the development section over the dominant pedal is an accumulation of semitones as ornaments. First, the cadence is twisted into a diminished chord (Ex 6/33) with each of the pitches moving semitonally to its resolution (bars 82-3 and 84-5). This leads to a progression of a series of diminished sevenths based on semitone neighbour notes. It is a passage where the semitone becomes the ornament for just about everything, before the texture clears and pauses on a C<sup>7</sup> chord in bar 93.

Ex 6/33

Musical score for Ex 6/33, starting at 2:81. The score is in treble clef with a key signature of two flats. It consists of two staves of music. The first staff has a box labeled '2: 81' above it. The music features a series of diminished chords with semitone ornaments. Dynamics include *p* and *f*.

The chromaticisation of the chords could be seen as undermining the special role of the semitones BCEF in the scale, and the sensation of order being weakened is compounded by the hemiola

phrasing of the semitone pairs. It is still a very gentle disturbance: the notes ornamented are the pitches of the key and the guide of the dominant pedal is a constant. Alternatively, it can be taken as intensification of the chromatic characteristic of cell three. Rather than there being two pairs of chromatic neighbour tones, every pitch comes with a chromatic neighbour note. The end of the development is a focal point, and here the moment before the recapitulation there is a saturation of the main characteristic of cell three, the semitone.

The recapitulation adds little new as regards cell three - when the reprise is a fourth higher than the B-C cadences of the exposition now appear as E-F (bars 132, 145/6, 148/9). Either this is a side benefit of the choice of the key of the movement, or the concentration on the EF semitone generates the choice of key.

To recall cell two for a moment, there is a nice example in bar 124 (Ex 6/34) where the ornamental turn on C (as in bar 24) is replaced with a fine example of the falling cell. It is pointed out here as the top line gives cell two as a perfect fifth, but the lower line runs down the tritone B<sup>b</sup>-E. So the doubling of cell two chains back to a feature of the slow movement themes, and these themes chain back to the EFBC cell.

Ex 6/34  
2: 123

The coda also appears to be rarely concerned with cell three until the final cadences, where it becomes very prominent in the oboes (bars 182-190, Ex 6/35) as if the essential pitches EF, B<sup>b</sup>A were a condensed version of the two themes. Indeed, the first oboe line points out the way the cell underpins the faster violin line.

Ex 6/35  
2: 182

More tongue in cheek is how, in the thinner texture before the end, the raised fourth ornament creates the cell BCEF before going into the final cadence in F (Ex 6/36). It is cell three in the C transposition at the end of the F major movement! It is within the gravitational pull of cell in F, as in the perfect cadence, of course. (There are many raised fourths as ornaments in this work. One can see that to turn cell one GBC into cell three, one adds an F<sup>#</sup>, a raised fourth outside the key of C).

Ex 6/36  
2: 190

(viii) Cell Three in the Minuet.

Cell three is not prominent in the minuet.

Perfect cadences will probably have cell three: it is found in the cadences in bars 11-12 in E<sup>b</sup>, 15-6 in C minor, 17-18 in A<sup>b</sup>, and bars 24-5 in D<sup>b</sup>. It runs on in D<sup>b</sup> during bars 26-7, 28-9 and bars 32-3.

Cell three appears in the cadences in the alterations in the recapitulation in bars 51-2 in G, 53-4 in F, 55-6 in C, and bars 57-8 in C.

The main interest from bar 59 on is a dispute between D<sup>b</sup> and D, but the cadences following are unaffected by this and have the BCFE in the close at bars 59-60, 61-2, 62-3, 63-4, 64-5, and bars 65-6. It is part of the harmonic underpinning in bars 66-69 and 71-73.

The flute offers the clearest indication of this (Ex 6/37).

Ex 6/37

3:66

flt

*p*

The texture recalls the slow movement close as in Ex 6/35, as both have cell three as a slow line with gaps and a faster melodic line in front of this. Overall, the cell here serves only its most banal function.

Ex 6/35

2:182

obs

*p*

## 6:6 Small Interlude.

The more speculative may wonder why the minuet goes to  $D^b$  at all: it does not seem to be a topic of the work as a whole. The opening of the development has a long descent from  $A^b$  to the  $D^b$  in bar 25. The cadences into  $D^b$  naturally contain the pitch C (as leading note) and F (as third, on arrival on the  $D^b$  chord). One might say that the F, which in C major has E as the lower neighbour, now has  $G^b$  as the upper neighbour, and the C, which has B as the lower neighbour, now has  $D^b$  as the upper neighbour.

The two transpositions of cell three (BCEF and  $CD^bFG^b$ ) have two pitches in common: C and F. This is not as neat as it might have been though, as the tritone BF could be reinterpreted as  $C^bF$ , and resolve into  $G^b$ , but the modulations do not go that far. However, the topic is taken up in the coda, which could be seen as a dispute as to whether the supertonic should be flattened or not (or if the note above C can be a semitone, as well as the pitch below).

It is a little like the first movement bar 65 where the  $A^b$  is first related to the G, then as  $G^\#$  relates to the A (though both of these are in a context where F falls to E and B rises to C). In the recapitulation at bar 218 the  $D^b$  is first the semitone above a C, then continues as  $C^\#$ , the semitone below a D. The slow movement also has an Italian sixth with  $D^b$  and B to smooth the transition to the C chord, though here with the goal of arriving on an F chord.

The possible intersections of specific intervals in transposition of cell three can be listed: the cell BCEF shares a semitone with two transpositions (**EF** $A^b$  in F and **F $^\#$ GBC** in G), fourths with two (**D $^\#$ EA $^\#$ B** in B and **CFD $^b$ G $^b$**  in  $D^b$ ) and tritone with one (**C $^b$ B $^b$ FG $^b$**  in  $G^b$ ). (The major third is unique to each transposition of cell three.)

There are options in the ways cell three might be reinterpreted: one is that the individual intervals could be taken into a different context, especially bearing in mind there is the option to vary which direction the semitones move. So EF can be part of F major cadence, and FE part of a C major cadence. BC can be part of a C major cadence and CB can be part of a G major cadence. The options are finite.

If it is a possibility that the work is interested in recontextualising all pitch-pairs from cell three, then connections are available with the transposition on F (which is surely there), G (which of course is there), there is no substantial passage in B, but there are moves to  $D^b$  (though the music does not go all the way to  $G^b$ ). One might expect a piece to use the pitches of the tonic triad as common tones with other keys, but if there were a cell set at a central transposition (BCEF) could this be used as common tone material? We considered this in relation to F above, which is of course one of these pitches.

This essay hardly touches on the minor scale, not least because there is so little in the minor in the work. However, both the semitones BC and FE are part of the A minor scale, an important goal in the development section of the first movement. This indicates there could be connections made to any of the related minor keys. Only two of these keys have been noted in the work, D minor and  $B^b$  minor. It might be true that not all possible connections of these common intervals and tones are systematically explored in the symphony, but this does not mean that they are not making significant connections between the things that are there.

## 6:7 Analysis Continued.

### (ix) Cell Three in the Trio.

The very simplicity of the trio allows the pitches of the cell to shine through (Ex 6/38).

Ex 6/38

3: 79

3: 96

*p*

*sf*

The harmonic progression is plain indeed, and it is vastly slowed, so the voice leading becomes a focus of attention. At the very opening the upbeat G rises to an E, not the C of cell 1. This has been seen before – the start of the slow movement second subject has the same rising sixth in bars 26-7, which similarly rises to an F. In the trio this is greatly extended: the motive EFE now lasts eighteen bars. (Following on from the digression above, one notes the chords underpinning the EFE progression are C, Am, Dm, G<sup>7</sup>.)

The remaining eight bars have the other two pitches of cell three, BC, in the home transposition, and it closes with an ornamented G intersecting transposition of F<sup>#</sup>-G. One should underline that this is a linear progression in the same instrumental part, at the top of the texture. One can add to this that the cadences in bars 96-7 and 102-3 are the standard V<sup>7</sup>-I cadences. Such cadences are commonplace enough to be nearly invisible, but the static chords at the start are startling and remarkable, and their continuation can hardly fail to be heard.

The development is even thinner and odder.

The dominant seventh chord is frozen in place in bars 103-121, (eighteen bars again!), the seventh as highest note waiting to fall and the leading note waiting to rise. Bar 122 brings the resolution and the C and E of the opening of the trio returns.

The first violin fragments are only slightly more as directional, ending up alternating between a filled falling fifth D-A (which is like cell two, as discussed above) and the tritone fifth F to B. The moment of movement comes when this scale fragment, outlining the tritone of the chord and cell three, continues on to the tonic.

The recapitulation is substantially rewritten, the full orchestra joins in and the dynamic surges to fortissimo, and there are some offbeat bumps on the second beat of the bar at the end. It still contains the notes of cell three, F-E in bars 129-130 and B-C in bars 133-134, but these are covered by a higher line (Ex 6/39).

Ex 6/39  
3:127

Right to the final cadence the pitches of cell three are there but as interior voices. Greater energy is seen in the melody (Ex 6/40), which adds the sharp fourth F# as an ornament to cell one GBC, so creating, on the surface, an example of cell three (F#GBC) in the G transposition.

Ex 6/40  
3:133

How to describe this? That in the trio the cell first appeared like a beach when the tide has gone out, that it becomes covered over, but is still just under the water when the tide comes back in? For sure cell three underpins the whole of the trio, and at the end appears as a surface ornament.

(x) Cell Three in the Exposition of the Finale.

The main theme of the finale has the characteristic of eight bars starting with an ascending scale, followed by descending arpeggios (Ex 6/41).

Ex 6/41  
4:6



Then eight bars with slower descent from G to C with appoggiaturas, and a cadence (Ex 6/42).

Ex 6/42  
4:14



Musical notation for Ex 6/42, showing a melodic line with appoggiaturas and a cadence. The notation is in treble clef, 4/4 time, and features a series of eighth notes with appoggiaturas, followed by a cadence.

The second group of eight bars are repeated (with the texture rearranged) with a fortissimo climax (Ex 6/43).

