The Art of Transformation:
The Heraclitian Form of Thomas Adès's *Tevot*
as a Critical Lens for the Symphonic Tradition

and an original composition,

Glimmer, Glisten, Glow

for

sinfonietta

A Dissertation

Presented to

The Faculty of the Graduate School of Arts and Sciences
Brandeis University

Music Composition and Theory

David Rakowski and Yu-Hui Chang, Advisors

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by

Joseph Sowa

May 2019

The signed version of this form is on file in the Graduate School of Arts and Sciences.

This dissertation, directed and approved by Joseph Sowa's Committee, has been accepted and approved by the Faculty of Brandeis University in partial fulfillment of the requirements for the degree of:

DOCTOR OF PHILOSOPHY

Eric Chasalow, Dean
Graduate School of Arts and Sciences

Dissertation Committee:

David Rakowski, Brandeis University Department of Music
Yu-Hui Chang, Brandeis University Department of Music
Erin Gee, Brandeis University Department of Music
Martin Brody, Wellesley College, Department of Music

Acknowledgements

The story of my time at Brandeis begins in 2012, a few months after being rejected from every doctoral program to which I applied. Still living in Provo, Utah, I picked up David Rakowski from the airport for a visit to BYU. We had met a few years earlier through the Barlow Endowment for Music Composition, when Davy was on the board of advisors and I was an intern. On that drive several years later, I asked him if he had any suggestions for my doctoral application portfolio, to which he immediately responded, "You were actually a finalist." Because of his encouragement, I applied to Brandeis a second time, and the rest is history. So before anything, thank you, Davy, for making my entire Brandeis experience possible.

I came to Brandeis particularly wanting to understand how harmony and voice leading worked. I understood these things conceptually, but as I would compose, figuring out what notes came next too often felt like a guessing game. I want to thank Davy, Yu-Hui Chang, Eric Chasalow, Martin Boykan, and Mark Berger, as well as Peter Sykes at Boston University, for helping gain that understanding through their classes and composition lessons. Thank you, Eric, for your listening ear and nurturing encouragement as I tried to figure out my artistic path my first year at Brandeis. Thank you, Davy, for your keen analytical eye and for all the toys and treats with which you spiced up class. Thank you, Marty, for patiently explaining all my dead-end voice-leadings and for suggesting how to fix them. Thank you, Yu-Hui, for helping me understand how systems are not necessary and how to understand the flow of musical parameters separately and holistically. And thank you, Mark and Peter, for your classes that did much to round out my understanding of how harmony works at both ends of music history.

In preparing my dissertation proposal, I acknowledge with gratitude the input of Eric Elder and Drew Massey. Thank you, Eric, for you friendship, for sharing your breadth of

Abstract

The Art of Transformation:
The Heraclitian Form of Thomas Adès's *Tevot*
as a Critical Lens for the Symphonic Tradition

and an original composition,

Glimmer, Glisten, Glow

A dissertation presented to the Faculty of the
Graduate School of Arts and Sciences of Brandeis University
Waltham, Massachusetts

By Joseph Sowa

Called a "one-movement symphony" by its composer Thomas Adès, *Tevot* (2007) exemplifies what Adès has called "symphonic thought." Reflecting Adès's desire to create "this sense of a massive flood," the piece embodies Heraclitus's maxim "everything is in flux." Per Heraclitus, "On those stepping into rivers"—or, at any given time during *Tevot*—"other and other waters flow," with different iterations of *Tevot*'s rhythmic cells and interval cycles manifesting themselves. Meanwhile, Heraclitus's larger "unity of opposites" idea explains how Adès uses motivic iterations to construct both local passages and global form. On both small and large scales, Adès maps his motives to four behaviors: imitation, mirroring, rebalancing, and retiming. These behaviors reflect a Heraclitian unity of opposites, because they all consist of "one thing changing around to another," thus revealing their essential unity.

This Heraclitian conception of "symphonic thought" can be traced through Adès's music and the works of those composers whom he has called "the greatest symphonists." To illustrate, I compare my Heraclitian analysis of *Tevot* with the development of motive and tempo

in Sibelius's Seventh Symphony and with the symphonic argument Adès makes in *Asyla*. Through these comparative analyses, I show that Adès does more than upgrade Sibelius's musical technology and trace the development of his symphonic thought from *Asyla* to *Tevot*.

Table of Contents

Chapter 1. Introduction

1.1. Locating *Tevot* in the Symphonic Tradition

Although *Asyla* may be Thomas Adès's most famous composition, Adès's seventh orchestral work, *Tevot* (2007), has its own distinguished history. It garnered Adès his third Royal Philharmonic Society award for large-scale composition (following *Asyla* and *The Tempest*),[1] and despite the gargantuan orchestra it requires, *Tevot* has been performed two dozen times and recorded twice.[2]

As for its reception, at its premiere with Simon Rattle and the Berlin Philharmonic, *Tevot* mainly received glowing reviews from critics on both sides of the Atlantic. Anthony Tommassini called it "an instantly essential new work."[3] Tom Service spoke of the work's "frightening emotional directness,"[4] although outlier Ivan Hewett found the piece to be "ice-cold" and unmoving.[5] Now a decade later, even critics such as Andrew Clements, who initially found the piece "enigmatic," have since been won over by it. For all the work's many allusions and colorful passages, Clement cites *Tevot*'s "musical argument" as its defining feature: "It's a score that knows the space and time it needs, and its pacing is totally sure."[6] This feature is a telling one for Clement to have singled out.

---

1. "Biography," Thomas Adès, accessed September 29, 2017, http://www.thomasades.com/bio/.
2. "Tevot," Thomas Adès, accessed September 29, 2017, http://www.thomasades.com/compositions/*Tevot*.
3. Anthony Tommassini, "Simon Rattle's Berliners Bring Mahler and More," *New York Times*, November 16, 2007, http://www.nytimes.com/2007/11/16/arts/music/16ratt.html.
4. Tom Service, "Writing music? It's like flying a plane," *Guardian*, February 26, 2007, http://www.theguardian.com/music/2007/feb/26/classicalmusicandopera.tomservice.
5. Ivan Hewett, "City of Birmingham Symphony Orchestra, Aldeburgh Festival, review," June 22, 2014, http://www.telegraph.co.uk/culture/music/classicalconcertreviews/10917712/City-of-Birmingham-Symphony-Orchestra-Aldeburgh-Festival-review.html.
6. Andrew Clements, "Adès: Asyla; Tevot; Polaris CD review – sheer mastery, vividly realised," *Guardian*, February 22, 2017, http://www.theguardian.com/music/2017/feb/22/thomas-ades-*Asyla*-*Tevot*-polaris-cd-review-london-symphony-orchestra.

Adès himself considered *Tevot*'s musical argument critically important. In discussing the work with Tom Service before its premiere, Adès said, "I couldn't sleep at night. I would feel that I would absolutely die if I didn't succeed in bringing the piece to harbour. It would have been a frightening feeling not to do that. It's more than a need—it feels essential. It's like transporting a person through the air, and you have to make sure they land in one piece."[7]

At roughly twenty minutes, *Tevot* was the longest single-movement span Adès had composed to date. But that fact alone belies the work's ambitions. *Tevot* is a developmental and formal tour-de-force. Though the piece ranges through a variety of textures and tempi, almost a third of its duration is devoted to a single canonic texture. Despite its seemingly lopsided proportions, it sounds unusually cohesive, like a twenty-minute passacaglia, and builds to a satisfying conclusion. In turn, Adès described the work as "this one-movement symphony."[8] The designation is telling because classical musicians and critics have long identified the symphony as one of the genres most associated with rigorous musical thought.

Indeed, *Tevot* could be considered Adès's third symphony. In addition to the clearly named Chamber Symphony (1990), many critics and scholars[9] have followed Andrew Clark in calling *Asyla* (1997) "a symphony in all but name."[10] In an interview on BBC Radio 3 at *Asyla*'s premiere, Adès affirmed that position while also expressing his misgivings about the genre:

> If I was a different creature as a composer, I would certainly have called this piece "Symphony." (Or "Symphony no. 2," I suppose it would be. I've written a Chamber Symphony.) So having done that I can't be too rude about the term "symphony," but I do feel very uneasy with using the word "symphony" to describe a four-movement orchestral piece now because it just seems like it's a rather debased word now.[11]

More than a decade later, in conversation with Tom Service, Adès amplified those misgivings: "There's a big problem with the word 'symphony', because I think it's expected that it should

---

7. Service, "Writing music? It's like flying a plane."
8. Thomas Adès, *Tevot*, (London: Faber, 2007).
9. Edward Venn, *Thomas Adès: Asyla*, Landmarks in Music Since 1950 (New York: Routledge, 2017), 38.
10. Andrew Clark, "Adès Delights the Ear," *Financial Times*, 3 October 1997. http://www.archive.org/stream/FinancialTimes1997UKEnglish/Oct%2003%201997%2C%20Financial%20Times%2C%20%2333%2C%20UK%20%28en%29_djvu.txt.
11. London Symphony Orchestra, "Thomas Adès | Asyla, Tevot, Polaris," February 2017, YouTube Video, 04:42, http://www.youtu.be/xEZe4-y720I.

be something with a certain inevitable kind of structure or decorum to it. But that was never the case. That was always a mistake."[12]

Adès cites several composers as key influences on his symphonic thought, namely Haydn, Mozart, Beethoven, Chopin, Franck, and Sibelius. Although most of these names may be expected, Chopin stands out, having never written a symphony. Edward Venn has explained that "for Adès, symphonic thought is not unique to the symphony as a genre, but relates instead to the manner of thinking through musical problems"[13] Regarding the symphonic genre, Adès himself cites ideas of origin and closure[14] and the relationship between "topos" and material.[15] He also identifies several other concerns behind his own musical thought: development, stability, patterns, "fetish notes," and magnetism.

Scholars have come to different conclusions about the utility of his ideas. Jennifer Maxwell summarizes them as "deliberately focusing on fundamental properties of music that transcend styles."[16] She argues that his use of metaphors such as magnetism is "quite abstract, but also general," capable of being applied in a variety of ways within a variety of styles.[17] For Maxwell, these features of Adès's thinking work better for what they say about him biographically and aesthetically than for how they can be applied analytically. Venn, however, claims that Adès's thought has a strong, flexible analytical application, because it "enables conceptual motion from abstract musical procedures via genre and topic to metaphor (and back)."[18] Venn argues Adès's stated extramusical associations work well as analytical analogues for the musical procedures that inspired them.[19] Daniel Fox and Peter Van Zandt Lane likewise use Adès's

---

12. Thomas Adès and Tom Service, *Thomas Adès: Full of Noises: Conversations with Tom Service*, (New York, Farrar, Straus and Giroux, 2012), 173.
13. Venn, *Thomas Adès: Asyla*, 45-46.
14. Adès and Service, *Thomas Adès: Full of Noises*, 172.
15. Adès and Service, *Thomas Adès: Full of Noises*, 78-79.
16. Jennifer Maxwell, "Tracing a Lineage of the Mazurka Genre: Influences of Chopin and Szymanowski on Thomas Adès' Mazurkas For Piano, Op. 27" (DMA diss., Boston University, 2014), 9, ProQuest Dissertations & Theses Global.
17. Maxwell, "Tracing a Lineage of the Mazurka Genre," 8.
18. Venn, *Thomas Adès: Asyla*, 46.
19. Venn, *Thomas Adès: Asyla*, 47. In the case of *Asyla*, he notes, "To interpret the music in this light (the contemporary discourse surrounding asylum) is not to point out the depiction of any specific group of refugees, but rather to examine the ways in which musical procedures can be considered analogous to the general experience of asylum seeking. Instead of asking who is fleeing, from whom, via what route, and why (and so on), one might

titles productively as metaphors to guide their analyses. Fox grounds his analysis of Adès's Violin Concerto (*Concentric Paths*) in "a scientific understanding of an extended physical metaphor."[20] Analyzing the same work, Lane uses the piece's titles to argue that Adès's concerto expounds "on the tradition of circularity in musical form."[21]

1.2. Methodology

This dissertation pursues two avenues for interpreting Adès's engagement with the symphonic tradition. First, it uses imagery associated with *Tevot*'s title as an analytical starting point. Unlike the titles *Asyla* and *Concentric Paths*, *Tevot* suggests a philosophical resonance. Nothing is static or stable in *Tevot*. In each passage, any given musical parameter is leading from one place to the next. As in a Rube Goldberg machine, the outcome of each instability triggers a new instability.[22] Or, in words that have been attributed to Heraclitus, "everything is in flux."[23] A more thorough reading of Heraclitus's ideas deepens and elucidates the metaphors Adès has ascribed to *Tevot*. Heraclitius's ideas closely match the piece's musical behavior and help explain the piece's denouement and extramusical connections. Analyzing *Tevot* with these musical metaphors in mind allows one to contextualize *Tevot* within the symphonic tradition.

Second, this dissertation explores *Tevot*'s connection to other symphonies. *Tevot* is not only a work that Adès has explicitly called a symphony, but also one that has a clear, plausible precedent in the symphonic literature: Sibelius's Seventh Symphony. Both pieces are roughly twenty-minute long, one-movement symphonies that prominently feature continuous transformations of motive and tempo. They also share some surface details, such as the high string passage that happens just before the coda in Sibelius's symphony and just before the extended canon in Adès's.

---

ask how the music can be understood as evocative of flight, danger and particular environments. The answers to such questions give some insight into how music might begin to represent metaphorically such a subject."

20. Daniel Fox, "Multiple Time-Scales in Adès's *Rings*," *Perspectives of New Music* 52, no. 1 (Winter 2014): 28, https://10.7757/persnewmusi.52.1.0028.

21. Peter Van Zandt Lane, "Narrative and Cyclicity in Thomas Adès's Violin Concerto" (PhD diss., Brandeis University, 2013), 3, ProQuest Dissertations & Theses Global.

22. Compare Adès's response to Service about *Asyla*: "I'm afraid in that case it can be a sort of Chinese box effect. That is: I answer one instability with another, and it can resemble a hall of mirrors. There are models for this" (Adès and Service 9). Adès then cites examples from Chopin and Beethoven.

23. Ernst Toch, *The Shaping Forces of Music* (New York: Dover, 1977), 24.

The connection between these pieces is stronger still: Adès has called Sibelius one of "the greatest symphonists,"[24] he has explained at length both what he means by that appellation and what he means by "symphonic thought" generally, and, critically, he has not only cited but also conducted Sibelius's Seventh Symphony.[25] Although one cannot say *Tevot* was modeled on Sibelius's Seventh Symphony, the preponderance of connections between the works suggests that their relationship is neither trivial nor incidental.

1.3. Aims

In this dissertation, I will use Heraclitian ideas about constancy and change to analyze *Tevot*'s internal construction. I will then apply that perspective to other symphonies, foremost Sibelius's Seventh Symphony and Adès's *Asyla*, to analyze *Tevot*'s relationship to the symphonic genre.

In chapter two, I will explain how Heraclitius's ideas apply to music analysis generally and to *Tevot* in particular. In chapters three and four, I will examine how *Tevot* is constructed, why the piece feels like one long passacaglia, how the final canon can last nearly a third of the piece's duration without becoming tedious, and how Adès creates the work's catharsis. I will pay special attention to how *Tevot*'s transformation of motive and tempo relates to its overall musical argument and emotional impact. This will not only lay the groundwork for the connection with Sibelius but also break new ground in our understanding of Adès's music.[26]

In chapter five, I will compare how Sibelius develops motive and tempo in his Seventh Symphony and the symphonic argument Adès makes in *Asyla*. I will show that Adès has done more than upgrade Sibelius's musical technology. I will also contrast the uses to which Adès and Sibelius put these musical features and show their development from *Asyla* to *Tevot*.

---

24. Adès and Service, *Thomas Adès: Full of Noises*, 78.
25. Adès and Service, *Thomas Adès: Full of Noises*, 172. An initial search of Adès's conducting activity shows that he's performed the work at least once. On July 24, 2017 he conducted it at a Tanglewood concert of the Boston Symphony Orchestra. See "Thomas Adès conducts Britten and Sibelius," Boston Symphony Orchestra, accessed November 7, 2017, http://www.bso.org/Performance/Detail/85512/.
26. Though Belling (2010) has surveyed the topic of Adès's rhythms and Fox (2014) touches on the question of tempo somewhat, to date there has been only one in-depth study of Adès's use of tempo: Andrew McManus's "Nancarrow's Rhythmic Structures in Thomas Adès' *Asyla*" (2009). There have been no extended discussions of Adès's transformation of motive; indeed, *Tevot* is Adès's most relevant work for that question, and its only extended analysis was done in the manner of Robert Schumann (Davis 2008).

I will conclude by showing how this analysis reflects Adès's statements about his and other's music and indeed constitutes a vital artistic practice. Ultimately, by examining *Tevot* from these angles—its internal construction, its relation to Sibelius's Seventh Symphony, and its reflection of Adès's thought—I aim to reveal the resonances that together make *Tevot* a compelling musical work.

Chapter 2. Overview of Heraclitus and *Tevot*

2.1. Metaphor As Analytical Praxis

Heraclitus's ideas have been used to examine nineteenth-century enharmonicism;[27] characterize the dialectical nature of Schoenberg's writing about music;[28] provide an alternative ethnomusicological reading of music history;[29] analyze music by Schoenberg,[30] Carter,[31] and Xenakis;[32] and, most ambitiously, develop an entire theory of "temporal dynamic form" in music.[33]

Although Daniel Harrison acknowledges problems with an unconstrained Heraclitian perspective, he ultimately argues that some musical questions (in his case, nineteenth-century enharmonicism) are better suited starting from a dynamic, Heraclitian point of view rather than the structural, Platonic one more common in the scholarly musical literature.[34] Joshua Mailman's 2010 dissertation offers the most thorough take on this argument to date.[35] He

---

27. Daniel Harrison, "Nonconformist Notions of Nineteenth-Century Enharmonicism," *Music Analysis* 21, no. 2 (2002): 115-160, https://doi.org/10.1111/1468-2249.00154.

28. Michael Cherlin, "Dialectical Opposition in Schoenberg's Music and Thought," *Music Theory Spectrum* 22, no. 2 (Fall 2000): 157-76, https://doi.org/10.2307/745958.

29. Bruno Nettl, "The River of Heraclitus: On People Changing Their Music," in *The Study of Ethnomusicology: Thirty-Three Discussions* (Urbana, Chicago, Springfield: University of Illinois Press, 2015), 272-93, http://www.jstor.org.resources.library.brandeis.edu/stable/10.5406/j.ctt1hj9xkf.22.

30. Chris Jeffrey, "A Semiotic Investigation into Dialectical Composition in Schoenberg's Third String Quartet, First Movement," *South African Music Studies* 28, no. 1 (Jan. 2008): 135-153, https://hdl.handle.net/10520/EJC133271.

31. Joshua Mailman, "An Imagined Drama of Competitive Opposition in Carter's 'Scrivo in Vento', With Notes on Narrative, Symmetry, Quantitative Flux and Heraclitus." *Music Analysis* 28, no. 1 (July-October 2009): 373-422, https://doi.org/10.1111/j.1468-2249.2011.00295.x.

32. Jonathan Scott Lee, "Iannis Xenakis and the Presocratic Foundations of a New Music," *Journal of Modern Greek Studies* 29, no. 1 (May 2011): 73-82. https://10.1353/mgs.2011.0002.

33. Joshua Mailman, "Temporal Dynamic Form in Music: Atonal, Tonal, and Other" (PhD dissertation, University of Rochester, 2010).

34. Harrison, "Nonconformist Notions of Nineteenth-Century Enharmonicism," 115-116, 153.

35. Mailman contrasts static versus dynamic metaphors in music. He explains how his enterprise has larger applicability that works built on clear processes. He explicates dozens of different musical examples from across the history of Western music. He contextualizes his work with existing analytical methods. He builds computational models to run his analyses. And this summary only scratches the surface. If Heraclitus wanted to create a thorough musical-analytical theory built on his surviving ideas, he could not do better than what Mailman delivered.

shows that, although some repertoires can be more usefully analyzed by dynamic forms, "static and dynamic modes of conceptualization *each inherently* has its own diverse set of strengths, different from those of the other mode."[36]

Although Mailman's analytical tools would prove fertile with *Tevot*, I have chosen not to build on his work in this dissertation. However similar, our analytical goals diverge on the nature of how we apply Heraclitian thought. Mailman's thesis is that "often musical form is profitably conceptualized as the retrospective contour of the flux of intensity of qualities."[37] In contrast, I will show how Heraclitian flux conceptually bridges the images implied by *Tevot*'s title to the music's motivic processes. I will further show how other Heraclitian ideas elucidate the piece's form.

Adès explains the initial extramusical image that inspired *Tevot* in the YouTube trailer for the London Symphony's 2016 recording. "The idea that I wanted," he says, "was to have this sense of a massive flood and you see individuals waving for help."[38] The work's opening descending chromatic scales, a musical idea that features prominently in much of Adès's music,[39] resonate strongly with this image by echoing Western musical symbols, such as the *pianto* or the *passus duriusculus*, historically connoting lamentation.[40] Adès relies only lightly on those allusions to give the music its affective power. Instead, he favors other idiosyncratic musical metaphors, as we shall see.

Besides connoting a flood, *Tevot* is also (along with *Asyla* and *Polaris*) a piece "about voyaging and getting somewhere safe."[41] Indeed, rather than calling this 2007 work "Floods," Adès named it after the Hebrew word that means "vessels" and "bars of music" as well as Noah's ark and the basket that carried baby Moses down the Nile. The vessels and the flood thus evoke the duality of safety against danger.

36. Mailman, "Temporal Dynamic Form in Music: Atonal, Tonal, and Other," 147.
37. Mailman, "Temporal Dynamic Form in Music: Atonal, Tonal, and Other," vii.
38. London Symphony Orchestra, "Thomas Adès | Asyla, Tevot, Polaris."
39. Dominic Wells, "Plural Styles, Personal Style: The Music of Thomas Adès," *Tempo* 66 (2012): 2-14. https://doi.org/10.1017/S0040298212000125.
40. Venn, *Thomas Adès: Asyla*, 31-32; Ellen Rosand, "The Descending Tetrachord: An Emblem of Lament," *Musical Quarterly* 65 (July 1979): 346-359, https://doi.org/10.1093/mq/LXV.3.346.
41. London Symphony Orchestra, "Thomas Adès | Asyla, Tevot, Polaris."

The musical fabric of *Tevot* reflects this duality throughout. Adès juxtaposes and superimposes ascending and descending lines. He contrasts high and low registers. He pits thick blocks of sound against thin sinews. He places fast lines against slow ones. All this surface variety emerges from an integrated motivic network, yet is pervasively arranged into self-similar gestures.

2.2. "Other and other waters": Motivic Transformation

The dualistic metaphor Adès intends resonates strongly with Heraclitus's arguably most famous saying, as related by Plato, "comparing existing things to the flow of a river, [Heraclitus] says you could not step twice into the same river."[42] David Graham suggests through textual criticism that the most likely source for Plato's paraphrase is this fragment: "On those stepping into rivers staying the same other and other waters flow." Graham's source shows a deeper level at which Heraclitus's idea harmonizes with Adès's music. "A river is a remarkable kind of existent," Graham writes, "one that remains what it is by changing what it contains."

Just so, Adès constructs the piece by spinning out motivic material from basic rhythmic patterns and background intervallic cycles of perfect fifths and minor seconds. If we are to read *Tevot* as a flood or river that stays the same by virtue of its changes, then I interpret the "river" as its generative materials and those "changes"—the "other and other waters"—as *Tevot*'s motivic transformations amid their textural, formal, and harmonic contexts. In other words, *Tevot* maintains its identity "by changing what it contains."

2.3. "Sung in unison, sung in conflict": Formal Behaviors

Graham also cites the larger idea behind Heraclitus's flux: "Collections: wholes and not wholes; brought together, pulled apart; sung in unison, sung in conflict; from all things one and from one all things."[43] If Heraclitus's flux doctrine describes the connection among *Tevot*'s motives, this "unity of opposites" idea in turn reflects how Adès uses these motivic iterations to construct local passages and global form.

---

42. Daniel Graham, "Heraclitus," In Edward Zalta, ed., *The Stanford Encyclopedia of Philosophy*, last modified June 23, 2015, https://plato.stanford.edu/archives/fall2015/entries/heraclitus/.
43. Graham, "Heraclitus."

On both small and large scales, Adès animates his motives using four behaviors: imitation, mirroring, rebalancing, and re-timing. By "imitation," I refer to the term's typical technical definition. By "mirroring," I refer both to simultaneously sounding inversions (as in the music of Bartók) and to palindromic constructions. By "rebalancing," I refer to musical ideas in which one half gradually lengthens as the other shortens. By "retiming" I refer both to traditional augmentation and diminution as well as conducted and tuplet-derived tempo changes. In these respects, Graham's explication of Heraclitus pertains:

> Heraclitus explains just how contraries are connected: "As the same thing in us are living and dead, waking and sleeping, young and old. For these things having changed around are those, and those in turn having changed around are these." (B88) Contrary qualities are found in us "as the same thing." But they are the same by virtue of one thing changing around to another.

"One thing changing around to another" goes beyond the simple idea of "identity by constant transformation" discussed in the previous heading. It articulates a deeper relationship between changes: that by preserving overall similarity, smaller differences may be more fully appreciated. This is axiomatic to the four key behaviors identified above. Again, Graham: "Contraries are the same by virtue of constituting a system of connections: alive-dead, waking-sleeping, young-old."[44]

2.4. Overview of *Tevot*

At a glance, the most Heraclitian aspect of *Tevot* as so-called symphony is that it contains no literal repetition on a formal level.[45] The piece consists of four continuous sections followed by a coda. (The names given in Table 2.1 for the various passages are a mixture of my subjective impressions and technical labels.) Despite the seeming surface variety, though, *Tevot*'s heterogeneous form is a ruse. The piece not only abounds with varied repetition within sections, but also develops a variety of musical ideas over the work's full duration. This unity

---

44. Graham, "Heraclitus."
45. The closest Adès comes to literal repetition is the varied recapitulation of the opening music in the second half of the third section. The other audible and most important structural repetition is the Trumpet Tune that interrupts then closes the second section and later connects the ending of the fourth section to the coda, where it becomes the foreground formal event.

of variety also reflects Heraclitus. The river stays the same because it consists of the same material, yet this unity represents "other and other waters" because the material manifests itself in a diversity of guises.

