

**Following Echoes: Exploring the Reverberations between Repetition, Analysis, and
Musical Experience**

by

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Abstract

This dissertation develops a framework for understanding and appraising the deceptively simple phenomenon of musical repetition, bringing a range of historical, philosophical, and music-theoretical views into dialogue. Although scholars often treat repetition as a relatively straightforward and unproblematic matter, I argue that repetitions are emergent patterns drawn from the music by a listener or analyst, who often sifts out conflicting elements and contextual influences in the process. Because repetition has so many different faces and touches upon such a wide range of areas in music, I approach this topic from both a meta-theoretical and an analytical perspective.

Part I examines how various authors have discussed and used a paradigmatic instance of musical repetition: the motive. The ways in which these writers understand motives can be described in terms of a conceptual schema, a categorization of the possible ways to comprehend motivic relationships. My taxonomy provides a framework for situating how analysts and listeners 1) recognize and 2) verify motivic connections, while also exploring 3) what kinds of privileged relationships guide the construction of these associations. By juxtaposing different ways analysts have understood motives, I investigate the goals and techniques of each author, exploring the tensions that can arise between analytical systems and aesthetic priorities. In addition to its applicability to thematic analysis, this meta-analytical framework is relevant to a broader consideration of repetition in music.

Building on the foundation of Part I, the second part focuses on three pieces from the twentieth century, each of which provides analytical challenges centered around repetition. In examining how Hindemith's Fugue in E \flat from *Ludus Tonalis* interacts with historical considerations of fugal analysis, I highlight how a consideration of repetition can influence the analytical terrain and suggest alternative readings. The last two chapters of my dissertation investigate two kinds of incessant repetition: recurrent temporal units in Steve Reich's *Drumming*, and the reiteration of the same aural events without a predictable temporal framework in Morton Feldman's *For Samuel Beckett*. This contrast demonstrates the different ways musical repetition can structure experience.

Chapter 1

Introduction: Traces of an Echo

“Your tongue has made a fool of me!” [Juno] shouted at Echo. “Henceforth, your voice will be more brief, my dear! You will always have the *last* word—but never the *first*!”¹

It began as a curse. The wife of Zeus put an end to Echo’s endless chatter by allowing her to only repeat the last words of others. The formerly loquacious nymph was then forced to communicate through mimicry; by holding on to the ends of spoken phrases, she attempted to convey her own thoughts. Yet what meaning can be carved out by restating what has just been heard? Can reiteration express something new?

* * *

Few things in music are considered so essential, yet are so rarely examined, as repetition. For most of us, the reappearance of music is familiar, even intimately so, to the extent that it becomes easy to take it for granted and thereby ignore Echo’s subtle workings. While it might seem easy to point out a musical restatement, it becomes more difficult to specify the effect of the duplication, to compare what has changed, and perhaps more importantly to describe the significance of such a reiteration. While many would acknowledge that recurrence is fundamental to the perception and experience of

¹ Mary Pope Osborne, *Favorite Greek Myths* (New York, Scholastic, 1989), 29.

music, as well as to the activity of analysis, it remains curiously under-theorized. What are the ways that repetition works in music?

Take, for example, just a few of the more common instances of recurrence. We often recognize the recapitulation of a piece in sonata form by the reappearance of the opening material in the home key; here, it signals a formal division and an arrival point. However, restatements of the same musical material can also indicate that a piece is in the same formal section, such as in a small rounded binary. In some cases, constant reiteration can seem dulling and insignificant, even creating a kind of stasis where the music appears to have little direction—each replication seems less important than the last. Yet, the recurrence of a musical passage can also seem fantastically significant, such as in a cross-movement quotation, making a dramatic connection within a composition. While repetition can occur on the micro or macro levels, within various contexts, and across any musical parameter, its significance and meaning have the potential to change each time.