Ex 6/43  
4:23

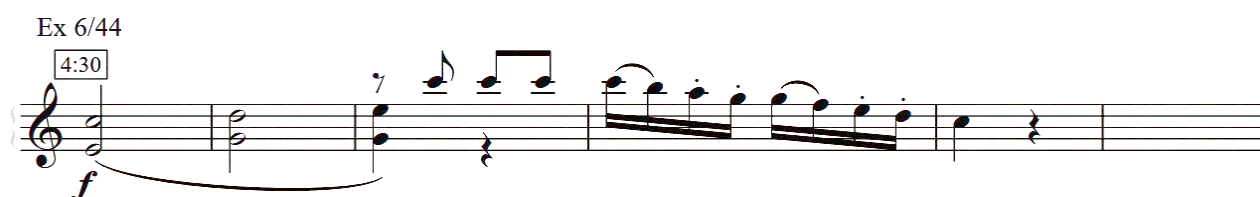


Musical notation for Ex 6/43, showing a fortissimo climax with a crescendo. The notation is in treble clef, 4/4 time, and features a series of eighth notes with a crescendo leading to a fortissimo (ff) climax.

What of our semitones of the EFBC cell? Well, not a lot at first sight. Of course it is in the scales, but the moments of arrival seem to emphasise the pitch E without reference to the F, and then there is a descent to G-C at the end. Perhaps the most hopeful features are the violin scales which rise to F (bar 23), then rise to E (bar 26), and hammers on the E before the cadential close DCBC.

The next segment, (bars 30-38, Ex 6/44) twice has the horns leading up by step CDE (with no sign of F) answered by an octave scale in the violins. Inevitably, given the I-V-I harmonies, the pitches of cell three are present.

Ex 6/44  
4:30



Musical notation for Ex 6/44, showing a fortissimo climax with a crescendo. The notation is in treble clef, 4/4 time, and features a series of eighth notes with a fortissimo (f) climax.

The transition theme at bar 46 (Ex 6/45) has a filled tritone F#-C as it reaches up to the seventh, at this point on the dominant of G. As it happens, this does have a C to B as the resolution, with an underlining sforzando on the C.

Ex 6/45  
4:46



Musical notation for Ex 6/45, showing a sforzando climax. The notation is in bass clef, 4/4 time, and features a series of eighth notes with a sforzando (sf) climax.

The second subject at bar 56 in G (Ex 6/46a) is initially contained within the span B-B, so again an emphasis on the third of the triad. The middle line (GAB) trails the upper line of violins a sixth below, rather like the horns in bar 30. The top line melody drops DCB in bars 59-60 to allow the ascent to start again.

Ex 6/46a

4:56

Span B-B

60

4:64

*p*

*cresc.*

*f*

The third version (bar 64) extends the line eventually to a high F in bar 70, so the line made mostly by the quavers on the second beat of the bar has cell one at the start: DGF#, as part of the ascent: (D) F#GABC, and before the ending: (C) EF. Intriguingly, DF#GABC, are the same pitches as the bass melody in quavers heard not long before (bar 46 Ex 6/45 above).

The F#-B tritone contains the two semitones F#G, BC, though now filled in as scale. The CB semitone leads on to EF, so one could say there are two overlapping cell three transpositions in the line F#G, CB, EF.

The following cadential passage also contains the cell. The high F of 70 is part of a diminished seventh (Ex 6/47) and does not resolve immediately to E (not until bar 72 in an inner-part) and overlaps with another chromatic melodic ascent from G# to C followed by a descent, a phrase which has BCB at the top and GF#G at the end.

Ex 6/47

4:70

*f*

*sf*

*sf*

*sf*

*ff*

The harmonisation of this line is unusually convoluted. The chromatic contrary motion of the bass against the treble arrives on a B from the semitones below and above in bar 74. The route back to G uses another diminished seventh before the dominant D is reached. For sure this is one of the most extreme harmonisations of the BCB pitches – if this is the strategy. It feels fanciful, but one can note the move to B major uses the A#BED# transposition of cell three in the upper parts which has an intersection of B and E with the BCEF cell, as looked for in the speculation (Section 6:6) above.

The exposition wind-up starts (bar 78) with the chords of a conventional cadence batted between the winds and strings (rather like bars 8 and 10 of the start of the symphony). These are of the EDF#G variety as regards the melody, so not cell three (except in the way all V<sup>7</sup>-I cadences have the cell). Then comes a slow ascent from bar 86 to bar 94 BCDEF (Ex 6/48), a filled-in linear version of the tritone B-F, ornamented with octave scales. The F to E relationship is held and repeated (bar 94) and in one direction we go back to the exposition, and in the other into the development.

Ex 6/48  
4:86

The development section takes the F at the end of the exposition and slowly moves stepwise up to B<sup>b</sup> (bar 108) which is underlined by two big V<sup>7</sup>-I cadences. Embedded in this is cell three as DE<sup>b</sup>D and B<sup>b</sup>AB<sup>b</sup>. There are no pitch intersections with BCEF, and the motivation for the B<sup>b</sup> major goal remains mysterious.

In the passage from bar 116-122 the first violins have scales rising a ninth on F and G, answered by descending scales of a seventh in the second violin. The scales on F and G are repeated in the cellos, now doubled in thirds, with scale fragments in the violins. These can be regarded as two ways of ornamenting going up a step, but cell three has disappeared. The next passage comes as a surprise.

At bar 131 (Ex 6/49) there is a sidestep to an A major chord and taking two bars at a time we move round the circle of fifths to F in bar 138. Simple enough, but the progression has an extraordinary chain of cell threes forming the melodic line.

Ex 6/49  
4:130

Starting in bar 131, the flute has GF#, CB, FE, B<sup>b</sup>A, so a descending sequence made of the cell three semitones, with the core BCEF as the central four pitches. These are ornamented by the contrary-motion scales in the violins (not shown), which arrive on these pitches as the goal of their lines. The passage is marked piano, lightly scored (with a back-reference to the cadential offbeats of bar 78). On the one hand the passage is seemingly incidental, but on the other these are the intervals (and indeed contain the specific pitches) from the introduction. It is undramatic, but perhaps purposefully placed as an illustration of how the opening progression can be incorporated into a very different context.

Ex 6/49  
4:130

5

The sequence would continue E<sup>b</sup>,D, but instead we head for the dominant G chord and a reprise of the motive from bar 46, the bass rise to the seventh, and these pitches are not in sight. However, in a moment of deviation, the music goes to a C minor in bar 145 (Ex 6/50).

Ex 6/50  
4:140

This then shifts the semitone from the EF of bar 141 C major version to DE<sup>b</sup> in the C minor (and in the slower background harmony in the wind). This is the next semitone in the sequence, though the continuation is at rather a long distance. The move to the minor is quite a rare tactic in this piece, so perhaps the motivation might indeed be to get this semitone to appear.

The dominant preparation continues, now with scales peeling off up from the pitches of the triad of G, through B, D to F, (and an FEF twiddling prolongs the dominant chord) and the pitches of the dominant seventh resolve with the arrival of the rondo theme and the recapitulation in bars 162-4.

(xi) Cell Three in the Finale Recapitulation.

The recapitulation does not follow the course of the exposition for long. The repeat of the second phrase heads off towards the subdominant, in which key the second subject appears in bar 190. This cheery saunter of a tune has a surprisingly convoluted structure. To backtrack, the theme in the exposition is 14/15 bars long: 4+4+3+3 (Ex 6/46a).

Ex 6/46a

Span B-B

4:56

60

4:64

*p*

*cresc.*

*f*

It is easiest to read the structure in relation to the bass line, as the melody is made of variants over the same pattern. The first four-bar phrase runs over into the beginning of the second four bars, so the dotted crotchet/quaver pattern is obliterated - maybe the opening three notes are sometimes less important. (This is reminiscent of the second subject in the first movement, which loses the rising fourth as an anacrusis with the repetition of the motive.)

That acknowledged, one can see that the second four bars add an appoggiatura to the first notes of the middle bars. In terms of cell three (here F#GBC), the fall to the low B comes via the fall to the lower C. In bar 64 the four-bar phrase begins again, now filled out in quavers. This brings the D-G interval into greater prominence, which does make the cell one connection stronger.

The continuation (bars 67-70) can be read in a few ways. One can hear the melody as the main note after the appoggiatura, so from bar 65 F#GAB, and then bar 68 jumping from the C to the E and to F. Alternatively, one could take the melody as the last quaver of the bar, so from bar 64 it reads GABCDEF (which indeed is a slower version of the scale of the first subject). This is certainly a simpler gestalt, and it mirrors the ascending line in the bass. Or one could have both and regard the top line as an ascent in thirds. The harmony supports this by making the chord in bar 66 the tonic G as one goes into it, and acts as the dominant of C as one leaves. (This change in function neatly signalled by the clarinets and horn switching to G halfway through the bar).

The same manoeuvre appears to be going to happen again in bar 69, but instead of arriving at the key of F, the F is harmonised by a diminished seventh. This is rather odd as, as the second subject is expected to be in the dominant, but this is abandoned and the music slides back to the tonic C and heads off toward F. Even more peculiar it has a slow ornamented version of the C scale starting on G, like the main theme and the various versions in the introduction. It is all simple stepwise motion, of course, but still.

The recapitulation of the second subject (Ex 6/46b) starts in F, an unorthodox move, as noted above. It also takes up more time, now being eighteen bars long. This is because the second phrase appears twice in C, and again in F (in bar 207).

Ex 6/46b

4:192 ① in F

4:196 ② F to C

4:199 ③ in C

4:204 ④ C to F

⑤ in F

*p*

*cresc.*

*f*

The anticipated opening pitches (with the theme in the tonic C) GCB hardly appear. If one had put a bet on cell one dominating the symphony this is a sad disappointment!

What can be said?

Something. The opening four bars of the recapitulation of the theme, instead of presenting the semitone CB, now have the pitches F and E, and closes B<sup>b</sup>-A. Well, these are the key pitches (cell three EFB<sup>b</sup>A) as in the opening bar of the symphony, now with the EF from the melody given first and the B<sup>b</sup>A from the introduction harmony second.

When the music returns to the tonic C (bars 199-200) the close of the phrases (bars 199-200 and 203-4) both have the fall from F to E. The F-E in bars 192-3 is part of a I-V movement in F, and the F-E into bar 204 is part of V<sup>7</sup>-I in C.

The transposition of the recapitulation (in F) and the return to the tonic allow the semitone FE to be given a prominent position in two roles. Further, it does seem to be part of a general weighting of the finale on the pitch E (sometimes with F) rather than the semitone BC. This might be thought odd for a close of a C major work, but perhaps understandable if recalling something unexpected from the start of the work.