In chapters three and four, I will show how Adès generates motivic ideas from interval cycles and how he transforms these ideas over the duration of the piece. I also show how these transformations contribute to the piece's significant formal events and guide its overall form. In so doing, I will show what Adès characterizes as "symphonic thought" seems to emerge from Heraclitian ideas—the development of which can be traced through the exemplars of symphonic writing that Adès admittedly admires.

Table 2.1. Formal Overview of *Tevot*

| Time (Adès)	Time (Rattle)	Bars	Rehearsal	Tempo	Notes
0'00	**0'00**	**1-52**	**start-F**		**Section 1. Slow**
0'00	0'00	1	—	♪ = 80	*Pianti*, Chorale, & Horn Arch
1'57	2'30	30	D		Chorale imitation → *Pianti*
3'13	**4'00**	**53-250**	**F-U**		**Section 2. Fast**
					FIRST sub-section
3'13	4'00	53	F	♩ = 80	Cartoon Music Canons (through 91)
3'45	4'31	72	H		Lower Neighbor Tune/Escape Tune
4'22	5'12	92		♩ = 120	Rusting Canon → Lower Neighbor. Iteration 1
4'36	5'23	102	I	♩ = 108	Rusting Canon → Lower Neighbor. Iteration 2
4'50	5'35	112	J	♩ = 92	Rusting Canon → Lower Neighbor. Iteration 3
5'13	5'51	126	K	♩ = 80	Rusting Canon → Lower Neighbor. Iteration 4 N.B.—Ob./Cl. at 137: $\hat{3}$–$\hat{2}$– ($\hat{1}$ on 142)
5'45	6'16	142	L	♩ = 160	Trumpet Tune
					SECOND sub-section
5'57	6'34	151	M		Swirlier Cartoon Music (through 213)
6'25	7'03	175	O		Oboe Chorale and Mensuration Canon
7'21	7'59	214	R	♩ = 80	Lower Neighbor Tune
7'39	8'17	223	S-U	♩ = 108	Machine Climax
8'10	8'53	251	U	♩ = 160	Trumpet Tune
8'19	**9'05**	**257-279**	**V-Z**		**Section 3. Slow**
8'19	9'05	257	V	♪ = 52	Lower Neighbor Tune/Escape Tune Canon
9'31	10'20	269	W		First articulation
9'55	10'45	273	—		Section articulation. Begin ascending canon
10'35	11'30	280	X		Reference to the four lower neighbor cadences in 92–141, followed by a lower neighbor melody transition, descending
11'20	12'15	286	—	♪ = 80	RETURN of opening material
12'45	**13'43**	**303-398**	**AA-JJ**		**Section 4. Moderate**
12'45	13'43	303	AA		Wonder chords in high strings
13'23	14'18	314	BB		Apotheosis canon (till 399)
17'30	18'45	379	—		TRUMPET TUNE
18'23	19'48	393	II	♩ = 80	Horns: $\hat{3}$–$\hat{4}$– ($\hat{5}$ on 399)
18'38	**20'04**	**399-end**	**JJ-end**		**Coda. Trumpet Tune**
18'38	20'04	399	JJ	♩ = 160	Phrase 1 downbeat
18'59	20'39	415	(KK)		Phrase 2. Downbeat on reh. KK
19'19	21'10	429	(LL)		Phrase 3. Downbeat on reh. LL
19'37	21'39	441	—		Phrase 4

Chapter 3. Motivic Generation and Transformation

3.1. Motivic Generation

3.1.1. Overview

The exact number of motives in *Tevot* is debatable. But the musical material itself argues against interpreting it as a series of countable, discrete structures. A motive's form typically remains unchanged only for the duration of a particular passage.[46] Instead, individual motivic cells participate as *waypoints* in longer developmental trajectories. In turn, these trajectories interpenetrate each other, creating a web of motivic associations. *Tevot* comprises about two dozen prominent motivic waypoints. Figure 3.1 gives my overview of their identity, their primary trajectories, and their associations.[47]

Figure 3.1: Motivic Waypoints in *Tevot*.

---
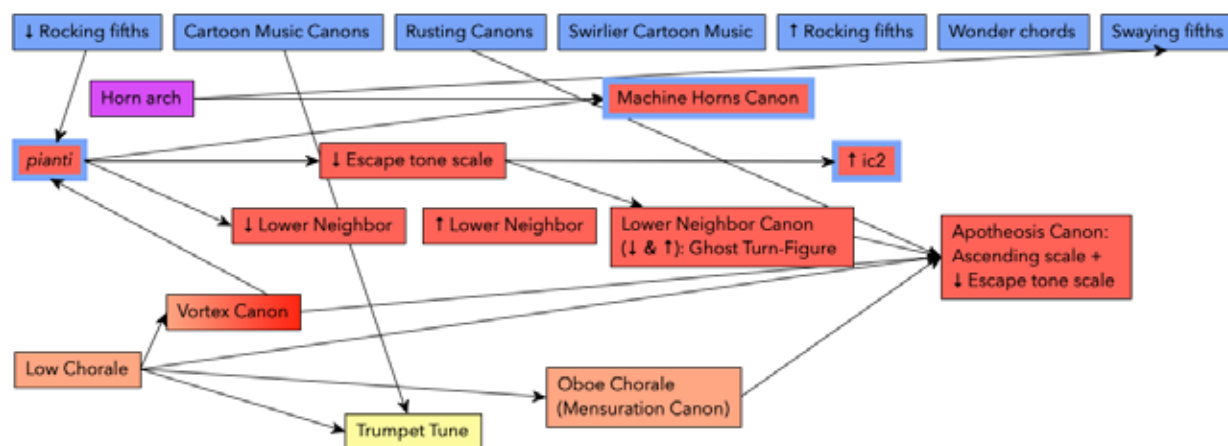
46. That is, in any given passage, a motive generally maintains its basic intervals and rhythms, subject to traditional developmental strategies of transposition, inversion, etc. Such motivic usage is only *typical*. Some motivic waypoints develop within passages using unsystematic processes (such as the second Cartoon Music tune, see §3.1.2.2, and the Trumpet Tune, see §3.2.3). By "passage," I refer to the segmentation identified in Table 2.1.
47. Appendix 2 provides notated examples and bar numbers for each of these waypoints.

Adès derives his motivic waypoints from discernible transformations of his underlying interval cycles.[48] As in many other of his pieces, Adès composes *Tevot* with prominent projections of ic1 and ic5.[49] These cycles sound clearly at the start of the piece. The opening E6, A5, and D5 articulate the ic5 cycle (see Excerpt 3.1).[50] These lines are slowly move down by half step as additional fifths enter above and below this initial register. This unevenly timed voice-leading downward by ic1 of an ic5 projection is the germ for *Tevot*'s motivic development.

3.1.2. Deriving the Cartoon Music from Adès's Interval Cycles

3.1.2.1. First Cartoon Music Tune

The "Cartoon Music" canons (bars 53-71, see Table 2.1) are an instructive example of how Adès constructs his motivic waypoints from underlying interval cycles.[51] The first of these canons begins in bar 53 in the E-flat clarinet. The intervals and rhythms in each transposed entrance remain the same, but some of the entrances are abbreviated, including the first one on the E-flat clarinet. Adès gives the first full statement of the canonic idea in bar 56 in the piccolos.[52]

Figure 3.2a: A prototypical example of the first Cartoon Music tune: the piccolos' entrance, bar 56.

---

48. Just as Lane demonstrated for Adès's Violin Concerto, the interval cycles in Tevot constitute "the seed from which Adès derives motivic coherence, harmonic momentum," and "a great deal of his thematic material." See Lane, "Narrative and Cyclicity in Thomas Adès's Violin Concerto," 8.
49. Wells, "Plural Styles, Personal Style: The Music of Thomas Adès," 6-14.
50. See Appendix 1 for score excerpts.
51. I gave the music in bars 53-71 that name because it resembles Carl Stalling's Looney Toons music.
52. I have beamed these eighth notes according to duration, expanding on Adès's practice of using broken tuplets. As Belling explains (43-44), Adès notates many passages in Tevot using broken triplets. Using this notation for this passage more clearly shows the rhythmic palindrome.

Figure 3.2b: How this tune internally exhibits the interlocking of ic1 and ic5. The upstem line projects ic1. The down stem lines embed two more instances of ic5 (D-G, D♭-G♭) beyond the surface adjacent ones (E♭-B♭, D♭-A♭).

The first Cartoon Music projects ic1 at two rates. That interval cycle frames the line from C5 to Ab4 (see Figure 3.2b), with pitches mostly consecutive and confined to a specific octave. Because of the frequent contrapuntal repetition of this tune, its construction ensures that the web of descending minor seconds continues onward from *Tevot*'s first section. The ic1 cycle also projects more slowly at the tune's rhythmic junctures in a pitch-class voice-leading relationship (E to E♭ and B♭ to A).[53]

The tune also projects perfect fifths. That interval occurs on the surface most prominently at the rhythmic juncture and more subtly within the second grouping of triplet-speed eighth notes. Within the concatenation of lines that compose this tune, the interval also occurs two more times. These downstem lines in Figure 3.2b gain importance because Adès places them in the foreground at bar 92 as the Rusting Canon's tune (see §3.2.1.2).

In addition to projecting these interval cycles within the tune, Adès arranges the tune's contrapuntal entrances in a way that propagates these interval cycles on a broader scale. Of the 76 entrances of the first Cartoon Music tune, 70 begin in rhythmic unison to a previous entrance, and 62 begin on a previous entrance's second, fourth, eighth or ninth note. Likewise, 72 begin in unison/octaves with or ic5 away from the note on which it enters. As figure 3.3 shows, the entrances in the first seven bars of the passage align in way that creates interlocking chro-

---

53.   The validity of this slower projection receives support from Adès's use of interval cycles elsewhere in the piece and from Dora Hanninen's sonic criteria (S) for segmentation: "A sonic criterion (S) is a rationale for segmentation that responds to disjunctions in the attribute-values of individual sounds and silences within a single psychoacoustic musical dimension" (Hanninen 23). Under Hanninen's segmentation rules, the location of the first pitch in this projection at the start of the tune ($S_{1\text{-pitch}}$) affords it a memory-privileged in voice-leading associations. Meanwhile, the combination of a rhythmic juncture ($S_{2\text{-Duration}}$) at a melodic low point ($S_{2\text{-pitch}}$) draws attention the ic1-lower pitch class, even though that pitch is in the middle of the melody. Similar criteria ($S_{1\text{-pitch}}$ and $S_{2\text{-Duration}}$) call attention to the subsequent descending minor second.

matic pitch-class descents that track the start of each entrance and its rhythmic juncture (i.e., the sixth, seventh, and eighth notes of the tune, see Figure 3.2a).

Figure 3.3. Descending ic1 pitch-class voice-leading across entrances of the first Cartoon Music tune.
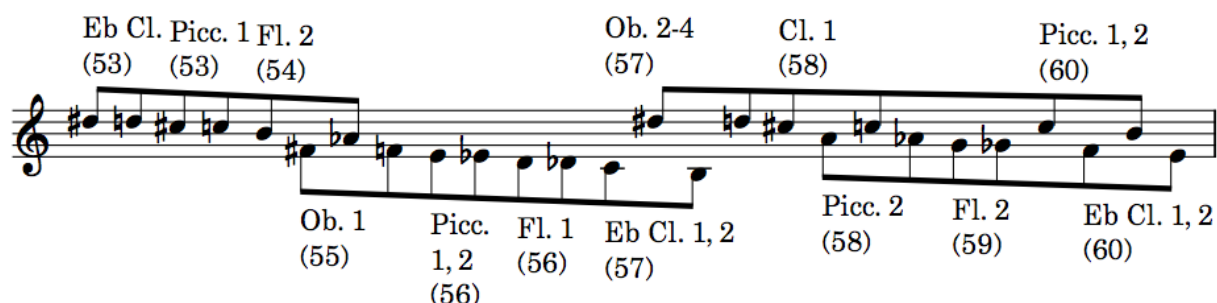
Thus, although bars 53-91 *sound* very different than the preceding 52 measures, the chromatic descent that pervaded that first section continues here—the difference being it happens not at a single sustained rate, but at two faster rates.[54]

3.1.2.2. Second Cartoon Music Tune

The second of the canons begins at the pickup to bar 59 (letter G). Its melody develops as the canon progresses.[55] Its initial presentation is given in Figure 3.4.

Figure 3.4. The second Cartoon Music tune, first iteration.

The circle of fifths interval cycle begins the tune as A3-E4-B4, the latter of which pitches also show the beginnings of the descending minor second cycle (first slur in Figures 3.4 and

---

54. The two rates being expressed respectively in the pitch projection of ic1 and in the pitch-class projection of ic1. Adès prepared us for that increased rate by gradually speeding the rate of descent in bars 1-52.

55. Although different entrances of the first Cartoon Music tune contain different numbers of notes, I would not say that the first tune *develops* as the second does. Ignoring transposition, the first tune has a common, fixed form that is only occasionally truncated. The variations in its length have no formal effect. In contrast, the second tune does *not* have a fixed form, and its development is audibly goal-oriented.

3.5). Each time Adès introduces the tune, he makes the ic1 cycle more explicit by adding more descending minor seconds (see straight lines). He also begins and completes a new projection of the ic5 cycle (circled pitches in Figure 3.5).

Figure 3.5. The second Cartoon Music tune, second and third iterations.

These ic1 projections notably remain as separate voices.[56] Rather than combining into descending chromatic lines, here in the second Cartoon Music tune they stay independent. They thus conform more to a *pianto*-style projection of the ic1 cycle ("the falling semitone gesture that traditionally connotes crying or weeping")[57] rather than the *passus duriusculus*-style gestures found in the first Cartoon Music tune and generated by its successive entrances. The various ways that Adès projects ic1 will illuminate the ways he transforms *Tevot*'s motives from waypoint to waypoint.

Expanding the second Cartoon Music tune (bars 59-71) per Figures 3.4 and 3.5 allows Adès to align its arrivals when presented in stretto. The third presentation of the tune arrives on a C major chord. That pitch-class C completes the second projection (circled pitches in Figure 3.5) of the ic5 cycle. Thus, just as Adès strongly projects the ic1 interval cycle in the counterpoint of the first Cartoon Music tune, he does likewise for the ic5 interval cycle in the counterpoint of the second Cartoon Music tune.

---

56.   Here I follow Schenker, Lasser, and others that voice-leading within a melody must connect by step.
57.   Venn, *Thomas Adès: Asyla*, 31.

Figure 3.6. Third presentation of the second Cartoon Music tune.

Not only do both tunes have strong ties to *Tevot*'s underlying interval cycles, they also have strong ties to each other. The ending five notes of the second Cartoon Music tune are the start of the first Cartoon Music melody (slashed slur in Figures 3.4 and 3.5). Moreover, the first four pitches of this second tune already appeared in the second half of the first melody (Eb-Bb-A-F).

As the connections between the two Cartoon Music canon tunes show (§3.1.2), Adès's motivic waypoints deeply interpenetrate each other. Similar connections could be shown[58] among *Tevot*'s other motivic waypoints and its underlying interval cycles, because the ic1 and ic5 cycles audibly underlie the majority of the piece's motivic waypoints. These connections make it difficult to say where *waypoint generation* from interval cycles ends and *motivic transformation* begins.

3.2. Motivic Transformation

Passages in *Tevot* often feature independent, simultaneous transformation trajectories. In this section, I will show how two such trajectories converge at the work's apotheosis.

3.2.1. How the Wonder Chords Lead to the Apotheosis

3.2.1.1. Wonder Chords at bar 72 and the Escape Tone Motive

The "Wonder Chords," systematic projections of consonant triads, gradually develop the apotheosis's harmony from Adès's initial ic1/ic5 web. As Whittal notes,[59] Adès's tonal references behave in idiosyncratic ways. These chords are no exception. They exemplify what Frank

---

58. For readers interested in exploring these connections, Appendix 2 provides notated examples for the motivic waypoints I identify in Figure 3.1. Each example is color-coded to the primary developmental thread in which it participates. Each example also indicates where that motivic waypoint is discussed in this dissertation.

59. Adès's voice-leading choices result in "an unstable diatonicism which consistently blocks the possibility of 'structural' or 'musicological' hearing, according to the precepts of functional harmony, however vivid its evocation of 'the sweetness of tonality.'" (Whittal 20-21).

Lehman has called "pantriadicism": "the succession of consonant triads without reference to diatonic scales, functions, or centers."[60] I have called them Wonder Chords because such pan-triadic harmony has lately developed the connotation of "help[ing] suggest—and sometimes inspire—wonderment."[61]

The first instance of Wonder Chord harmony happens at bar 72. Adès inverts the *pianto* figure, most recently heard in the second Cartoon Music canon tune, and then transposes that figure along a series of descending ic2 lines. He then uses this voice-leading to constitute the roots of a series of mostly thirdless triads.[62]

Figure 3.7. Ic2 projection of inverted *pianto* (escape tone) figures.

Adès obscures the voice-leading here (and at the Wonder Chords at bars 303 ff.) by articulating the pattern at the pitch-class, rather than pitch, level. In bars 72-83, he presents different inversions of the triads, even though the underlying pitch-class voice-leading operates fairly predictably. From bar 84 onward, Adès brings the voice-leading to the musical surface by shifting it from the *pitch-class* level among the harmony-articulating parts to the *pitch* level in the basses.

Note that this transformation generates a descending series of escape tones.[63] Adès eventually uses both ideas (escape tones and the Wonder Chords) in the Apotheosis passage.

---

60. Frank Lehman, *Hollywood Harmony: Musical Wonder and the Sound of Cinema* (New York: Oxford University Press, 2018): 50.
61. Lehman, *Hollywood Harmony*, 165.
62. Sometimes the chord's third appears in the melody. Other times it does not.
63. In common-practice tonal harmony, escape tones are dissonances that step up from a consonance and leap down to a resolution. Although Adès does not use common-practice harmony in *Tevot*, I am at least using the term "escape tone" to refer to this same melodic motion. I would further argue that these pitches might still be considered dissonances in Adès's pitch language inasmuch as they are surface embellishments of a clear, linear structure.

3.2.1.2. The Rusting Canon at 92 and its Connections

Following the introduction of the Wonder Chords at bar 72, Adès develops the Cartoon Music tunes to their next motivic waypoint. The first Cartoon Music tune links not only to the second one, but also to the tune for the series of canons that starts at the pickup to 92. I have called this figure the "Rusting Canon" tune because each presentation of the canon slows down from its initial presentation as if it is "rusting" to a halt.

Figure 3.8. The Rusting Canon tune

Adès embeds this tune (in inversion, twice) in the first Cartoon Music tune. This embedding accounts for every pitch that is not part of the pitch-level ic1 projection.

Figure 3.9. The Rusting Canon tune as embedded in the first Cartoon Music tune.

up stem: chromatic line
down stems: inverted rusty canon
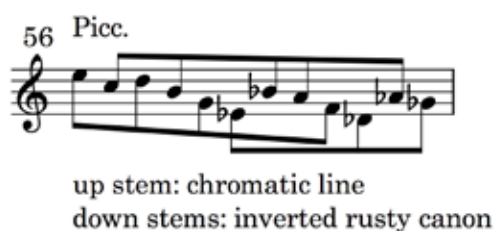
One might question the analytical legitimacy of the motivic embedding in Figure 3.9 for reasons akin to Donald Tovey's: "Nothing is easier than to derive any musical idea whatever from any other musical idea; and a long chain of such derivations is often supposed to embody the logic of music. In itself it can give us no security that it is more logical than a series of puns."[64] Still, I would argue for the salience of my analysis for this reason: Adès has explicitly stated that motivic interweaving is one of his aesthetic values. Adès criticized Britten's *A Midsummer's Night Dream* for precisely the lack of such interweaving:

---

64. Quoted in Leonard Meyer, *Explaining Music: Essays and Explorations* (Berkeley and Los Angeles, CA: University of California Press, 1973): 67.

> The music does not develop—it is simply repeated, expanded, contracted, but does not develop. *It does not connect to itself.* It's like dried flowers. Take the motifs, for example. I get the feeling he's just discovered them that morning and jotted them down over breakfast. *They don't have a chance to grow into one another.*[65]

This value is one not only that Adès professes, but also that *Tevot* demonstrates. The motives in *Tevot* "grow into one another" constantly.

Note, for example, that the manipulations that embed the Rusting Canon tune within the first Cartoon Music tune reflect the same processes by which Adès develops his motives on the musical surface: inversion (see esp. §4.2.1) and transposition. Indeed, that latter developmental process happens on the surface of the Rusting Canon music.[66]

In addition to growing out of the first Cartoon Music tune, the Rusting Canon tune transforms in its successive iterations to connect with the Wonder Chord trajectory. Those chords which had began at bar 72, continue into 92, harmonizing the Rusting Canon. In 92 onward, Adès gives them a new voice-leading, also based on the whole-tone collection.

Figure 3.10. Wonder Chord voice-leading in bars 92-101.

In bar 101, Adès contrasts this root progression with the one from 72. Both are constructed primarily from whole-tone collections, but whereas the one from 72 progresses downward with an escape tone figure, this one progresses upward, interrupted only occasionally by downward projections of ic5. Likewise, whereas the one at 72 supported thirdless triads, the one at 92 supports major triads.

While this Wonder Chord harmony happens underneath the Rusting Canons, the transformations of the Rusting Canon tune bring to the surface the connections between itself and the Wonder Chords' voice-leading. The third and fourth iterations of the Rusting Canon

---

65.   Adès and Service, *Thomas Adès: Full of Noises*, 124-125, emphasis added.
66.   See Table 2.1.

tune (at bars 112 and 127 respectively) underscore in the melody the relationship between ic2 and ic5 that Adès had presented in the bass at bar 92: namely, the two whole tone collections, separated by a fifth.

Figure 3.11. The third and fourth iterations of the Rusting Canon tune, adding a sixth note (bar 112) and transposing the last two notes (bar 127).

3.2.1.3. Wonder Chords at Apotheosis

From the Wonder Chords' initial appearance at 72 and subsequent one at 92, Adès combines several ideas when he brings them back at the piece's apotheosis in 303: voice-leading by pitch-class, the use of major and thirdless voicings, and interweaving motivic material from the first Cartoon Music tune.

Figure 3.12. The Wonder Chords in bars 302-325. Reduction preserves spellings and doublings. N.B.—the 15ma treble clef.

22

Looking simply at the roots of the chords at 302 onward,[67] the following root-movement pattern emerges (in semitones): ↓4 ↑2 ↓4 ↓7 ↑6. This harmonic pattern repeats verbatim, starting from the end of 302 through 393.

Figure 3.13. Root analysis of Wonder Chords at 302-310 (see fn. 67).

Thus, for about a third of its duration, *Tevot* explicitly is a chaconne. Several things make this chaconne unusual. Somewhat unusual but not without precedent is how the melodic events on top of the chaconne shift in relation to it. "Dido's Lament" offers a notable precedent. Both pieces feature prominent descending chromatic lines, and in both, the melodic phrases do not stay aligned with the harmonic periods. This shifting alignment gives Purcell's piece a fundamental unpredictability. Adès mimics and extends that unpredictability not only because his melodic phrases do not align with the harmonic ones but also because the harmonic phrases themselves constantly shift rhythmically and harmonically. As shown in Figures 3.14 and 3.15, Adès constructs his chaconne progression such that each cycle *transposes*.[68] Adès also fails to repeat pitch-level voice-leadings between cycles, leaving the surface melodies unpredictable.

Figure 3.14. Transformation of the first Cartoon Music canon tune into the Wonder Chord root progression at 302 ff.

---
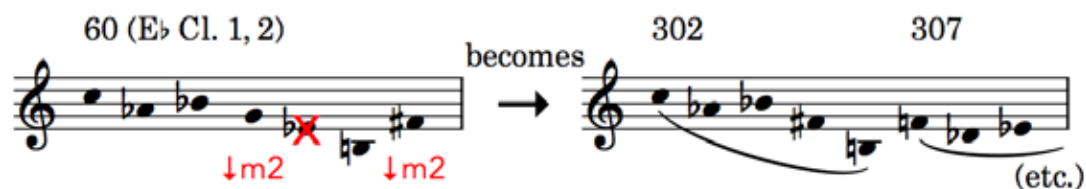
67. I would argue that the root of the augmented chord in bar 309 is E-flat, because the root-movement pattern is otherwise consistent over 90 measures.
68. Adès explained to Service, "A chaconne is simply one kind of harmonic motion. In my music it's very often spiral rather than circular—in other words, it's transposed down with each appearance. . . . It's really an organic form, a kind of growth, and the label 'chaconne' comes after" (Adès and Service, *Thomas Adès: Full of Noises*, 7-8).

Figure 3.15. Wonder Chord root pattern, bars 302-303. After the first iteration, I've abbreviated each repetition to its first and last notes to highlight the parallel descending chromatic voice-leading.

Perhaps the greatest contributor to the chaconne's unpredictability is the color/talea relationship Adès creates. While the harmony progresses through a transposing, five-chord color, the rhythm cycles through a fixed, 14-note talea.

Figure 3.16. Chaconne talea in bars 303-392.

Despite variations to the surface voice-leading and orchestration (and the aforementioned stray augmented chord), Adès follows this color and talea faithfully for 90 bars. Even at its start, this chaconne feel familiar because it developed from the preceding 300 bars. Having explained how the color emerged from *Tevot*'s initial interval cycles, I will now show how earlier rhythmic gestures in *Tevot* evolved into the talea.

The talea's basic trochaic gesture[69] is first presented from bar 1 in the strings.

_____

69.   A trochee is a long-short rhythmic gesture.

Figure 3.17. Trochaic gesture in the bar 1 of the violins.

Though this rhythm is difficult to hear because of the orchestration in bars 1-52, it can occasionally be heard through the texture. Adès presents a quasi-palindromic version of that rhythm in the Rusting Canon tune as two dotted quarter notes sandwiched between two quarters. Note that this rhythm has a fifth note of dissimilar duration, just like the rhythmic couplet at 303. Because this rhythm (Figure 3.18) punctuates a palindrome with a third rhythmic duration, I would suggest that this iteration at 92 (Excerpt 3.2) constitutes a shorter prototype for the rhythm at 303 (Excerpt 3.3). This rhythm—the palindromic interpretation, minus the final half note—also represents a temporal analog to the Lower Neighbor tune (see §3.2.2.1). I will defend and explicate this connection more in chapter 4 (starting in §4.2.2.1).