With such chameleon-like qualities, it is no wonder that repetition is often taken to be a foundational aspect of music, an element that provides the basis for the art form. Yet, is it really necessary? Like Kierkegaard, we might ask: what would music be like if there were no repetition? Since repetition can mean so many things, this question seems to defy our ability to conceptualize it. A piece could consist of incoherent forms, following upon each other in an unrelated sequence; this would surely avoid any overt restatement. As soon as this idea is entertained, though, we find that repetition has already found its way in through the back door, as such a sequence implies a recurrence, namely of incoherent forms. Even experimental compositions, such as John Cage's

4'33'' can be understood as a reiteration of organized time units; a series of musical moments, where sounds either happen or they do not happen. In this way, even a piece that challenges the nature of music can be understood as predicated on the repetition of temporal spaces.²

While this might come across as a mere play of language, it points out that while repetition can be conceived as an objective occurrence, it more accurately describes a temporal relationship. More specifically, it could be explained as a connection where we find the same thing at two different time points. The idea of two distinct moments is one of the few limits on repetition; it would not make sense to point out a recurrence of “something” at a single instant without reference (explicit or implicit) to any previous time. But reiteration places no constraints on what the “something” that returns could be; its limitations, like reverberations, seem to ripple out towards the infinite. It is because repetition has such a looseness and flexibility that it can seem ubiquitous, and because of this amorphous quality, there can arise different perspectives on just what is replicated.

Given that musical echoes seem to have so many different faces and touch upon such a wide range of areas in music, how should an investigation into this topic proceed? As a way of managing the scope of this project, I will explore this concept from two perspectives: first from the meta-theoretical and second from the analytical. The first half of my dissertation will focus on what could be considered a paradigmatic instance of repetition in music: the motive. The term “motive” is often used to refer to melodic

² Lydia Goehr makes a similar point about the formal aspects of this work in *The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music* (New York, Oxford University Press, 1992; repr. 1997), 264. Stephen Davies also offers an insightful discussion of this piece; see Davies, “John Cage’s 4’33’’: Is it Music?,” in *Themes in the Philosophy of Music* (New York: Oxford University Press, 2003), 11–29.

figures, but it can also reference rhythms, timbres, chords, and many other musical phenomena. As such, it is one of the most general types of analytical connections based on repetition. Because of this generality, there are surprisingly varied understandings of motives in music. Furthermore, these differences can have a dramatic effect on the way that listeners understand the themes of a piece, and in turn can alter their experience of a composition. Likewise, the elements that analysts take to be motivic can drastically alter their understanding of a work, and can even lead to diametrically opposed readings of the same piece. What might seem to be a simple act of labeling a figure towards the beginning can have profound consequences later in the work.

Continuing this line of inquiry, I ask how various authors have discussed and used motives in analysis, and examine what implicit listening strategies accompany these formulations. By investigating the wide range of ways that writers conceive of themes, I show that rather than something straightforward and given, repetition in music is something that depends on our input. The presence of a motivic return requires someone to both recognize and designate it so; motives can therefore be understood as something the listener or analyst constructs out of the raw sounds of music. As opposed to a view that treats themes as something inherent in the music, a listener or analyst must parse out such figures from the surrounding texture. While this might seem like a simple task, in some cases people can arrive at quite different results. This is not a special province where only analysts argue over the status of a motive. “Lay” listeners also organize and divide a musical surface in markedly different ways, although they might not be as deliberate in selecting what a theme is, and rarely would they verbalize such designations.

Although I take motives as an exemplary instance of repetition, I understand this investigation as a case study for how recurrence can function more broadly in music. While I make specific points about thematic analysis, many of these findings can be generalized to other kinds of analysis, where similar procedures are used regardless of whether one speaks of motives per se. This work can therefore provide a new perspective on how one goes about approaching and comparing analyses.

While it is necessary to understand how repetition is discussed and understood in music scholarship, it is also important to investigate how a direct consideration of repetition can enhance the way we analyze works. This issue is especially relevant to twentieth-century pieces, which often use recurrence in a manner quite different than tonal compositions. But this relevance to more recent music does not deny its importance to that of the past. Repetition is a consideration that seems to cross multiple epochs and could be considered a fundamental aspect of composing. Tovey understood it as one of the most important pre-compositional questions:

No composer has even begun to use his imagination, or, properly speaking, to compose at all, unless he has formed the habit, first, of thinking of every part of his design as of something which either does or does not recur, and secondly, of imagining, as something interesting, the effect which recurrence can be made to produce.³

If indeed restatement holds such an important place in the process of composition, then it would seem that studying its use and effects ought to play a vital role in analysis as well.