Once the orthodox transposition is reached then the recapitulation proceeds on course. The end of second subject now heads towards B<sup>b</sup>, though this is subverted by the pitch B<sup>b</sup> being harmonised with a diminished seventh chord, much as the F was earlier.

The passage from bar 211 (Ex 6/51) rises as part of a chromatic line via E to F and falls diatonically ending CBC, so now giving us the cell three in the tonic. (Incidentally, the chromatic contrary motion arrival on E in bar 214 rather neatly allows the pitch E to be approached from the semitone above F and semitone below, D#). So in the exposition the curve at the top is BCB and at the bottom GF#G, and in the recapitulation EFE and CBC at the bottom.

Ex 6/51  
4:211

The section ends with a concerto-like drive towards the dominant chord (Ex 6/52) which falls into two segments.

Ex 6/52  
4:226

First, the violins have scales on C, D and E, leading to F (so again this EF emphasis, indeed as a filled cell one CEF). Once there, slower contrary-motion lines cross on a G but move apart to F# and A (as part of a diminished seventh), which is held. Then two chords of G7 with the bass dropping a tritone F to B.

Ultimately the high F resolves to E and the low B onto a C chord, so this would be an instance of cell three, a dramatised version of the V7-I cadence. (Oddly, the first violins do not mirror the bass the line and move from B to F, but move to D - unlike the flutes at the top of the texture, or the second violins. Is this a stepping away from the cell three as a focus of interest?)

There are then five scalic runs up from G to F (Ex 6/53) (so perhaps indeed F is to be understood as the main pitch of the melodic line in the big chord) before the violins get onto the right part of the bar and the rondo theme appears again.

Ex 6/53  
4:237

The theme is given in its entirety (though the dynamics have now become rather eccentric!). Bar 266 (Ex 6/54) rewrites the continuation, keeping the unfolding C-E, taking this up to the F and resolving back on E. The eight-bar phrase is repeated in bars 274- 281, increasingly ornamented by rising scales.

Ex 6/54  
4:266

What of cell three? Well, it is implicit in the EFE at the top of the phrase (bars 268-9 and 271-3), and BC will of course be there in an inner part.

The harmony is beginning to thin out: bars 271 and 279 have just the pitches D and F, and bars 272 and 279 are plain G chords (no F, so no F to E) and the C chords of bars 273, 276, and 281 are just C and E (without the G).

The full tonal environment is evaporating the closer one gets to the end.



The four-bar cadence of bars 270-3 is repeated in 278-280, and again in bars 282-5 (Ex 6/55), now with added contrary-motion scales in thirds (again just two pitches in bar 283 and no sevenths in the dominant chords in bars 280 and 284) before arriving on a unison C in bar 285. The C is joined by the pitch E, which turns into another version of the cadential four bars (286-289) before falling to C in unison (bar 289).

Ex 6/55  
4:281

Nine bars in unison, first up the arpeggio (only C and E ornamented with rising scales) then down two full octaves before bouncing back to G (Ex 6/56).

Ex 6/56  
4:293

Two V-I cadences (B rises to C, no F in the G chord) and a final unison C. Perhaps there are the remnants of cell one - at least one has the pitches G,B and C. If cell three is there, then there is the rise from E to F in bars 286-7, but then in the next phrase E is placed in the context of the arpeggiated C triad (so CEG in 289-293) and then in relation to the D (298-302) as there is no F.

The V<sup>7</sup>-I cadence, the most obvious place to find the FE interval, was last heard way back in bar 277. Which just leaves the B to C, which indeed is there to the very end (bars 300-301).

The analyst had hoped for something more substantial than this.

(xii) Summary of Cell Three in the Finale.

To cast an eye over the finale as a whole, there are two surprises where cell three might be pointed out. The first is the sequence from bar 131 in the development. It is external to the demands of thematic material and tonal constraints and so is in an area of 'freedom': this is the chosen sequence. Indeed, a sequence round a circle of fifths is a commonplace, but it does allow the semitones inherent in the opening progression to be foregrounded.

The other is the recapitulation of the second subject in the subdominant, which allows the EF semitone greater prominence and it makes a connection between the subdominant and the tonic with these pitches.

In addition to this, in much of the movement the V<sup>7</sup>-I cadences provide a shell for the cell as one of the clichés of the classical style. There are also linear fillings-out of the core notes of the cell (when set out as a tritone for example) which can also place these fragments in the context of a longer scale.

## 6:8 Reflection.

Both the fourth movement themes have an interest in the third of the key, and only sometimes refer to the fourth sitting above. The impression that this is the core interest of this movement is intensified when the harmony gets ever thinner in the last bars, even down to C chords with just a C and E. The B-C cadences at the end are indeed the same pitches as found in the first subject in the first movement (and in bar two of the introduction), but as a discrete element it is as improbable as the smile of the Cheshire cat.

Another characteristic of the fourth movement is the increasing proliferation of scales, which also move in slower stepwise movements than the semiquavers of the main theme. While they will contain the intervals of cell three, these scales seem to take on an independent life of their own, with the direction of the piece related to the outer (especially the upper) notes of the scales. This can sit oddly with the metrical placement of the scales, which sometimes puts the downbeat within the scale rather than at the start or end. One could see this as an example of chaining, where the scale at the start of the last movement in even semiquavers leads forward into scales more generally in the rest of the movement, these then refer back to the scale at the start of the minuet with its uneven notes and from there back to cell one of the first movement and the gapped scale. The course of the symphony then appears something like Michelangelo's statue being reabsorbed into the block of marble. Or a film of this sculpting played in reverse.

However, it should be underlined that the case for motivic connectedness is surely reasonably proven, and the generic material of the coda of the last movement is not a great proportion of the piece, despite its psychological prominence as 'goal'.

For example, one can recall some instances where cell three appears after the introduction:

- i. In the first movement the second subject's harmonic underpinning.
- ii. In the first movement the closing material of the exposition (and the recapitulation).
- iii. In the first movement the climax of the development in A minor.
- iv. In the slow movement the prominent use of filled tritones to form melodic material.
- v. In the slow movement the play of semitones at the end of the development.
- vi. In the trio the melodic structure underlying the whole (but especially the A section and the reprise).
- vii. In the finale development section where the sequence of cell three transpositions forms the melody.

Further, the main themes of the work can be related to cell one, and the expansion of cell one into cell three then links this through to many more passages, either commonplaces, as in perfect cadences, or highly individual, as in the opening bar. One should note that taking cell three as the analytical starting point connects the opening bar(s) to the motive of the first theme, and so out into the whole of the work. By far the greater portion of the work has been drawn together under an analytical focus, or an overarching narrative drawn from the beginning of the work. If the analysis weakens in the course of the symphony one could construct a narrative that would find a place for elements still cloudy in the piece, particularly the end. The 'return of the material to its elements' is plausible and, perhaps, psychologically satisfying.

But suppose one was troubled by this and not yet satisfied? The 'discovery' of cell three was made by considering the basic elements of tonality in relation to the thematic material. However, there may be more to be gained from this, especially in relation to seemingly commonplace material. There might be something about the basic elements which may yet reveal something more about the music. What is the structure of a scale, after all? Why the increasing profusion of scales in the last movement?

## SECTION 7

### **The Semitone in the Major Scale, the Scale in Theory and Practice in the Fourth Movement (and earlier).**

The picture has emerged that there are constant motivic cross-references through the symphony. Sometimes these are striking and compelling, but there is a shading-off into ever more uncertain comparisons, where increasingly strained justifications are needed to claim resemblances. A balance is needed between rejecting the whole enterprise (because working from the most strongly related to the weakest related the things at the end of the list look ever more fanciful) and an insistence that the interpretations need to be believed because of a predetermined faith in the existence of unity and a unique identity.

It could well be argued that it is a weakness for the claim of interconnectedness that the connections are simply only the raw material of the tonal language, so to claim that finding such elements to demonstrate the integrated nature of this artwork is not valid, as the same features will make the work unified with many, many other works in the classical tonal idiom. At the extreme the integrating elements should be unique to the work, so placing a border round this artwork, both giving it an internal identity and marking it off from other similar works.

This author thinks that uniqueness is not a prerequisite of unity. Given the constraints of the tonal system and the hundreds of thousands of works in the idiom, it seems improbable that a work could be so original as to be totally separated off from the sea of pieces of which it is a part. It is highly probable that the elements of the unifying material will be found in other works - how could that not be the case? Perhaps one could say there are families of works (or movements) which deal with the same fundamentals in a myriad of ways. That characteristics are shared by family members does not make the notion of a personal identity invalid or impossible. On the other hand, there is the gravitational pull of an aesthetic which values individuality, where the claim of uniqueness (even if unprovable) is part of a justification for attention to any one particular work in the first place.

I propose that the question of uniqueness or originality is one that can be deferred (because it takes us out of the boundary of this piece) and instead turn to a consideration of the places where the motivic material becomes less characterful and the material is closer to elemental tonal material. The suggestion now is that the motivic material of this work is best understood as an intensification of some aspects of basic tonal material (to varying degrees and in different ways) in the different themes and movements. It is not distinct from it, but on the contrary is reliant on the structure of the language for the gestalt which have become the motives of the work. These motives and themes rise from the language to produce the work's identity and can return to it, as this is its essential nature.

The direction now taken follows up on the observation that cell one can be seen to develop from a plain rising fourth (the slow movement theme), a fourth with one filler note (first movement, first subject), to a filled fourth in uneven notes (the minuet main theme), to an even filled fourth as part of a rising octave scale (fourth movement, main theme).

The connection is plausible, not least because three of the four have the specific G-C rising fourth (and the cell has an anacrusis onto the tonic). One could regard this as a progression to the notes of the scale, in even rhythm, which becomes ever less idiosyncratic. In the fourth movement the scale at first has the characteristic of going from G-G, but by the end of the movement has been replaced by the blandest C-C scale. This leads us into a realm of mist and fog with shapes ever more general and unformed, if viewed negatively, or perhaps into the near-blinding unity and light of the elements of the language itself, if one is (over?) optimistic.

To consider the main themes again now from the point of view of their span, the first movement first subject (at the beginning) rises a fourth (Ex 7/1).



The slow movement theme expands this up to the seventh (part of the dominant seventh) (Ex 7/2).



The minuet theme rises by step (with added chromaticisms), first to G, then to the top C and closes on a high G (Ex 7/3). One can see that the line first rises a fourth, then an octave, then an octave and a fourth, then an octave and fifth. In the reprise the line goes straight up two octaves.