Figure 3.18. Quasi-palindromic rhythm in Rusting Canon tune.

After its presentation in the Rusting Canon tune's rhythm, Adès uses the iamb/tro-chee[70] contrast most prominently in the oboe chorale at 174, where he presents five different mirrored rhythms (some are palindromes, others are pattern inversions) using combinations of that basic rhythm.

---

70. An iamb is short-long rhythmic gesture.

Table 3.1. Mirrored rhythmic patterns in the oboe chorale. Heading indicates the bar number and metrical position at which the palindrome starts.

174 (2+)	180 (3+)	188 (2+)	197 (1+)	202 (2)
l s l s s l l s	s l s l s l s l s l	s l s l	s l s l s l s l	s l l s
s l s l l s s l	l s l s l s l s l s	s l l s	l s l s l s *	s l s l
		l s s l		l s l s
		l s s l	(* last foot missing)	l s s l
		s l l s		
		l s l s		

After a brief interlude (214-222), Adès introduces the talea he will later apply to the apotheosis's Wonder Chords (Figure 3.16). He uses this rhythmic figure to create the "Machine Music" accompaniment to the French Horns. This initial presentation of the couplet starts with a short-first line (s l l s s l m) and uses durations of triplet halves, triplet quarters, and a quarter (as opposed to halves, quarters, and a dotted quarter in the Apotheosis talea). Notably, the pattern in 223 ff. also ends with a short-first line.[71] Thus, when the rhythmic pattern picks up in the Wonder Chords at 302, it occurs right in sequence with a long-first line.

Because this passage starting at 302 unites the culmination of both the rhythmic and harmonic motivic development I have described, I call it *Tevot*'s *apotheosis*.

3.2.2. How the Chromatic Line Leads to the Apotheosis

Just as the Apotheosis chaconne's talea and color emerged from *Tevot*'s initial ic1/ic5 web, the Apotheosis canon's melody also derives from that web, albeit along a different trajectory.

3.2.2.1. Neighbor Tone Tunes

The first melodies one hears in *Tevot* are the simultaneous descending chromatic lines that coalesce into the textural background (see Figure 3.1). Adès incorporates this into the wind chords at bar 36, then transforms it into a series of *pianto* figures by rearticulating each new pitch. Adès underscores this figure by repeating it constantly in the next 17 bars. Indeed, by the end of the first section, the foreground consists of nothing but gradually faster *pianto* figures (bars 47-52).

---

71.   Along with a long-short tail in bar 250.

Figure 3.19. Introduction of the pianto figure to the descending chromatic line.

When the *pianto* figure occurs again at 72, Adès immediately follows it with its retrograde before replicating the figure down a semitone (Figure 3.20). The pairing of forward and backward *pianto* figures creates a tune of lower-neighbor tone figures. To prevent it from becoming too predictable, Adès shifts it between instruments and registers and varies its speed from quarter notes to triplet quarters.

Figure 3.20. Lower-Neighbor Tune at 72

The line continues through bar 91, where it is interrupted by the Rusting Canon. Adès reasserts the descending chromatic voice-leading from the end of 91 at the start of the Lower-Neighbor Tune protestations during the Rusting Canon and continues that voice-leading until the fourth repetition (bar 133, where the voice-leading continuity breaks).

Figure 3.21. Voice-leading of Lower-Neighbor Tune continued through Rusting Canon interruptions.

At the end of 272, leading to the climax of the third section, Adès inverts both the motive, making it an Upper-Neighbor Tune, and its voice-leading, guiding it by ascending chromatic scale to 276, where the tune dissolves into inverted *pianto* figures until the climax at X.

3.2.2.2. Apotheosis canon tune

Having transformed the descending ic2 line into *pianto* figures, then Lower- and Up-per-Neighbor Tunes, Adès effects a final transformation of this idea by combining it with the escape tone idea (see §3.2.1.1) in the melody of the Apotheosis canon.

Figure 3.22. Upper neighbor and escape tone figures combined in the Apotheosis canon melody in Piccolo 1.

Like the Escape Tone Tune (see §3.2.1.1), the descending voice-leading initially occurs down a descending ic2 cycle. However, at 317 (and in each subsequent entrance), the preparation tone for the escape is elaborated with an upper neighbor. Also, unlike the Escape Tone Tune's initial presentation, the escape tone/upper neighbor is not consistently a semitone, but varies in a quasi-diatonic way between whole- and half-steps.

Just as the Wonder Chords combine various features of the preceding 300 bars, leading to their presentation in the Apotheosis canon, so also the Apotheosis Canon's melody clearly evolves from the piece's opening.

3.2.3. Trumpet Tune at Bars 142, 251, and 379

Part of what makes the ic1/ic5-derived developmental lines so compelling is that Adès continuously presents them in successive motivic *waypoints*. This results in what Meyer calls "processive conformant relationships."[72] He contrasts this motivic usage with "formal conformant relationships," which he calls *return* rather than *repetition*.[73] The chief difference between *repetition* and *return* is that *return* "almost always serve[s] to articulate structural units—empha-

72.   Meyer, *Explaining Music*, 49-50.
73.   Meyer, *Explaining Music*, 49-50.

sizing points of departure or of arrival."[74] *Repetition* describes the result of the ubiquity of the ic1/ic5-derived developmental lines and the diversity of their waypoints. Because these developmental lines function as *repetition*, they cannot "articulate structural units."

Figure 3.23. Trumpet Tune at 142

The "Trumpet Tune" development line, however, can serve that *return* function. Though its pentatonicism derives from the ic5 cycle, the Trumpet Tune is harmonically distinct[75] from most of *Tevot*'s other waypoints because it lacks a strong ic1 component.[76] The Trumpet Tune also has a distinct melodic contour and a fixed instrumentation (i.e., the trumpets). This matches Meyer's definition of a *return*.

The formal transformation of the Trumpet Tune thus serves as a useful foil to the ic1/ic5 developmental lines in describing the Heraclitian nature of *Tevot*'s motivic generation and transformation. The iterations of the Trumpet Tune (see Figure 3.24 and Figure 3.25) show a particularly Heraclitian attitude toward melodic identity. Unlike, for instance, the neighbor-tone melodies (§3.2.2.1), the Trumpet Tune's recognizability as such does not arise from clear (Platonic) motivic cells. Instead, just as the water constituting a river continually changes, so too the Trumpet Tune continually reorients itself within fixed parameters. The basic idea of an

---

74. Meyer, *Explaining Music*, 50.
75. Speaking of harmony as the statistical prevalence of a given collection within a given segment or passage rather than as vertical simultaneity.
76. Harmonically, its prevalent major seconds and perfect fifths make it most similar to the Rusting Canon tune (see §3.2.1.2).

undulating, mostly pentatonic tune in the trumpets remains, but the association between these tunes derives from similar pitch collection, instrumentation, and contour more than from any literal motivic repetition.

Figure 3.24. Unsystematic subtractive processes in the Trumpet Tune at bars 142 and 251. X's show pitches dropped in the next iteration. Circles indicate added pitches. Boxes indicate shortened pitches.
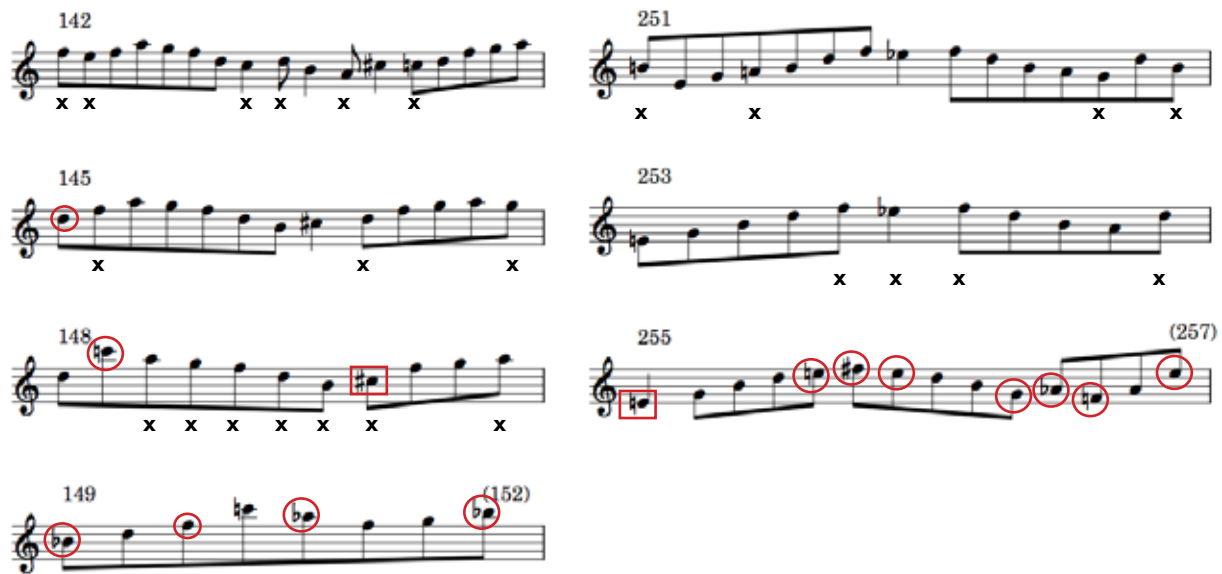
The first two times the Trumpet Tune appears, Adès subjects it to an unsystematic subtractive process. In each phrase, Adès removes pitches and shortens quarter notes to eighth notes—he also contradicts this prevailing process by adding new pitches (Figure 3.24).[77]

The final eight presentations of the Trumpet Tune (bar 379 to the end) are the shortest ones in the piece, at least in number of attacks. Revamping the first two instances of the Trumpet Tune, Adès uses more familiar pitch and rhythmic processes, augmenting them and transposing to the same starting pitch. This last iteration, unlike previous ones, strongly maintains its trochaic rhythms, rather than trimming its longs into shorts, as in the other passages.

---

77. In bars 142-152, Adès adds them in each repetition of the tune. In bars 251-257, he adds them only in the final repetition. In both instances, by placing most of the new pitch content in the final repetition, Adès creates harmonic instability that complements the subtractive process in leading the listener to the passages that follow the Trumpet Tune instances.

Figure 3.25. Final iterations of the Trumpet Tune.

(downbeats in parentheses)
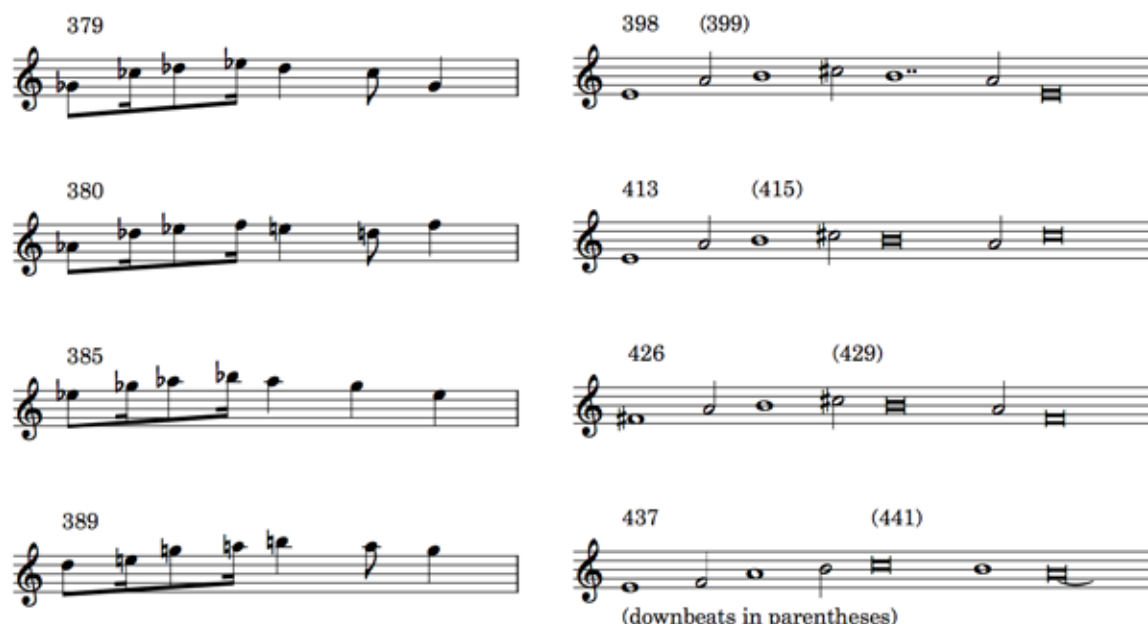
These increasing stabilities—of a consistent pitch center and rhythmic pattern—reflect how Adès uses third iteration to contribute to the formal closure of *Tevot*'s coda. Note too that by shifting the metrical accent in the final four iterations of the tune, Adès also subjects it to the larger rebalancing formal process. The rebalancing to which Adès subjects them reflects a Heraclitian "unity of opposites," as I will explain in §4.3.2.

Other aspects of the Trumpet Tune also give it Meyer's *return* function. For example, Adès transforms the primary collection of the Trumpet Tune to affirm the work's ultimate voice-leading goal. At bar 142, the Trumpet Tune consists primarily of the C pentatonic collection (CDEFA), and its iteration at bar 251 transposes that collection up a whole step (DEGAB). At bar 379, though, Adès continues transposing the tune's pentatonic collection along an upward ic2, yet overshooting the E transposition, saving it for the coda (E4 in the trumpets being the upbeat to bar 399).

Figure 3.26. Trumpet Tune associative voice-leading (missing pitches shown without stems)

Although the Trumpet Tune's pentatonicism strongly contrasts with the ic1/ic5 web that surrounds it, this motivic *waypoint* has clear connections to that web (as earlier). The pentatonic collection is a five-pitch projection of ic5, and that collection's whole-tone transposition echoes the transpositions that Adès applied to the Wonder Chords (see §3.2.1.1 and §3.2.1.2).

By separating the returns of the Trumpet Tune over the piece and through a shrewd application of rhythmic and voice-leading processes, Adès imbues the Trumpet Tune with formal signposting implications that invest the piece's ending with a sense of finality.

3.3. Motivic Generation and Transformation as Heraclitian Process

The perpetual recombination of *Tevot*'s basic materials I have articulated defines the piece. Yet just as *Tevot* treats development differently than does a Baroque passacaglia, it approaches development differently than a Beethovenian symphony, in which large sections repeat verbatim within movements. Rather, *Tevot*'s developmental process strongly evokes James Warren's reading of Heraclitus's river sayings:

> An essential part of what it is to be a river is for there to be constantly moving water: this is what distinguishes a river from, say, a lake. So the different waters are not a reason to be cautious about a river's permanence over time. Rather, they are a necessary condition of the river's stability. This paradox is summed up nicely in [Heraclitus's] short saying "It rests by changing."[78]

So too we could say of *Tevot*: what is stable about its motives *is* their changing. In this Heraclitian sense, the flow of *Tevot*'s musical materials through different developmental waypoints provides a thorough musical metaphor for the flood imagery that Adès associated with the piece: "On those stepping into rivers"—or, at any given time during the piece—"other and other waters flow"—that is, a different iteration of *Tevot*'s rhythmic cells and interval cycles manifests itself. As much insight as Heraclitus's river sayings contribute to an analysis of *Tevot*, though, Heraclitus's larger ideas about the unity of opposites also pervades the piece, as I will explain in the next chapter.

---

78. David Warren, *Presocratics* (New York: Routledge, 2007): 73.

Chapter 4. Formal Behaviors

Adès guides listeners through *Tevot* via four key behaviors: imitation, mirroring, rebalancing, and re-timing. Together with the continuously developing material, these behaviors articulate relationships between sections.

4.1. Bars 1-52: Introducing the Four Behaviors

4.1.1. Imitation

Adès introduces each of the four behaviors in the opening section of *Tevot* (bars 1-52). Imitation is likely the first a listener will notice. Adès deploys imitation in *Tevot* in a variety of guises and with varying degrees of clarity. In the work's opening measures (see Excerpt 3.1), imitation subtly defines the relationship of expanding fifths in the strings. Because the descending fifths occur in stretto and overlap in register, this imitation is difficult to discern.

Figure 4.1. String imitation in bars 1-4

More audibly, though, imitation occurs in the winds' *piano* gestures (the descending half steps). These gestures occur in separate voice-leading lines, on separate instruments, and with rhythmic independence. These traits draw attention to each individual *piano* gesture rather than to the longer lines themselves. Still, because the gesture is so short and recurs so

frequently in this passage, it fades into the background once the low winds and brass enter in bar 4 with their chorale.[79]

The imitation that dominates the background of this passage begins to infect the chorale in bar 30. There, the low wind chords that entered in bar 4 split into two layers that mimic each other in a loose, two-part canon. This melodic imitation is somewhat obscured by the thick chords that harmonize it and by the subtle rhythmic differences between the lines. Nevertheless, the persistence of this texture till bar 47 calls attention to the imitative relationship. Having firmly established this texture, Adès adds two more imitative lines in bars 47 (trumpets and horns) and 49 (trombones and tuba) respectively.

Figure 4.2. Melodic imitation in the woodwinds and brass at 30 ff.

These opening 52 bars reflect how *Tevot* uses imitation as a primarily local behavior. Yet, by making imitation a firm expectation, the canonic idea at the piece's apotheosis seems a natural outgrowth for the music. In the meantime, imitation works with the other three behaviors to shape the opening section's form and to forecast for how the whole piece will articulate formal relationships.

---

79. Bars 1–29 resemble the texture of a Baroque chorale fantasy. In both, a contrapuntal background embellishes an augmented chorale tune. In *Tevot*, this chorale tune receives a dense, homorhythmic harmonization.

4.1.2. Mirroring

Although the opening section contains no examples of vertical mirroring, it contains several of horizontal mirroring. By horizontal mirroring, I refer to palindromic constructions of pitch, contour, or rhythm. Unlike the music of Webern or Messiaen, Adès's palindromes do not create stasis. Instead, they usually contribute to upbeat/downbeat perception, as we shall see.

Adès composes the horizontal mirroring behavior directly into the melody supported by the low chords that enter in bar 4 (Figure 4.3). This melody exhibits contour mirroring: mostly stepwise motion up is followed by mostly stepwise motion down. The horn arch at bar 20 both affirms that undulating gesture while disrupting predictability by interjecting itself between the third and fourth phrases (Figure 4.4).

Figure 4.3. Contour mirroring in the soprano of the low wind chords, bar 4 ff. (Rhythms generalized)

Figure 4.4. Horn arch gesture at bar 20 that emerges from the end of low-chord phrase 3 and continues into low-chord phrase 4

At first take, these contour features may seem trivial. Many Western melodies comprise undulating contours. That this local feature takes on the status of a formal behavior is confirmed as the piece progresses. Among other passages it affects, up-down mirroring explains the harmonic support of the Trumpet Tune (see §4.2.5), the formal relationship between the Lower and Upper Neighbor Tunes (§4.3.2), the return of the opening *pianto* texture (§4.3.3), and the cadence into the coda (§4.4.2). Still, at this point in the piece, it is not clear whether the lis-

tener is to read these undulations as anything more than Western-encultured melodic writing. What matters, then, in this opening passage is not that horizontal mirroring happens unambiguously, but that it happens audibly.

4.1.3. Re-timing

4.1.3.1. Notated Tempo/Felt Tempo

The transformation of tempo in *Tevot* is one of the piece's most obvious plot lines. Throughout the work, Adès employs a variety of devices that call into question the governing pulse. The metrical accents implied by the music's surface rhythms frequently do not align with those of the notated meter. Meanwhile, these surface rhythms often imply not only multiple tempi and meters, but also accelerandi and ritardandi of a given pulse. Adès in turn transforms these surface contradictions en masse at the larger, notated tempo shifts. In this context, even the appearance of traditional augmentation and diminution raises metrical questions. As with mirroring, these re-timing behaviors manifest themselves on local and formal levels both throughout the piece and in this first section.

A non-pedantic application of metric modulation underlies the notated tempi in *Tevot*. The conducted tempos in *Tevot* either equal or approximate simple ratios from a base tempo of 80 beats per minute. Adès broadens this network of conducted relationships by applying these tempo ratios to quarter and eighth notes (see Table 4.1).

Table 4.1. Tempo ratios in *Tevot,* relative to a base of 80 bpm.

♪	♩	Ratio
52	(26)	≈ 1:3 (26.66)
80	(40)	1:2
	80	1:1
	92	≈ 6:5 (96)
	108	≈ 4:3 (106.66)
	120	3:2
	160	2:1, ♩ = ♪³ in ♪ = 52

The piece begins in 3/4 at a tempo of ♪ = 80, which he complicates with meter, rhythm, and orchestration. First, he subdivides the eighth note pulse into sixteenth note triplets. Then, instead of the surface rhythms affirming the eighth note pulse, the low, thick foreground chords consistently lock into the triplet sixteenth subdivisions. Adès initially lends these chords their sense of massive grandeur simply by their durations. The smallest rhythmic relationship between these chords to the subdivision is a 14:1 ratio. He then amplifies this sense of grandeur by gradually expanding their rhythmic duration with each chord. That expansion and non-alignment makes it increasingly difficult to perceive the written pulse.

Figure 4.5. Unsystematic additive process in the low wind chords, 4 ff.
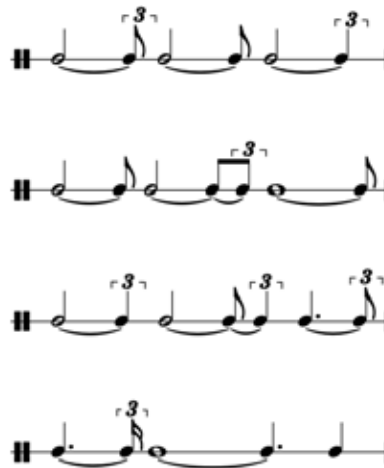
Adès further blurs the pulse/subdivision relationship by overlapping the contours of the rocking triplet sixteenths (which inhibits ability to perceive rhythm by pitch change), by placing these in the strings (with their smoother attacks), and by doubling select pitches in the string lines with sustained wind tones.

4.1.3.2. Vortex

The entire opening passage of *Tevot* is a notated accelerando. In the first 52 measures, the time between *pianti* gradually shrinks. Yet, having established the rhythmic dilation process in the low wind chorale in bars 4-29, Adès reverses it in bars 30-52 (another example of horizontal mirroring). Adès unsystematically shortens the canon's surface rhythms even as he

strips the imitated melody down to *pianti* gestures. This surface acceleration combined with the imitation and the melodic distillation down to the ic1 projection makes the passage sound like a swirling vortex.

Figure 4.6. Unsystematic subtractive process in the imitative voices, bars 30 ff.
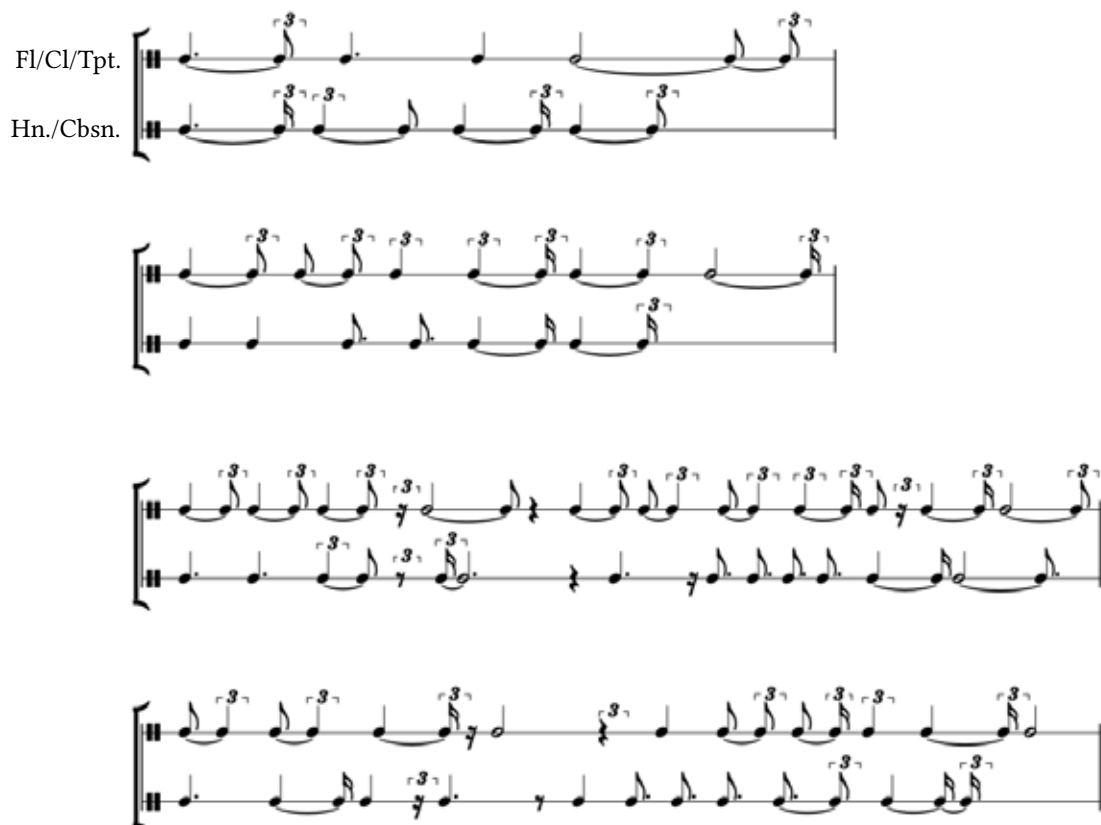
Although the felt pulse gradually accelerates, despite individual layers representing different subdivisions, the notated tempo remains constant. Even though the notated tempo is suddenly twice as fast at the start of the second section, the new tempo feels like an outgrowth of what preceded it.

