

INTERVAL CYCLES, THEIR PERMUTATIONS AND GENERATIVE PROPERTIES
IN THOMAS ADÈS' *ASYLA*

Thomas Adès does not like to be interviewed. He rarely speaks in public and almost never talks about his music. In short, he would be a terrible musicologist. Aside from occasional written phrases, as in Matias Tarnopolsky's program notes to Adès' *Asyla*¹, which serve less to elucidate information about the composer's own music than to hint at his philosophy, Adès is silent. Some may certainly praise him for his reticence, especially those who feel that talking about music is as helpful as burning it. While there is certainly something to be said for this point of view, in that one can talk less about music than around it (that is, one can only approach a piece of music indirectly), there are some, like me, for whom talking about it (or even around it) is important, even necessary. Much of musical meaning, in my opinion, comes from reflection, and however indirect our approach to a piece of music may be (through such methods as analysis, for instance), there is still value in voicing that reflection, carrying on a dialogue with another (since not all reflections are the same), in an attempt to understand something which speaks to us as indirectly as we talk about it.

Analyzing a major orchestral work by a composer who does not talk about his music is a daunting task, not only because of the lack of information, but also because, especially today, the reader likes to be convinced that such an analysis is worth the while. Since Thomas Adès' *Asyla* is appreciated more for its polystylism and unusual orchestration than for how it is put together, the idea of convincing the reader that a

¹ Matias Tarnopolsky, "Asyla," program notes, City of Birmingham Symphony Orchestra, Birmingham, 1997. "'You're living in listed accommodation, writing for orchestra,' says Thomas Adès, 'or putting on someone else's clothes and feeling absolutely new yourself.'"

discussion of its structural aspects is worthwhile is doubly important. Still, it is not the purpose of this paper to convince, but only to lay forth my findings and allow the reader to decide its worth. In the end, I am forced to talk indirectly around a piece of music, one which speaks indirectly to me, to a reader who cannot help but receive this paper indirectly. The degrees of separation between music and talking about it are inevitable. Nevertheless, I will conduct this analysis with the aim of narrowing the gap to within as few degrees as possible.

Asyla is the third work for orchestra by Thomas Adès, begun in 1996, completed and premiered the following year by the City of Birmingham Symphony Orchestra. The piece is in four movements and, as remarked in the past by Tarnopolsky and others, is the closest to traditional symphonic structure Adès has ever come. The piece, however, is less like a symphony and more like an extended tone poem à la Richard Strauss. It contains brief pauses in between the movements, suggesting that the individual movements are less self-contained than they would be in a 19th-century symphonic work. Among the most prominent features found in *Asyla* is its polystylism,² a concept formulated by Alfred Schnittke in the late 1960s. He defines it loosely as the use of interacting styles, whether by quotation or allusion, and he focuses on the notion of polystylism as a dialogue with the past, a kind of overt nodding to one's predecessors and influences. One can cite Stravinsky, Berio and Berg as examples of composers who have used polystylism in one form or another. Although Adès' music does maintain a dialogue with music of the past, this dialogue at times extends to that of the present as well. From his earliest works, Adès has shown considerable interest in a number of

² For a more comprehensive definition, cf. Alfred Schnittke, *A Schnittke Reader* (Bloomington: University of Indiana Press, 2002).

disparate musical styles, including the work of Billie Holiday (*Life Story*³), big band music and funk (*Living Toys*⁴), English Renaissance music (*Darknesse Visible*⁵) and the keyboard works of François Couperin (*Sonata de Caccia*⁶). *Asyla* is another example. Its first movement features a section loosely in the style of big band music, surrounded by late Romantic orchestral gestures. The second movement has the broad yet chamber-like characteristics of Strauss' tone poems, as well as a bit of Renaissance polyphony, while the third movement is a rickety mixture of big band and techno. The fourth movement is primarily a shadow of what came before, a brief coda which includes themes from the previous movements. One could detect an influence from Berio's *Sinfonia* or Bruckner's *Symphony no. 8* here, pieces whose last movements superimpose motives and themes from the previous movements.

Perhaps, though, returning to an earlier point, there is a bit of the musicologist in Adès, for could not his incorporations of other styles into his music be a kind of commentary on those styles? If so, then *Asyla* is a sort of grand commentary on a multiplicity of styles, those to which Adès himself feels very close. And what of the meaning of the work's title? Is Adès trying to convey a sense of the insane asylum, even political asylum, or is he merely playing on the ambiguity of the term? Another way to

³ Thomas Adès, *Life Story*, op. 8 (and 8a), 1993. This is a piece originally for soprano, two bass clarinets and string bass, with a text by Tennessee Williams. Adès mentions in the performance notes that the late style of Billie Holiday should be used as a model for the singer.

⁴ Adès, *Living Toys*, op. 9, 1993. This work for 14 players is divided into several movements, the fourth of which (entitled "Battle") is a mixture of big band and funk, making use of a talking trumpet technique prominent in jazz, as well as a near direct quotation of James Brown's "I feel good" (in particular, the upward arpeggiated figure).

⁵ Adès, *Darknesse Visible*, 1992. This solo piano piece is an explosion of John Dowland's "In darknesse let me dwell..."

⁶ Adès, *Sonata da Caccia*, op. 11, 1993. Written for harpsichord, baroque oboe and horn, this piece is an homage to French Baroque music, and in particular the music of François Couperin (for whose music Adès has had a great affinity), made evident in the work's harpsichord figurations.

look at it is that Adès is portraying, perhaps, musical asyla, in the form of these different styles, many of which are outside the classical arena (techno, big band), or could at least transcend it (renaissance polyphony in sacred music). We will return later to both of these issues, and the latter, in particular, we will explore after a sufficient analysis of the whole piece has been conducted.

Of course, these issues, as well as the brilliant and tightly wrought orchestration of *Asyla*, say nothing of the materials of the piece, how they are created, and how they are assembled into larger constructions. Adès does use themes and motives recurrently; he tends to use many of the same chords, and even hints at glimmerings of tonality. Tarnopolsky, in fact, insists that the key of Eb minor is *Asyla's* tonal center. Whether he got his information directly from the composer or not, Tarnopolsky, as we shall see, may have been incorrect in this assertion. Any hints of tonality are actually derived from superimposed strands of interval cycles. Though these will be discussed momentarily, suffice it to say that many of the themes, motives and harmonic scaffolding for the work can all be derived from complex interweavings, overlappings and superimpositions of interval cycles.