These two perspectives, the meta-analytical and the analytical, organize the main methodological strategies at work in this dissertation. By examining this topic from both points of view, I show how repetition is already present in so much musical discourse,

³ Donald Francis Tovey, *Beethoven*, ed. Hubert J. Foss (New York: Oxford University Press, 1965), 105.

but also how a more direct consideration of its function can open up new directions to explore within a piece. These two approaches also engage in a symbiotic exchange, whereby considering how an author treats a motivic reappearance in one composition can influence how to understand a vastly different restatement in another. At the same time, by analyzing how certain pieces use repetition, one gains perspective on the different kinds of relationships that can be created using this technique, which in turn can illuminate the priorities that past analysts took for granted. In short, both approaches are crucial, for in addition to demonstrating the utility of this focus in the two domains, they each reveal complementary aspects of repetition in music. Many themes from the first half of the dissertation are also developed and elaborated upon in the second, so there is not as stark a division between the parts as the methodological bisection implies. The two parts of my dissertation are therefore intimately interrelated; they explore two sides of the same coin and frequently overlap at the edges.

Chapter two begins by examining how authors have understood motives. While it is often taken for granted that we know what we are talking about when we refer to “a theme,” I begin by de-familiarizing this concept, showing the various ways that authors have conceived of these seemingly elemental musical events. Rather than a single notion, theorists think of motives in quite different ways that have wide ranging repercussions in their analyses. In light of these divergent views, motives are perhaps best understood as interpretations of a musical surface. I also examine how two writers understand the historical evolution of motives. While they begin with similar trajectories, they end up in markedly different endpoints. This second chapter also introduces the primary methodology of the first half of the dissertation: comparative critique. Through a

juxtaposition of different authors, I classify how each understands motives in a different way, relying on a conceptual topography to map out their various positions. This taxonomy of possible moves lays the groundwork for most of Part I, throughout which I explore a number of ways that scholars have understood motives. Even at its most general, there are certain necessary steps in constructing a motivic relationship that can be compared across a wide variety of contexts. My categorical taxonomy provides a framework for situating these different approaches.

While the third chapter fleshes out the conceptual domains introduced in the previous chapter, it focuses primarily on the category of recognition. This can be understood as the basis through which a listener or analyst finds a connection between two musical passages, or put in a way that highlights the relevance to this study, that which they hear as repeated. This category assumes that there is something about the two events that allows the analyst to make the claim that there is a motivic relationship, although rarely is it explicitly specified. Using two piano sonatas by Beethoven, I juxtapose different approaches to understanding motives in these works, extending my comparison between scholars from the conceptual level to the level of analysis. By contrasting authors' analyses of the same work, and the different ways they advocate hearing a piece, I let their differences cross-illuminate each other, creating a dialectic. This dialectic also highlights instances where there is a tension between a privileged relationship and a methodology that an analyst uses.

Chapter four expands the scope of the previous chapter while also exploring what I call methods of verification. These are the ways in which analysts confirm a particular connection, and are a common accompaniment to these various types of recognition.

While not a necessary factor, this second category (verification) is often included as a means for analysts to bolster their case for a relationship; it also acts as a self-reflexive check to validate their thematic claims. This chapter finds numerous ways that authors attempt to verify the status of their motivic repetitions, and also presents instances where analysts seem largely unconcerned with verifying their motives; in each case, there are different ramifications. The fourth chapter closes by generalizing the approach developed in Part I, giving an example of how it might be applied beyond the study of motives.

Throughout this first half (chapters 2–4), I also examine how analysts rely on certain privileged relationships to motivate and shape their analyses. Implicit in the act of analyzing a piece of music is that some associations are more important than others. Analysis does not usually consist of a laundry list of all the possible connections that could be drawn through a piece (and if one did, it would be of questionable value). One of the many things that a scholar does when analyzing a piece is selectively highlight certain relationships while downplaying or ignoring others. Rather than an unbiased description, this makes analysis more akin to an interpretive act.⁴ As they approach a piece there will be certain relationships that theorists will grant more significance to than others, and this last category tracks the things that they look for and esteem.

In chapters 3 and 4, I will also elaborate on how certain kinds of privileged relationships can be understood as embedded within the methods that an analyst uses.

⁴ This position has been explicitly and implicitly adopted by many scholars; see, for instance, Nicholas Cook, *A Guide to Musical Analysis* (New York: W. W. Norton, 1987), 1–4; Marion Guck, “Analysis as Interpretation: Interaction, Intentionality, Invention,” *Music Theory Spectrum* 28/2 (Fall 2006): 193–195; Peter Kivy, *Music Alone: Philosophical Reflections on the Purely Musical Experience* (Ithaca, NY: Cornell University Press, 1990), 144; Alan Moore, “Introduction,” in *Analyzing Popular Music*, ed. Alan Moore (Cambridge: Cambridge University Press, 2003), 6.