4.1.4. Rebalancing

In addition to demonstrating a formal example of re-timing, the vortex ending of the first section also exhibits rebalancing behavior. To understand what I mean by "rebalancing," imagine squeezing toothpaste within the tube from one side to the other or watching the shift-

ing distribution of soccer players on a field. In *Tevot*, musical ideas exhibit a rebalancing behavior when, on each repetition, their disposition gradually shifts from one distribution to another.

Just as the entire first section is a horizontal mirroring of surface rhythm (from dilation to contraction), this section is also a massive rebalancing in which the background *pianti* gradually engulf the foreground. Adès accomplishes this rebalancing of first-section material in part by gradually changing the density and pitch-height of his foreground lines. Consider, for example: in bar 4, the foreground consists of a single, thick line in the low register. In bar 30, this line branches into two lines in the middle register. As these middle-register lines continue to ascend, two more branch from them in bars 47 and 49.

Figure 4.7. Additional canonic entrances in bars 42 ff.

Even as this branching process is occurring (from 30 onward), the imitative foreground lines increasingly incorporate the *pianti* from the background lines. Thus, by bar 51 Adès has effected a merger of foreground and background, by which the latter has gradually taken over the former. Although this rebalancing happens over a four-minute span, because the background material has been so frequently repeated, it is not difficult to identify it dominating the

foreground in the passage's final bars. Although this first use of rebalancing is a formal one, Adès will also employ it locally in later passages, as we shall see.

4.2. Bars 53-256: Imitation as a Developmental Lens for Mirroring, Re-balancing, and Re-timing

Tevot's second section is unlike any other section in the piece for the sheer number of textures and ideas it embraces. In addition to the continued motivic transformation that underlies the music, imitation helps unify its disparate passages.

4.2.1. Cartoon Music and Lower-Neighbor Tune

4.2.1.1. Re-timing

The second section opens at a tempo notated twice as fast as the first section. As mentioned, it feels like a natural continuation of section one because of surface-rhythm accelerando into it and because of its 2:1 ratio to the opening tempo. Because of the many tempo ambiguities in the first section (§4.1.3), it is unlikely that a listener will perceive a 2:1 relationship between the pulses of these sections. Nonetheless, this relationship creates to my mind an audible, if ineffable, continuity.

Because of the accents with which Adès notates the first Cartoon Music tune, the notated 3/4 meter is still ambiguous at 72. Instead, the surface meter initially feels like a bloated 7/8, regularly distended in its third beat (the straight eighth notes). The oboe entrance in bar 55

Figure 4.8. The first Cartoon Music tune as a lopsided 7/8 because of its accents and entrances.

blurs this impression by superimposing an entrance that does not align with this (odd) perceived meter. The arrival of the second Cartoon Music tune in bar 57 further blurs the notated meter.

Even when the surface pulse reflects the notated beat at 92, Adès still subverts listener's perception of the actual meter because the quarter notes of the Lower Neighbor tune are shifted off the notated beat by a triplet eighth note. He also plays coy with the notated tempo not only by mapping assorted quarter and triplet-quarter rhythms onto the Lower Neighbor tune but also by continuing the first Cartoon Music canon above it.

Figure 4.9. Rhythmic offset of the Lower Neighbor tune from the notated meter (3/4).

4.1.2.2. Voice-leading vs. Mirroring

While the form of the first 52 measures was clearly guided by horizontal mirroring and rebalancing, bars 53-102 work much differently. The Cartoon Music, for example, reaches a cadence at bar 69 through a sequential pattern completion (Figure 4.10).

Figure 4.10. Melodic sequence defined by the first and last notes of the second Cartoon Music tune

The Lower Neighbor tune music also cadences into bar 92 using pitch. After the escape tone pattern in 72-88 breaks (see Figure 3.8), Adès projects an inversion of the Lower Neighbor Tune (i.e., the Upper Neighbor Tune) along a descending chromatic line. This projection motivically

mirrors the continuation of the Upper Neighbor tune. Yet, the rhythms are slightly offset and the two tunes move by parallel voice-leading.

Instead of using mirroring to create form in bars 72-92, Adès uses it as a surface feature and closes this passage with a voice-leading that resembles a G7-Cadd6 progression (see Figure 4.11). The chromatic density, along with the orchestrational and rhythmic diversity, that surrounds this voice-leading, though, prevents it from being read as a familiar authentic cadence. Furthermore, because Adès voice led into it through ic1 projections, this cadence does not call attention to itself—its real harmonic vocabulary has already been well established.

Figure 4.11. Motivic mirroring in the voice-leading to 92.

(see fig. 3.11)

4.2.2. Rusting Canons/Lower Neighbor Tune: Rebalancing and Re-timing

4.2.2.1. Rebalancing the Rusting Canon and Lower Neighbor Tune

Although Adès used more tradition means to create form in the Lower Neighbor Tune passage, the rebalancing of the Rusting Canons and Lower Neighbor Tune (bars 92-141) again provides a Heraclitian approach to form. The rebalancing of these two motivic waypoints gives the passage its direction.

At first, Adès simply juxtaposes these two ideas, following the first two Rusting Canon segments with a single instance each of the Lower Neighbor tune. However, the second segment of the Rusting Canon is already shorter than the first. In the third iteration, the Lower

42

Neighbor Tune is noticeably longer. And, though the fourth iteration of the Rusting Canon is longer again, the Lower Neighbor Tune is longer still.

Unlike the rebalancing in section one (bars 1-53), the rebalancing in these bars is not a mere linear redistribution. Furthermore, rather than comprising a continuous transformation, the present rebalancing happens through the juxtaposition of two distinct musical ideas: the Rusting Canons in contrast to the Lower Neighbor tune. These differences make it easier to hear the rebalancing process. Consequently, this passage not only affirms a behavior that was before more subtle but also prepares the listener to recognize the rebalancing behavior when it repeats in later key passages (especially the Apotheosis and the coda).

Table 4.2. Rebalancing of the Rusting Canons against Lower Neighbor music with concurrent overall dilation in both notated duration and clock time

	Rusting Canon Notated Dur.	Lower Neighbor Notated Dur.	RC:LN Ratio	Total Notated Duration	Total Clock Time (Adès)	Total Clock Time (Rattle)
Iteration 1	7𝅝+♪	𝅗𝅥+𝅘𝅥.	8:1	8𝅝	14 sec.	11 sec.
Iteration 2	5𝅝+𝅗𝅥..	𝅗𝅥+𝅘𝅥.	7:1	6𝅝+𝅗𝅥.	14 sec.	12 sec.
Iteration 3	4𝅝	5𝅝+♪	4:5	9𝅝+♪	23 sec.	16 sec.
Iteration 4	5𝅝+𝅗𝅥..	6𝅝+𝅘𝅥	9:10	12𝅝+♪	32 sec.	25 sec.

4.2.2.2. Tempo Ratios in the Rusting Canon

In addition to their rebalancing process, the Rusting Canons gain additional formal significance through their tempo changes (i.e., the retiming behavior). Adès sets up the canons by metrically modulating from ♩ = 80 to ♩ = 120. This relationship emerges from redefining the triplet-quarter of the Lower Neighbor music as the quarter of the Rusting Canon tune. As Table 4.3 shows, this tempo relationship preserves the fixed durations of both the triplet and straight quarter rhythms (respectively, 500 and 750 milliseconds). Thus, in bars 92-102, he no longer needs to use tuplets to write these fixed durations.

Table 4.3. Rhythmic durations, bars 53-150 (in rounded milliseconds), showing the dilation process of a fixed 3:2 relationship that is itself dilated to a 3:2 ratio (500:750 becoming 750:1125).

Bar	♩ =	(triplet ♪)	♪	♩	♩.
53	**80**	250	375	750	1125
92	**120**	x2		500	750
102	**108**			556	833
112	**92**			652	978
126	**80**			750	1125

As Table 4.3 suggests (and as the rest of this chapter will argue), Adès's tempo changes facilitate a long-range transformation of the iambic rhythm (and its trochaic retrograde) from the 3:2 relationship of the Cartoon Music to the 2:1 relationship of the Trumpet Tune. In turn, the Trumpet Tune takes the local rhythmic dilation suggested by the Rusting Canon and amplifies it into a formal feature: the Trumpet Tune has a 1:8 relationship between its presentations in section two and its presentation in the coda. Table 4.4 traces these fixed-duration relationships.

Preserving the fixed durations of the triplet and straight quarter rhythms into bar 92 allows Adès to develop the iamb-trochee pairing embedded within the first Cartoon Music tune. The Rusting Canon tune strips away the extra attacks to highlight that rhythm (Figure 4.12).

Figure 4.12. Derivation of Rusting Canon rhythm from first Cartoon Music tune

The metric modulation at bar 92 results in the Rusting Canon tune's iamb-trochee pair being played at half the speed it sounded in bars 53-91 as part of the first Cartoon Music

Table 4.4. Trajectory of tempo and fixed durations, with descriptive annotations.

Duration (rhythm by ms) | **Tempo** | **Bar** | **Sec**

94 125 188 250 375 500 556 652 750 833 978 1125 1500 2250 2308 3000 3462

1:2 ratio in the Low Chorale's string accompaniment — ♪=80 — 1 — I

Lower Neighbor Tune (2:3) — ♩=80 — 53 — IIa

Cartoon Music (2:3)

Rusting Canon (2:3) — ♩=120 — 92

♩=108 — 102

♩=92 — 112

♩=80 — 126

Trumpet Tune (1:2) — ♩=160 — 142

Swirlier Cartoon Music (4:3) — — — 151 — IIb

Mensuration Canon (1:2) — — — 174

(281) (563)

Lower Neighbor Tune (1:2) — ♩=80 — 214

Machine Music, unites 1:2 and 2:3 strands — ♩=108 — 223

(370) (741)

Trumpet Tune (1:2) — ♩=160 — 251

Low string tremors — ♪=52 — 257 — III

(384)

Lower Neighbor Tune (2:3)

4:1 aug.

♪=80 — 286

— — 303 — IV

Apotheosis Tune

(1000)

Chaccone (1:2:3)

string acc. (1:2) — Trumpet Tune (1:2) — ♩=80 — 393

♩=160 — 399

45

tune. After 92, Adès continues to dilate this relationship. The tempo changes result in a strobe-light–like ritardando. Reading down the quarter-note duration column in Table 4.3 shows how Adès's tempi result first in a 50 ms and then in two 100 ms expansions that dilate the Rusting Canon's iamb-trochee rhythm until it reaches a 3:2 relationship with its initial speed at bar 92 (3:1 with the first Cartoon Music tune).

This dilation process is different than the one that happened in section one, because Adès achieves it through tempo rather than rhythmic changes. In the first section of *Tevot*, Adès had subtly implied that dilation would be an important formal behavior through the local, non-systematic augmentation of the low wind chorale (§4.1.3.1). The iterations of the Rusting Canon begin to map the formal trajectory of that behavior.

Although each of these dilation events can be perceived locally, they link together to constitute a formal trajectory that spans the entire piece. Obviously, no performance will capture Table 4.4's millisecond durations precisely, and Adès's own tempo markings demonstrate that such accuracy is not necessary. For instance, he equates the 370-ms triplet-quarter to the 375-ms quarter to the 384-ms triplet-sixteenth in the metric modulations at 251 and 257 respectively. Thus, despite any minute variations, these millisecond timings reveal key rhythmic relationships that Adès develops over the course of the piece and that contribute to *Tevot*'s form. These rhythmic relationships constitute the narrative underlying *Tevot*'s tempo changes just as its interval cycles undergird its motivic development.

4.2.3. Swirlier Cartoon Music: Mirroring

The Swirlier Cartoon Music immediately continues this rhythmic narrative. Between the tempo of ♩ = 160 and its surface rhythms, this passage constitutes the piece's furthest point surface rhythm-wise from the opening low chorale. These rhythms—primarily triplet eighths and sixteenth notes—develop the "straight notes sandwiched by triplets" palindrome from the original Cartoon Music in a mirrored, 2:1 relationship. In other words, the triplet eighths form the primary surface rhythm of both Cartoon Music passages, but in the Swirlier Cartoon

Music, Adès doubles the tempo and contrasts the triplet eighths with straight sixteenth notes (creating a 4:3 rhythmic relationship) rather than the straight eighth notes he uses to create the rhythmic bulge in the first Cartoon Music tune (a 3:2 relationship). By setting up the mirroring in this direction—the notated rhythms and the tempi ending up faster at bar 151 than they were in 53—this mirroring relationship helps Adès increase the formal tension of section two towards its culmination in bars 214-222.

Adès also develops this "straight notes sandwiched by triplets" idea by moving it from the motivic level to the phrase level. Instead of sixteenths being embedded within the triplets of a single melody (as straight eighths were in the first Cartoon Music tune), Adès interrupts whole phrases of triplet-eighth swirls with sixteenth-note tumbles and climbs.

In addition to these rhythmic facets of horizontal mirroring, the pitch motivic cells also exhibit vertical mirroring. Whereas the downward gesture contains the cell of a second plus a third, the upward gesture reverses the order. This horizontal pitch mirroring is part of the larger vertical mirroring that Adès also foregrounds in this passage.

Figure 4.13. Vertical Mirroring in the Swirlier Cartoon Music

As the high wind instruments swirl down, the low ones swirl up to meet them. These swirls are not strictly inverted but move in opposing directions and share their basic pitch construction: the transposition by a fifth of a leap-step figure that expands to an arpeggiation. Although ic1 and other interpolations occur,[80] they do not detract from the overall design, which is easily audible.

The local rebalancing of the triplet-eighth music in favor of the straight-sixteenth music combines with the mirrored contours of the sixteenth music to point this passage toward its goal (the Mensuration Canon). The initial down-up contour acts like an upbeat, supporting the continuation of the Swirlier Cartoon Music. Adès inverts the contour of the sixteenth-note gestures across the axis of the middle gesture, during which the down-up and up-down contours sound simultaneously. This middle, combined gesture creates tension, by being longer than the first sixteenth-note gesture and lacking a clear contour. The third, up-down gesture creates a downbeat into the Mensuration Canon that follows the Swirlier Cartoon Music, by being longer still and because of its closing, downward trajectory. Just as the formal mirroring of rhythmic values from the first Cartoon Music tune to the Swirlier Cartoon Music helped increase the formal tension, so this pairing of rebalancing and mirroring also creates goal-directed motion.

Table 4.5. Formal Mirroring and Rebalancing in Swirlier Cartoon Music

♪ (triplet)	♪	♪ (triplet) : ♪ Ratio	♪ Shape
5♩.+♩	2♩.+♪	2.9	down-up
5♩.	2♩.+♩	1.9	down-up and up-down
2♩.+♩(+)	3♩.+♩	0.7	up-down

Although Adès creates the local formal trajectory through this pairing of rebalancing and mirroring, the triplet-eighth music takes part in a larger trajectory. Just as the first Cartoon Music canon persisted through the Lower Neighbor Music at bar 72, so too the triplet eighths

---

80. The downward projection occasionally adds an initial stepwise figure to the melodic fragment. Likewise, the nature of the ic5 project varies somewhat between the downward and upward lines. The former projects ic5 at the intersection of each melodic fragment. The latter projects ic5 both at fragment intersections and between fragments. This difference allows Adès to slow its rate of ascent.

from the Swirlier Cartoon Music continue all the way through the end of the Mensuration Canon. This continuation also represents a kind of rebalancing, in which the foreground material (those triplet eighths) recedes to the background (in bars 175 ff.).

The traversal in this passage of all these trajectories at different formal levels exhibits Heraclitus's "unity of opposites." The mirroring of the Swirlier Cartoon Music's lines unifies them by contrast. Likewise, the rebalancing of the triplet and sixteenth note music brings them into unity by preserving the juxtaposition even as their distribution shifts from one to the other. This unity through rebalancing happens on a larger scale as the Swirlier Cartoon Music shifts from the foreground into the background of the Mensuration Canon. Thus, even as the "other and other waters" of motivic transformation flow through this passage, its formal behaviors unify and direct these transformational streams.

4.2.4. How the Mensuration Canon Leads to the Machine Music

4.2.4.1. Re-timing in the Mensuration Canon

Whereas the Rusting Canon music foregrounded the tempo drama by juxtaposition, the three-passage sequence[81] that begins with the Mensuration Canon in bar 174 does so by superimposition. The drama of these measures (174-250) begins with the addition of a new tempo layer in the oboes and English horn. The dotted rhythms of their chorale pull us into a new tempo space that sounds roughly like ♩ = 72. Already, this creates two tempo layers at speeds we have already heard.

Figure 4.14. Oboe chorale at 174 ff.

---

81.   Namely: Mensuration Canon (175-213), Lower Neighbor Tune (214-222), Machine Climax (223-250).

The chorale, whose mirrored rhythmic constructions were discussed previously (§3.2.2.3), becomes the seed for the mensuration canon. The diminuted superimposition of the chorale in the horns and trumpets at bar 190, combined with the two offset pulses in the percussion, give the impression that a more involved mensuration canon is happening. In fact, though the passage does feature at least six different tempo/metrical layers, the full chorale itself is only ever present at two different tempi. The additional layer host either rhythms from the chorale or contrasting material, some motivically identifiable, others heard mostly for their rhythmic properties. Once again, mapping these rhythms in fixed, millisecond durations reveals their relationships more clearly than trying to describe them in traditional notation. Table 4.6 shows how Adès nests compound meters by subdividing an initial long note of 1266 ms into

Table 4.6. How Adès creates multiple tempi in the Mensuration Canon (bars 174-222) by nesting the durations (given in rounded milliseconds) of compound-meter beats in each other. These ms durations make plain the nesting relationship obscured by the traditional notation.

Tempo Nesting	BPM	Material	First Entrance
L 1266	48	Augmented Chorale Rhythm: 422 and 844 ms	174, BD
	48	Downward Chromatic Blur: Subdivides ibid. into 141-ms sixteenths	197, CbCl/Cb.
S 422 / L 844	72	Chorale Beat: 844 ms (Offset from Ob. chorale by 281 ms)	174, Hp/Timp
S 281 / L 563	72	Chorale: 281 and 563 ms	174, Ob./EH
S 188 / L 375	108	Chorale: 188 and 375 ms	190, Hn./Tpt
S 125 / L 250	160	See Saw Figure: 125 and 250 ms	174, Vln. II
S 125	160	Swirlier Cartoon Music: 125-ms triplet eighths combine into irregular meters	174, Vln I

a short of 422 ms and a long of 844 ms Through such nesting and some further derivation, Adès establishes six[82] different metrical layers at four different tempi.

The Swirlier Cartoon Music layer deserves closer attention. Adès composes this layer from a surface pulse that gains its metrical meaning through articulation and contour. By "pulse," I refer to an undifferentiated series of attacks at equal intervals. A pulse becomes a "beat" when it subsumes, or is subsumed within, a subdivision, whether simple or compound. "Beat" implies both the subdivision and governing pulse of a meter, but it is agnostic to the number of beats that meter contains. In other words, beat establishes tempo but not meter. In bar 174 ff., the accents and contours of the Swirlier Cartoon Music's triplet eighths subvert the notated three-quarter time. Instead, this layer begins by notating in triplets what would traditionally be notated as 13/8 at ♩. = 160. As the passage progresses, this layer's accents and contours continue to imply an assortment of irregular meters, first 9/8 and 8/8, and then others.

Figure 4.15. How accent and contour establish an implied 13/8 in the first three gestures of the Swirlier Cartoon Music's triplets, Violin I, bar 174 ff.

4.2.4.2. Mirroring in the Neighbor Tune/Cartoon Music Link

These tempo layers in the Mensuration Canon combine with the passage's pitch construc-tions to create an increasing sense of chaos. Visualized as a wedge, this trajectory resembles the

---

82. There are six metrical layers rather than seven, because the Augmented Chorale Rhythm and Downward Chromatic Blur coincide metrically, whereas the Chorale Beat and Oboe Chorale share the same tempo but are rhythmically offset. Likewise, the See Saw Figure and Swirlier Cartoon Music share a same tempo but project different meters. Though the compound beat sounds clearly in most of these layers, their exact meter is debatable. Inasmuch as the mirrored-rhythm constructions (§3.2.2.3) seem to me the larger organizing principle, I consider it unnecessary to pin down the precise meters contained in the nested layers.

vortex that ends section one (see §4.1.3.2). Adès created both wedge passages through re-timing. In bars 30-52, this entailed shortening the surface rhythm. In 174-213, it consisted of reinterpreting the surface rhythm to create new tempo layers. Both passages lead to segments of ♩ = 80.

In this sense, both sections encompass the same tempo gesture; however, the end of the second section develops the *drama* of this gesture. Instead of landing at another place of relative tempo and pitch stability (as first section did into bar 53), the Neighbor Tune and Cartoon Music that follows the Mensuration Canon only gives short-lived tempo stability. Through mirroring and voice-leading, Adès sustains the Mensuration Canon's tension into the Machine Music.

The Neighbor Tune as it appears in this link passage is motivically unstable. Initially, it presents as a lower neighbor. Afterward, it presents five times as an upper neighbor. Interspersed with this presentations, Adès interjects *pianto* figures and their inversions. The net effect of these changes is that the Lower Neighbor Tune is now an Upper Neighbor Tune and that the trajectory of this line is up. These changes invert both the contour and the voice-leading of the Neighbor Tune music as it appeared in bar 72 ff. and in the Rusting Canon music (92 ff.). Adès further uses mirroring when he brings back the first Cartoon Music tune in the low winds and strings, but, as with the Neighbor Tune music, this presentation also inverts its original.

Figure 4.16. Unstable Neighbor Tune music. Solid slurs represent neighbor tunes. Dashed slurs represent *pianti*/inversions. Slur direction reflects gesture direction.

4.2.4.3. Re-timing in the Machine Music

Cumulatively, these upward gestures create an upbeat into the Machine Music at bar 223. The tempi implied by this passage continues the re-timing drama of the second section. Depend-

ing on a listener's focus in the Mensuration Canon, the descending chromatic fifths in the horns at 223 ff. either continue the ♩ = 108 from the brass chorale or articulate a 3:2 relationship to the oboe chorale's ♩ = 72. Meanwhile, the clanging accompaniment (for which I named the Machine Music) suggests tempi of either ♩ = 54 (if you hear it as a lopsided compound meter having 1,111-ms beats) or ♩ = ca. 160 (if you hear it as a lopsided simple meter having 370-ms beats). The latter tempi predominates the second half of the second section. The former forecasts the notated tempo of the third section (♪ = 52).

In the sense that the Machine Music passage continues the polytempo texture of the Mensuration Canon but with greater textural clarity, it represents a moment of formal focus. The tempo shifts find a simultaneous stability here. The dissonance of these tempi, however, prevents the passage from feeling rhythmically stable.

4.2.5. Trumpet Tune

In short, the second section offered two different strategies for contrasting tempo relationships. In the section's first half, Adès juxtaposed his different tempo regions. In the second half, Adès superimposes them. Poetically, the Trumpet Tune can be heard as the fanfare for the futility of both processes. Moreover, through the horizontal mirroring of its accompanying bass, the Trumpet Tune creates both the upbeat that signals section 2's continued development and the downbeat that marks its conclusion.

Here is the process: At bar 142 ff., the bass moves upward from B to E (see Figure 4.17).[83] At bar 251 ff., it reverses the process, moving downward from B to E to affirm a sense of downbeat into bar 257. In both instances, Adès obscures the voice-leading—in 142 ff., by muddying the bass register, and in 251 ff., by having the basses overshoot the final sixth C♯–E (the F1 leaps down to C♯1 rather than step down to E1).

Meanwhile, the Trumpet Tune reflects the Vortex's subtractive retiming on both local and formal levels. Here, instead of retiming by diminishing the surface rhythm, Adès subtracts

---

83. This harmonic motion forecasts what happens the Neighbor Tune/Cartoon Music link (bars 214-222), which chromatically moves from E to B. It is also prominent in the connection from that latter passage into the Machine music, which moves directly from B to E.

pitches and rests, thereby increasing the tension into the passages that follow them (see Figure 3.24). Adès continues this subtractive process from the passage at 142 to the one at 251. In this sense, the Trumpet Tune both serves as a formal guide post—as a structural, Platonic anchor—and also participates both formally and locally in transformational processes—contributing to the section's dynamic, Heraclitian flow. As I will discuss in §4.4.4, the tune's formal implications will continue into *Tevot*'s coda, in which Adès reverses the subtractive process to create a sense of closure.

Figure 4.17. Subtractive process in the Trumpet Tune

4.3. Bars 257-302: A Focus on Mirroring

4.3.1. Tempo as Analogue for Key Regions

The resonance between tonal key and *Tevot*'s tempo lies in how *Tevot*'s tempo changes create hierarchical relationships between the piece's motivic waypoints. Essentially, the tempo

narrative of *Tevot* is this (see Table 4.4): Two widely disparate rhythmic spaces coexist at the piece's start. These two tempi blend together in the first section's Vortex passage. Then, in the second section, Adès develops the fast rhythms. Next, in the third section, Adès develops the slow ones. Finally, he reunites both speeds in the work's apotheosis. Adès makes these relationships easier to hear by reproducing them locally in the 3:2 and 2:1 trochaic rhythms (and their iambic retrogrades) from which he constructs much of his surface rhythms. These rhythms make the larger tempo relationships easier to hear not only because these ratios reflect those relationships in miniature, but also because they become steady reference points across tempos.

    Tevot's third section comprises the slowest music of the piece.[84] Yet, although the surface of section 3 primarily consists of slow rhythms (indeed, the slowest of the piece per Table 4.4), section 2's fast surface rhythms continue as an undercurrent throughout its first half (till bar 286). Their steadiness also helps give the longer rhythms a sense of scale. Adès attaches the longer durations to the Neighbor Tone and the Chromatic Trichord ideas. But, unlike their presentation in the second section, these tunes do not have steady rhythms. That Adès sets these lines—one Upper Neighbor Tune and two Escape Tone ones—in counterpoint with one another further obscures their relationship to the notated beat. In tonal terms, this passage represents the tempo/rhythmic equivalent of what Richard Taruskin has called the "harmonic far-out point, requisite,"

Figure 4.18. The undercurrent of 384 ms triplet sixteenths, sounding like minnows look swimming alongside the whales, in contrast to the longer Neighbor Tone and Escape Tone lines.