What follows is a harmonic, motivic and structural analysis of *Asyla's* first two movements in relation to interval cycles and their generative properties within the piece. Though I will be making some mention of the remaining movements, I have restricted this paper to the first two for two main reasons: first, many of the ways that interval cycles work throughout the piece are succinctly demonstrated in the first two movements. Second, an analysis of all four movements would be too broad a scope for this paper. This paper will be divided into three main sections: 1. an outline of the raw materials of

the piece, including a description of interval cycles and the ways in which they function within *Asyla*; 2. a description of how the raw materials create motivic unity and development, with particular focus on how interval cycles are superimposed to generate motivic and harmonic structures (in addition, I will be comparing some of my results to those of John Roeder, who conducted some prior analysis of *Asyla* in a paper given at the 2001 meeting of the Society for Music Theory in Philadelphia); 3. a discussion of the influence of interval cycles and the materials they generate on the global structure of the piece, with a brief discussion of what more needs to be done with regard to the analysis of the whole work.

David Headlam, in his extensive and wonderfully clear article about George Perle's 12-tone tonality, defines interval cycles as "repeated instances of the same intervallic distance," which occur in pitch space, but "can also be generalized in pitch-class space."⁷ Though there are in fact twelve distinct interval cycles, only the first eight, ic0 through ic7, are shown below (Table 1), since these are the most immediately relevant to the current analysis:

| | | | |
|-----------|-----------------|-----------|------------------------|
| ic0-cycle | 0 | ic4-cycle | 048, 159, 26T, 37E |
| ic1-cycle | 0123456789TE | ic5-cycle | 05T3816E4927 |
| ic2-cycle | 02468T, 13579E | ic6-cycle | 06, 17, 28, 39, 4T, 5E |
| ic3-cycle | 0369, 147T, 25E | ic7-cycle | 07294E6183T5 |

Table 1: Interval Cycles 0 through 7.

Note here that I am using integers, where T=ten and E=eleven, to describe pitch classes Bb and B, where C=0. In looking at the table above, we notice that certain interval cycles, namely ic2, ic3, ic4, and ic6, have multiple transposition levels. This property

⁷ David Headlam, "An Overview of George Perle's Twelve-Tone Tonality and Intersections with Klumpenhouwer Networks," unpublished paper, Eastman School of Music, May, 2003.

allows for an interval cycle to combine with itself to form larger modes, taking, for example, any two ic3-cycles that are related by T1, and interweaving them to create an octatonic scale. Likewise, it is interesting to note that an ic7-cycle (the cycle of 5ths) can be made up by interweaving two ic2-cycles:

$$\begin{array}{cccccc} 0 & 2 & 4 & 6 & 8 & T \\ 7 & 9 & E & 1 & 3 & 5 \end{array}$$

Ex. 1: Ic7-cycle created out of two ic2-cycles.

In addition, interval cycles can be derived from each other. The ic1-cycle, for instance, is a source for the remaining cycles; likewise, the ic4 cycle can be derived from the ic2 cycle, and so on. These are exactly the sorts of properties which Adès takes advantage of, as can be seen in a couple of instances in the first movement of *Asyla*. The passage below is a reduction of *Asyla*'s opening bars (1 – 7), whereby pairs of fifths, separated by tritones, are ascending by major seconds:

Ex. 2.1: Opening fifths of first movement.

Interpreting this passage in terms of interval cycles, the pairs of fifths can be related to each other by the ic6-cycle, while the top and bottom notes of each fifth spell out both transpositions of the ic2-cycles. There is, however, a catch here, in that the projected final fifth of A/E is substituted by a major third C/E. This represents the first instance in *Asyla* of a trend of pattern disruption, in which a projected system or strand unfolds and

then is fractured. In this case, the C/E major third creates an almost quasi-tonal cadence (IV – V – I) and limits a pattern which could conceivably continue indefinitely. This is yet another property of the interval cycle—it is interminable, or at the very least, it could repeat itself indefinitely. Note, however, that despite the missing A in the pattern, the integrity of the bottom ic2-cycle is nevertheless maintained.

Another example of the use of interval cycles in *Asyla* comes immediately after its opening passage, in the initial horn melody (bars 14 – 20). Here a rising melodic line, which serves as the primary thematic material for the first movement, is composed of an octatonic collection whose pattern breaks at the very end before it gives way to a series of descending fifths. In terms of interval cycles, the octatonic collection is simply an interweaving of ic3-cycles that breaks just before the entire collection is presented, yielding to a descending ic7-cycle (or ic5-cycle in terms of pitch-class space).

bars 14 - 20

hn. ic3 ic5 (7) 3 bsn., etc. cello pizz.

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Ex. 2.2: Opening horn melody (sounding pitch) of first movement.

Subsequent presentations of this melody typically undergo slight variations, shifting notes up or down by only a semitone. This, of course, leads to a complete breakdown of the interval cycles to the point that they either no longer exist, or devolve into another

kind of pattern of expanding or contracting intervals. This will be discussed in the second section of this paper in far greater detail.

There is one further example of Adès' basic use of interval cycles in *Asyla* to explore, this time in the second movement, where one of its manifestations is most clearly presented. In this case, interval cycles are superimposed on one another to create triadic (or trichordal) harmonies. A reduction of the bass and cello parts of bars 76 – 88 below will demonstrate how this works:

The image shows a musical score for bass and cello parts, bars 76-88. The notation is in bass clef with a key signature of one flat (B-flat). The music consists of two staves. The upper staff (bass) has a treble clef and contains a single melodic line. The lower staff (cello) has a bass clef and contains a single melodic line. The two staves are connected by a brace on the left. The music is divided into five measures. Above the first four measures, a bracket labeled 'ic1' spans the top voice. Below the first four measures, a bracket labeled 'ic2' spans the bottom voice. The notes in the top voice are Eb, D, C, Bb, A. The notes in the bottom voice are G, F, E, D, C. The final measure (bar 88) contains a complex chordal structure with multiple notes in both staves, including Eb, D, C, Bb, A, G, F, E, D, C.

Ex. 2.3: Bass and cello parts, bars 76 – 88.