The last movement is simplest (Ex 7/4), in that the starting scale defines the octave G-G (with a metrical accent in the middle on the C).



The process shows that not only can the opening interval be left open or filled, but the line is extendible: the fourth at the start of the first movement theme can be a seventh in the slow movement, an octave in the last movement and an octave and a fifth in the minuet. The finding out of the working span of the main theme of the movement is teasingly enacted in the introduction to the last movement.

This is where the mists gather, as moving from the fairly clear identity of cell one we have arrived at a major scale (or mixolydian scale?) spanning an octave, and we are understanding this as being 'thematic'. If so, then one might again reconsider the introduction with the rising fourth E-A, and the second rising fourth B-E (Ex 7/5).

Ex 7/5

Musical notation for Ex 7/5, showing two staves of music in C major. The first staff starts with a 1:1 time signature and includes dynamics *f*, *p*, *f*, *p*, *cresc.*, *f*, *p*. The second staff includes *cresc.* and *f*.

Again an octave scale (Ex 7/6), now broken in half, though here starting on the mediant, not the dominant. If this is a rather obtuse relationship, what about the scales in semiquavers in the finale at bars 273 and 275?

Ex 7/6 [4: 273]

Musical notation for Ex 7/6, showing a single staff of music in 4/4 time. It includes dynamics *p* and *f*, and time signatures [4: 273] and [4: 281].

Like the main theme they are made of the same C major notes, at the same speed, starting and ending at the same metrical point. They are surely heard as variants of the opening of the theme, but starting on a different note of the C triad, and indeed can be doubled in thirds. If this is right, then are descending scales also part of this family, as in bar 39 (Ex 7/8)?

Ex 7/8

Musical notation for Ex 7/8, showing a single staff of music in 4/4 time. It includes dynamics *sf* and a time signature [4:38].

On the one hand these seem small and reasonable steps, but on the other it does dramatically extend the number of passages which can be regarded as thematic.

## 7:2 Interlude (long): How Thematic are Scales?

The number of notes in a diatonic scale within an even run is a combination of the duration (or number of rhythmic units) and the interval covered. The theme of the last movement has eight notes at the start, covering an octave (Ex 7/4). Were it to start on the downbeat, then it would arrive and end on the last semiquaver of the second bar, so as it is it starts with three semiquavers as an anacrusis.



Taking this as a model, one can imagine that the scale has been started 'a semiquaver late' so it arrives on the crotchet beat on G. One can see that this gives the GABC tetrad an accent on the C across the barline, which is the ascending fourth of cell one. Indeed, the C is on beat one, and the final G on beat two, so the C presumably has the greater accent (?). In this way a seemingly neutral scale, once placed in a composition (with a time signature, a metrical placement and a tempo), is inflected with a set of levels of priority and emphases.

However, the transformation of the material reflects an interplay of priorities. These include the motivic connections within the piece, but also includes the clarity of the harmonic progression, the balance of phrases, and the regularity of the metrical framework. One alternative is to repeat a pitch in the course of the scale. Bar 33 in the last movement has a descending scale: CBAG GFEDC (Ex 7/7) with repeated Gs.



On the one hand one can say the repeated G is required, because to get from one downbeat to the next requires nine, not eight notes. On the other hand, it creates two segments of the scale CBAG GFEDC – one a tetrad the other a pentad. One could push this and claim a descending cell one followed by cell two.

If there is to be a C on each of the downbeats, then there has to be a delay made by one means or another, and commonplace as the gesture appears, these are the intervallic elements of the motivic cells.



One can see another sequence of runs in bars 38-44 (Ex 7/8). The harmonic structure is of a set of 7-6 suspensions (displaced by an octave). The first violins run down from the soprano line C to the alto D, back to the soprano B, to the alto C. The intervals formed are down a seventh and then up a sixth. The passage ends with the pattern disrupted, as the sequence ends and there is a cadence onto V of G.

Ex 7/8

The intervals between the main beats proves to be the most malleable, as the contour, the chord progression, the rhythm and the metrical position all are prioritised over the exact identity of the intervals. These are given (with the exception of the G<sup>#</sup>) by using the notes of the G scale. That there are two runs down from E can be related to transformations of the rhythm and the underlying eight-bar phrase structure. For these elements to work, the pitch structure is given less priority, and the AG<sup>#</sup>A ornament is added. The pitch element of a motive may be transformed as a result of the dominance of other factors.

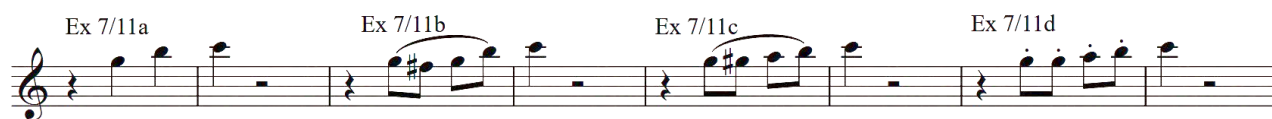
The composition makes quite a lot of play with the metrical position of the scales: the scale at bar 122 (Ex 7/9), in the same position where the main theme normally starts, three semiquavers before the barline (and here adding another pitch to get an ascending sequence moving), but the descending scale is two semiquavers before the barline plus four more after; at bar 130 the ascending scale is six semiquavers before the barline, as part of another sequence. The descending scale then has six semiquavers before the barline. These variations of the rhythm of the main theme are negotiated with the chord progressions (which restricts the options because of the start and end notes) and the fixed nature of the metre.

Ex 7/9

Another example is the close of the trio from bar 133 (Ex 7/10).

Ex 7/10

This analysis is predisposed to seeing cell one, so the pitches GBC are prone to being sought out. Allowing that, if one were to fit the pitches into the metre then the simplest version might be to start in crotchets on beat two and arrive on C on the downbeat (Ex 7/11). There are various ways this might be filled out as shown, a lower neighbour note, a chromatic addition, even a repetition.



In Ex 7/10 there are two versions of the fill: one where there are six quavers from G to C and the other four. Bar 133 has the G on the downbeat (and with a sforzando) going to the C on the next downbeat. The penultimate bar 137 has a different way to fill this. One might ponder if the last of these is more 'final' and why.



The middle section (bar 134) reduces the motive to four quavers, and the sforzando indicates that the motive starts on the first pitch of cell one. The stuck repeated G/F# of 136 appear to be two attempts to get the G onto the right beat before it is again on the downbeat. The point to be made is that the metre is a given, and that sooner or later the accentual pattern of the bar has to be reestablished. Because of this, the metre is a driver of the necessity to ornament (or requires a decision whether to or not). The nature of the ornamentation is 'free', so these could be unique in the piece, or the same ornament can be applied in different places (so becomes 'thematic', perhaps like cell two), or the ornament looks to reflect the motivic interest at a faster level, fractal style. In this work there is a gradation of types.

For example, in the first movement we find a passage at bar 37 which is an ornamentation of a C triad ascending, and then falling to a B (Ex 7/12).



Again, the rhythm and metre are constraining the possibilities for the pitches. There is a gap of G-E at the end, which seems to be a compromise with the otherwise stepwise movement. The rise is made by two filled fourths (of interest if the analysis is looking for cell one). The fall from E at the end then can be described as a descending fourth. The basic 'problem' is that the melody must move from a note in the C chord to a note in the G chord, and this version does this by a change in the direction of the line and variation in the ornament.

The simplest version of this would be as in Ex 7/13, which maintains the quaver sequence, but would not fit the metre as it would arrive in the middle of the bar, with a minim's 'waiting time' before the new chord appears.



The piece could still have repeated the cell and gone on up to the B, though this option might seem unmusical. Saying why is not a question for this moment. However, at some point the reader and analyst might feel that interpretation has been stretched into territory usually occupied by conspiracy theorists. (Even if such theories are sometimes right!)

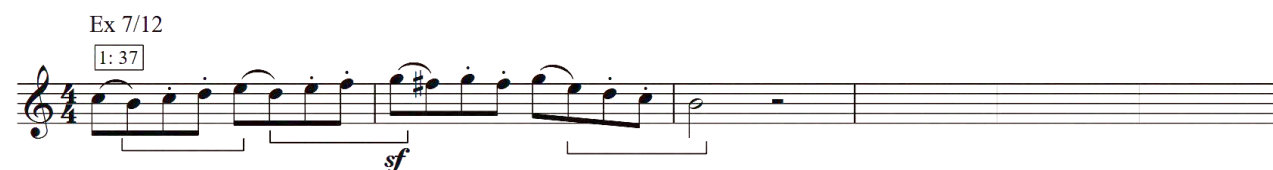
The answering phrase (overlapping start, bar 39) looks quite different (Ex 7/14). Bar 38 seems to reappear a tone down in bar 40, but the close curls back up to C, so the fourth disappears. The biggest alteration is between bars 37 and 39 where the fourths have been replaced with a drop to a G and a rise up a seventh. Note that the rise is like an anacrusis of six notes up to the seventh across the barline, as this is the way the metre and scales interact.



As in the last instance, things could have been different (Ex 7/15).



Both versions can be seen to emphasise the diminished fifth B-F as the pitches on the downbeats. The drop to the G helps put the melody in the context of the dominant seventh. (The conspiracy theorist is bursting to add a comment: the downbeat B, F and C only require an E to be cell three - and it is there as the repeated ornament to F in bar 40. This is in the same position as the G/F# in bar 38, Ex 7/12).



Cell three in dominant transposition: CGB + F#, followed by cell three in the tonic version: BFC + E!

Case proved, surely? Or too much interpretation? Either way, the varying ornamentations of the chord sequences might show relationships to the core motivic concerns of the piece, but the interpretations might have to be carefully selected if these relationships are going to be drawn out.

One can see a similar filling-out in the trio in the violins in bar 85 (Ex 7/16).



The same ascending C arpeggio, now falling back to a C. The big difference is that the quavers have to fit into the 3/4 metre, as opposed to 4/4. The version found here has the drop to the fourth below and then fills this as an ascent. However, the metre then allows – or suggests – that the scale continues up two more notes to the downbeat and the E. Thus the rise is not a fourth but a sixth.