---

84.   Its tempo derives from the Machine Music accompaniment. The unbroken string of metric modulations from 223 to 257 reads as follows: ♩ = ♩ approx. = c. 160 = ♪ in ♪ = c. 52.

he explains, "for a fully articulated 'tonal' form."[85] When the opening material returns (mirrored, as will soon be discussed), Adès begins to prepare the idea that the following music will present a different (and perhaps effective) resolution to the tensions raised in *Tevot*'s first three sections.

4.3.2. Local and Global Mirroring

Adès uses mirroring to organize the polythematic counterpoint in the first half of the section and to vary the return of *Tevot*'s opening in its second half. These mirroring behaviors impart the third section its form on local, sectional, and global scales.

On the most local level, Adès composes bars 257-286 using inversions and retrogrades of his two basic projections—neighbor tones and chromatic trichords.[86] Figure 4.19 shows the many motivic configurations Adès derives from these materials using inversions, retrogrades, and alternate groupings. By "alternate groupings," I refer to those times when Adès either slurs across the motivic figure being transposed (such as how he creates from Upper Neighbor tunes the ascending turn figures in bars 273-276) or extracts such interstitial motivic figures to create new cells (such as the retrograde inversion escape figure in bars 281-286). The simultaneity of these closely related motives adds to the passage's aural murkiness.

Figure 4.19. Mirroring in the Neighbor Tone and Escape Tone lines and in their derivations

---

85. Taruskin (2006) creates this term to describe tonal design in the music of Bach.
86. The Chromatic Trichord idea comes from the variation Adès added to the Escape Tone line that occurs in counterpoint to the Lower Neighbor Tune at bar 72 (see Figure 3.7).

At a sectional level, the voice-leading of the entire passage from bar 257 to 302 twice manifests up-down mirroring. There are two ways to read the first down-up contour in bars 257-280, and the Neighbor Tone Tunes guide both. In one reading, the Lower Neighbor Tune in bars 257 to 272 walks chromatically from pitch-class F♯ down to pitch-class A. In bars 273 to 280, the Upper Neighbor Tune (disguised as a turn figure, then liquidated into an inverted *pianto* figure, before culminating in a final Upper Neighbor Tune) leads chromatically up from G♯ to a high point of G, before closing on F♯. Note that this voice-leading, besides representing a palindrome of contour is also one of pitch-class.

Figure 4.20. Voice-leading in bars 258-286.

In a second reading, Adès inverts pitch voice-leading of bars 258-272 around G5 at the pickup to bar 273. Adès disrupts this inversion of pitch voice-leading in both the downward and upward moving lines that compose it. (In the former, he breaks the inversional symmetry by shifting the register up an octave in the pickup to bar 269. In the latter, he breaks the symmetry in its trajectory and motivic usage. As a pitch voice-leading, the upward line ascends 10 chromatic steps whereas the downward one descends only 7.) This pitch voice-leading supports only neighbor tone figures heading down, but also *pianto* figures heading up.

Both this readings make sense, but the second one highlights the changes by which Adès keeps the music fresh. That this passage can be heard two ways ensures that it retains its freshness in repeated listenings. The interpretive ambiguity constitutes the musical equivalent

of an optical illusion: because the two interpretations are clear yet irresolvable, their paradox becomes beguiling.

The repetition of this down-up contour (in bars 280-302) shapes *Tevot*'s form on both a sectional and a global level (see Figure 4.21). After the *pianto* at letter X (bar 280), the Upper Neighbor Tune again follows a descending voice-leading trajectory from pitch-class F to pitch-class C♯, at which point the opening A-E dyad returns in the first violins and flutes. This return of the opening material (bars 286 to 302) finishes the *section's* pair-mirrored, voice-leading contours by developing along an ascending trajectory.

Figure 4.21. Formal implications of sectional and global mirroring
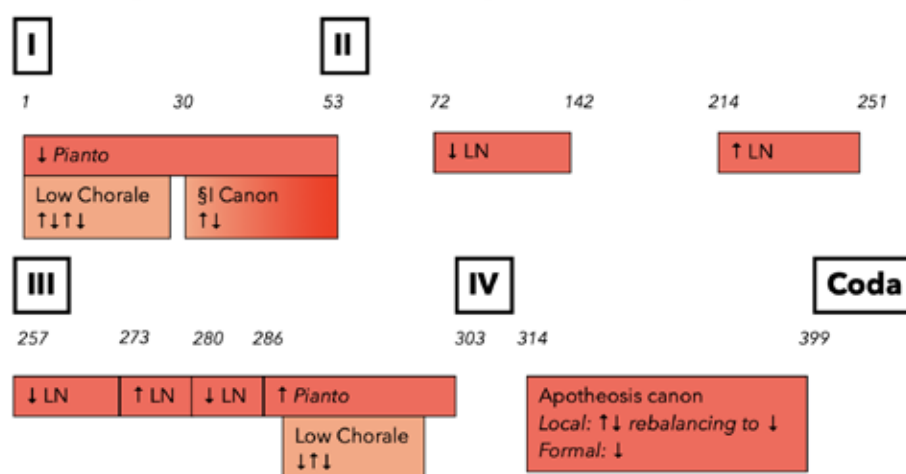
On a global level, this ascending variation of the opening material also marks a notable mirroring event. The passage reverses the *pianto* figures to ascending chromatic steps. Rather than thickening the texture, this return gradually thins it out until the upward, rocking fifths are audible in the strings (at bar 292) and finally wisp away. The ic1 projection in this passage also differs from the opening in that its harmonic rhythm never speeds up here.

Meanwhile, Adès also inverts the soprano of the low chorale, giving it a down-up-down contour (as opposed to the opening's up-down-up-down one), and shortens it by a phrase. The rhythms of the low chorale are also roughly twice as slow as they were in the opening. Combined, these changes create the sense of an emerging void into 302, as opposed to the tighten-

ing up sensation the original created into 53. Both create tension, but toward different ends. The opening passage creates a strong sense of downbeat into 53, whereas this return at 286 creates a strong sense of expectant upbeat into 303.

Adès contributes to this expectant sense of something missing by deftly returning the low chorale *without* its subsumption into the canon (cf. bars 30-52). Thus, Adès has established the expectation that canonic imitation is what should come next if bars 286 ff. are to be a true return. Yet, all the textural, pitch contour, and rhythmic reversals have erased the original path forward.

That Adès never intended for this return to be conclusive is suggested by the continuation of section three's 7/8 meter into the section's second half. By not returning to the passage's original meter, Adès reinforces his signal that things have changed. Although this cue is likely inaudible, the other changes in this section show that, just as with the Trumpet Tune, even when Adès gives structural, Platonic-like signposts, the dynamic, Heraclitian aspect of the music leaves the stronger impact. The Heraclitian nature of Adès's form-shaping behaviors ensures this distinction.

4.4. Bars 302-398: Apotheosis

4.4.1. Imitation & Mirroring

In bars 302-398, Adès fulfills the expectation for an imitative texture suggested by the incomplete return of the opening material. This imitative passage—the longest continuous texture in the entire piece—which not only answers this formal expectation but also intertwines all of the key formal behaviors and motivic processes that Adès had developed over the course of the piece. For this reason, *Tevot*'s fourth section clearly represents the formal apotheosis of the piece. However, this passage is no static summation of what has gone before. Its Heraclitian formal behaviors guide the canon into to the coda.

The canon subject, the "Apotheosis Tune," consists of two halves: its *head*, an unembellished, rising scale segment, and its *tail*, a falling scale segment that transposes a four-note undulation. Explained in these terms, the canon subject obviously exhibits horizontal mirroring in

its contour. The first piccolo entrance at bar 316 demonstrates this construction. A rising, three-note scale fragment starting on E leads to the four-note undulation embellishing A♯. Adès then transposes this undulation down along the scale that it ascended. As will be further discussed, the length of the Apotheosis Tune's two halves varies from entrance to entrance, as does its surface rhythms and diatonic mode.

Figure 4.22. A prototypical imitative entry in the Apotheosis canon: Picc. 1 at bar 316.
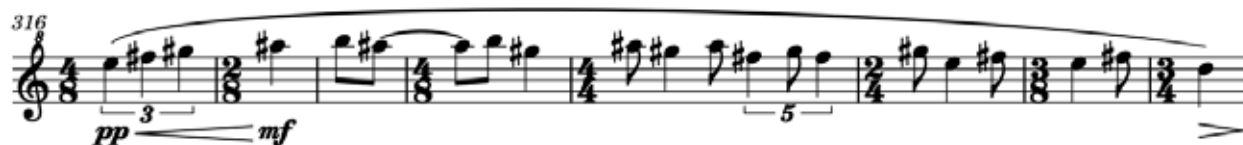
Mirroring also transforms Lower Neighbor Tune to Apotheosis Tune's tail. Either inverting or reversing the first half of the Lower Neighbor Tune produces the contour of the Apotheosis Tune's tail. This tail can also be derived as a repetition of the Escape Tone tune or an outgrowth of the Upper Neighbor Tune (see §3.2.2.3). Like the Apotheosis Tune's tail, both the Escape Tone Tune and the Lower Neighbor Tune replicate their defining motive along a descending scale. The diatonic collections that compose the Apotheosis Tune represent the synthesis of the ic1 and ic2 projections that composed the voice-leading of the Escape Tone Tune and the Lower Neighbor Tune.[87] These multiple interpretations for the derivation of the Apotheosis Tune's tail speaks both to how it fulfills expectations set by earlier motivic waypoints and also to how blurry the boundaries are between these waypoints.

Figure 4.23. Multiple motivic connections leading to the Apotheosis Tune's tail

---
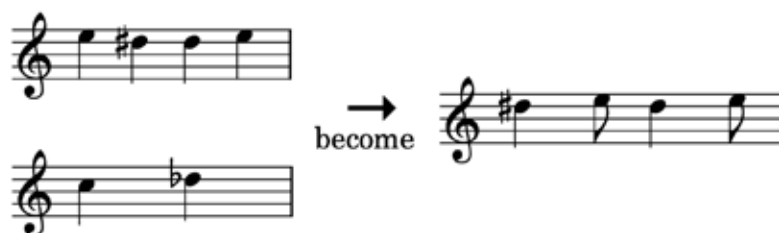
87.   As well as a preponderance of the surface pitch relationships and the voice-leading of the previous 302 bars.

4.4.2. Rebalancing

The Apotheosis Tune enters imitatively 37 times in bars 302-398. Yet, unlike the first Cartoon Music canon, this Apotheosis Tune has no discernible governing logic to when the entrances occur in relation to one another. Instead, the 37 entrances take part in a larger formal logic. Over the course of these entrances, Adès shifts the balance of the Apotheosis Tune from its head to its tail.

This rebalancing can be visualized by graphing for each entrance the ratio of the number of pitches in its head to those in its tail. The first Apotheosis Tune entrance has a 5-pitch head and a 5-pitch tail, yielding a ratio of 1:1. As the ratio approaches zero, the tail becomes the longer part of the segment, until it becomes the only part represented, from bar 370 onward. The trendline in Figure 4.24 shows that, despite local aberrations, this rebalancing represents a gradual overall process.

Figure 4.24. Ratio of pitches in the Apotheosis Tune head to those in its tail.
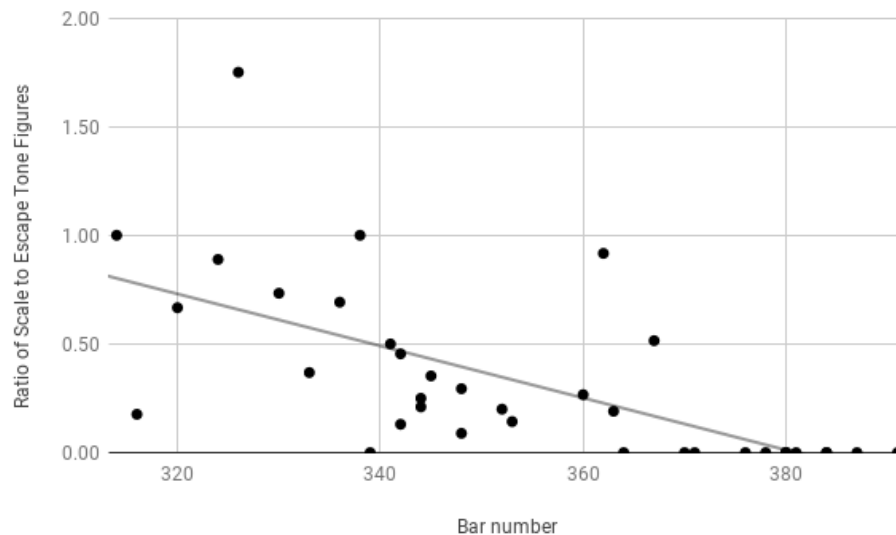
Not only does the Apotheosis Tune rebalance from its head to its tail, but the tail itself also becomes substantially longer as the passage progresses.

61

Figure 4.25. Tail length of Apotheosis Tune entrances
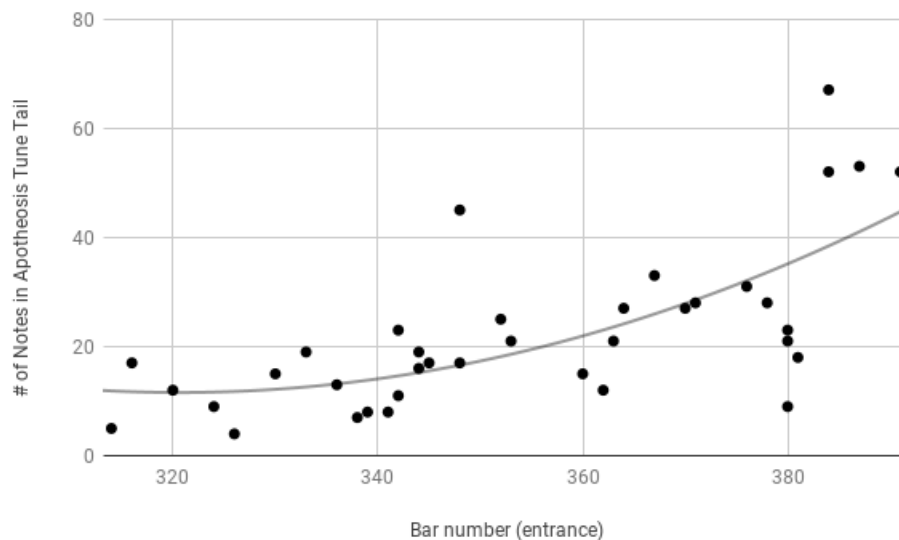
This rebalancing echoes the shifts that happened in the first section, when the chorale imitation became subsumed into the *pianto* figures. It also resembles the rebalancing toward the Lower Neighbor Tune in the Rusting Canon music. Whereas the former rebalancing fully subsumed the original material, the latter stopped at roughly a 1:1 ratio. Because the Apotheosis Tune's tail bears a transformational relationship to the Lower Neighbor Tune, the rebalancing in bars 302-393 can be seen as the fulfillment of its implication.

4.4.3. Re-timing

Section four continues *Tevot*'s tempo drama and rhythmic-motive development. Like the Mensuration Canon at the end of section 2, the Apotheosis Tune canon and its harmonic support, the chaconne, superimpose different speeds of the trochaic and iambic rhythmic cells. The Apotheosis Tune's tail mostly uses durations between 500 and 1500 ms. The chaconne's talea uses the durations of 1500, 2250, and 3000 ms. The fixed durations of the chaconne rhythm provides a steady foil for the variety of rhythms with which Adès expresses the trochaic rhythm of the Apotheosis Tune's tail (see Excerpt 3.3).

Adès uses tuplets and dots unsystematically to alter that foreground rhythm. These rhythmic alterations neither creates steady tempos (as in the Mensuration Canon) nor do they

reflect any clear, larger design. Instead, the minute variations within and between entrances of the Apotheosis Tune simply create a sense of independent rubato.

Section 4 leaves two aspects of *Tevot*'s rhythmic drama unresolved. First, it does not bridge the disparate rhythmic worlds of the previous three sections. Section two consisted of fast, foreground surface rhythms that can often be readily identified in relation to the notated meter. In contrast, the slow, foreground surface rhythms of sections one and three often bear only a hazy relationship to the notated meter. To resolve the dissonance between these two rhythmic worlds would require music that embraces both slow and fast rhythms in a clear relationship. The rubato inflections of the Apotheosis Tune in section four prevent that relationship from emerging. Second, the 1:2:1.5 ratio of the chaconne's talea, expressed in both iambs and trochees, clashes with the pure, 2:1 trochaic rhythms of the Apotheosis Tune's tail. To create a sense of resolution, both foreground and background rhythms would need to harmonize. Thus, while section four unites many elements of the preceding three sections, it still leaves room for closure.

4.4.4. Expressive Apotheosis

These open rhythmic threads reinforce those aspects of the section that make it the piece's expressive apotheosis. Just as rhythmic tension exists between the chaconne's talea and the Apotheosis Tune's tail, the diatonicism of the Apotheosis Tune clashes with the chromatic voice-leading of the chaconne's color (see §3.2.1.3). In both cases, the former element implies a stability that the latter inherently undermines. These persistent instabilities are the Apotheosis passage's defining feature, just as Heraclitus identifies flow as the essence of a river. The tension of the unification of so many developmental threads from the piece against the persistent irresolution of the aforementioned harmonic and rhythmic features is what gives this passage its pathos. By allowing this tension to build for a full third of the piece's duration and combining it with a rebalancing process that points in the direction of the next section, Adès increases the sense of denouement that finally comes in the coda.

4.5. Bars 399-444: Coda

4.5.1. Mirroring

Just as Adès had prepared section four through the form-level deployment of formal behaviors and motivic development, he also prepared the cadence into 399 with these features. The Trumpet Tune proves crucial for this preparation. Just before its first entrance, Adès alludes to a tonal $\hat{3}$-$\hat{2}$(-$\hat{1}$) voice-leading in the oboes and clarinets on B♭-A♭ (Figure 4.26). Wanting this line to be heard, Adès adds the word "dominant" to its dynamic marking. After 253 bars have elapsed, Adès reverses this voice-leading in the Horns: a ♭$\hat{3}$-$\hat{4}$(-$\hat{5}$) on C-D-E (bars 393-398, see Excerpt 4.1). Adès also underscores the moment by having the bass voices in the orchestra proceed in inversion to it: ♭$\hat{3}$-$\hat{2}$(-$\hat{1}$). In this manner, he creates an expanding wedge voice-leading that opens out to the coda's initial A-E dyad. This dyad, here scored for the full orchestra, was the very one that opened the work in the flutes and first violins.[88]

Figure 4.26. Allusion to tonal voice-leading $\hat{3}$-$\hat{2}$-($\hat{1}$) in the oboes and clarinets at bar 140.

---

88. Adès also reinforced the formal significance of this stepwise voice-leading by using it in the Trumpet Tune's bass, also in a mirrored fashion (see Figure 4.17).

These formal voice-leading resemblances are just one way Adès uses mirroring to create a sense of closure into the coda. A more subtle use of mirroring that creates this closure has to do with the rhythmic relationship between foreground and background layers. In section 1, a fast background supported a slow foreground. In section 2, the foreground and background generally moved at similar rates. In section 3, a fast background again supported a slow foreground. In section four, Adès reverses this relationship, supporting the fast surface rhythms of Apotheosis canon with the chaconne talea's slower rhythms. Thus, when the slow-foreground-on-fast-background relationship returns in the coda (see Excerpt 4.1), it feels stable, because sections 1 and 3 had created this expectation.

The rocking fifths and seconds in the background of the coda constitute its most subtle formal use of mirroring. In section one, Adès had arranged these fifths in imitation and covered them with sustained tones so that they would merely create a shimmering effect (see Figure 4.1). In the return of the opening in section three, Adès stripped away the layers so that the imitation inherent to these lines could be clearly heard. Finally, in the coda, Adès again disguises the rocking motion in these rhythms, this time by vertically mirroring them. Thus, the vertical mirroring of this passage takes part in a global-level palindrome of obscurification–clarification–obscurification.

Figure 4.27. Vertical mirroring in the coda: flutes 1 and 2 at bars 399-400 (doubled in the violins).

Figure 4.28. Trumpet Tune metrical rebalancing.

(downbeats in parentheses)
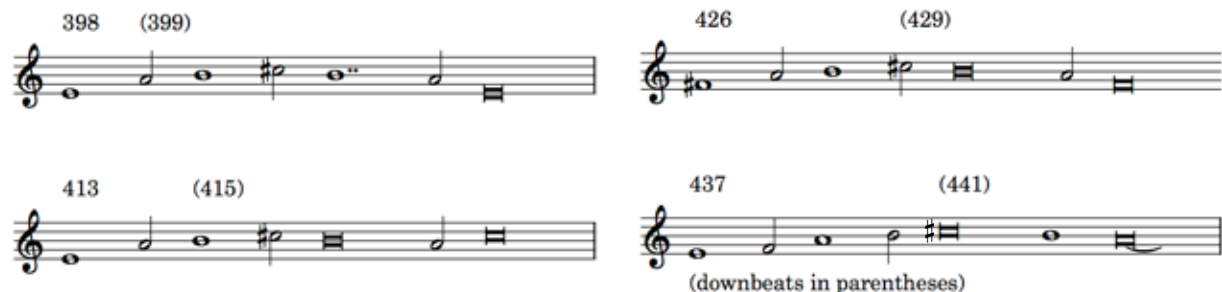
4.5.2. Rebalancing and Retiming

While mirroring behaviors connect the coda to the three different global-level relationships mentioned plus the Trumpet Tune (see §4.2.5), the form of the passage itself is governed by the metrical rebalancing and rhythmic retiming of the Trumpet Tune. The metrical rebalancing of the Trumpet Tune lends strong support to interpreting the oboe-clarinet line at bar 140 as an incomplete tonal reference. As Figure 4.28 shows, each time the Trumpet Tune enters in the coda, Adès shifts the location of its downbeat until the final downbeat emphasizes a C♯-B-A descent to the A-E dyad—in other words, a reference to the tonal $\hat{3}$-$\hat{2}$-$\hat{1}$.

As Figure 3.25 demonstrated, the Trumpet Tune in the coda simply transposes and augments the version that occurred in 379 ff. of section four. The durational relationships that the coda's Trumpet Tune has both to its previous iterations and to the Apotheosis's chaconne not only bring closure to the tempo/rhythmic drama in *Tevot* but also shed light on a comment Adès made about the endings of many of his pieces, including this one:

> One way I tried of ending things—I did this as early as in my Chamber Symphony—is suddenly to have an aerial view of the whole thing. *In Seven Days* also pulls the camera out at the end. *Tevot* does that, *Asyla* does that.[89]

Here is how I see that "zooming out": If we associate the whole and half notes the predominate the coda's Trumpet Tune with the quarter and eighth notes of the Trumpet Tune in section two, and given the simple augmented relationship of the coda's Trumpet Tune to section four's, then the following picture emerges. The section 2 iteration (187.5 and 375 ms) doubles in duration to become the section 4 iteration (375 and 750 ms). In turn, the section 4 iteration doubles again to become the coda's version. Simply put, Adès subjects the Trumpet Tune's durations to a long-range augmentation process that results in them lasting four times as long. Then, in the coda, the metrical rebalancing of the Trumpet Tune shifts the emphasis from trochaic relationship of the whole- and half-note values to that of the whole and double-whole values (1500 and 3000 ms), ultimately producing at 8:1 relationship with the original music. Although Adès has not explicitly connected this rhythmic augmentation to that aerial view, this interpretation offers a

---

89. Adès and Service, *Thomas Adès: Full of Noises*, 44.

fresh perspective on what that zooming out entails. It stands in contrast to those of Emma Gallon and Edward Venn (see §5.4.2), but what it shares with those scholars is a fundamental agreement that the music in some of Adès's codas point to global concerns.

Besides creating a global trajectory with its earlier iterations, the connection between the fixed durations of the Trumpet Tune and those of the chaconne talea also suggest that the coda's iteration of the tune *resolves Tevot*'s tempo drama. The fixed durations of the chaconne talea's 2:1 trochaic relationship (1500 and 3000 ms) match those of the trochaic relationship on which the Trumpet Tune comes to rest (its whole and double-whole notes). In other words, the alignment of the coda's harmonic closure with the Trumpet Tune's metrical rebalancing marks these fixed durations as stable—the resting place of twenty minutes' worth of developing the trochaic rhythm.

The background's trochaic rhythms support this argument. Inasmuch as the coda Trumpet Tune's fixed durations represent stability in the realm of slow durations, the wind and string swirls suggest a parallel closure based on local and global behaviors. On the local level, their duration undergoes a continual activation-enervation process on the coda's first three full-orchestra hits. On each hit, they begin at durations of 125 and 250 ms, connecting them (appropriately) to the duration of the Swirlier Cartoon music (125 and 94 ms). As each hit fades, the swirls augment their durations to 250 and 500 ms (see Excerpt 4.1), only to speed up again on the subsequent hit. Despite the vertical mirroring blurring the contour of these rhythms, in both the Adès and Rattle recordings, this surface rhythm shift is audible. Although the harmonic rhythm in this background layer fluctuates, its changes do not correspond with the layer's rhythmic enervation. Instead, the layer's harmonic shifts simply maintain the local harmonic tension until the final A chord at bar 441.

On the global level, the slower durations for the background swirls match those of the opening's rocking gestures (250 and 500 ms, respectively). Thus, the background's continued drift to these surface rhythms doubly affirms stability, not only by the releasing of rhythmic energy but by the global affirmation of the corresponding music's initial durations. Having

reached harmonic arrival at bar 441, the swirl layer enervates further to durations of 500 and 750 ms, thereby articulating at last the unheard duration governing the opening's tempo (an eighth note at ♪ = 80 being 750 ms). This rhythmic closure answers the harmonic closure.

As when I initially mentioned the analytical utility of fixed durations (§4.2.2.1), some may argue that these connections, being difficult if not impossible to hear, cannot constitute a meaningful formal connection for the listener. I would respond that the preponderance of these connections in the music make it likely that listeners can feel their effect, even if they might not be able to hear them.

The four formal behaviors discussed in this chapter provide further evidence that Adès intends for his listeners to latch onto this rhythmic developmental narrative. Listeners may not notice every detail, but the imitation, mirroring, rebalancing, and re-timing behaviors that suffuse each of *Tevot*'s sections support this narrative. Because many instances of these processes are audible even by casual listeners, the narrative I suggest seems plausible.