Immediately intriguing is the voicing of the three interval cycles, beginning with what is essentially a C-minor triad with the fifth on the bottom. The fifths descend by ic2-cycles, arranged in a similar way to those in Example 2.1 (which are ascending), while the top voice, starting from Eb, descends by an ic1-cycle. The progression yields a series of rather familiar trichords (minor triad, major triad), as well as a few unfamiliar ones. As we shall see, these trichords appear throughout the entire piece in various guises. What is also interesting about this progression is the way in which it serves to scaffold a rather lengthy passage, by which I mean that this progression provides a structural support mechanism over which layers of polyphony may be added. This is similar to the ways in

which Alban Berg would structure passages in his own works,⁸ and in fact, Berg frequently used interval cycles, from his earliest works all the way to his final opera, *Lulu*, in much the same way as Adès uses them, not only in *Asyla*, but in almost all of his works. A passage from Berg's *Wozzeck* will serve to illustrate this point:

II, bar 380 -

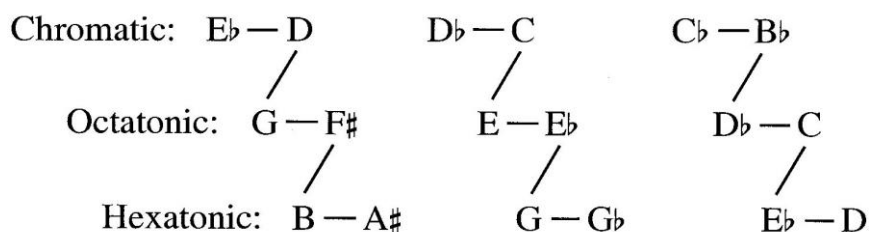
The image shows a musical score excerpt from Act II, bar 380 of the opera *Wozzeck*. It consists of five staves, each labeled with an instrument: solo vln. (violin), cl. (clarinet), solo vla. (viola), ob. (oboe), and solo vc. (violin). Each staff contains a melodic line. The first four notes of each line are slurred together, and the fifth note is a trill. The notes are: vln. (G4, A4, B4, C5), cl. (F4, G4, A4, B4), vla. (E4, F4, G4, A4), ob. (D4, E4, F4, G4), and vc. (C3, D3, E3, F3). The trills are marked with a 'tr' and a wavy line.

Ex. 3.1: Excerpt from *Wozzeck*, Act II, bar 380.

The above passage, taken from George Perle's article on Berg's master array of the interval cycles, demonstrates a passage from Act II, scene 3, which features superimposed, ascending interval cycles, increasing in interval-class by one semitone from the bottom voice up. This yields, between voices, intervals of gradually increasing size by one semitone because of this relationship between interval cycles:

⁸ George Perle, "Berg's Master Array of the Interval Cycles," *The Right Notes: Twenty-three selected essays by George Perle on twentieth-century music*, Stuyvesant, NJ: Pendragon Press, 1995. In this article, Perle discusses the ways in which interval cycles play out not only in Berg's music, but in selected works of Bartok and Stravinsky as well.

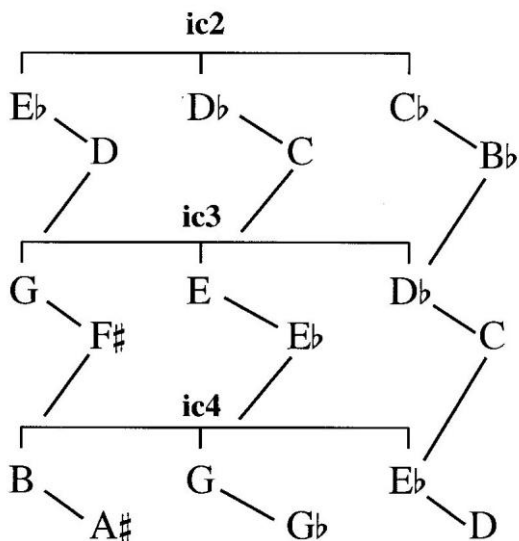
terms of three series of semitone descents in three different registers, yielding a chromatic scale at the highest registral level, an octatonic scale at the middle level, and a hexatonic cycle at the lowest level, as demonstrated below:⁹



Ex. 4.2: Three registral levels of the bass oboe melody.

It is also apparent that each of the three “passes” of this melody (the “columns” of the above diagram) spell out hexatonic, octatonic and chromatic scales respectively, a property that we will turn to momentarily. The interweaving which we have encountered earlier with interval cycles (Example 2.2) here seems to involve their inherent relationship to modes of limited transposition. To be sure, interval cycles *are* modes of limited transposition in and of themselves, but an interesting characteristic of cycles is that they can be used to create other modes of limited transposition (the octatonic scale, for instance) by alternating two cycles of the same interval class, each separated by semitone. Reinterpreting Roeder’s above partitioning in terms of cycles, then, yields alternating ic2-cycles at the highest register, ic3-cycles at the middle, and ic4-cycles at the lowest:

⁹ John Roeder, “Cooperative Rhythmic Continuities in Music of Thomas Adès,” presented at the 2001 Annual Meeting of the Society for Music Theory, Philadelphia, November 8, 2001.



Ex. 4.3: The bass oboe melody re-interpreted as interval cycles.

At this point, two things need to be said about this melody. First, the expanding interval between the semitone dyads of the melody, in each of its three passes, can be echoed in the expanding interval class of the cycles at each of the three registral levels. In fact, if we order the pairs of semitones into a 3 X 3 Latin square, where the x-axis represents the three passes, and the y-axis represents the three registral levels, we get a matrix which folds in on itself:

| I | II | III |
|----------------|---------------|-----------------------|
| E \flat — D | D \flat — C | C \flat — B \flat |
| G — F \sharp | E — E \flat | D \flat — C |
| B — A \sharp | G — G \flat | E \flat — D |

Ex. 4.4: Invariance property of bass oboe melody.

The second item has to do with the two concluding pitches of the melody, E and F. This ascending semitone serves in one sense as a cadential figure; in another sense, it serves as a continuation of the third pass, but with the notes reversed. In a larger sense, these notes represent the first disruption in the pattern, and, when this melody is combined with other variations of itself, as it is in the successive bars of the second movement, it causes other pattern disruptions to occur. But why, and how, do these disruptions happen? In order to see this, we will need to see how these variations interact with one another, as well as how they differ.

Below is a short-score of bars 18 – 33 of the second movement, in which only the melodic strands are given, though still retaining their original notation.