The same figure takes the motive up to the G. There is a little lower mordant with an F# and the fall is scalar back to C (indeed meeting the criteria to be cell two). The figures are very similar, but in the 4/4 one it is possible to describe the figure as related to the ascending fourths, and in the Trio version this seems much more of an analytical imposition, as the ascent is of a sixth, as a consequence of the metre.

The next Trio phrase (bar 93, Ex 7/17) has the same figure ascending on a D minor triad, but the scale at the end drops a seventh to get to a B. The phrase is a close relation, but the relation of the metre to the chord progression overrides the size of the interval at the end.



The observation is that the motivic concerns of the analyst are fragile, given that simple transformations of phrases working in collaboration with metre and harmony may result in key pitches and intervals appearing or disappearing. In the first, the descent of a fifth makes it end with cell two, but the next phrase ends with a falling seventh, which has not been thought to be worth highlighting.

For the motivically inclined (obsessed?) analyst the differences are considerable, but the author speculates that the phrases are generally perceived by listeners as tokens with the same value and are virtually interchangeable.

There are two similar cadential scalar passages in the slow movement. The first of these (Ex 7/18) has the overall span of B<sup>b</sup> falling to F, with a pause on the C.



There are two two-bar units with dotted rhythms. (One might remember the dotted rhythm of cell one in the first movement and wonder about identity through rhythm. But not now.) To arrive on the C on the downbeat of bar 97 the fall has to start before beat two in bar 96. Then to arrive on the F in bar 101 the fall has to start on the downbeat of bar 100. Here the interval is identical, the metrical space is identical, and one sees a 'free' variation in the rhythm. The content of bar 100 is largely determined by the E on the downbeat to the F on the next downbeat. This is a rising semitone, but displaced by an octave and filled in. (One can pause a moment to admire the way the EF, BC pitches appear here in the context of F major!)

In the final bars at 184 (Ex 7/19) a related phrase appears. At first the violins have the descent of an octave and a fourth, B<sup>b</sup> to F. Following this in bar 188 the same scale is placed against the flute C to F ascending scale. Unlike the phrase from bar 95 there is no lingering pause on the C in the descending scale.



Bars 185 and 189 are dotted versions of 100-1, but now bar 184 has to start the run down a quaver earlier than in bar 96. The result is that the notes B<sup>b</sup>, E and F appear on the downbeats and the semitones in the progression are slightly more accentuated in the second version. The repeat of the phrase in bar 188 adds a contrary-motion scale.

If this is looked at through the filter of the cells, then not only is cell two in the falling fifth C to F, but the rising scale has the CDEF cell one, with an allusion to the dotted rhythm of the first movement (and one can continue with such projections). However, perhaps these relations are only apparent because the filter has been applied: would a listener select these aspects out from this passage in isolation? Why divide the scale in this way? What they might hear are the octave displacements and the way that a descending line resolves, and indeed pass over the differences in rhythm this requires.

If so, then they might note the same tactic in the first movement at bar 73 (Ex 7/20), where the first note has to be held before the run down to create the seventh (or displaced rising tone).



In addition, one can see that the rising fourth at the start has taken an extra chromatic note so it fits into the space, and that the ending uses the way the eight quavers in the bar allows the rising semitone F# to G to fit into the metre, becoming a ninth. That is, the downbeat progression (DEF#G indeed!) is ornamented by figures which that are constrained by (or arise from) the metre and the linear progression.

For sure, what one is looking at here are the commonplace elements of the tonal style: there are simple directions (and harmonies) at one level which are then ornamented with faster material on the surface. The regularity of the bar and the accentuation of the metre sets a limit of the way the ornamentation fits the space. At the level of the phrase there are a variety of lengths of units, even if the benchmarks are two, four and eight bar units. At the metrical level there is a limit as to how far the accentuation will stray from the underlying metre, and this is always present as a normative element. There are no changing or irregular bar lengths in these movements.

Given that, the shape of ornaments available can be related to the background analytical interests in other areas (so in this essay especially the fourth and the semitone), or be related one to another as foreground characteristics (as in the instances of rising or falling tones filled out as sevenths or ninths).

I would also imagine there is a similar gradation in the rhythm, which ranges from idiosyncratic and mixed durations in the themes, through slightly irregular flows of notes towards runs of regular durations (in this work typically scales, but arpeggios too). Another study might take that as a topic.

### 7:3 The Fourth Movement Reconsidered.

The fourth movement does seem to have a different atmosphere from the other movements. One can review the main motivic connections noted so far:



- i. The main theme does have cell one (filled-in) at the head of the scale (bars 6-7 Ex 7/21) – but it is passed through quickly and the theme has accents on the mediant E (Bars 8,10,12), before the end closes with a G-C descent (Ex 7/22).



- ii. Cell one (filled-in) appears in the countermelody in the bass in the consequent of the main theme (bars 15-16; 17-18, Ex 7/22), but the scale is extended on up to a sixth.
- iii. The rise of a sixth is extended to a seventh as in Ex 7/23 where it is possible to see cell one (DF#G), but it is metrically unaccented.



- iv. The second subject (bar 56, Ex 7/24) can be shown to have cell one at different levels – but this requires some analytical interpretation and the essential fourth at the start becomes near obliterated in the repetitions, and there are also vague versions of cell one in the bass.



- v. Cell three is at its most explicit in the symphony in the development section (bars 131-138, Ex 7/25) as the broken top line (GF#; CB; FE; B<sup>b</sup>A). There is little sign of it elsewhere, and in the last pages even the most anodyne version found in the perfect cadence disappears as the seventh is left out of the chord.

Ex 7/25  
4:130

The image shows two systems of musical notation for piano. The first system is labeled 'Ex 7/25' and '4:130'. It consists of two staves: a treble clef staff and a bass clef staff. The treble staff begins with a piano (*p*) dynamic marking. The music is in 4/4 time. The second system starts at bar 14 and continues with similar notation. The notes in the treble staff are broken chords, and the bass staff provides a harmonic foundation.

The motivic relationship of this movement to the others become ever more tenuous as the end comes into sight from bar 266, where the dominant G seems missing from the melodies, and the music reduces to scales and arpeggios.

The author has two comments:

1. The first is to query whether the musical language actually has a fully neutral state: inside a piece of music, as opposed to a theory textbook, things are particular, not general, as the metre and the figuration (and context) will insist on there being an emphasis on some things rather than nothing or all things.
2. The second is that the introduction to the work, aside from the opening six notes, still seems disengaged with the motivic cells identified in this essay. This is unsatisfactory. We will look longer at the ending of the fourth movement and then go back to the start of the symphony to see if this situation can be improved.



## 7:4 Scales in the Fourth Movement.

One returning element of the fourth movement are variants of the scale figure. They are a central element in giving this movement its character. However, scale figures are very often places of transition between moments where characteristic themes are presented. This essay has trailed through a few of these scales in an attempt to indicate that the 'neutral' material within these movements could be (with more or less effort) related to the cells characterised in the main themes. This might be dismissed as a hopeful projection of a desire, but in defence one can say that perception is in relation to the context. Fragments of rising scales in a context where the rising fourth has been pushed forward elsewhere may make the fourths more noticeable, while in a context where a piece has descending intervals it might be the shift to rising lines which is striking.

The analytical direction here will be not to try and relate scale types across the work as a whole, not least because they appear in the context of different metres and tempi. It seems that they transform within these contexts, and variants might hold onto many important characteristics, while losing one or two which connect to this essay's cells.

Ex 7/12  
1: 37



Musical notation for Ex 7/12, showing a scale figure in 4/4 time. The scale starts on G4 and moves up to D5, with a sharp sign above the D. The notation includes a box labeled '1: 37' and a dynamic marking 'sf'.

Two instances would be examples 7/12 (above) and 7/14 (below), where the consequent phrase loses the fourths of the antecedent, but they are surely in a close antecedent and consequent relation.

Ex 7/14  
1: 39



Musical notation for Ex 7/14, showing a scale figure in 4/4 time. The scale starts on G4 and moves up to D5. The notation includes a box labeled '1: 39' and a dynamic marking 'sf'.

It may be that the reader is riven with uncertainty that the scale at the start of the main theme is indeed related to the fourth of the first movement and cell one in general. If so, the following will probably tip the reader over into despair! As regards the opening scale, one can see that it has seven semiquavers onto a quaver with three notes before the barline (Ex 7/26). The opening pitches are part of the family of cell one.

Ex 7/26  
4:104



Musical notation for Ex 7/26, showing a scale figure in 4/4 time. The scale starts on G4 and moves up to D5. The notation includes a box labeled '4:104' and dynamic markings 'p', 'pp', and 'ff'.

However, in the course of the movement the scale is transferred to many different starting notes of the scale, resulting in differing intervals in the scale as a whole, as at the start of the development in bars 104 and 106. The first is a cell one type, but the second not.



In bar 237 there is a great rhetorical pause on the dominant seventh and the second violins offer the scale G-F (Ex 7/29). Well, that is also to say the scale with a two-semiquaver anacrusis. It gets passed around four times before the first violins move the scale back a semiquaver (three notes before the barline) and the opening theme can return again. The drama (comic drama, indeed) is not that the music is in the 'wrong' key, but tries to start on the wrong bit of the bar. As long as one starts from there on a G, one will always arrive at an F and the dominant chord is prolonged.



To make a fanciful analogy, one has the impression that babies are not quite sure if what they cannot see still exists. It is such fun (for them) to play peek-a-boo where a face is covered up with the hands and then suddenly revealed as being there all the time. The tension while it is hidden - where they have gone? Have they disappeared? And the laugh and relief when they are seen again. So it seems with cell one: not visible if one starts on the wrong metrical position but the hands are parted - there it is again! Happiness!

Semiquavers are not the only scale type offered. The bass theme in quavers (bars 14-15, Ex 7/22) starts off with the rising fourth across the barline.



A slightly odder gapped version comes in bars 46-7 (Ex 7/23).



There is an an interesting variant in the minor at bars 144-5 (Ex 7/30).



These scales have drifted further away from cell one and the semiquaver scales, and without the earlier pushing of cell one it seems improbable that a listener would choose to be especially interested in the GBC of bar 144.

It is curious that the fragment is basically a rising scale over an octave, with an arpeggiated descent to the starting note, as that description pretty much fits the first four bars of the main theme (Ex 7/4).



The quavers and the semiquavers are sometimes nicely intertwined at the moments of transition. Bar 96 (Ex 7/31) leads back to the repeat of the exposition and bar 162 repeats this leading through to the recapitulation.