That narrative further affirms the Heraclitian nature of *Tevot*'s construction. Through the intertwining of the four formal behaviors and the motivic waypoints in the piece's apotheosis and coda, the piece demonstrates that its form can be well-described as a Heraclitian "unity of opposites." Although different iterations of motivic material and formal behaviors may seem to have little in common, just as sleep and waking, death and life, sickness and health are unified by being contrary manifestations of larger principles, so too *Tevot*'s materials and behaviors reveal their essential unity—iambs and trochees, downward and upward contours, fast and slow tempos—as they continually flow into one another, one thing turning round into another.

Chapter 5. *Tevot* as analytical lens for the symphonic genre

5.1. How Adès's Views on Musical Surface and Musical Reality Frame His Conception of Symphonic Logic

Among his symphonic precedents, Adès's cites Haydn, Mozart, Beethoven, Chopin, Franck, and Sibelius.[90] In this chapter I will shown how, in the symphonies of Beethoven, Franck, and Sibelius, motivic development consists of increasingly intricate surface manipulations of pitch and rhythmic cells and of contour. While some of these manipulations suggest Heraclitian form on a local or formal level, none of these precedents from the symphonic literature exhibit it on both levels or do so in a way that both levels work beneath the music's surface. But Adès expands the nature of motivic transformation past a piece's surface into its underlying "logic."[91]

When talking about "the greatest symphonists," Adès explains that "often the symphonic dialogue is a struggle between . . . topos, or genre, and some logic in the material"[92] He argues that style is not "the reality of the music," but that music's reality "is behind . . . those surfaces."[93] In his own music, Adès believes "there's no separation between [the topos] and the material, the notes. It's simply: does one leave the surface on, or not, like the skin on milk."[94] This relationship between surface and substance reflects the relationship that *Tevot*'s motivic waypoints have to their underlying interval cycles. As I showed earlier, though *Tevot*'s motivic waypoints

---

90. Venn, *Thomas Adès: Asyla*, 43, 46.
91. Adès and Service, *Thomas Adès: Full of Noises*, 78. By this he's essentially referring to the music's contrapuntal underpinnings. See Venn 43.
92. Adès and Service, *Thomas Adès: Full of Noises*, 78. He goes on to cite specifically Haydn's "Joke" Quartet, and Sibelius's Fifth Symphony as examples to elaborate his idea.
93. Adès and Service, *Thomas Adès: Full of Noises*, 78.
94. Adès and Service, *Thomas Adès: Full of Noises*, 79

compose the *surface* of the music, the *substance* of these waypoints consists of their underlying interval cycles.

Reading *Tevot* in relation to Adès's stated symphonic precedents, though, especially Sibelius's Seventh Symphony, shows the difference in surface/substance relationships between Adès and his precedents—especially when read through a Heraclitian lens.

5.2. Some Initial Precedents

5.2.1. Beethoven's Fifth Symphony

Beethoven comes up frequently in Adès's discussions of symphonic thought.[95] Adès identifies him as one of "the greatest symphonists."[96] Of Beethoven's symphonies, the Fifth famously exemplifies motivic development, because of how Beethoven composes its first movement using the so-called Fate motif. From that motif, the rhythmic component mostly[97] retains its identity, like a Lego block. Its pitch components, though, change frequently throughout the movement and those that follow it.

In the first movement, Beethoven frequently presents the contour of three repeated short-note pitches followed by a leap to a longer note. However, as soon bars 7-8, Beethoven begins to introduce other intervals to follow the repeated notes. In bar 10, he fills in the third by transforming the motif's last repeated pitch into a passing tone. This pitch flexibility becomes the primary means by which Beethoven foreshadows the first movement's second theme in its transition.

Figure 5.1. Motivic interweaving in the exposition of the first theme's motif foreshadowing the second theme.

---

95.   E.g., Adès and Service, *Thomas Adès: Full of Noises*, 10, 12, 21, 41-42, 48, 51, 78, 144, 176, etc.
96.   Adès and Service, *Thomas Adès: Full of Noises*, 78.
97.   The most notable exception being bars 177-195, where Beethoven removes on of the motif's eighth notes.

Over the course of the symphony, Beethoven continues to weave his initial rhythmic motif into to the themes of the other movements. The motive appears subtly in the second movement, such as in bass at bar 3 and at the cadence in bars 18-10. It resurfaces prominently in the Scherzo and again in the second theme of the Finale. By working out this motif across the movements of the symphony, Beethoven set a precedent that many later composers followed.

Although Beethoven's Fifth Symphony features the frequent transformation of this motif, this piece and Beethoven's other symphonies cannot be considered strong exemplars of Heraclitian form in music. To begin with, Beethoven's motif, being primarily rhythmic, rarely develops into novel forms[98] but retains its clear identity. Such repetition of a fixed gesture represents a structural rather than dynamic formal approach. Furthermore, in every movement, large passages of music are repeated. Such formal repetition grounds the piece in *structural* rather than *dynamic* logic. Finally, because the final three movements do not strictly derive their thematic material directly from the first movement, they cannot be said to have the kind of relationship that "other and other waters" have to a river. These movements instead constitute separate entities even if they overlap somewhat in thematic content.

5.2.2. Franck's Symphony in D minor

A better example of a unified thematic relationship would be César Franck's Symphony in D minor. Adès took inspiration from that work, citing the slow movement of Franck's Symphony as "a very close model for the second movement of *Asyla*."[99]

Inspired by Beethoven's model, Franck pursued thematic integration further. Unlike the movements in Beethoven's Fifth Symphony, which contain much new thematic material, *every* movement of Franck's Symphony derives from the "germ cell"[100] given at the Symphony's outset.

---

98. See fn. 84 supra.
99. Adès and Service, *Thomas Adès: Full of Noises*, 34. Of Franck's Symphony, Adès says, "I find that symphony a very pregnant piece."
100. For a thorough analysis of these connections, see Henri Van Alphen, "The Structure of Franck's D minor Symphony and its Historical Antecedents" (MM thesis, University of Cape Town, 2007): 43-49. http://hdl.handle.net/11427/11120.

Figure 5.2. Germ cell for Symphony in D minor.

In composing his symphony's first theme from this cell,[101] Franck also lays the ground-work for thematic shapes in the subsequent two movements. As Figure 5.3 shows, in addition to the prevalence of Franck's germ cell, several additional thematic elements emerge and develop over the course of the Symphony.[102]

Figure 5.3. Main themes from the three movements of Franck's Symphony in D minor and their motivic connections.

Bars 3-4 of the first theme are especially rich in their connections. Along one trajectory, Franck develops A-C-A-G (purple) from the first movement as a slow arpeggiation in the second and finally combines the two in the third. In the third, Franck also combines the slow arpeggiation (purple) with the fast one (green) followed by a rising scale fragment (blue). Mean-

---

101. In consultation on this paper, Dr. Michael Hicks pointed out how Franck's germ cell "directly mimics Beethoven's 'muss es sein' motive."
102. These additional threads represent my own analysis. Van Alphen notes the arpeggiation in the first movement's theme but he does not connect it to the subsequent themes as I do.

while, an alternate reading of bars 3-4 recognizes the superimposed germ cell (red) followed by a leap down to G as the pitch contour of the opening 2 bars of the second movement's theme.

Such motivic ambiguity and interweaving pervades Franck's Symphony. Unlike Beethoven's Fifth Symphony, the motif of which maintains its surface integrity, the themes in Franck's Symphony develop a variety of pitch ideas from the initial germ cell. The Symphony's themes then weave these pitch ideas together in novel ways. This kind of motivic interweaving foreshadows Adès's motivic development much more than Beethoven's did. As Adès would do, Franck even atomizes his germ cell to its constituent intervals (see Figure 5.4) to develop the first movement's second theme.[103] Unlike Adès, though, this intervallic derivation of new thematic material does not emerge from strict interval cycles but from the free composition of the intervals in question.[104]

Figure 5.4. Derivation of the second theme from the germ cell's seconds and thirds.

On a thematic level, Franck's motivic interweaving surely approaches a Heraclitian "other and other waters." Nevertheless, the formal design of the Symphony still reflects a more Platonic (structural) attitude because of its large-scale repetitions.

5.3. *Tevot* and Sibelius's Seventh Symphony

In the development of the symphonic genre, Sibelius's Seventh Symphony not only stands out as an example of motivic transformation, but also as a notable, early exemplar of Heraclitian form. As I explained in chapter 1, the many resonances between this piece and *Tevot* illuminate both *Tevot*'s Heraclitian form and Adès's engagement with the symphonic genre.

---

103. Figure after Van Alphen, "The Structure of Franck's D minor Symphony and its Historical Antecedents," 45.
104. It's worth noting though that the intervals of seconds and thirds in this second theme reflect their ordering in the germ cell. The second comes first (D-C#), followed by the third (D-F).

Adès develops two formal aspects of Sibelius's Seventh Symphony: tempo and motivic transformation. However, Adès goes further in motivic interweaving, motivic relationship to local harmony, formal motivic usage, motivic invariance, not to mention surface rhythms, and notated tempo. Ultimately, these formal aspects show that Sibelius's and Adès's symphonies offer distinct but equally Heraclitian visions of musical form.

5.3.1. Motivic Development

Sibelius located "the essence of the symphony" in the genre's "profound logic that created an inner connection between all the motifs"[105] His Seventh Symphony abounds in such motivic connections, as Howell (1986) and Murtomäki (1993) have demonstrated. Almost all of the symphony's thematic material arguably can be derived from the opening scalar idea and the turn figure presented soon thereafter.

Figure 5.5. Opening Scalar Figure.[106]

---

105. Quoted in Karl Ekman, *Jean Sibelius: His Life and Personality*, trans. Edward Birse (London: C.F. Roworth Ltd., 1936), 176.

106. Symphony No. 7 In C Major, Op. 105 By Jean Sibelius. Copyright © 1924 (Renewed) by Edition Wilhelm Hansen AS, Copenhagen, Denmark. International Copyright Secured. All Rights Reserved. *Reprinted by permission of Hal Leonard LLC.* All further examples from the work are likewise credited to Edition Wilhelm Hansen.

Figure 5.6. Turn Figure in bars 7-9.

The thematic process in *Tevot* and Sibelius's Seventh Symphony contrast in how motives derive their identity, interweave locally, govern local harmony, and affect long-range form.

5.3.1.1. Deriving Motivic Identity

Sibelius's motives derive their identity from their melodic contour, which despite all the variations to which he subjects his motives, remain recognizable throughout. In fact, with only the debatable exception of the Trombone Tune, Sibelius introduces all of the symphony's motivic ideas within its first 14 bars. For instance, the turn motive in bars 7-8 shares some key structural features with the Trombone Tune at bar 60: the opening D-C appoggiatura, the low point on G, and the prominent C that follows it. In the former, the C is a local high point. In the latter, C is the tonic pitch.

Figure 5.7. Motivic connections between the turn motive in bars 7-9 and the opening of the Trombone Tune in bars 60-62.

Though the derivation of Sibelius's motivic waypoints is often readily recognizable, he continually transforms motives from section to section. For example, the turn figure in bars 8, 11-12, 92, and 511-518 all share a common resemblance. Other iterations of the turn figure move further afield. But a continual iteration of invariant contour is the defining feature of Sibelius's motivic usage.

Figure 5.8. Resemblance between the turn figures in bars 8 and 92 as well as 11-12 and 511-518.

Tevot does not share this particular instability. In fact, its Lower Neighbor Tune represents a strong counterexample of motivic *stability*. Although Adès does develop the Lower Neighbor Tune into other motivic waypoints, the original tune frequently returns untransformed in the second and third sections of the piece. The only comparable motivic usage in Sibelius's symphony would be the Trombone Tune, to which Sibelius applies only minimal transformations, though notably with new accompaniment. That tune maintains this integrity so that Sibelius can use it to demarcate global form.[107]

In contrast to how Sibelius maintains motivic identity, *Tevot*'s motives all emerge from the piece's underlying interval cycles and rhythmic cells. These generative materials freely recombine to produce novel contours. Unlike the motives in Sibelius's symphony, *Tevot*'s motivic waypoints frequently do not bear a superficial resemblance to one another. For example, consider the relationship of the Rusting Canon tune to the first Cartoon Music tune (see Figure 3.9). Although Adès embeds the former within the latter, this relationship is difficult if not impossible for most listeners to notice. By negating the contour and rhythm of the Rusting Canon tune as it appears at bar 92, the two easiest aural cues for motivic association disappear. Adès further obscures the relationship between tunes because the first Cartoon Music tune shuffles

---

107. This formal usage shares more in common with Tevot's Trumpet Tune than the Lower Neighbor tune. Ironically, the three separate times the Trumpet Tune appears in *Tevot*, it is recognizable mostly for its instrumentation, pitch collection, and general contour, rather than any specific motivic connection.

the iterations of the Rusting Canon tune together like a deck of cards, then places this new order in the same instrument, with fast rhythms. Sibelius never shuffles his motives together in this manner. Because Sibelius's motives retain their contours listeners can easily connect the turn figure in bars 109-110, for example, with the one at bars 133-135 and even to those in the series identified in Figure 5.8.

Figure 5.9. Additional turn figures examples from bars 109-110 and 133-135 to compare with those in Figure 5.8.

5.3.1.2. Interweaving Motives

This contrast in how Sibelius and Adès derive their motives contributes to the differing ways in which their motives can be said to "grow into one another." As chapter 3 shows, much of the interweaving in *Tevot* derives from its motives' common ancestry of interval cycles and rhythmic cells. This shared ancestry ensures that meaningful connections exist between every two motivic waypoints in the piece.

Of all Adès's stated precedents, this kind of motivic interweaving most closely resembles that of Franck (§5.2.2.). Both Franck and Adès shuffle together their motives together like a deck of cards.[108] Franck and Adès also focus on individual intervals (see Figure 5.4). But whereas Adès's intervallic focus emerges from underlying interval cycles, Franck extrapolates his intervallic focus by atomizing the symphony's opening gesture (see Figure 5.2).

Because motivic identity in Sibelius's Seventh relies on recognizable contour, that piece's interweaving most often takes place as surface juxtapositions. Sometimes Sibelius maintains a particular juxtaposition but varies the length or rhythm of the motives that compose it.

---

108. Compare again the relationship between Adès's Rusting Canon tune and first Cartoon Music tune (see Figure 3.9) with Franck's A-C-A-G motive and the arpeggiation motive as it occurs in the symphony's main themes (see Figure 5.3).

For instance, he tightens this opening motivic juxtaposition from 8 bars at the start (Figures 5.5 and 5.6) to four bars and then two bars in bars 90 ff. (Figures 5.10 and 5.11 respectively).

Figure 5.10. Scale and turn motives growing into one another at bar 90.

Figure 5.11. Further scale and turn motives growing into one another at bar 97.

At other times, Sibelius does not preserve a particular juxtaposition but instead freely combines his motives to make larger melodies. For example, he composes bars 94 ff. using the motives from the previously mentioned figures, plus an arpeggiation. Against the fixed oboe variation of the scale-turn in-growth (bars 94-95), the violins present a succession of scalar, turn, and arpeggiation figures. Among other developmental lines in this passage, note how the violin first expands the 4-note scalar start to the turn figure in bars 95-96 into a 7-note scalar figure in bars 99-100. Finally at bar 106, Sibelius combines the expanded scalar figure with an even longer turn figure. Although Sibelius uses contrasting timbres to highlight these different motivic threads, they follow one another in the foreground as a single melody.

Figure 5.12. Motivic interweaving in bars 90-108 of Sibelius's Seventh Symphony: scales, regular slur; turns, dashed slur; arpeggiation, slashed slur.
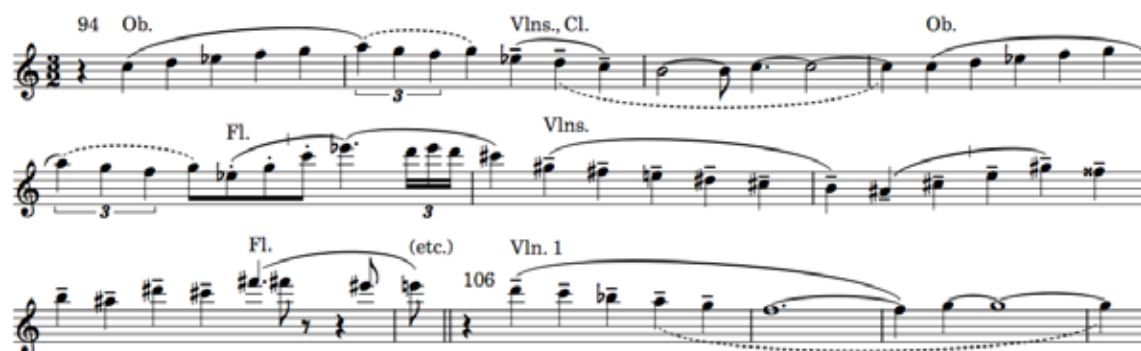
In contrast to Sibelius, Adès rarely juxtaposes motivic waypoints so quickly to create melody in *Tevot*. Consider, for example, the Cartoon Music canons and Rusting canons. When Adès juxtaposes the two Cartoon Music tunes in 53-71, the two canons have a clear foreground-background relationship. Despite deep motivic connections (§3.1.2), they are not interwoven in the foreground. Consider also the Lower Neighbor Tune and Rusting Canon Tunes. While they do succeed one another in the foreground of bars 72-141, these motivic waypoints do not coalesce into a single foreground thread.

Other examples, however, represent closer analogs to Sibelius's practice. In the rebalancing in bars 30-52, Adès gradually conflates the foreground chorale imitation with the background *pianto* texture—but, unlike the Sibelius example (Figure 5.12), Adès does not continually cut back and forth between motives. After beginning the imitative passage with a one-note expansion of the chorale tune at bar 30, every subsequent phrase is simply a concatenation of *pianto* figures (Figure 5.13).[109] This single-point juxtaposition of the low chorale idea with the pianto figure does not reflect the multi-point concatenation of motives by which Sibelius creates melodies.

---

109. It is only through voice-leading and instrumentation that we hear the *pianto*-derived imitative lines as a continuation of the low chorale. These foreground pianto figures maintain their preeminence in the texture because Adès ends the sustained background tones in bar 32. Because from then on the background only projects the pianto figures in its voice-leading, the longer pianto figures in the foreground do not become conflated with the background's pianto figures until the Vortex happens (see §4.1.3.2).

Figure 5.13. Gradual foregrounding of *pianto* figures in bars 31-50 of Adès's *Tevot*. Rhythms (greatly) simplified. Dashed slurs show phrasing. Solid slurs identify *pianto* figures.
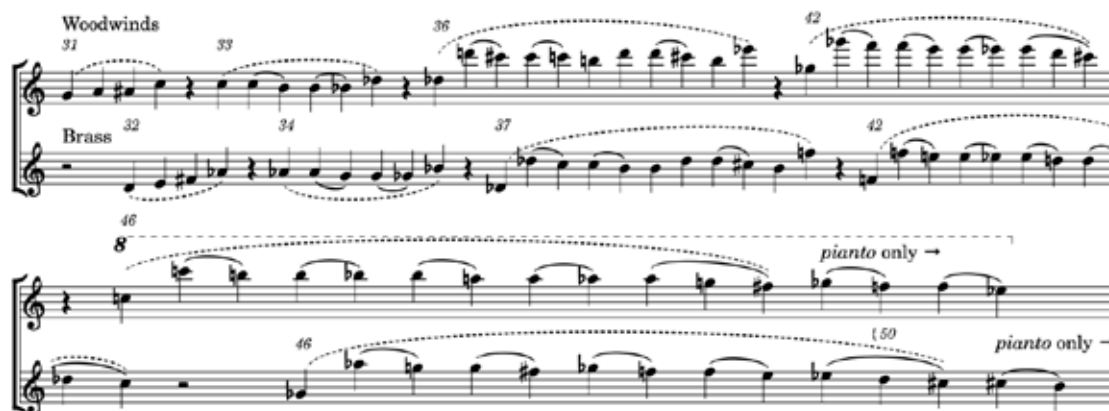
Adès comes closest to Sibelian motivic practice in the Neighbor Tune music that begins *Tevot*'s third section. There, the melodic line of this passage encompasses a variety of transformations to the Neighbor Tune (see §4.3.2, esp. Figure 4.19). This *monocultured* derivation of motives resembles Sibelius's use of turn figures in bars 244-247 (see Figure 5.14). However, Adès does not stop with melodic juxtapositions of these iterations of the Neighbor Tune but composes the entire foreground, contrapuntal texture with them. In the resulting motivic soup, it can be difficult to pinpoint which transformation a melodic line is exhibiting: Lower Neighbor Tune? Chromatic trichord? Escape Tone Figure? By mixing eight such transformations in counterpoint, Adès presents the opposite extreme to the clear cut, single motivic juxtaposition of bars 30-52. Sibelius never saturates his textures with motivic transformations in this way.

Figure 5.14. Four different applications of turn figures in bars 244-247.

5.3.1.3. Governing Local Harmony and Affecting Global Form

The different ways that Adès and Sibelius interweave their motives correspond to contrasting formal strategies. Because Adès's motivic waypoints derive from background harmon-

ic cycles, they quite easily govern local harmony. The chaconne that supports the Apotheosis canon is the most notable example (see §3.2.1.3). Its root relationships being derived from the first Cartoon Music tune, the chaconne progression governs the harmony of the entire fourth section of *Tevot* (see Figure 3.14). The escape tone root progression that supports the Wonder Chords at bar 72 ff. reverses this usage, going from being a harmonic phenomenon at bar 72 to a melodic feature in section three (see §3.2.1.1). The ic5 projections that scaffold the opening's *pianto* figures find a variety of novel harmonic applications throughout *Tevot*. They govern the projection of the Swirlier Cartoon Music at bar 151 ff. (see Figure 4.13). Like the escape tone root progression, these fifths often rise to the surface-feature level, such as in the Cartoon Music tunes, the Rusting Canon tune, and the Machine Music's horn melody.

Figure 5.15. Fifths as surface feature in the Machine Music's horn melody

In contrast to the fluidity with which surface and harmonic features exchange roles in *Tevot*, Sibelius's melodic motives rarely yield harmonic fruit. For every passage that arguably exhibits stepwise, harmonic sequences, which by default develop the opening scale figure,[110] abundant other examples exist of sequences at thirds.[111] Thus, it is debatable whether these stepwise harmonic sequences represent a true example of Sibelius developing the scale motive harmonically or a simple outgrowth of his sequence-heavy, harmonic thinking.

Although it is uncertain whether Sibelius uses motives to generate harmony, he clearly uses them to articulate form. Still, there exists a marked contrast in how Sibelius achieves this purpose and how Adès does. In general, whereas Sibelius uses his motivic iterations to blend sections together, Adès uses his motivic waypoints to divide sections.

---

110. Cf. Figure 5.5 to bars 14-16, 18-21, 74-80, 115-117, 128-130, 252-257, and 258-261.
111. See bars 136-143, 162-169, 187-194, etc.

Sibelius hints at one of his blending strategies in how he articulates the symphony's opening sections. Analysts typically find a formal articulation at bar 60, where the Trombone Tune begins. Many also identify one at bar 22 with the string chorale.[112] Both sections contain clear authentic cadences. I would argue, though, that, harmonically, the string chorale section does not begin until the downbeat of 24. Though the winds arrive on the dominant of C in bar 21, the strings prolong this harmony until it resolves to the tonic in bar 24. In my reading, the cadence of bars 1-24 elides with the start of bars 24-60, which in turn elides with the section in bars 60-92.

Figure 5.16. Authentic cadences in bars 21-24 and 59-60.

112. See Maurice Boyer, "The Articulation of Time in the Seventh Symphony of Jean Sibelius: Toward Informed Performance" (DMA dissertation, University of Maryland, College Park, 2012): 29-33; Theophanis Dymiotis, "Antithesization and Continuity in Sibelius' Symphonies" (PhD dissertation, Princeton University, 1995): 98; Timothy Howell, "Jean Sibelius: Progressive Techniques in the Symphonies and Tone Poems" (PhD thesis, University of Southampton, 1985): 89-90; and William Pavlak, "Sibelius's Seventh Symphony: Genesis, Design, Structure, and Meaning" (MM thesis, University of North Texas, 2004). Pavlak, following Laufer, suggests an alternative reading that ignores this formal articulation (49-50), but ultimately settles on a reading that includes it (57-58).

Consequently, the string texture in bars 22-23 would represent a subtle crossfade—motivically and texturally—between sections.[113] This motivic crossfading becomes one of the primary strategies by which Sibelius moves between sections.[114]

The first of these cross-faded transitions happens moving from the end of the Trombone Tune passage into the "Un pochett. meno adagio" one (bar 93). Here, Sibelius uses voice-leading to connect the preceding bars back to the symphony's two key motives (Figure 5.5 and 5.6) in bars 90-92 (see Figure 5.10). At bar 93, the tempo, texture, and mode all change, signaling the start of a new section. The pedal C2 in the fourth horn that holds from 90 through the middle of bar 93 prevents any functional harmonic articulation. The next melodic event, in bars 94-95, presents a conglomeration of the two previously heard motives (Figure 5.11). This initial, conglomerated version of the two motives becomes a steady motivic presence through bar 118. Thus, as with the crossfade in bars 20-24, Sibelius bridges the sections starting at bars 60 and 93 by motivic crossfading over bars 90-95.

Other motivic crossfades can be observed in bars 134-156, 201-222, 257-285, 334-345, 407-411, and 449-486. Each of these instances have interesting features. The one in bars 134-156 encompasses two simultaneous crossfades (the cello turn figure and the Vivacissimo melody both introduced in bars 139-155).

---

113. The lower neighbor motive that connects the winds in bars 21-22 with the violas in bar 23 supports this idea. In terms of voice-leading, it makes more sense to group this repeated surface feature as it approaches the tonic in the soprano voice than it does to argue they take part in two different harmonic phrases. In terms of motivic development, this reading shows Sibelius latching on to a motivic figure at the end of a section, amplifying it, then using that figure to seed a new section.
114. After the authentic cadence into bar 60, Sibelius reserves aligning authentic cadences with section divisions only for returns of the Trombone Tune.