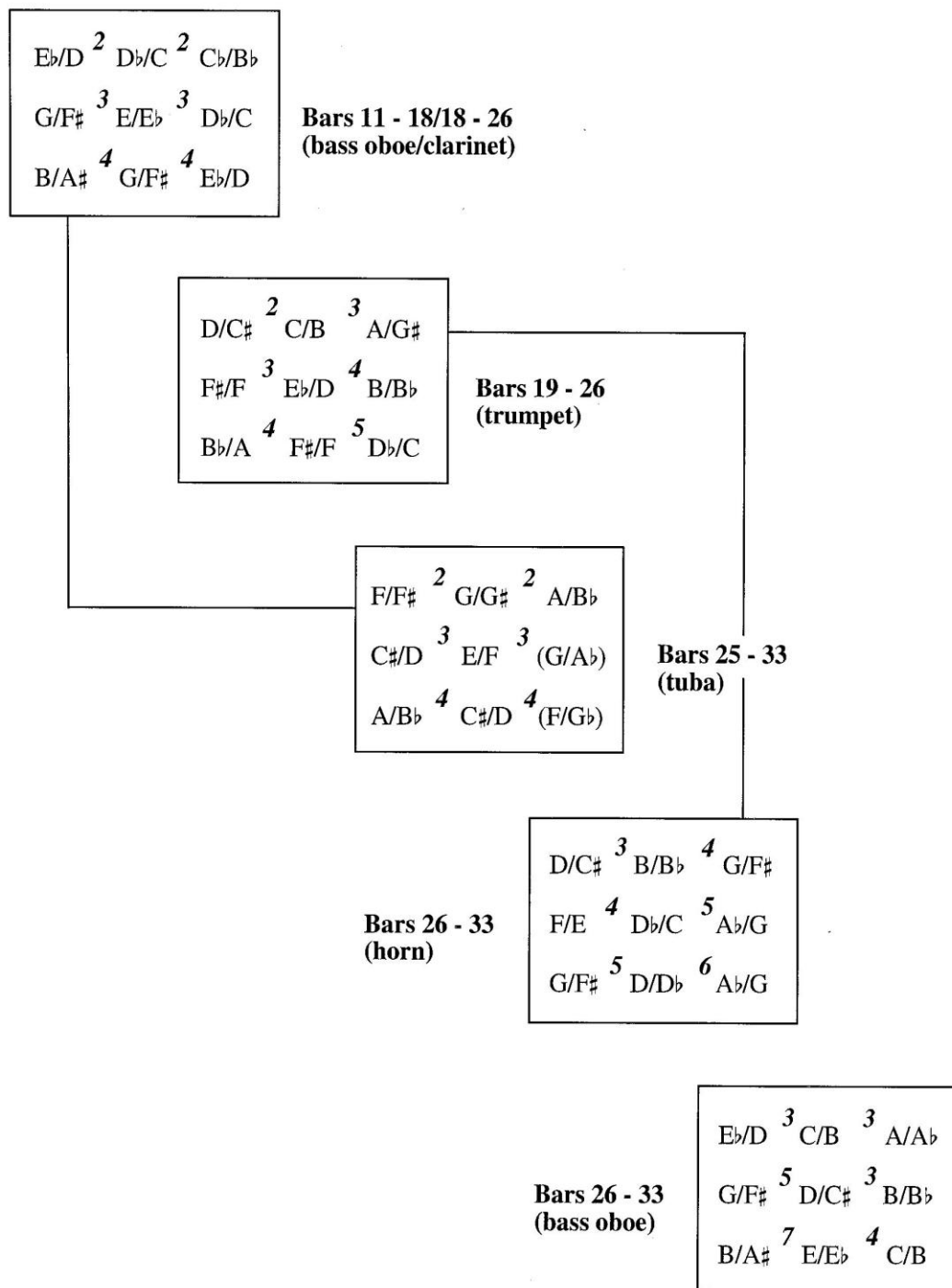
The image displays a short-score of bars 18 through 33 of the second movement. The score is organized into two systems. The first system (bars 18-23) features three staves: the top staff is for the Clarinet (cl.), the middle for the Trombone (tr.), and the bottom for the Bassoon (bsn.). The second system (bars 24-33) features four staves: the top for the Bassoon (b. ob.), the second for the Horn (hn.), the third for the Trombone (tba.), and the bottom for the Bassoon (bsn.). The notation includes various rhythmic values, accidentals, and articulation marks such as slurs and triplets. The key signature is one flat (B-flat), and the time signature changes from 3/4 to 2/4 and back to 3/4.

The image shows a musical score for three staves. The top staff is in treble clef, the middle in bass clef, and the bottom in bass clef. The music consists of several measures with various note values, including eighth and sixteenth notes, and rests. There are also some triplets and slurs. The score is numbered 29 at the beginning.

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Ex. 5.1: Short-score of second movement, bars 18 – 33.

The clarinets repeat the opening melody note for note, though this time each note lands on the offbeat. The flutes and trumpet perform the melody, transposed down a minor second, in canon with the clarinets. This melody, however, has a rather curious disruption in its pattern, for its third pass occurs a semitone lower than expected, forcing the final notes to be C and B. A serendipitous result of this is that, when combined with the clarinet, tuba and bass oboe melodies at bar 26, a B minor triad is formed. This slight variation of melodies in order to create specific vertical sonorities is a trait we will visit later in this paper. It may help at this point, however, to reduce each variation to its basic pitch components, since this will not only allow us to see what pattern disruptions actually occur, but also to compare each variation with the original melody and each other. The pitch material for each variation will be presented in 3 X 3 Latin squares, where each column represents the three passes, and each row represents the three registral levels. In addition, I will give the interval, in semitones, between each minor second dyad at each of the three registral levels, so that we can see exactly what happens to the interval cycles in each variation:



Ex. 5.2: Reduction of melodies in bars 18 – 33.