The quavers in Ex 7/31 could be said to ornament D and F falling to C and E over the full run, but as a ninth rather than a semitone. The main theme appears in contrary motion: and interestingly the overlap indicates that the bar 98 E is naturally accented as the resolution of the big dominant chord of bar 94. One can note that the C of bars 97 is made into a dissonant passing note, so the scale is blurred, along with the motivic head motive. These are pleasing moments in the piece - the theme sidles out from the resolution of the dominant preparation.

There is a restatement of the main theme, and we head off into the coda from bar 266. The scales come as one variant after another. We can note that there is one scale starting on the downbeat doubled in thirds on C and E, so rising a tone over the bar line at bars 270-1 (Ex 7/32).



There are scales with the metrical position of the main theme starting on C (bars 273-4, Ex 7/33), and then immediately ascending in thirds from C and E (bar 275-6).



Next, these runs are then extended up a tone (bars 277-9). (As seen before in bar 87 on Ex 7/27).

Ex 7/27  
4:86

The ascending scales from C and E can be paired with descending scales from the same pitches, and can be extended to go up to D and F (bars 281-283, Ex 7/34).

Ex 7/34  
4: 281

This is odd: only scales on C and E: not on G. The last use of this scale is back at bar 246-7. There seems no reason not to have scales in thirds on E and G, or maybe sixths on G and E.

There is a giant tutti unison arpeggio ornamented with scales from bar 289 (Ex 7/35): again scales on C then E, but not G. It is surely one of the elements of the tonal system, nothing special, and would connect the particular melody of this movement to the linguistic roots. At the end of the coda it is not there. Odd.

Ex 7/35  
4: 285

289

What of the transformation of our cells?

The fourth movement (bar 86 on, Ex 7/27) has four versions of scales – and each has an extra tail extending the scale up to a ninth.

Ex 7/27  
4:86

There is a sequence of transformations arriving at the end with something weakly related to the start. But one can trace back down the track. The scale at bars 88-9 has had a tail added, it has been moved to the notes of G major starting on C, so cut the tail off and move it onto G-G with a C scale, and it is the start of the main theme, cut off the upper four notes and it is the filled rising fourth, change the rhythm and lose the A it is the first movement theme, and cut the B it is the start of the slow movement theme.

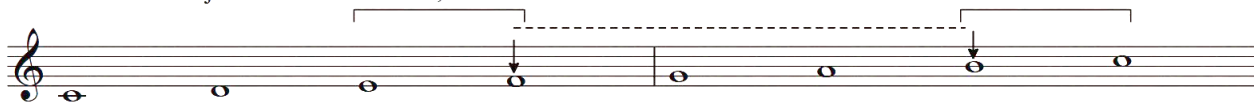
Is the scale at bar 88 like the slow movement theme? Not really. The author has chosen a scale where the interval is not even a perfect fourth. Is there a relationship? Well, yes, if one looks at the evolutionary stages. But after all a butterfly and a tiger share a common ancestor, if one goes back far enough down the evolutionary chain. One might wonder that if everything is connected then there is nothing special shown by tracing a connection. However, maybe in drawing out an evolutionary route the fact (and the way) they are connected is itself particular, rather than general, and relates to this symphony's identity.

The study above has led us down to two elementary particles in the pitch system. One is the fourth, the other the semitone, as found in the major scale. There is now an interlude where the relation of the two is explored. Perhaps this will suggest something for the curiosities noted above?

## 7:5 Theoretical Interlude.

We noted earlier in relation to cell three that the major scale has two semitones and one tritone which are the most tonally defining intervals (Ex 7/36). One can now examine how this asymmetry interacts with rising scale fragments of four notes.

Ex 7/36 The major scale: two semitones, one tritone



One can list the four-note scale fragments (tetrads) of the major scale (because we have the interval of a fourth already on the agenda). Listed below are the tetrads of the scale starting in each of the pitches, here in ascending form, seven, one on each of the notes of the scale. Each of the tetrads appears twice (Ex 7/37).

For example, CDEF is the opening tetrad of the scale on C and the closing tetrad of the scale on F. DEFG has a different interval pattern and is called 2, and the transposition on A is called 2b.

Ex 7/37 Tetrads, scales and semitones

Seven musical staves, each representing a scale starting on a different note of the major scale. Each staff is labeled 'Scale I' through 'Scale VII' in a box. The tetrads are labeled as follows:

- Scale I: Tetrads 1a (C-D-E-F) and 1b (Cell One) (F-G-A-B)
- Scale II: Tetrads 2a (D-E-F-G) and 2b (G-A-B-C)
- Scale III: Tetrads 3a (E-F-G-A) and 3b (A-B-C-D)
- Scale IV: Tetrads 4 (F-G-A-B) and 1a (C-D-E-F)
- Scale V: Tetrads 1b (Cell One) (F-G-A-B) and 2a (D-E-F-G)
- Scale VI: Tetrads 2b (G-A-B-C) and 3a (E-F-G-A)
- Scale VII: Tetrads 3b (A-B-C-D) and 4 (F-G-A-B)

Brackets above the notes in each tetrad indicate the intervals between them.

Note:

- i. The pitches can be notated counting semitones from the start pitch (0).
- ii. There are four types of tetrad having the same succession of intervals (as shown here by the numerals). Three of these appear in two transpositions, a fourth apart. There is one unique whole-tone tetrad (FGAB) which is called 4.
- iii. The semitone in 1 is at the end/top, in the middle in 2 and at the start/bottom in 3. The semitone can be either E-F or B-C.

**CDEF** (0245) 1a

**DEFG** (0235) 2a

**EFGA** (0135) 3a

FGAB (0246) 4

**GABC** (0245) 1b

**ABCD** (0235) 2b

**BCDE** (0135) 3b

These can be combined to make scales of an octave starting on each of the pitches of the C major scale:

**CDEF/GABC** 1a + 1b Scale I

**DEFG/ABCD** 2a + 2b Scale II

**EFGA/BCDE** 3a + 3b Scale III

FGAB/**CDEF** 4 + 1a Scale IV

**GABC/DEFG** 1b + 2a Scale V

**ABCD/EFGA** 2b + 3a Scale VI

**BCDE/FGAB** 3b + 4 Scale VII

Note:

- i. That each 'mode' or scale has a different combination of tetrads.
- ii. That each tetrad appears twice in the set of scales.
- iii. That the first three scales each contain the same tetrad type (semitone at end, middle or start respectively), and that two of the other scales (V and VI) have the semitone in different positions in the two tetrads, and that the scales with the whole-tone tetrad (tetrad 4) have a semitone across the division between the tetrads.
- iv. That two of the other scales (V and VI) have the semitone in different positions in the two tetrads.
- v. That the the scales with the whole-tone tetrad (tetrad 4) have a semitone across the division between the tetrads.



## 7:6 The Major Scale Tetrads in the Symphony, Including the Introduction.

If an emphasis were to be made on a particular interval within the tetrad, that could be used to form the identity of the piece. One should remember we have arrived at this theoretical plan on the basis of cell one, and the semitone in this (rather than the fourth). We have seen that many of the themes and motives begin with an anacrusis, and this emphasises some aspects over others.

Scale tetrads in this piece typically have the fourth note (counting up the scale) after the barline: so if there are type 1 tetrads then the semitone falls across the barline (as in the fourth movement theme), or the scale can be gapped retaining the semitone, (as in the motive at the start of the first movement). The emphasis is thrown on the top of the scale tetrad (notably tetrad 1b) often in the symphony, even usually, with the semitone leading across the barline.

One can also note that tetrads 1a and 1b, forming the C major scale, intersect with the scales of F and G (Ex 7/38).

Ex 7/38 Tetrads and tonal overlaps

The diagram shows a single staff in treble clef. The first part is labeled 'F scale' and contains the notes F, G, A, B, C, D, E, F. The second part is labeled 'Tetrad 1a' and contains the notes C, D, E, F. The notes are placed on a five-line staff with a barline between the two sections.

1a and 1b are tetrads in C major (Ex 7/37b), but 1a is also the top tetrad of the F scale, and 1b the bottom tetrad of the G scale.

Ex 7/37b Tetrads 1a and 1b (Cell One)

The diagram shows a single staff in treble clef. The first part is labeled 'Tetrad 1a' and contains the notes C, D, E, F. The second part is labeled 'Tetrad 1b (Cell One)' and contains the notes F, G, A, B. The notes are placed on a five-line staff with a barline between the two sections.

The ambiguity can be seen in the introduction to the first movement at bar 12, Ex 7/39 (where the F becomes sharpened), the theme of the minuet bar 3 (where the F is also sharpened) and the theme of the finale bar 6 (where the F is natural) as opposed to the dominant preparation in the development of the finale at bar 148. The example does not show the harmony, as the point made here is that the scale fragments can be in one of two keys.

Ex 7/39 Tetrads and tonal overlaps

The diagram shows two staves of musical notation. The first staff has a time signature of 3/4 and contains a scale fragment starting with a sharp sign over the F. Brackets above the staff indicate 'C or G' and 'G or D'. The second staff has a time signature of 2/4 and contains a scale fragment starting with a natural sign over the F. Brackets above the staff indicate 'C or G' and 'G or D'. Dynamics markings 'p' and 'sf' are present.

The chart in Ex 7/37 has cell one labelled as tetrad 1b. It is type 1 because it has the semitone at the top, and 'b' because it is the second tetrad in the scale.

Ex 7/37 Tetrads, scales and semitones

Scale I: Tetrads 1a and 1b (Cell One)

Scale II: Tetrads 2a and 2b

Scale III: Tetrads 3a and 3b

Scale IV: Tetrads 4 and 1a

Scale V: Tetrads 1b (Cell One) and 2a

Scale VI: Tetrads 2b and 3a

Scale VII: Tetrads 3b and 4

The C-C major scale has the same interval pattern (semitone at the top) for both tetrads.

Tetrad 1a is interesting, because as well as being a move from the tonic C to the subdominant F, it could also be interpreted as a move from the dominant pitch C to the tonic F. In which case it could first move to F in the first tetrad, and to C (or chord vi in C) in the second.

And indeed the symphony begins exactly with a move to F at the start, and then to chord vi in C. At first sight this might be because the EF comes before BC in a C scale: but a moment's thought says this depends on where one starts the scale.

Had the work started with a scale of B-B then it could have had a V-I cadence at the start. How much smoother the course of the symphony would have been! How much effort would have been saved in analysis!