Figure 5.17. Double crossfade over bars 134-156.
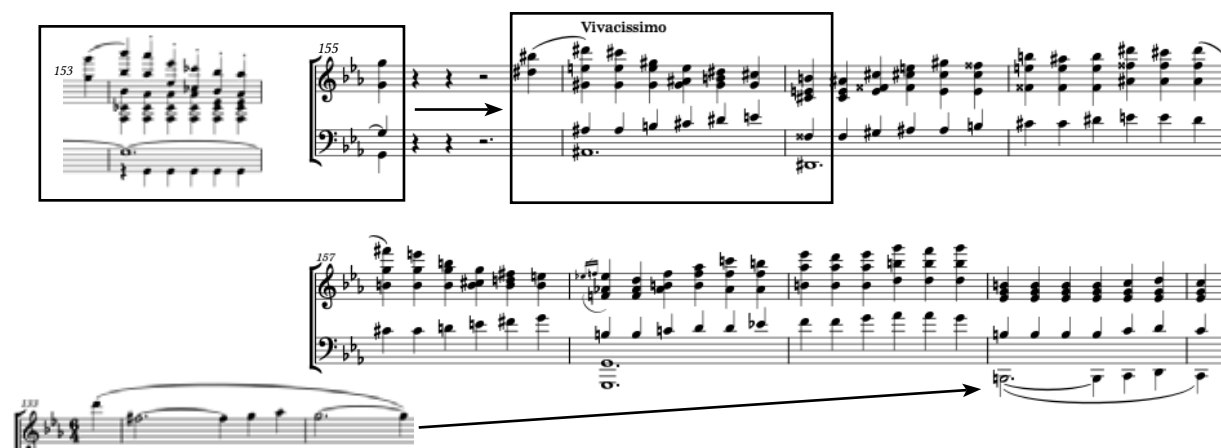
The one in bars 257-285 contains two overlapping crossfades. The first (bars 257-265) spawns the lilting theme of bars 285 ff., and the second (bars 263-285) finishes the transition *into* the lilting music.

Figure 5.18. Overlapping crossfades of bars 257-285
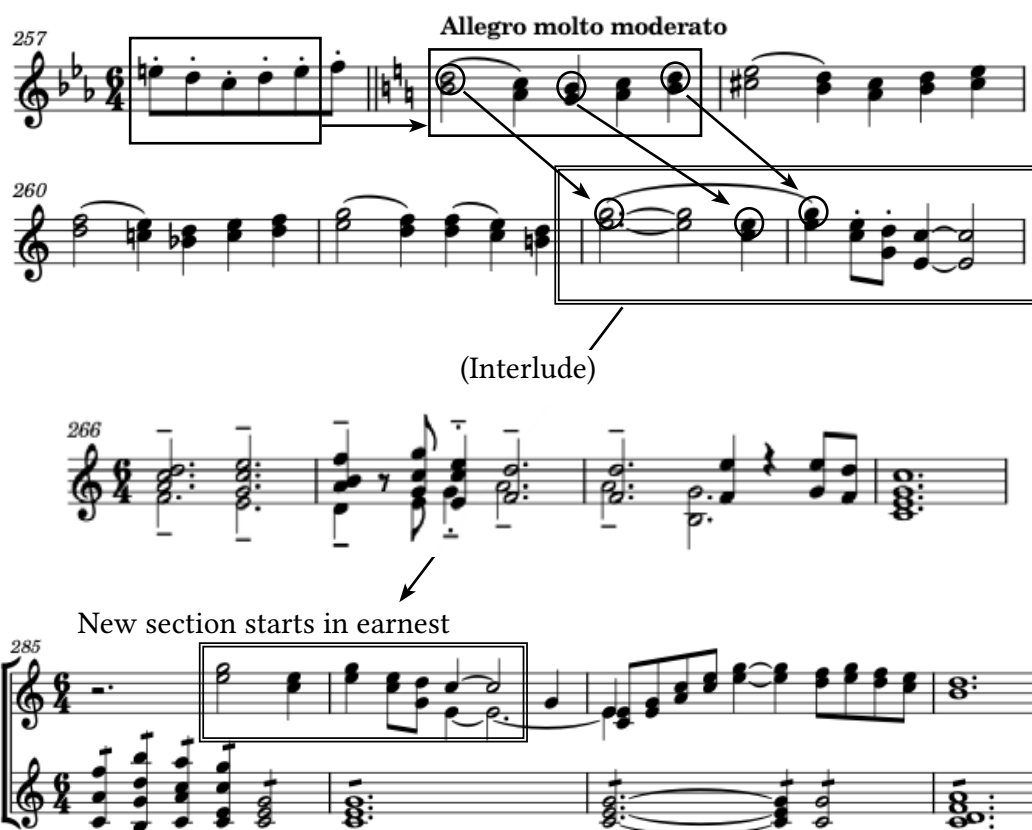
The motivic crossfades that pertain most to my argument happen in bars 201-222 and 449-486, where we witness most clearly, Sibelius's formal blurring strategy. In both cases, the old section crossfades into the Trombone Tune and sustains its texture from the old passage as the accompaniment in the new one. This crossfade is somewhat different than the previously mentioned ones because it is not a crossfade of foreground material to foreground material. Instead, these crossfades take foreground material and send it into the background. The first of these crossfades into the Trombone Tune also shows the extreme length of which some of these crossfades can consist. On the surface of the music, the Vivacissimo passage ends with a Phrygian cadence into 208. Over the next 14 bars Sibelius builds the leftover undulation until the entrance of the Trombone Tune in bar 222. A closer examination of the motives in this passage reveals that Sibelius had been using this material at least as far back as bar 153 (itself part of the crossfade over bars 134-156). Such long preparation not only lends to the sense of inevitability with which the undulating motivic wave floods the second Trombone Tune passage but also contributes strongly to the formal blurring Sibelius creates in the symphony.

Figure 5.19. Motivic crossfade into bar 222 (Trombone Theme)

Adès uses a similar crossfading strategy twice in *Tevot*. He sustains first Cartoon Music canon from its start in bar 53 through the end of the Lower Neighbor Tune passage at bar 91. Likewise, he carries the Swirlier Cartoon Music (starting in bar 151) through the end of the Mensuration Canon (bar 222). In both passages, Adès maintains the old texture as an accompaniment throughout the new section, just as Sibelius does in the returns of the Trombone Tune.

As the only two examples of such adjacent crossfading in *Tevot*, Adès adds nothing to Sibelius's crossfading practice and borrows only one usage from it. In fact, instead of blurring the boundaries between passages, Adès generally sharpens them. Apart from these two exceptions, Adès creates clear divisions by segregating motivic waypoints and strongly contrasting the textures in which they occur. Even when the difference between textures is relatively subtle, as in the transition from the Lower Neighbor Music in section three to the return of the opening *piano* music in 286 (or also the transition from section 3 to section 4), the contrast of motivic waypoints prevents these two sections from blending into each other.

The brunt of the Seventh Symphony's developmental discourse consists of the continual transformation of the opening scale/turn figure pairing. I have already discussed how this pairing evolves from bars 1-12 to 90-92 and then 94-95. Sibelius does not stop developing the conglomeration of these two motives there. He continues it at bar 119, where he transforms it into triplets, and again at bar 134, where he uses those triplets not only to effect a modulation but to present a new transformation of this pairing. After the Vivacissimo and Trombone Tune music, Sibelius continues to develop the pairing in bars 246 and 324.

Figure 5.20. The scale/turn figure pairing at bar 324 (cf. Figures 5.5-6, 9-12, and 14).
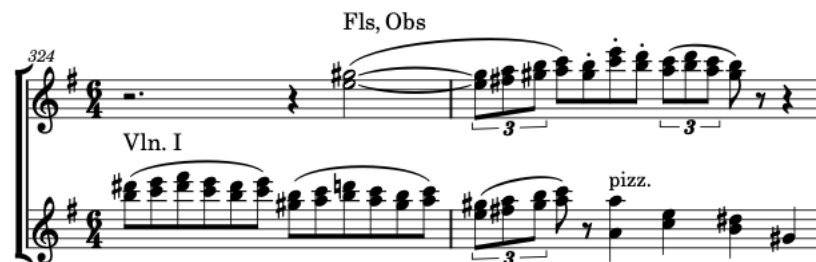
This final transformation is the most minimal, going from staccato articulations to slurred ones. All told, this developmental trajectory persists through almost two-thirds of the piece. Although it is beyond the scope of this paper to discuss why it seems to stop there, this long-range motivic development constitutes the core inheritance Adès develops from Sibelius. As chapter 3 shows, *Tevot* is replete with long-range motivic trajectories. Adès can so greatly surpass Sibelius in this feature again because *Tevot*'s motivic construction enables his motives to more deeply interpenetrate one another (see §5.3.1.2).

One final strategy by which Sibelius articulates his symphony's form with motives consists of returning fixed ideas. "Indeed," as Pavlak mentions, "most readings of the Symphony regard this [Trombone Tune entrance] and its two subsequent appearances (m.221ff and m.476ff) as the cornerstones upon which the entire formal edifice is built."[115] But what few analysis discuss[116] is the falling gesture that Sibelius uses to articulate the end of every major section from the one starting bar 93 until the retransition at bar 449.

Figure 5.21. The falling gesture that articulates every major section from bar 93-449. This instance is from bar 320 in the first violins. (Cf. the falling gesture in Figure 5.19.)

The ubiquity with which Sibelius applies this gesture makes it the motivic equivalent of a harmonic cadence.[117] Combined with changes in tempo, motivic crossfades, and functional cadences, the falling gesture is one of the primary methods by which Sibelius articulates the symphony's form (see Table 5.1).

---

115. Pavlak, "Sibelius's Seventh Symphony: Genesis, Design, Structure, and Meaning," 48.
116. Dymiotis mentions it in passing (122-124) but never connects the dots.
117. As Dymiotis notes (122-124), Sibelius introduces this gesture in bar 99. Sibelius first uses it in bars 106-107 to articulate the end of the section starting at bar 93. He then goes on to use it articulatively in bars 149, 201, 241, 263, 315, 399, and 447.

Table 5.1. Formal design of Sibelius's Seventh Symphony, as articulated by tempo (T), functional harmony (H), motivic crossfades (C), and the falling gesture (FG). Bar numbers given for the crossfades and falling gestures that introduce the new sections

1	22	60	93	109	134	156	222
Scale, Turn	Chorale	Tbn Tune	S/T1		S/T2	Patter	Tbn Tune
	H	H					H
			T	T	T	T	T
			C (90)			C (134)	C (208)
				FG (106)		FG (153)	FG (208)

244	258	285	320	343	409	449	476	506
S/T3		Lilt	S/T3'	Lilt'	Patter'	Patter''	Tbn Tune	Coda
							H	
T	T	T			T	T	T	T
	C (257)	C (263)		C (334)	C (399)		C (449)	
FG (241)			FG (315)		FG (407)	FG (446)		

In the realm of using motives as formal markers, Adès captures the essence of Sibelius's usage without directly replicating it (see §5.3.1.1 regarding the Trumpet Tune and Lower Neighbor Tune), but no functional equivalent to Sibelius's falling gesture exists in *Tevot*.[118]

5.3.2. Tempo Transformation

Adès also resembles Sibelius in how he transforms tempi, building on Sibelius's precedent while adding his own take. Sibelius and Adès both use changes of prevailing surface rhythm to effect tempo changes. But whereas not all of Sibelius's tempo changes consist of metric modulations and strict tempo ratios, all of Adès's do.

These two approaches to tempo transformation, though, seem to contradict the works' different formal motivic usage. Although Adès creates sharp motivic contrasts that separate *Tevot*'s

118. Whereas Sibelius's falling gesture is a single-bar event that occurs without fail at major section divisions, Adès's Lower Neighbor Tune often lasts many bars and does not articulate the end of any of *Tevot*'s sections.

sections, his tempos blur together because they represent a larger tempo network. Understandably, given their differences in generations, Sibelius uses motives to blur his symphony's sections into one another, but his tempos do not exhibit *Tevot*'s level of integration. Sibelius does not need that level of integration to accomplish his ends. Instead, he derives tempo changes by using surface rhythms to blend slower tempi into faster ones. This method of tempo transformation compounds Sibelius's seeming goal of formal seamlessness, as suggested by his motivic usage.

Sibelius's tempo transformations fall into four categories: surface rhythm sleight of hand, metric modulation, gradual tempo changes, and sudden changes of metronome marking. Nearly all of these tempo changes complement motivic blending (§5.3.1.3), which adds to their seeming smoothness. The metronome markings Sibelius provided to requests about his symphonies' tempos greatly aids in understanding these relationships.[119] Table 5.2 lists each of the tempi in Sibelius's Seventh Symphony with the manner in which Sibelius makes them happen.

Table 5.2. Tempi and transformational categories in Sibelius's Seventh Symphony

Bar	Tempo	Method	Motivic Connection?
1	♩ = 76	—	
22	(♪ = 76)	surface rhythm sleight of hand	
93	♩ = 76	subito	✓
101	♩ = 84	subito	✓
134	♩. = 104	metric modulation via accel. (♩ = ♩.)	✓
156	♩. = 152	subito	✓
222	♩ = 56	metric modulation via rall. (♪ = ♪³)	✓
244	♩. = 56	metric modulation (♩ = ♩.)	✓
257	♩. = 76	subito	✓
285	♩. = 84	accel. (no metric modulation)	✓
409	♩. = 126	subito	✓
449	♩. = 160	subito	
476	♩ = 56	metric modulation via rall. (♩ = ♪)	✓

119. See David Cherniavsky, "Sibelius's Tempo Corrections," *Music and Letters* 31, no. 1 (1950), 55. https://doi.org/10.1093/ml/XXXI.1.53.

Sibelius lays the groundwork for this tempo fluidity by beginning his symphony with a passage featuring tempo ambiguity. Although not to the degree of the opening of *Tevot*, the opening of Sibelius's Seventh Symphony also conveys an ambiguous sense of pulse. His quarter-note pulse is ambiguous here for reasons similar to *Tevot*'s initial pulse is ambiguous: syncopation and a lack of steady pulse-level events after the first two bars. Still, in bars 13-21 and 22-59, Sibelius gives the impression of two different beats with no tempo change.[120]

In *Tevot*, Adès also uses surface rhythm to change the apparent tempo in the Vortex (§4.1.3.2), the Swirlier Cartoon Music (§4.2.3), and the Mensuration Canon (§4.2.4.1). Of these, the effect of switching between triplet eighths and straight sixteenths in the Swirlier Cartoon Music sounds the most like Sibelius's use of sleight of hand, because it contrasts two subdivisions in juxtaposition.[121] The Vortex and Mensuration Canon involve far more subtle effects. In the former, Adès gradually shortens the surface rhythm to imitate an accelerando. In the latter, Adès layers different subdivisions to give the effect of multiple tempi. More broadly, Adès's total tempo integration could also be considered a kind of surface rhythm sleight of hand inasmuch as it interconnects all the surface rhythms into a larger, modulation-like network of relationships (see §4.3.1).

Surface-rhythm sleight of hand constitutes the foundation of metric modulation. But these two tempo transformation strategies differ in how they treat durations across tempi. In metric modulation, the common duration in the latter produces a new tempo and new subdivisions. In contrast, simple sleight of hand tends to suppress common surface durations (e.g., the difference between bars 13-21 and 22-59 in Sibelius's symphony and the Swirlier Cartoon Music in *Tevot*). The Vortex passage in *Tevot* is an interesting case. Although Adès accomplishes it through sleight of hand, the purpose behind this transformation aligns more closely with Sibelius's use of metric modulation. Indeed, most of Sibelius's metric modulations happen after a gradual change of tempo. This, along with their lack of simple-ratio tempo relationships, prevents them from creating the kind of integrated tempo network *Tevot* has.

---

120. This happens because the quarter-note surface motion predominates in bars 13-21 whereas half-note surface motion predominates in the latter passage.
121. It can also be heard as a development of hemiola.

By far the most common way Sibelius changes tempo is actually through sudden, immediate tempo changes. This simplest of methods accounts for 6 out of the work's 12 changes. These changes show that the continuity Sibelius maintains between tempo regions owes more to the motivic connection between them rather than any durational connection they share (see §5.3.1.3). As surprising as this may be for a work known for its subtle changes of tempo, *Tevot*'s proportion of sudden tempo changes is even starker. Twelve out of *Tevot*'s thirteen tempo changes fall into this category. Unlike Sibelius, who accomplishes his seamless transitions between sections by motivic crossfading, Adès creates seamless transitions between tempos because his tempo changes are all proportionally related to one another.

5.3.3. Heraclitian Forms

Ultimately, Sibelius's and Adès's differing applications of motivic and tempo transformation both result in pieces that exhibit dynamic (Heraclitian) rather than static (Platonic) form. The differences between the two works merely shift the location at which this dynamicism happens. In Sibelius's symphony, the dynamicism happens on the music's surface. Motives interweave primarily through novel melodic amalgamations. Motivic crossfading blends sections and tempo regions together. These operations result in music whose *form* resembles the "other and other waters" of which Heraclitus speaks.

In contrast, *Tevot*'s basic materials resemble the "other and other waters" because its interval cycles and rhythmic cells operate beneath the musical surface. Its form, instead, represents Heraclitus's "unity of opposites." These differences show that Adès did not straightforwardly copy Sibelius's techniques in creating a work that Adès considered symphonic. Instead, what carries over from Sibelius are broad procedures (motivic and tempo transformation), transformed by Adès's idiosyncratic approach to motivic generation and interweaving.

5.4. *Tevot* and *Asyla*

Just as *Tevot* develops lines of symphonic thought from Sibelius's Seventh Symphony, it also develops Adès's own symphonic conception in *Asyla*. In *Tevot*, Adès increases his music's Heraclitian formal conception. One sees the seeds of that development in *Asyla*.

5.4.1. Tempo Transformation

Although *Asyla* and *Tevot* both fall broadly into four sections with different tempi (in *Asyla*'s case, actual movements), Adès does not unify *Asyla* through integrated tempo transformations as he does in *Tevot*. In fact, *Asyla*'s conception of tempo strongly contrasts with *Tevot*'s. *Asyla* is filled with sudden, irrational[122] tempo changes and frequently requires accelerandi and rallentandi. In contrast, *Tevot*'s tempo changes nearly all align on a strict grid (see §4.3.1.3) and only sparingly call for gradual changes of tempo.[123] Still, certain passages in *Asyla* do anticipate the way Adès uses tempo in *Tevot*.

From *Asyla* to *Tevot*, Adès simplifies his use of metric modulation and focuses it to the end of his total tempo integration. Among other examples in *Asyla*,[124] its second and fourth movements use metric modulation to create a similar relationship as the Rusting Canon music has to the Lower Neighbor Tune in *Tevot* (bar 91), facilitating movement between triplets and straight rhythms. The metric modulation in *Asyla*'s first movement, however, equates the duration of an entire bar to the beat that follows it (Figure 5.22). Because *Tevot* consists only of rational tempo relationships, the opportunity for such a metric modulation never arises in the piece.

Apart from metric modulation, *Asyla* anticipates two other tempo practices in *Tevot*. *Asyla*'s second movement ends with a notated accelerando that grows from ♩=30 to ♩=130 (bars 95-end). The persistence through this passage of the second movement's melody in a steady quarter-note rhythm creates a vortex effect similar to the ending of *Tevot*'s first section. *Tevot* takes it a step further by creating the accelerando through decreasing rhythms in a steady tempo.

---

122. i.e., that don't conform to clear ratios.
123. *Tevot* has only three gradual tempo changes notated for the conductor (as opposed to those implied by the surface rhythm): ritardandi into 286 and 302 and from 441 to the end.
124. See I/140, II/68, II/76, IV/29, and IV/59.

Figure 5.22. Metric modulation in bar 140 of *Asyla*, first movement.

In the third movement of *Asyla* (bars 111-115, rehearsal L-N), Adès pits a fast, changing-metered wind line against a steady 4/4 accompaniment in the percussion and strings (see Excerpt 5.1). Although this creates two distinct layers of motion, they both happen at fundamentally the same tempo. Instead, the metrical contrast between the two passages creates the sense of two diverging streams of time. This passage is similar to the Mensuration Canon in *Tevot* in that they both create divergent layers. *Tevot*'s Mensuration Canon, however, has a full five different tempo streams whereas this passage in *Asyla* has only one.

In short, *Asyla* has no coherent system of tempo transformation like *Tevot* (or Sibelius's Seventh Symphony). Nevertheless, between metric modulations, the vortex acceleration, and the multiple layers, *Asyla* actually has most of the elements that produces *Tevot*'s tempo scheme. What's missing from *Asyla* are the rational tempo relationships.

5.4.2. Motivic Development

5.4.2.1. Interval Cycle Interlocking

Adès constructs both *Asyla*'s and *Tevot*'s melodies by interlocking interval cycles. As we have seen, *Tevot* displays this technique, for instance, in the Cartoon Music tunes (§3.1.2). Such interlocking in *Asyla* has also been shown by Travers and Venn in the derivations they have offered

for many of *Asyla*'s melodies. For instance, Travers[125] analyzes the main melody of the first move-

ment as comprising three interlocking interval cycles (Figure 5.23): two of ic3 and one of ic5.

Figure 5.23. Travers's analysis of the main melody of *Asyla*'s first movement.

Venn notes that *Asyla*'s interval cycles encompass "more varied intervallic content"[126]

than the Violin Concerto. The same holds true for *Tevot*. Adès develops every variation in *Tevot*'s

interval-cycle design out of the piece's initial ic1 and ic5 web. In contrast to *Asyla*'s first move-

ment tune, that of its second movement projects ic1 in a way that generates chromatic, octatonic,

and hexatonic scales in its different voice-leading layers (Figure 5.24). Travers's and Venn's analy-

ses of *Asyla*'s other motives reveal a similarly heterogenous design.

Figure 5.24. Venn's analysis of the main melody of *Asyla*'s second movement.
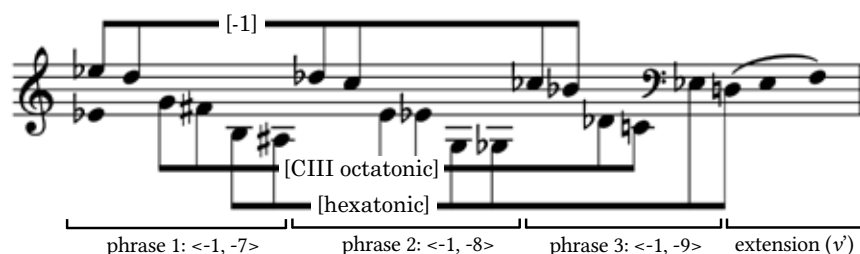
In *Tevot*, Adès shifts from such a variety of generative interval cycles within a piece to a

more limited set. This development ensures that *Tevot*'s motifs share a greater number of con-

nections. In this manner, Adès more closely approaches in *Tevot* his ideal of having his motifs

"grow into one another."[127]

---

125. Aaron Travers, "Interval Cycles, Their Permutations and Generative Properties in Thomas Adès' *Asyla*" (PhD dissertation, University of Rochester, 2004): 7.

126. Venn, *Thomas Adès: Asyla*, 159.

127. Adès and Service, *Thomas Adès: Full of Noises*, 125.

5.4.2.2. Motivic Interweaving

Because *Asyla* embraces a greater interval-cycle diversity and because its melodies' interval-cycle composition changes each movement, *Asyla* and *Tevot* also diverge in the extent of their motivic interpenetration. Neither in its individual movements nor as a whole does *Asyla* display the level of motivic integration present in *Tevot*. *Tevot*'s motives strongly grow into each other over the course of its 20 minutes. *Asyla*'s similar span features far fewer connections.

Figure 5.25. Abridgement of Venn's analysis of motivic interweaving in the *Ecstasio* movement of *Asyla*, skipping a few transformational steps but showing the connection between the theme at bar 25 and the one at bar 84.

One clear example of motifs interweaving in *Asyla*, though, occurs in bars 25-115 of the *Ecstasio* movement (Figure 5.25). Venn's analysis shows how the theme from bar 25 (Venn's B section) morphs into the one at bar 84 (Venn's C section). This passage presages the Cartoon Music in *Tevot* in two ways. First, the B-section motif grows longer in each presentation much

like the second Cartoon Music tune (§3.1.2.2). Second, the B- and C-section motifs clearly grow

out of related pitch ideas, much as the head of the first Cartoon Music tune is the tail of the

second one (see Figure 3.5).

One could also make an argument that the B-motif iteration at 24-25 alludes directly to

the second movement's bass oboe melody inasmuch as they begin with the same two interval

classes. Adès himself has noted that those first three notes of the bass oboe tune bear the same

interval-class relationship to the first three pitches of the slow movement of Franck's Sympho-

ny in D minor (see Figure 5.3b).[128] An allusion to the subsequent major sixth in the B-motif can

also be heard in the minor sixth of the second movement melody.

Figure 5.26. Interweaving of the B-section tune of *Ecstasio* with the second movement's bass
oboe melody, matching the m2 and P4/P5 and alluding to the sixth that follows them.
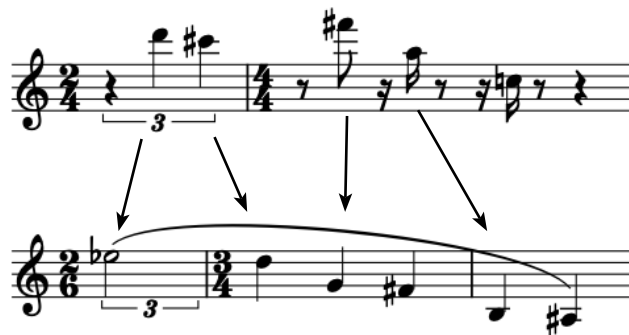
In *Asyla*, motivic ideas and their interval-class derivations generally stay siloed in their

separate movements. The supposed allusion in the fourth movement to the first movement's

horn melody bears out this contention. Per Taruskin, Venn calls the opening tuba melody in

the fourth movement "a lugubrious reminiscence of the first movement's horn melody." Venn

does not explain his argument for that connection. The strongest connection between the two

is the trochaic rhythmic profile they share (see Figure 5.27). The fourth-movement melody

does not share the interval-cycle derivation underpinning that of the first movement. Nor

---

128. Adès and Service, *Thomas Adès: Full of Noises*, 34.

does the tuba melody share the horn melody's contour. Thus, the connection between the two is, at best, distant.[129]

Figure 5.27. Horn tune from the first movement compared to the proposed allusions in the fourth movement.