What becomes immediately apparent when looking at this chart is that many of what appear to be pattern breaks are actually new patterns in and of themselves. In the pattern of the original melody, each of the three registral levels is made up of interval cycles

whose pitch class content increases by one semitone as the melody unfolds in time. In two of the variations, one occurring in the flutes and trumpet at bars 19 – 26, the other in the horns at bars 26 – 33, this gradual increase by semitone actually infiltrates the interval cycles themselves, causing an effective breakdown of the cycle, but still retaining the vestiges of the original pattern. Comparing the two variations shows that their patterns are, in fact, related. A strange disrupted pattern occurs at the re-introduction of the bass oboe in bars 26 – 33. Here, the pattern of intervals between the minor second dyads in each of the three registral levels gives us (3,3) at the highest level, (5,3) at the middle, and (7,4) at the lowest. Though the first number of each of the above pairs forms a clear pattern, the second number forms a broken one, seemingly for no apparent reason. If we were take the last dyad in the highest registral level and raise it up one semitone, however, a clear pattern would emerge, giving us instead (3,2), (5,3) and (7,4). A comparison of the original and the new version will make this clear:

| Original | "Corrected" |
|--|--|
| $E\flat/D \quad 3 \quad C/B \quad 3 \quad A/A\flat$ | $E\flat/D \quad 3 \quad C/B \quad 2 \quad B\flat/A$ |
| $G/F\sharp \quad 5 \quad D/C\sharp \quad 3 \quad B/B\flat$ | $G/F\sharp \quad 5 \quad D/C\sharp \quad 3 \quad B/B\flat$ |
| $B/A\sharp \quad 7 \quad E/E\flat \quad 4 \quad C/B$ | $B/A\sharp \quad 7 \quad E/E\flat \quad 4 \quad C/B$ |

Ex. 5.3: Original vs. "Corrected" bass oboe melody, bars 26 – 33.

In fact, such a change would actually result in a clearer pattern overall, since in the last pass, Adès separates the first and second dyads with a major sixth, and the second and third dyads with a minor seventh. This interval expansion does not occur in the other two passes. Making the change outlined above would yield two successive minor sevenths

with the alteration of only two notes. The questions remain: Why did Adès write the melody the way he did, and why did he change the patterns in the way he did? We will find the answers to both of these questions in the interaction among the various melodic strands.

Let us tackle the first question. The bass oboe melody in bars 26 – 33 is playing along with a variation in the horns, as well as a rising variation (in inversion) in the tuba. Focusing on the interaction between the bass oboe and horns, if we look at the first minor second dyad of each pass in both melodies, we notice that their succession yields a perfect, descending ic1-cycle:

Ex. 6.1: Reduction of bass oboe and horns, bars 26 – 33.

In order to achieve this, Adès would have had to disrupt the bass oboe melody's pattern in exactly the way he did while changing as few pitches as possible. This ic1-cycle, in fact, actually begins in the violins at bar 18, starting on A and descending to D#/Eb in bar 26, the first note of the bass oboe melody. Such complete cycles do occur in several places throughout *Asyla*, especially in the second movement, but also in isolated places in the first and third movements. Interval cycles, therefore, seem to govern not only larger processes unfolding in time, but also the interaction of simultaneous layers, sometimes resulting, as shown above, in pattern disruptions.

As to the second question, much of the answer lies in the two-note cadential figure, mentioned above, that concludes each melody. Looking at bars 31 – 33, we notice that there is a convergence of three melodies, the bass oboe, the horns and tuba, whereby the last two notes of the tuba and horns (A and Bb) meet at the octave, and the oboe ends at the third above (D). As I have noted before, the two note cadential figure is the only part of the original melody which features a *rising* semitone. The tuba melody is a direct inversion of the original, though transposed up a major second (T2) to F. Its series of rising semitones allows for just such a convergence with the rising semitone in the horns, especially since the tuba is moving at a slightly slower rate of speed. Examples 6.2 and 6.3 below show exactly how this occurs:

The image shows a short-score of three staves of music, numbered 29 to 33. The top staff is in treble clef, the middle in alto clef, and the bottom in bass clef. The music features a variety of note values, including eighth and sixteenth notes, and rests. There are several trills and triplets indicated by '3' over notes. A large slur covers the first two staves from bar 29 to bar 31. In bar 32, there are triplets in the top two staves. In bar 33, there are triplets in the bottom staff. A box highlights the final two notes of the top two staves in bar 33, showing a convergence of notes.

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Ex. 6.2: Short-score of bars 29 – 33.

It is constructed in exactly the same manner as Example 2.3, with an ic1-cycle superimposed upon two ic2-cycles a fifth apart. Adès uses this configuration in essentially three ways: 1. as a means of scaffolding large sections of music; 2. as a receptacle of smaller motives; 3. as an abstract construct which can be manipulated to form new melodic and motivic ideas that recur throughout the piece. We have already seen an example of the first way, though there is one other place in the second movement, bars 36 – 44, where this scheme occurs in its original form in the basses and cellos:

bars 36 - 44

The image shows a musical staff in bass clef representing bars 36-44. It contains a sequence of ten chords. The first two chords are grouped by a bracket and labeled 'chords reversed'. The next two chords are also grouped by a bracket and labeled 'chords reversed'. The chords are: F-C-G, Eb-Bb, F-C-G, Eb-Bb, F-C-G, Eb-Bb, F-C-G, Eb-Bb, F-C-G, and Eb-Bb.

Ex. 7.2: Reduction of basses and cellos, bars 36 – 44.

The configuration is complete, except for the fact the first and second chords are reversed, as are the fourth and fifth chords. The reason for these idiosyncrasies has to do with the other layers, each with its own particular pattern, superimposed upon this configuration. The starting and stopping pitches for these layers coincide with the pitches of the configuration, in some cases forcing Adès to alter the configuration slightly in order for particular simultaneities to result. Another interesting feature about these measures is that the last two projected chords, (F-C-G) and (Eb-Bb-Gb), serve as the beginning of not only a new section, but a new motive which is revisited in the last movement. We will, however, examine this later. Overall, it seems that these bars (36 –

44) represent a merging of several different uses of interval cycles: as harmonic scaffolding, as interwoven melodies, and as generators of new motivic material.

The second way can be seen most clearly in the first movement, where certain isolated chords are taken from the configuration to form smaller motives. This happens, for instance, in bars 25 – 27 in the oboes, where the chord (C-G-F) moves to (C-G-E) in the manner of a 4-3 suspension, followed by a third chord (B \flat -F-E \flat) whose top note resolves down to D:

bars 25 - 27

corresponding chords from
harmonic scheme

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Ex. 7.3: Reduction of bars 25 – 27.