While scale I (on C) has the semitone at the end of each of the tetrads, scale III ascending (on E) has the semitone at the start (Ex 7/37c).

Ex 7/37c

The image shows three staves of musical notation for Ex 7/37c. Each staff contains a sequence of notes with brackets above them indicating intervals. Below each staff, the intervals are labeled as 'semitones' with numerical values. The first staff has intervals of 2, 2, 1, 2, 2, 1. The second staff has intervals of 1, 2, 2, 1, 2, 2. The third staff has intervals of 2, 2, 1, 2, 2, 1.

If the symphony is especially interested in the semitones in the scale then one way to show this would be to lay out the C scale starting on E at the start, and make a division (e.g. the fall of an octave) with the B (and Tetrad 3b, seen in the middle staff of Ex 7/37c).

As is the case!

Ex 7/5

The image shows two staves of musical notation for Ex 7/5. The first staff starts with a '1:1' marking in a box. The notes are marked with dynamics: *f*, *p*, *f*, *p*, *cresc.*, *f*, *p*. The second staff continues the scale with *cresc.* and *f* markings. A bracket above the first four notes of the first staff indicates a 'bracketed insert'.

The semitone BC of bar 2 is a 'bracketed insert' into this scale: this gives the two principal semitones of the piece (which together we have called cell three) at the very start of the symphony as the first four melodic pitches. The belief that the start of a classical work presents the core elements of the composition looks to have been vindicated.

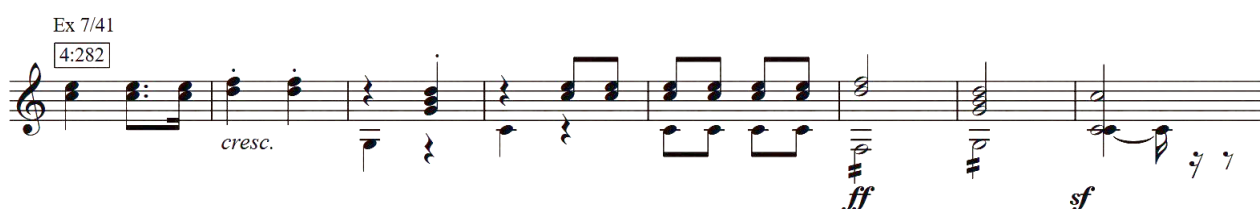
It was noted that the last movement appeared to lose the identity given by cells one, two and three and the work ends with elemental scales (and arpeggios). We now have a chart (Ex 7/37) which might give some insight into the choice and character of the scales (and scale fragments) which form the parts of the work where the character appears to be weakened.

## 7:7 Connecting the Close and the Beginning.

The closing pages of the symphony reduce the musical language closer to its elements. It has been noted that chord V loses the seventh and chord II (in ii/V/ I cadences) often has just two pitches: D and F. In the coda the main melodic line from bar 266 (Ex 7/40) has an eight-bar phrase CDC, EFE, EFDE, which keeps the cadence open.



The phrase is repeated. Then the last four bars are then repeated twice, the F finally falling FDC to close the phrase (Ex 7/41), while the harmonic texture thins. This framework has had a series of ornamental scales added to it. One can note that the notes of the background phrase are the lower tetrad of the C scale, with the semitone EF at the top. (If we wish to maintain advocacy for cell three at the initial pitch, then we will have to take the BC from the inner parts).



The first of the ornamental scales starts in bar 270 (Ex 7/42), a line doubled in thirds starting on C and E, so scales I and III.



A rather understated return of the E-E scale, but there it is. The run, which starts on the downbeat, then rises a ninth when it goes across the barline. The line adds an octave run-in to the E-F-E move of the melody, with the main notes on the downbeats. The emphasis is on the E to F, and on that basis can be related to the start of the symphony, and the EF semitone. This is the last instance of a scale starting on the downbeat: the remaining scales all start three semiquavers before the downbeat, like the main theme of the movement.

Curiously, when the phrase is repeated, it is not with the same ornamentation. In bar 273 (Ex 7/43) the first violins complete the cadence onto a C, with the scale finishing on the offbeat, like the main theme of the movement. The B rises to C across the barline, but now this is E to F, the other semitone. Also, this creates a peculiar passing harmony on the down beat of bar 274. The two elements seem misaligned. The next scale, in the flute, is identical, except that the harmony changes over the barline and the harmony is more conventional.

Ex 7/43  
4: 273

The repeat of the unit (bar 275) now has the violins in thirds, adding a scale E to E, resulting in an even odder moment at the barline, whereas the A in flute in bar 276 could at least claim to be part of a dominant ninth chord.

The thickening of the texture continues with scales on C and E in the wind, with an increased number of pitches on the down beat of 278, and the matter is compounded by the addition of contrary motion scales in bar 281 (Ex 7/44), where the next downbeat is crowded with the pitches EFGABC (so only no D!).

Ex 7/44  
4: 281

Of course, this is a transitory moment, and the ear is hearing more the departure and arrival points, especially the upper line stretching for the high E to F. There is a final doubled scale on C and E and the final unison arrives. There is a scale on C and a scale on E and the work ends with C arpeggios and V-I cadences (with no F).

The material from bar 266 is restricted in two ways. Firstly, the scales only start on the pitches of the triad, so there is no longer any linear motion in the starting notes of the scales. But the ending, as noted, is even more odd, for while there are scales on C and E, there is no scale on G. This is unexpected, because this is the scale which starts the movement, has been returned to so often, and is the most 'thematic'. The metrical placement is right, the notion of scales on pitches of the tonic arpeggios has been set, and yet this scale is not here.

An explanation can be found in the list of the scales below (Ex 7/37):

Ex 7/37 Tetrads, scales and semitones

The image displays seven musical staves, each representing a different scale and its associated tetrads. Each staff begins with a treble clef and a single note on the staff line. A box labeled 'Scale I' through 'Scale VII' is placed above the first note. Brackets above the staff indicate the notes of the tetrads. Scale I starts on C and has tetrads 1a and 1b (Cell One). Scale II starts on D and has tetrads 2a and 2b. Scale III starts on E and has tetrads 3a and 3b. Scale IV starts on F and has tetrads 4 and 1a. Scale V starts on G and has tetrads 1b (Cell One) and 2a. Scale VI starts on A and has tetrads 2b and 3a. Scale VII starts on B and has tetrads 3b and 4.

The scale C-C has the semitones at the end of the tetrads, and given the normal metrical position the EF and BC will fall across the stronger beats, so this is a natural choice for the ending.

The scale E-E has the semitone at the start so this might not be so obvious a choice – unless the scales were to be reversed and run descending as well as ascending. This is what is done at bar 281, where the C falls to a B across the barline, (and the contrary-motion scale rises E to F), and at the half-bar the F falls to E (while in the other part B rises to C).

The scale starting on G has a different tetrad as its continuation, DEFG (Scale V) and the semitone is in the middle. It is only the scales on C and E which have pairs of semitones at the start or end of each tetrad, and these are the two scales left at the end of the movement.

The source of the work are these pairs of semitones, and the end of the work reduces the scales here to these two in conjunction with a rhythmic and metrical shape that allows these intervals to be emphasised as an elemental component of the scale.

(A heretical thought occurs. The scales in combination have the EFBC pitches that form cell three, embedded in the scales in the metrical prominent places. The strange dissonances when they are played together are, of course, explicable in terms of the hierarchy of tonality, and can be justified as 'passing dissonances'. The pitches function within the rules of the language. The heretical thought is that the first of these [bar 274] sounds the passing F against the harmonic E. Could one really make a play of building a harmony with all four pitches: EFBC, arriving at the same time? The thought would be that the cell does appear as a line, but more often as two vertical pairs [BF-CE]. Could one compress the four pitches further into a chord? The quantity of pitches increases once the lines are doubled in thirds [bars 276-278], so there is a phantom F<sup>7</sup> chord on the downbeat. The collision of pitches on the downbeat at bar 282 sets the passing F and B against the harmonic background of C and E, which does indeed get all these pitches playing at the same time! It is true there is also an A and a G, because of the way the background chord and the scale figures cross. So not quite a linguistic crime, as the fundamental laws of harmony are not broken, but one wonders if the desire to do the forbidden is driving this concatenation.)

The material is near elemental, but even so it is inflected to allow the topic of the symphony located in the tonal language to be emphasised. The music is still not wholly neutral. One scale is that of the tonic, starting on the tonic, which is indeed elemental. The other is the ascending scale starting on E. It is the last scale of the last movement (though without a metrical emphasis on the semitone) and is the scale which starts the symphony.

At the close of the symphony the scale (because of the speed and the harmonic blur) has an emphasis on the start and end points, while in the introduction the slow unfolding allows the harmonic possibilities of the succession of intervals to be magnified, starting with the semitones.

## 8. Conclusion.

One can summarise the last part of the argument moving from the general to the particular:

- i. There is an unordered collection of the pitches of C major: this offers a collection of intervals, including two pairs of semitones (EF, BC).
- ii. There is an ordering of the pitches of C major into ascending scales.
- iii. An emphasis on characteristics of the scale can be made by:
  - The pitch on which the scale starts.
  - The metrical placement.
  - The rhythm.
  - Dynamics and accents.
  - Timbral changes.
- iv. Furthermore, the scale can be 'gapped' by the omission of less important pitches and intervals.

The symphony is centred on the two semitones in the C major collection, the pitches EFBC. The four pitches together are unique to C within the major keys (though they do also appear in A minor and D melodic minor). These can be taken as an unordered group of pitches, but they appear very often as linear pairs of semitones (which can rise or fall in different contexts):

- i. The four pitches EFBC can be found freestanding as a line, as in the opening bars of the introduction, which are open to harmonic interpretation.
- ii. The pitches can appear within harmonic progressions (as in  $V^7$  **GBDF** – I **CEG**).
- iii. The pitches will be found within scales or in the scale fragment filling out a tritone (B-F).
- iv. Pitches of the tetrad are used as common tones in other keys, so EF can be found within F major, BC can be found within G major, CF can be found in  $D^b$  major, etc.

The three pitches GBC can be selected from the four-note group as part of a C scale, and they also appear in the G transposition of the four-note cell ( $F^\#$ GBC):

- i. GBC can appear in a fixed order in scales.
- ii. The three pitches are used as an unordered collection of pitches to form the material for the main melodies of the piece.
- iii. The 'scallic' ordering GBC is used in the main motive in the first movement Allegro.