In sum, whether through more distant connections such as these or the closer motivic connections discussed in the second and third movements, Adès's motifs in *Asyla* do not seem to interweave through interval cycles but instead from surface connections.

5.4.3. Heraclitian Forms

Though *Asyla* introduces nascent versions of tempo transformation and motivic interweaving, it only hints at *Tevot*'s Heraclitian form. In fact, the ternary forms of *Asyla*'s first, second, and fourth movements represent Platonic musical logic. As Travers explains, "these themes are relatively unchanged when they recur, altering themselves in subtle, sometimes un-

---

129. Venn also suggests that perhaps Taruskin referred to the oboe chorale in bar 9 when claiming "the horn melody from the first movement returns, inverted, in the finale." This heterophonic texture does share the first movement's octatonic scale, but there's nothing cyclic about that scale's presentation. It also shares the trochaic rhythmic profile and generally inverts the contour of the horn tune, but whereas the voice-leading of the horn tune has clear goals, the serpentine voice-leading of the oboe chorale, combined with its heterophony, obscures the line's direction. On the whole, this oboe chorale seems to be a closer allusion, but the connecting factors still place it at a distance from the first movement's horn tune. Instead, the two melodies connect through a handful of surface features.

systematic 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."[130] This thematic invariance prevents *Asyla* from developing truly *Heraclitian* form, because when themes return, their relative invariance produces the effect of only new variations instead of creating distinct identities (as they do in Sibelius's Seventh Symphony and in *Tevot*).

Just as themes transform little within movements, they also interweave little between movements (§5.4.2.2). Because the movements do not derive their thematic material from a common source, they cannot be said to have the kind of relationship that "other and other waters" have to a river. These movements instead constitute separate entities, with minimal thematic overlap. The most Heraclitian feature of *Asyla*'s global form is the way movements connect to one another harmonically through interval cycles.[131] As Travers noted, each movement connects with the next by projecting its concluding interval cycle one further iteration into the following movement. For instance, the second movement's cycle of expanding minor seconds leads its final B into the third movement's high C. Still, in the absence of other connections between movements, such inter-movement voice-leading only hints at Heraclitian form.

Figure 5.28. Example of interval cycle connection between *Aslya* movements 2 and 3, after Travers.

Yet *Asyla* does anticipate the form of *Tevot* in the "aerial view" that concludes both pieces. I suggested in §4.5.2 that the "zoom out" ending of *Tevot* consisted of its rhythmic augmentation. Emma Gallon's and Edward Venn's interpretations of the ending of *Asyla* offer two alternate perspectives regarding of what that process may consist. For Gallon, the aerial view presented in *Asyla*'s coda consists of its connections back to the piece's opening bars.

---

130. Travers, "Interval Cycles, Their Permutations and Generative Properties in Thomas Adès' *Asyla*." 35.
131. Travers, "Interval Cycles, Their Permutations and Generative Properties in Thomas Adès' *Asyla*." 32-34.

The coda's voice-leading, if continued would lead back to *Asyla*'s opening pitches. Likewise, the high woodwind figures suggest the opening's upright piano part. Gallon suggests that this closure brings stability.

In contrast, Venn suggests that because the register of the voice-leading in *Asyla*'s coda does not match that of the piece's opening and because this harmony becomes disconnected from the bass, the coda of *Asyla* "presents a floating texture once more in need of grounding."[132] Thus, for Venn, the aerial view of *Asyla*'s ending consists in how it "encourages us to make connections between the material and its precedents."[133] In that both scholars suggest the coda has global implications, Venn's perspective aligns with Gallon's. In the end, though, Venn argues that *Asyla*'s ending implies an infinitely repeating "cycle of violence, refuge, madness, and ecstasy."[134]

While acknowledging Gallon and Venn, I suggest that *Tevot*'s coda constitutes its *defining difference* with *Asyla*. In addition to the argument for closure I make in §4.5.2, I note Adès's response to Service regarding the A-major arrival that concludes *Tevot*:

> *There seems to be a connection between the A major music for Caliban and the stability that A major represents and embodies in your Piano Quintet—and in your orchestra pieces, too.*

> I never thought about it. It's at the end of *Tevot* and the end of *Polaris* too. The world is in A major. That's what I think. I think the earth revolves in A major, a low A.[135]

Thus, whatever Adès thinks about the ending of *Asyla* (which he has not stated publicly), it can be safely said that he hears the ending of *Tevot* as stable.

---

132. Venn, *Thomas Adès: Asyla*, 134.
133. Venn, *Thomas Adès: Asyla*, 134.
134. Venn, *Thomas Adès: Asyla*, 134.
135. Adès and Service, *Thomas Adès: Full of Noises*, 161. Adès goes on to support his claim that the stability he perceives of A has to do with the Earth's harmonic relationship, rather than the cultural association of orchestras tuning to A 440. "I think [that frequency is] what the earth rotates at. . . . C would be a human key, like the people's key, and A is the Earth" (162).

5.5. Summary of How Adès Develops His Precedents into *Tevot*

In short, Adès builds off his common-practice precedents by deepening the connections between motifs and by instituting a developmental reason for tempo changes that emerges from *Tevot*'s rhythmic cells. The contrast between *Tevot* and Sibelius's Seventh Symphony—two pieces that prominently feature transformations of motive and tempo—highlights this evolutionary trend. Meanwhile, many of the idiosyncratic features that Adès introduces to Sibelius's model—e.g., motives derived from interval cycles, simultaneous multiple tempi, and vortex accelerandi—can be found in *Asyla*. Thus, it would seem that for Adès these questions of motif, tempo, and form lie near the heart of the question about what makes a piece symphonic.

Chapter 6. Conclusion

"Increasingly," Adès said, "my thinking is centrifugal—when you think from a point and everything is spun outwards—rather than centripetal."[136] The developments from *Asyla* and Adès's symphonic precedents to *Tevot* bear out this assertion. Instead of motives interweaving on the surface (as in Franck or Sibelius), *Tevot* interweaves them through interval cycles and rhythmic cells. Instead of moving through tempo expressively (as in *Asyla*) or using it to hide formal seams (as in Sibelius), Adès uses tempo in *Tevot* to develop rhythmic cells. Instead of incorporating a host of interval-cycle patterns (as in *Asyla*), *Tevot* derives its material from only two. Instead of incorporating separate movements, *Tevot* imitates the one movement design of Sibelius's Seventh Symphony. In short, Adès's professed shift to centrifugal thinking underlies many of the ways he develops his own symphonic thinking.

Adès also affirms the spiral logic implied by the phrase "spun outward." Speaking of Sibelius, Adès said, "In a symphony you're supposed to create something that closes like a circle. Sibelius symphonies are fascinating because I think they come from a conflict between the symphonic impulse to bring things round full circle and an inner desire to go off into an endless horizon. . . . I think that's what the material wants to do, but he can't let it, because he has to make it symphonic."[137] This conflict plays out thematically in Sibelius's Seventh Symphony. Sibelius merges then develops the symphony's two main motives (the scale and the turn figure), but instead of continuing the centrifugal logic past the lilting theme, Sibelius grounds the piece in the return of the Trombone Tune (see Table 5.1).

Adès answers this conundrum in his own music through the use of spiral forms. Spiral logic, he explained, underlies the development of the horn tune in the first movement of *Asy-*

---

136. Adès and Service, *Thomas Adès: Full of Noises*, 172.
137. Adès and Service, *Thomas Adès: Full of Noises*, 172.

la.[138] Although Adès has not said so himself, *Tevot* represents the application of this spiral logic to the "symphonic impulse to bring things round full circle." For instance, when the opening material returns in the third section, its different rhetorical function in the piece leads Adès to invert many aspects of it (see §4.3.2). Even though this material has come full circle, it no longer exists on the same plane. Thus, this return and others in the piece represent open-ended articulations rather than creating the closure implied by a circle.

The resulting restlessness of spiral logic matches well Adès's self-description as "someone who thinks transitionally all the time and needs to work to find arrival points."[139] This tension between transitions and arrival points reflects Adès's larger concern about stability and instability. "I'm finding more and more that the most interesting issue is stability," he said. "That's what animates everything in music—stability and instability. I've been asking myself: is there such a thing as absolute stability in music, or in anything? I came to the conclusion that the answer is no: where there is life, there is no stability."[140] To assert that "there is no stability" brings Adès by implication back to the Heraclitian starting point of this dissertation: "everything is in flux."

Still, as Harrison suggests, no music can be fully Heraclitian or Platonic.[141] Though both Sibelius's Seventh Symphony and *Tevot* both settle closer the first pole rather than the second, the manner in which these pieces represent dynamic form also speaks to their composers' aesthetic ends. Sibelius designed the Seventh Symphony in a way that blurs boundaries between tempi, motives, and formal sections. In contrast, Adès maintains sharp boundaries between these musical features in *Tevot* even as the behaviors that connect them remain fluid. In short,

---

138. Adès and Service, *Thomas Adès: Full of Noises*, 8-9: "I began that piece, *Asyla*, by writing the melody, in fact, where the horns enter. And then in the course of completing that melody, I found that I had to start to compose the harmonisation at the same time in order to understand how the melody was moving. . . . There is quite a long development of the melody, and you could almost see it as a chaconne, yet it's not. It doesn't sound like one—but it's much more closely related to one than you might think, and it does have a spiral form. And then I had to compose an introduction to the first movement later, and then the middle section is based on Couperin. And the it's simply a recapitulation. So it's never very far from a classical form, really."
139. Adès and Service, *Thomas Adès: Full of Noises*, 147.
140. Adès and Service, *Thomas Adès: Full of Noises*, 1-2.
141. After describing extremes of Heraclitian and Platonic conceptions of musical form, Harrison notes, "Like geographical poles, the farthest reaches of the places described in the previous paragraphs are inhospitable to human beings. Scholars of music, however, have settled much closer to the second than to the first" (116).

Adès uses dynamic processes structurally—whereas Sibelius uses structural elements (his motifs) dynamically.

Tevot reflects Adès's preferred aesthetic of "an art where you can see the different elements in a clear glass jar, or a Petri dish. In that case, the magic is even more powerful, even more mysterious, because you can clearly see the elements."[142] Likewise, seeing the ways in which Adès builds on the symphonic tradition does not diminish his accomplishment. It opens a window into Adès's larger engagement with musical traditions and reveals that Adès "deliberately focus[es] on fundamental properties of music that transcend styles."[143]

"I'm fascinated by surface, the play of surfaces," affirms Adès, "in a way that's not to do with styles." For Adès, "the greatest symphonists" work in this space between stylistic surface and musical substance. "Often," he explains, "the symphonic dialogue is a struggle between that topos, or genre, and some logic in the material."[144] As Adès engages with the symphonic tradition, *Tevot* represents a kind of meta-dialogue not only between the its own topos and material, but also between itself and its precedents. In this larger dialogue, *Tevot* succeeds in enriching the symphonic genre because Adès does not merely expand the technology of his predecessors. He connects it to expressive ends, yielding (to borrow Adès's words) "the beauty of the form beneath, the truth of the emotion."[145]

---

142. Adès and Service, *Thomas Adès: Full of Noises*, 56-57.
143. Maxwell, "Tracing a Lineage of the Mazurka Genre," 9.
144. Adès and Service, *Thomas Adès: Full of Noises*, 78.
145. Adès and Service, *Thomas Adès: Full of Noises*, 79.

Appendix 1: Score Excerpts

Excerpt 3.1. *Tevot* opening page

Excerpt 3.2. Rusting Canon at 92

Excerpt 3.3. Apotheosis

Excerpt 4.1. Wedge voice leading in bars 393-398 and the first iteration of the Trumpet Tune

Excerpt 5.1. Metrical layers in *Asyla*, third movement, bar 111 ff.

Appendix 2: Motivic Waypoints in *Tevot*

This appendix provides examplars for the 20 motivic waypoints identified in Figure 3.1. That chart shows general developmental trajectories using both color and arrows. These waypoints and trajectories are not intended as a definitive argument about *Tevot*'s motivic structure. Indeed, the nature of the musical material itself argues against interpreting it as a series of countable, discrete structures. Instead, Figure 3.1 (reproduced below) and the following notated excerpts aim simply to provide an entry point for future analysts. The notated excerpts follow the chart's colored trajectories: first, the blue motives, prominently constructed from ic5/ic7; second, the red motives, prominently constructed from ic2; and lastly, the magenta, orange, and yellow motives, whose interval-cyle derivations are more obscure.

Waypoint Overview (Figure 3.1)
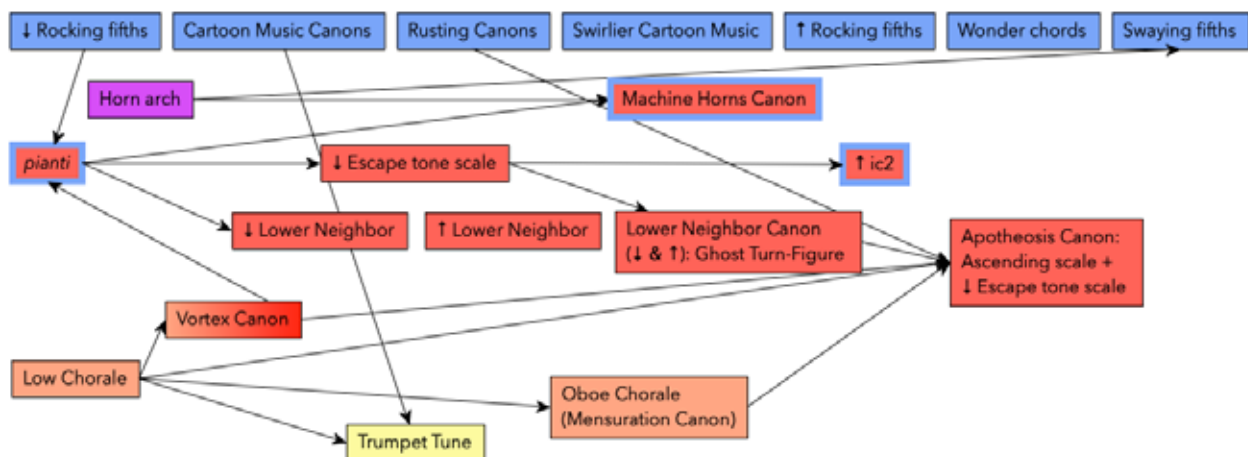
Waypoint 1 (blue). Descending rocking fifths (bars 1-3, see §4.1.1)

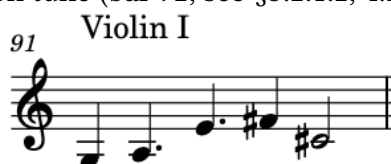Waypoints 2 and 3 (blue). First and Second Cartoon Music Tunes (see §3.1.2)
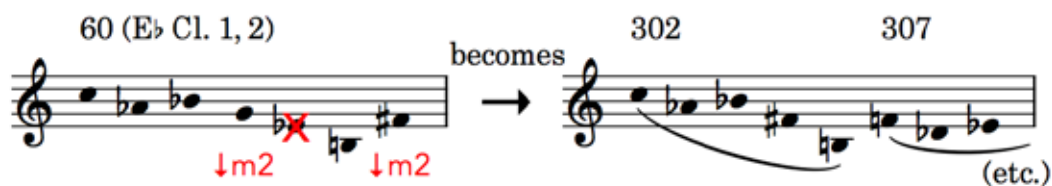
First Tune:

Second Tune:

Waypoint 4 (blue). Rusting Canon tune (bar 92, see §3.2.1.2, 4.2.2)

Violin I

Waypoint 5 (blue). Swirlier Cartoon Music (bar 151, see §4.2.3)

Waypoint 6 (blue). Wonder Chord root progression, as derived from the first Cartoon Music tune (see §3.2.1.3)

Waypoint 7 (blue). Swaying fifths (bar 399, see §4.5.1)

115

Waypoint 8 (red). Reduction of the opening *pianti* in the piccolos, flutes, and clarinet at bars 1-3 (see §3.2.2)

Waypoint 9 (red). Lower Neighbor Tune (bar 72, see §3.2.2.1)

Waypoint 10 (red). Escape Tone scale (bar 72, see §3.2.1.1)

Waypoint 11 (red). Ascending Neighbor Tune (bar 214, see §4.2.4.2)

Waypoint 12 (red). Machine Music Horn Melody (bars 223 ff., see §4.2.4.3). The surface features prominent perfect fifths while the voice leading follows a descending ic1.

116

Waypoint 13. Interweaving of neighbor tone and escape tone motives in the canon of section three (bars 257-286, see §4.3.1)

Waypoint 14 (red). Reduction of the *pianti* and their inversions in the flutes and oboes at bars 286 ff. (see §4.3.2)

Waypoint 15 (red). Apotheosis Canon tune, bars 303 ff. (see §3.2.2 and 4.4.1)

Waypoint 16 (orange). Soprano line of the low thick chords (bar 4 ff., see §4.3.2)

Waypoint 17 (orange). Woodwind/brass canon (bar 30 ff., see §4.1.1)

Waypoint 18 (magenta): Horn Arch (bar 20, rhythms simplified, see §4.1.2)
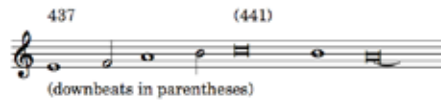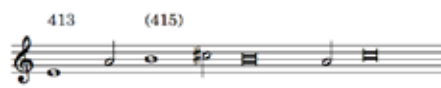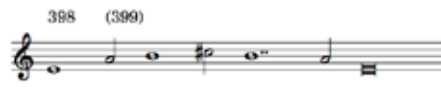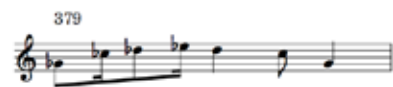
Waypoint 19 (orange). Oboe chorale/Mensuration canon, bars 175 ff. (see §4.2.4.1)

Waypoint 20 (yellow). Trumpet Tune iterations, bars 142, 251, and 379 ff. (see §3.2.3, 4.2.5, and 4.5.2).

(downbeats in parentheses)

Bibliography

Adès, Thomas. *Asyla.* London: Faber, 1999.

———. *Tevot.* London: Faber, 2014.

Adès, Thomas and Tom Service. *Full of Noises: Conversations with Tom Service.* New York: Farrar, Straus and Giroux, 2012.

Beethoven, Ludwig van. *Symphonies 5, 6 & 7 in Full Score.* New York: Dover, 1989.

Clark, Andrew. "Adès Delights the Ear." *Financial Times*, October 3, 1997. https://archive.org/stream/FinancialTimes1997UKEnglish/Oct%2003%201997%2C%20Financial%20Times%2C%20%2333%2C%20UK%20%28en%29_djvu.txt.

Belling, Huw. "Thinking Irrational, Thomas Adès and New Rhythms." Master's thesis, Royal College of Music, 2010.

Boston Symphony Orchestra. "Thomas Adès conducts Britten and Sibelius." Accessed November 7, 2017. http://www.bso.org/Performance/Detail/85512/.

Boyer, Maurice. "The Articulation of Time in the Seventh Symphony of Jean Sibelius: Toward Informed Performance." DMA dissertation, University of Maryland, College Park, 2012. ProQuest Dissertations & Theses Global.

Cherniavsky, David. "Sibelius's Tempo Corrections." *Music and Letters* 31, no. 1 (January 1950): 55. https://doi.org/10.1093/ml/XXXI.1.53.

Cherlin, Michael. "Dialectical Opposition in Schoenberg's Music and Thought." *Music Theory Spectrum* 22, no. 2 (Fall 2000): 157-76. https://doi.org/10.2307/745958.

Clements, Andrew. "Adès: *Asyla*; *Tevot*; *Polaris* CD review – sheer mastery, vividly realised." *Guardian.* February 22, 2017. http://www.theguardian.com/music/2017/feb/22/thomas-ades-*Asyla*-*Tevot*-polaris-cd-review-london-symphony-orchestra

Davis, Benjamin. "From Living Toys to *Tevot*: An Analysis of the Orchestral Music of Thomas Adès." B.A. Thesis, Dartmouth College, 2008.

Dymiotis, Theophanis. "Antithesization and Continuity in Sibelius' Symphonies." PhD dissertation, Princeton University, 1995. ProQuest Dissertations & Theses Global.

Ekman, Karl. *Jean Sibelius: His Life and Personality*. Trans. Edward Birse. London: C.F. Roworth Ltd., 1936.

Franck, César. Symphony in D minor. New York: Dover, 1999.

Fox, Christopher. "Tempestuous Times: The Recent Music of Thomas Adès." *Musical Times* 145, no. 1888 (Fall 2004): 41-56. https://10.7757/persnewmusi.52.1.0028.

Gallon, Emma. "Narrativities in the Music of Thomas Adès." PhD thesis, Lancaster University (UK), 2011.

Graham, Daniel. "Heraclitus." In Edward Zalta, ed., *The Stanford Encyclopedia of Philosophy*. Last modified June 23, 2015. https://plato.stanford.edu/archives/fall2015/entries/heraclitus/

Harrison, Daniel. "Nonconformist Notions of Nineteenth-Century Enharmonicism." *Music Analysis* 21, no. 2 (2002): 115-160. https://doi.org/10.1111/1468-2249.00154.

Hewett, Ivan. "City of Birmingham Symphony Orchestra, Aldeburgh Festival, review." *Telegraph*. June 22, 2014. http://telegraph.co.uk/culture/music/classicalconcertreviews/10917712/City-of-Birmingham-Symphony-Orchestra-Aldeburgh-Festival-review.html.

Howell, Timothy. "Jean Sibelius: Progressive Techniques in the Symphonies and Tone Poems." PhD thesis, University of Southampton, 1985. ProQuest Dissertations & Theses Global.

Jeffrey, Chris. "A Semiotic Investigation into Dialectical Composition in Schoenberg's *Third String Quartet*, First Movement." *South African Music Studies* 28, no. 1 (2008): 135-153. https://hdl.handle.net/10520/EJC133271.

Lee, Jonathan Scott. "Iannis Xenakis and the Presocratic Foundations of a New Music." *Journal of Modern Greek Studies* 29, no. 1 (May 2011): 73-82. https://10.1353/mgs.2011.0002.

Lehman, Frank. *Hollywood Harmony: Musical Wonder and the Sound of Cinema*. New York: Oxford University Press, 2018.

London Symphony Orchestra. "Thomas Adès | Asyla, Tevot, Polaris." YouTube video, 4:42. February 2017. http://youtu.be/xEZe4-y720I.

Mailman, Joshua. "An Imagined Drama of Competitive Opposition in Carter's 'Scrivo in Vento', With Notes on Narrative, Symmetry, Quantitative Flux and Heraclitus." *Music Analysis* 28, nos. 2-3 (July-October 2009): 373-422. https://doi.org/10.1111/j.1468-2249.2011.00295.x.

———. "Temporal Dynamic Form in Music: Atonal, Tonal, and Other." PhD dissertation, University of Rochester, 2010.

Maxwell, Jennifer. "Tracing a Lineage of the Mazurka Genre: Influences of Chopin and Szymanowski on Thomas Adès' Mazurkas For Piano, Op. 27." DMA Diss., Boston University, 2014. ProQuest Dissertations & Theses Global.

McManus, Andrew. "Nancarrow's Rhythmic Structures in Thomas Adès' *Asyla.*" Master's thesis, University of Rochester, 2009. ProQuest Dissertations & Theses Global.

Meyer, Leonard. *Explaining Music: Essays and Explorations.* Berkeley and Los Angeles, CA: University of California Press, 1973.

Murtomäki, Veijo. *Symphonic Unity: The Development of Formal Thinking in the Symphonies of Sibelius.* Helsinki: University of Helsinki, 1993.

Nettl, Bruno. "The River of Heraclitus: On People Changing Their Music." In *The Study of Ethnomusicology: Thirty-Three Discussions*, 272-93. Urbana, Chicago; Springfield: University of Illinois Press, 2015. http://www.jstor.org.resources.library.brandeis.edu/stable/10.5406/j.ctt1hj9xkf.22.

Pavlak, William. "Sibelius's Seventh Symphony: Genesis, Design, Structure, and Meaning." MM thesis, University of North Texas, 2004. ProQuest Dissertations & Theses Global.

Rosand, Ellen. "The Descending Tetrachord: An Emblem of Lament." *Musical Quarterly* 65 (July 1979): 346-359. https://doi.org/10.1093/mq/LXV.3.346.

Service, Tom. "Writing music? It's like flying a plane." *Guardian.* February 26, 2007. theguardian.com/music/2007/feb/26/classicalmusicandopera.tomservice.

Sibelius, Jean. Symphony no. 7. Copenhagen: Edition Wilhelm Hansen, 1992.

Taruskin, Richard. *Music in the Seventeenth and Eighteenth Centuries.* Vol. 2 of *The Oxford History of Western Music.* New York: Oxford University Press, 2006.

Toch, Ernst. *The Shaping Forces of Music: An Inquiry into the Nature of Harmony, Melody, Counterpoint, and Form.* New York: Dover, 1977.

Thomas Adès. "Biography." thomasades.com/bio/. Accessed 29 Sept. 2017

Thomas Adès. "Tevot." thomasades.com/compositions/Tevot. Accessed 29 Sept. 2017

Tommassini, Anthony. "Simon Rattle's Berliners Bring Mahler and More." *New York Times.* November 16, 2007. nytimes.com/2007/11/16/arts/music/16ratt.html.

Travers, Aaron. "Interval Cycles, Their Permutations and Generative Properties in Thomas Adès' *Asyla.*" PhD dissertation, University of Rochester, 2004.

Van Alphen, Henri. "The Structure of Franck's D minor Symphony and its Historical Antecedents." MM thesis, University of Cape Town, 2007. http://hdl.handle.net/11427/11120.

Venn, Edward. *Thomas Adès: Asyla.* Landmarks in Music Since 1950. New York: Routledge, 2017.

Warren, David. *Presocratics.* New York: Routledge, 2007.

Wells, Dominic. "Plural Styles, Personal Style: The Music of Thomas Adès." *Tempo* 66 (2012): 2-14. https://doi.org/10.1017/S0040298212000125.

Whittall, Arnold. "James Dillon, Thomas Adès, and the Pleasures of Allusion." In Peter O'Hagan, ed., *Aspects of British Music of the 1990s.* Burlington, VT: Ashgate, 2003.