Both chord types can be found in the original configuration, though not in this particular succession. Another example occurs at bars 41 – 46, this time in a more extended passage. Here, although many of the chords occur in the original configuration, a new configuration is designed to govern the succession of trichords in three passes of four chords:

*notes in boxes represent
fragment of opening horn melody.*

Ex. 7.4: Reduction of wind parts, bars 41 – 46.

In this case, two descending ic1-cycles are superimposed on an ic2-cycle for the first pass. The second pass contains two ic1-cycles in the outer voices, with a segment of the opening horn melody (Example 2.2) cutting through into the third pass. The third pass is the least consistent, containing an ic2-cycle on top, an ic1-cycle underneath it (though with the pitches slightly out of order), and a broken ic1-cycle on the bottom. This last pass, in fact, actually contains chords not found in the original configuration. Since, however, these bars come at a cadential point in the music, such disruptions in the pattern are consistent with what we have seen before, as in Example 2.1. In addition, the melodic motion of individual voices, as in most other parts of *Asyla*, is primarily limited to major and minor seconds.

This brings us to the third use of the harmonic configuration, most clearly evident in a strange three-chord succession in the second movement. The three chords, in addition to a fourth which actually breaks the pattern (bars 44 – 47), are shown below:

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Ex. 7.5: Violin solos, bars 44 – 47.

Asyla, the *Fayrfax Carol*¹¹, written for the choir of King's College in Cambridge. A look at the opening of this work shows that the pitch content is identical to the three chords:

Fayrfax Carol (bars 1 - 4, piano reduction)

The image displays a piano reduction of the first four bars of the *Fayrfax Carol*. It consists of three staves. The top two staves are for the piano, with the right hand playing chords and the left hand playing a melodic line. The bottom staff shows three chords labeled as 'Asyla' chords, which are identical in pitch content to the chords in the piano reduction above. The key signature has one flat (B-flat), and the time signature is 6/8.

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Ex. 7.8: *Fayrfax Carol*, reduction of opening bars.

In this case, the interval cycles are more clearly delineated, though smeared out in the form of a large suspension chain, similar to the presentation of the chords in *Asyla*. It is uncertain which was composed first, the segment of *Asyla* or the *Fayrfax Carol*, making it equally uncertain whether the choral piece is a clarification of materials presented in *Asyla*, or *Asyla* is a slight deviation of material presented in the choral piece. The relationship between the two, however, is undeniable, and the fact that the second movement was originally entitled *Vatican*¹² may suggest that something like a church choir may have been invoked by Adès, especially given this slightly religious choral piece, whose text speaks of Jesus as an infant, and which was premiered in King's College Chapel.

¹¹ Adès, *The Fayrfax Carol*, 1997.

¹² Tarnopolsky, "Asyla," program notes.

Here, we return once more to the notion of Adès as musicologist. We spoke earlier of the possibility that Adès' use of multiple styles serves at once as a compositional device and a commentary on those styles. In this case, then, the *Fayrfax Carol* is both representation and example of sacred polyphony. In a sense, it comments on that style, and *Asyla* itself is a kind of commentary on sacred polyphony as well. Perhaps, though, there is another kind of commentary going on, that of one piece commenting on another piece, for as Luciano Berio has said in the past, the best way to analyze a piece of music is to write another piece using its materials. Is this not exactly what Adès has done? So the *Fayrfax Carol* could serve as both a stylistic commentary and an analysis—Adès is, therefore, both musicologist *and* theorist. The significance of this notion is that we may be dealing with a composer who, though he rarely speaks about his music, or music in general, seeks to communicate analytical and musicological ideas through purely musical means. An analyst may therefore find valuable information about one piece by Adès in another piece of his. The example of the *Fayrfax Carol* is a perfect illustration, since it helps to explain the series of chords in *Asyla* not as a disruption in the pattern of *Asyla*'s harmonic configuration, but more simply as a continuation of that pattern in the form of a suspension chain. If the *Fayrfax Carol* were indeed written after *Asyla*, then it is very likely that Adès is using the former to analyze, or at least comment on, a passage of the latter.

There are many other ways in which interval cycles create motivic unity in *Asyla*. The fifths of the opening bars, for instance, are the same sequence of pitch classes found in the harmonic configuration, essentially the same two interval cycles. Another instance can be found in the second movement, bars 76 – 88, which we visited in Example 2.3.

Here, a complex pattern of interlocking segments of the original melody among harp, piano and celesta, is coupled with both the transposed harmonic configuration in the basses and cellos, as well as a variation of the melody in the horn. The interlocking segments, up to a point, outline a perfect transposition of the original melody by T8, as shown in Examples 8.1 and 8.2:

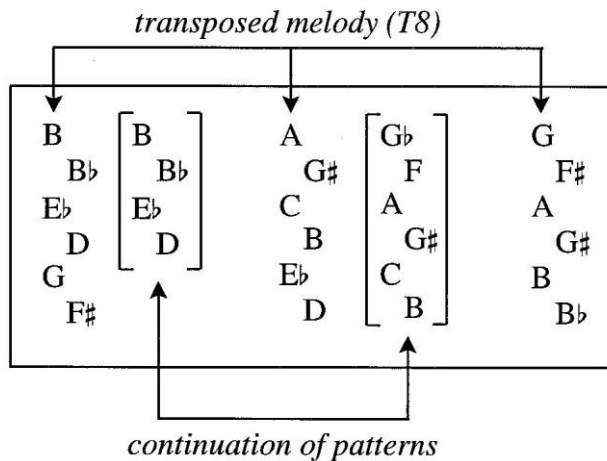
bars 76 - 81

The image shows a musical score for three instruments: Piano I (Pno. I), Celesta (Cel.), and Harp (Hp.). The score covers bars 76 to 81. The key signature has one flat (B-flat), and the time signature is 3/4. The score is annotated with '8va' markings and arrows indicating specific melodic segments. The harp part (bottom staff) plays a complex, interlocking pattern of eighth and sixteenth notes. The piano part (middle staff) features a more melodic line with some rests. The celesta part (top staff) plays a rhythmic pattern of eighth notes. The score is divided into two systems: the first system covers bars 76-78, and the second system covers bars 79-81. A circled '8' is placed above the first staff of the second system.