Hardly innocent tools, many methodologies seem geared towards certain types of discovery, and sometimes even more than this, they can close off alternative perspectives. Yet, analytical tools are not so rigid that they only have one purpose. They can also be put to alternative uses that initially might seem unfamiliar, but turn out to be surprisingly effective. As privileged relationships are a foundational concern for music theory, this topic will also play an important role in the second half of the dissertation, where the pieces I examine almost demand novel adaptations.

Building on the foundation of the meta-analytical exploration of Part I, the latter part of my dissertation focuses on three pieces from the twentieth century, each of which provides interesting analytical challenges centered around repetition. The first piece I consider in chapter five is Hindemith's Fugue in E \flat from *Ludus Tonalis*. Not only does this piece raise questions of analytical methodology in relation to genre, but it also challenges certain notions of classification, where standard analytical terms seem unable to account for the compositional moves. The parsing of fugal elements and sections would normally seem a straightforward task, but Hindemith's treatment of themes, and specifically the way this piece constructs repetition, questions the meaningfulness of such seemingly intuitive concepts as subject and countersubject. While surely conservative in approach, Hindemith's work presents the challenge of understanding this piece within the tradition of fugues and fugal analysis. By examining this composition from the perspective of repetition and how that intersects with considerations of texture and genre, I offer an alternative reading that highlights aspects that a more standardized approach might overlook.

The sixth chapter considers repetition from a markedly different perspective, not as something that needs to be constructed, but rather as something that needs to be overcome. Steve Reich's *Drumming*, with its pervasive reiterative patterns, raises quite a different problem—that of finding significance beyond the repetitions. When faced with a piece like this, analysts are forced to re-examine their priorities, and discover what sort of relationships can be meaningful. By beginning with a consideration of how the formal outline of the piece progresses, I argue that *Drumming* suggests a particular listening strategy for the audience based on Reich's own experience of listening to repetitive music. The consistent repetition of static temporal units offers both listeners and performers a seemingly stable perceptual field with which they can interact. In addition to exploring some of the consequences of this listening strategy, I illustrate how this work can create particular phenomenological effects through Reich's treatment of repetition and his formal construction. Using analytical tools from set theory, I then show how the structure of the patterns that he uses are a crucial part of these relationships.

The last chapter presents yet another side of repetition, one that also requires a re-examination of what should constitute a privileged relationship. The careful control of pitch in Morton Feldman's *For Samuel Beckett* offers a tantalizing structure for analysts to decipher, and a substantial challenge for the listener to follow. Unlike approaches to Feldman that focus on the verticality of his music, I show how this piece is built from repetitive pitch structures and linear relationships. Yet discovering the role of repetition in this music is not the same as deriving a coherent listening strategy. The challenge comes in exploring the larger ramifications of these compositional techniques, where knowledge of a particular method does not necessarily translate into an audible

relationship. This work presents the challenge of relating an analytical demonstration of recurrence to the listening experience, and questions whether one hears repetition in terms of distinct events as opposed to a general similarity. As with many modern compositions, Feldman's piece calls into question certain notions about the importance of long-range connections, and by highlighting details on a largely unchanging musical surface, it invites a novel method. First examining how this piece frustrates certain kinds of expectations, I go on to explore alternative ways of conceiving of and appreciating this composition, integrating a discussion of Jonathan Kramer's idea of "vertical time."⁵ This chapter also provides a counterpart to the previous one by contrasting two kinds of incessant repetition: one that involves recurrent temporal units, and another that reiterates the same objects but lacks a predictable temporal framework.

From distant to proximate, incessant to spacious, the variety of restatements exhibited by these works reveals a remarkable diversity of compositional methods, and also effects that recurrence can have. Throughout these analyses, the categories developed in the first part are a constant presence either explicitly or implicitly. I end by suggesting further areas of exploration, touching on both approach and repertoire.

* * *

Initially, it must have been devastating for Echo to lose her voice. The conversations of others weren't nearly as interesting if she couldn't inject small witticisms, or even relate further stories of her own. It helped little that those who talked were often not nearly as clever as the quiet nymph, so she soon began to avoid such gatherings.

⁵ Jonathan Kramer, *The Time of Music* (New York: Schirmer Books, 1988), 55.