To look at the work in the other direction one can consider the most characteristic detail and how this diffuses into the work as a whole. Cell one as the start of the first movement Allegro is the most specific and characterful: it has three pitches in a particular order, rhythm, and metrical position (more variable are the elements of timbre and dynamic).

The cell can then be used in transformations for the main themes of the symphony: the pitches can be reordered, the rhythm changed, the metrical position altered, and the gap filled (GABC) to form a scale fragment with a characteristic semitone at the top. There is a transposition of this tetrad in the scale with the same interval pattern: CDEF.



The four-note collection of the two semitone pairs (EFBC) is less characterised (in rhythm especially) as it appears both as surface line, as linear underpinning within progressions, and is overlapped with itself to form chords. For sure it crosses the border between being an element particular to this work into the generality of the music language.

The scale of C major (most often ascending but sometimes descending) is arguably the most generic element in the piece, but the particular manifestations in which it appears often emphasise a characteristic element of the scale, the pairs of semitones.

The introduction, which appeared mysterious through much of this analysis, has become transparent. The main argument is carried by the melodic line, which I have extracted as the first violins for the first eight bars, and the flute (as the highest line) from bar 8 on (Ex 7/45).

Ex 7/45

vln 1

E scale, 1st 4th

E scale, 2nd 4th

1:1

1:5

*p* *p* cell 3 *f* *p* *cresc.* *f* *p*

1:8

1:9

1:10

flt

*cresc.* *f* *f* *p* *cresc.* *f* *f* *f* *f* *p* cell 3 *p*

*ten* *ten* *ten* *ten*

Bars 1 and 2 present cell three. Bar 3 continues the ascent from EF up to the high A. This is the start of the E-E scale, breaking off at the fourth, the interval which is to be so prominent in cell one. Bar 5 resumes the scale an octave lower. The two halves, the first starting E-F, and after the break continuing BC, indicate another cell three.

The second half then completes an ornamented scale to E. There is a preview of the descent of cell two, and in bar 9 we have the descending fifth of cell two. Bar 10 then alternates E and F before concluding with cell three, in the same order and register as the start. The harmony is subsidiary to this, and the opening cadence in F is not especially highlighted in the rest of the symphony. There are two interrupted cadences, one in bar 3 and the other in bar 10.

The key of A minor does have a dramatic role in the development of the first movement, where the key pitches of cell three are again prominent melodically. If this reading of the introduction is convincing, then it is wholly concerned with presenting the topics for the rest of the work, just as one would expect. What this analyst found unexpected was how far into the basics of the musical language one would have to go to find out what those topics contained within the introduction actually are.

One could say the work as a whole has a graduation from the general to the particular, where the motives arise from the inherent possibilities of the tonal language. Or one could phrase this the other way about and say that the particular elements of the piece are foregrounded and then dissolved into the generality of the musical language.

That there seems to be very little material that cannot be related to the specific motives in the piece is an illustration of the unifying power of the classical tonal musical language itself. It is this power which this symphony channels, as it is both an example of a historical type and a singular interrelated artwork.

## 8:2 From the Writer to the Reader.

If you have read through this rather dense text, I congratulate you! I hope the details here provide some food for thought.

This essay is partly an exercise in nostalgia. I observe that over the years writing comes with ever more references and footnotes. Writing on music, say a hundred years ago, often reads like an individual offering observations, with only rare nods to earlier authorities. The comments are to be evaluated without this underpinning, and the placing of the ideas in relation to the background is left to the reader. I am nostalgic for this style of writing.

To be personal and more specific, this essay draws on memories of Antony Hopkins and his BBC radio talks on motivic connections in music, which I listened to in my boyhood in the 1960s. These have been in my thoughts on music ever since. Giving footnotes and references is not in the nature of the medium of the radio, which gave the impression of listening to a friend talking with enthusiasm.

There are powerful arguments for providing references: they indicate the provenance of ideas and provide a route for those aspects to be explored further by the reader. There is also the issue of acknowledging the work of others and not appearing to claim existing ideas as original. On the other side, it breaks the flow of the text which I thought was already too demanding in the detail and the constant need to refer to music examples. Adding more distraction for the reader seemed a bad idea. Further, it would add an extra dimension discussing the ideas of previous analysts and the applicability or otherwise of their work in this context. I wanted to restrict the need to discuss analysis as such while using analytical tools to examine the work. For sure there was a constant pressure to examine the analytical approach, but for better or worse I have avoided this, partly because of the reader I had in mind for this essay. I doubt I have achieved the aim of reaching the 'interested music lover' because of the detail I have felt necessary to provide, but I admire the spirit of that attitude.

The essay is also wilfully nostalgic in revisiting motivic analysis as an analytical tool, a topic central to the study of music in the last century and now seemingly rather quaint and marginal. This essay is also the meeting of a challenge I have long felt to undertake as deep a motivic study as I could muster, to see if the tools did show anything unforeseeable.

Indeed, the exercise has changed my understanding of this symphony. I was surprised by the lack of cross-relation between keys, and was very struck by the way the key changes relate (or even arise from) a few specific pitches, typically the two semitone pairs in C major. I had also assumed that the cell GBC would be used in many transpositions, but the huge majority of instances are the three transpositions of the cell (subdominant, tonic and dominant). That is, the tonality is established and maintained not simply by general key areas (with pitches as the material of these), but by recontextualising the same specific pitches in different keys. The music (in this regard) is far more linear and melodic in its priorities than vertical and harmonic. I remain surprised that there seems to be evidence for the use of permutation of the GBC cell. Finally, I initially had no idea that the work would lead me to consider the intervallic order within the tetrads of the scales.

I suspected that the idiosyncratic aspects of the surface of the work would relate to elementary structures within the tonal system, but began with no idea as to what that might be. I find that my understanding of what is in this symphony (and classical tonality) has been changed, in ways that are unexpected and have happened only because I have taken the trouble to undertake the analysis. I am sceptical that in thinking about music new understanding supersedes older ways of considering things, but rather they offer new perspectives. We are not dealing with science where one theory supplants another, but changing cultural concerns and differing viewpoints on the object of thought. There is no reason to discard any analytic method.

As to further areas where this essay might be of interest, I can think of three main ones.

The first is Beethoven's musical thought and historical position. I have the strong suspicion that this symphony is a response to the music of his teacher, Joseph Haydn. That the musical forms (and something of the spirit) is shared with Haydn is perhaps self-evident, but I see a very similar attitude to the exploration of musical language, and the way this can be channeled into musical expression. Establishing this similarity would provide evidence that Beethoven is at this point very much a Viennese classical composer, intent on demonstrating his mastery of the idiom as it was then developed. The musical language here is not simply a given medium in which things can be said, but is itself a topic of the work. An examination of this would require a consideration of the works contemporary with, and just prior to, this symphony. Perhaps this would work in ever increasing circles: Beethoven's work, the similarities to Haydn, the similarities to Viennese composers, and on to other composers of the period elsewhere. And then there is the question as to whether this attitude is something particular to the era of classical music. In short, this symphony in a historical and cultural context.

The second area is that of the discussion of music, especially music analysis. The concentration on small collections of pitches is common in motivic analysis, but pitch is not the only dimension of music, and the perception of the pitches is integrated with these dimensions. This came up as an issue in this essay, where I often appealed to hearing as a judge. That is, it is not just a question of whether the phenomenon is present in the score but whether it will be aurally perceived. (For example, I will admit to having a nagging concern whether the rising semiquaver scale in the fourth movement is too fast to have an accent in the middle, where the barline falls.)

If the issue of perception is made central then more questions arise. For example, which lines are perceived as prominent in an orchestral texture, with different timbres and lines are often doubled in multiple registers? How do we perceive speed or sensations of flow, movement or arrival? Is the perception of rhythmic transformation in fact more dominant than pitch connections? There ought to be a systematic consideration of the use of dynamics, and the way such dimensions might be utilised to make a difference between transitory passages (and so perhaps less important music) and music which seem to offer more settled statements. Crescendos and diminuendos are central to the flow in time, and there would seem to be a hierarchy of loudness of the music - one might assume there is something more central in the music of the louder passages - but is that true? The essay has been much concerned with the details of intervals, but do we hear connections more generally as contours?

Thirdly, there has been no speculation here as to whether this music has value. Let me assume that this work gives pleasure to the listener. But what is the source of this pleasure? Why should a sonic work from two hundred years ago resonate within a contemporary listener? What does this tell us about ourselves? How do the elements explored in the essay above relate to these issues?

With a moment's thought one can begin to produce an ever-lengthening list of things this essay fails to do. This is not to say it does nothing, though. What I hope this essay provides is a map of the landscape of motivic development and cross-relations against which further investigations can use, and ideally the ideas here integrated. I hope that this study provides a brick for a bigger edifice. For the moment I leave such investigations to others.

**Appendix:** Conventional Segments of the Form for Each Movement.

**First movement:** Adagio molto - Allegro con brio

Introduction (Adagio molto):	Bar 1		
Exposition (Allegro con brio):		First Subject:	Bar 13
		Second Subject:	Bar 52
		Closing Subject:	Bar 100
Development: Bar 110			
Recapitulation:		First subject	Bar 178
		Second Subject	Bar 205
		Closing Subject	Bar 253
Coda: Bar 263			

**Second Movement:** Andante cantabile con moto

Exposition:		First subject:	Bar 1
		Second subject:	Bar 27
Development: Bar 64			
Recapitulation: Bar 100		First subject:	Bar 100
		Second subject:	Bar 126
Coda: Bar 161			

**Menuetto:** Allegro molto e vivace

Exposition:	Bar 1
Development:	Bar 8
Recapitulation:	Bar 44
Coda:	Bar 59

**Trio:** Allegro molto e vivace

Exposition:	Bar 79
Development:	Bar 103
Recapitulation:	Bar 121

**Fourth Movement:** Adagio - Allegro molto e vivace

Introduction (Adagio):	Bar 1		
Exposition (Allegro molto e vivace):		First subject:	Bar 7
		Second subject:	Bar 56
Development: Bar 96			
Recapitulation:		First subject:	Bar 162
		Second subject:	Bar 192
		First subject:	Bar 242
Coda: Bar 266			

**Beethoven First Symphony:  
An analyst's quest for unity**

Robin Hartwell