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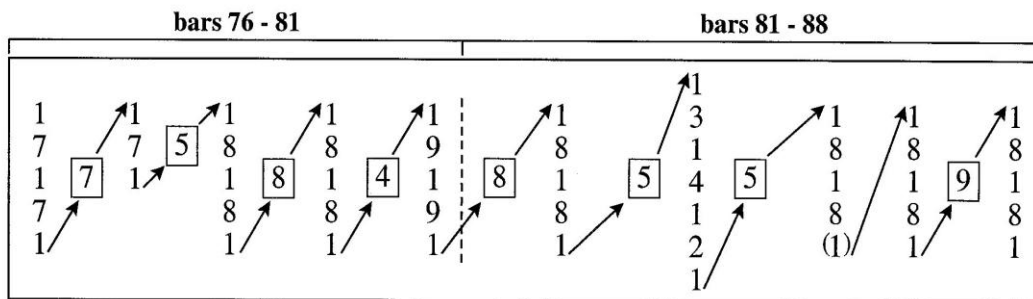
Ex. 8.1: Short-score of piano, celesta and harp, bars 76 – 81.

Matrix of bars 76 - 81



Ex. 8.2: Reductive matrix of bars 76 – 81.

After bar 81, the pattern is disrupted, but for the most part there is a clear pattern of expanding intervals, contracting at the end of the passage to alternating semitones and minor sixths (marked ic1 and ic8 in the example below).



*All integers represent descending interval classes.
All boxed integers represent transitional intervals between patterns.*

Ex. 8.3: Interval successions in bars 76 – 88.

The horn melody, which extends to bar 94, is essentially the same as the original melody, except for two added layers that spell out an ic2-cycle and ic3-cycle respectively:

horn, bars 75 - 94

The image shows a musical staff with a treble clef and a key signature of one flat. The melody consists of two interlocking strands. The upper strand is marked with a bracket and the label 'ic3', indicating a tritave interval. The lower strand is marked with a bracket and the label 'ic2', indicating a second interval. The notes are arranged in a way that creates a complex, interlocking texture.

Ex. 8.4: Reduction of horn melody, bars 75 – 94.

What is fascinating about these two strands (the interlocking segments and the horn melody) is that they share many of the same semitone dyads, and in fact, the opening notes of both strands are identical, by virtue of the T8 transposition. To a certain extent, the added layers in the horn melody help to maximize the number of dyads in common. Adding the underlying scaffold to the texture yields certain common tones between this and the horn melody which help to unite the two harmonically.

One final example we will look at in this section of the paper can be found at the end of the second movement, starting at bar 94. Once again, several layers are involved, though each one is important in its own right. Example 9.1 shows a reduction of the first layer, played by low winds.

First layer (bars 94 - end)

The image shows two staves of musical notation in bass clef with a key signature of one flat. The top staff is marked with a bracket and the label 'ic2', indicating a second interval. The bottom staff is marked with a bracket and the label 'ic1', indicating a first interval. A large bracket at the bottom of the bottom staff is labeled 'ic0', indicating a zero interval. The notes are arranged in a way that creates a complex, interlocking texture.

Ex. 9.1: Reduction of low winds, bars 94 – end.

This layer is clearly a variation on the opening melody of the movement, though the interval cycles which make it up are slightly different. The top register is composed of an ic2-cycle, the middle register an ic1-cycle, and the lowest register an ic0-cycle. What is interesting is that: first, the interval class of each cycle becomes smaller as the register gets lower (as opposed to larger in the original melody); and second, that the end result of this projection is an ic1-cycle. In essence, the movement concludes by contracting into that thing which serves as the primary generating material for *Asyla* as a whole. The second layer is found in the solo violin, which plays an inversion of the original melody at T8, shown below:

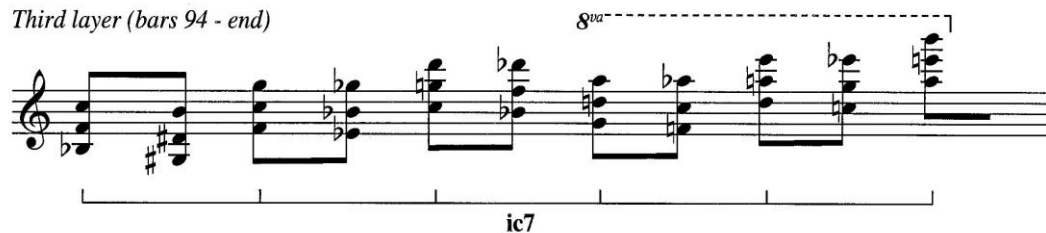
Second layer (bars 94 - end)



Ex. 9.2: Reduction of solo violin melody, bars 94 – end.

The melody, however, is cut off before its final projected note C can be played. The final layer is a series of rising chords passed among the wind instruments, shown below as Example 9.3:

Third layer (bars 94 - end)



Ex. 9.3: Reduction of upper winds, bars 94 – end.

The chords are arranged in pairs, save the last one whose projected partner is cut off. Each pair consists of the same two chords, taken directly from *Asyla's* harmonic

configuration and successively transposed up by fifths. What makes this layer fascinating is that its chords, derived from a superimposition of certain ic1 and ic2-cycles, are moving upward by yet another interval cycle, ic7. In addition, the highest note of the last chord is, in fact, the final note of the second layer, the solo violin melody, and their convergence explains why the projected last note and last chord of both layers are cut off. Nowhere else in *Asyla* are interval cycles used in such a calculated way by Adès, and this moment represents a confluence of multiple uses of cycles in a fully integrated way.

Up until this point, we have seen a number of ways in which Adès uses interval cycles to not only create motives, but also to link these motives together in sometimes subtle ways. In addition, we have seen how Adès creates pattern breaks within harmonic and melodic strands, either to force cadences at places where a pattern would seemingly repeat (Example 2.2), or to create structural unity within a passage by linking strands together (Examples 6.1 and 6.2). What is clear is that interval cycles play a major role in creating motivic unity and structuring large expanses of music. But how do they function, if at all, within the global structure of *Asyla*? Though more work will certainly have to be done, what seems apparent is that interval cycles seem to be utilized primarily for creating motivic and melodic materials, and less for unifying the work as a whole under some grand interval cycle scheme. That is, interval cycles are utilized more for local coherence than global coherence. This is not to say that interval cycles play no part whatsoever in this matter. Since almost every motive, harmony and theme can in some way derive from interval cycles, they are inherently related to each other. In addition, Adès uses interval cycles to link the movements end to end, like a chain, creating a

greater sense of unity among the movements, which are, after all, marked *attacca* in the score. In the following pages, we will observe how interval cycles operate on this larger scale, as well as looking at the further work which needs to be done in order to create a more comprehensive, critical analysis of *Asyla* as a whole.

Let us begin with how Adès links the movements together. The glue between movements is sometimes a bit tenuous, but in all cases interval cycles are involved in some way. For instance, a series of four chords, derived from interval cycles and introduced in the first movement, is used as the link into the second movement. These chords, which first appear in bars 79 – 81 of the first movement, just before the middle section, are constructed in exactly the same way as *Asyla*'s primary harmonic scheme. The chords are shown below:

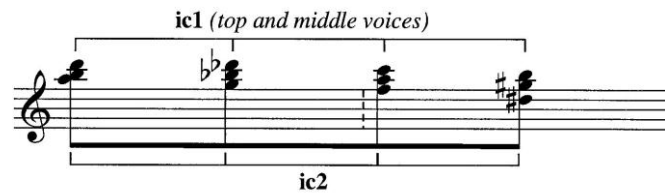
bars 79 - 81

The diagram shows three chords on a treble clef staff. The first chord is a triad with notes G4, B4, and D5. A horizontal line labeled 'break' is drawn above the staff, starting from the G4 note and ending at the B4 note. The second chord is a triad with notes Bb4, D5, and F5. The third chord is a triad with notes D5, F5, and Ab5. A horizontal line labeled 'ic1' is drawn above the staff, connecting the Bb4 note of the second chord to the D5 note of the third chord. The fourth chord is a triad with notes F5, Ab5, and Bb5. A horizontal line labeled 'ic2 (lowest voice; middle voice, broken ic1)' is drawn below the staff, connecting the F5 note of the third chord to the F5 note of the fourth chord.

Ex. 10.1: Reduction of bars 79 – 81.

Though there is a slight discrepancy in the first chord, the interval cycles which make them up are, for the most part, intact, with two descending *ic2*-cycles a major third apart on the bottom, and a descending *ic1*-cycle on top. Why the discrepancy occurs at all is a mystery, but even more interesting is the fact that, when these four chords return at the end of the first movement, the discrepancy is corrected. Between the first and second movements, the succession of chords is split, with the first two ending the first movement, and the second two beginning the second movement.

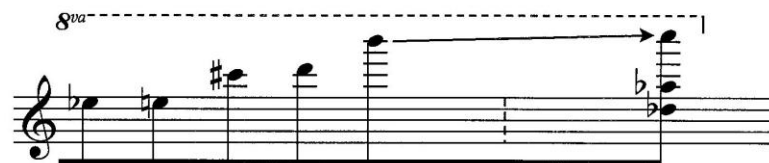
bars 161 - 162 (first movmt.); bars 1 - 2 (second movmt.)



Ex. 10.2: Reduction of transition between first and second movements.

The second and third movements are linked in a very subtle way. Recall how the solo violin melody's projected last note, C, is cut off at the end of the second movement (Example 9.2). This note actually appears in the first chord of the beginning of the third movement in precisely the register which it would have occurred had the melody played itself out completely.

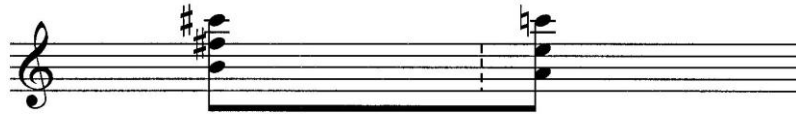
bars 108 - end (second movmt.); bars 1 - 2 (third movmt.)



Ex. 10.3: Reduction of transition between second and third movements.

The surrounding harmonies are primarily derived from the main harmonic scheme, though the pitches themselves have little sense of continuity with the previous movement. Indeed, the third movement stands out quite apart from the rest of *Asyla* in a number of ways, though this will have to be discussed at another time. Between the third and fourth movements, Adès takes a two chord segment from the main harmonic scheme as the link. Example 10.4 below shows the succession from (B-F#-C#) at the end of the third movement to (A-E-C) at the beginning of the fourth.

bars 205 - end (third movmt.); bar 1 (fourth movmt.)



Ex. 10.4: Reduction of transition between third and fourth movements.

What is not clear is how these chords come about. That is, what succession (or projection) leads to these two chords as the inevitable outcome of the third movement? If the chords come from the harmonic scheme, then what would need to precede it would be a chord composed of (C#-G#-D). There is, in the concluding passage of the third movement, a strong sense of a Db major triad, particularly from bar 186, which is preceded by a strong D pedal tone in the basses. It is hard to say, though. The third movement begins with a clash between Db and D, which is essentially sustained throughout much of the movement. If this sonority (here, Db-Ab-D) is to be taken as a part of the harmonic scheme greatly prolonged, then this is certainly the first time we have encountered this use of it. This would mean that the two chords between the last two movements form both a sudden cadence and an equally sudden beginning. The end of the third movement appears to be in a strange hurry to rush to the door of the fourth movement, and it seems far less satisfying than the end of the second movement, whose processes play themselves out with a grace and intelligence that never seems to recur in the successive bars of *Asyla*.

This raises a new question: *Asyla* does not appear to be globally held together with interval cycles. Each movement is composed of one or two main themes, supported by many of the same harmonies and motives, and these are all derived from interval cycles, as we have already seen in numerous examples. *Asyla* is built from these themes, from

its recurrent harmonies, and these themes are relatively unchanged when they recur, altering themselves in subtle, sometimes unsystematic ways. One could actually discuss the form of *Asyla* purely on the basis of its thematic design, making it seem rather traditional in the grand scheme of orchestral music written in the past century. But this is not my interest, and it is not the issue of this paper. It may in fact be that interval cycles function on an even larger scale in *Asyla* than I had previously believed. A close examination of the remaining movements would be imperative in order to find this out. In addition, it would be advantageous for further analysis of this work to discuss the role of stylistic reference, determining how Adès works such disparate styles into the fabric of the piece, and whether the answer can be found in interval cycles.

What I hope this analysis has shown, however, is that there is more to Adès' music than critics and followers alike have thought. *Asyla* is, on the whole, very tightly constructed, with a few odd moments here and there which throw off any attempts to pigeonhole it wholesale into this or that mode of composition. Indeed, future work may yield not only explanations for these moments, but also a completely new set of questions and ideas that such a rich composition continually presents.