A small consolation was that she no longer had to cover for Zeus's gallivanting; no longer was she made to distract Juno as the rest freely romped and played. Set free of this task, she began to go about on her own, discovering mischievous tricks to play, and other games to amuse herself. And while she was excluded from going on hunts, she did go to new places that seemed to be created right out of legends. She even held out the possibility for love.... What began as a curse turned out to have a liberating effect on Echo; it opened up a whole world for her to explore.

Chapter 2

Motivic Analysis: Constructions, Histories, and Categories

- To develop everything else from *one* principal idea! That's the strongest unity.... That's where art comes in! But the watchword must always be "Thematicism, thematicism, thematicism!"¹

Aren't motives everywhere in music? It would certainly seem so from the attention they are given in music scholarship. From proximate or distant links to subtle or drastic changes, motivic connections are one of many kinds of analytical relationships predicated on the idea of repetition. Pointing out significant themes or figures is a fundamental part of most approaches to music and plays an important role in discussions of both tonal and atonal repertoires. Yet despite the seeming prevalence of motives, the mental functions that underlie the creation of thematic links are seldom discussed. While it is certainly a complex feat that our minds accomplish when constructing such relationships, an essential element to this process is the act of recognition. Tracing the development of a motive throughout a piece, whether a sonata theme or a fugue subject, relies on recognition. The standard definition of this term reads: "the identification of

¹ Anton Webern, *The Path to the New Music*, ed. Willi Reich, trans. Leo Black (Bryn Mawr, PA: Theodore Presser, 1963), 35.

something as having been previously seen, heard, known, etc.”² This description could also characterize the procedure of making a motivic connection, but the various approaches and understandings exhibited by analysts will show that this process of identification is in no way simple.

Analytical practice reveals that there are remarkably different understandings of recognition, and that analysts rely on different and distinct types. This is reflected in the many arguments that arise concerning thematic connections; it is not uncommon to find disagreements about the validity of a relationship or even what counts as a motive. Music scholars often rely on implicit models, and these disputes within the scholarly community point out the need to bring their unstated assumptions out in the open. An explicit consideration of the various kinds of recognition used in the field of music analysis will clarify the important role that this process plays in determining motives. While thematic analysis provides the focus for this section, the taxonomy that I develop also provides suggestive analogies for understanding musical repetition in general.

To hint at the complexity of this problem, consider the many ways that motives have been discussed in Beethoven’s Fifth Symphony. In his celebrated essay on this piece, E.T.A. Hoffmann gives one of the first analyses that attempts to demonstrate the contribution of motivic relationships to a piece’s coherence. Citing the opening two measures as the source of the whole work, he writes: “There is no simpler idea than that on which Beethoven has based his entire Allegro” (Fig. 2.1).³ Hoffmann understands this

² *Webster’s Encyclopedic Unabridged Dictionary of the English Language* (New York: Gramercy Books, 1989), s.v. “Recognition.”

³ E.T.A. Hoffmann, “Review of Beethoven’s Fifth Symphony,” in *E.T.A. Hoffmann’s Musical Writings: ‘Kreisleriana,’ ‘The Poet and the Composer,’ Musical Criticism*, ed. David Charlton, trans. Martyn Clarke (New York: Cambridge University Press, 1989), 244.

short figure as progressively revealing the “movement’s overall character” in virtue of its connection with “all the secondary ideas and episodes” based on a similar rhythm. He relates this theme to virtually every part of the movement, for this guiding thread is not an incidental aspect, but rather “demonstrate[s] how the whole movement with all its distinctive features was not merely conceived in the imagination but also clearly thought through.”⁴ For Hoffmann, the rhythmic content provides the key to the relationships and the opening rhythmic figure is the basis of the movement’s motivic coherence.

Fig. 2.1: Beethoven, Symphony No. 5 in C minor, Op. 67, mvmt. 1, mm. 1–2



Focusing on just one of the relationships that Hoffmann illustrates will provide a useful comparison between analysts. The way that various theorists have understood the connection between the opening theme and the horn call (m. 59) illustrates the analytical differences that can arise in making a motivic connections (Fig. 2.2). Hoffmann describes this relationship as a straightforward connection leading from the transition: “The first inversion above a D in the bass prepares the relative major E flat, in which the horn again imitates the main idea.”⁵ Once pointed out, this relationship might seem like an obvious one, but the imitation is not exact, and Hoffmann must disregard differences of pitch, instrumentation and dynamics in order to make the connection. These considerations are not as important to him as the identity of the rhythmic figure, which

⁴ Ibid.

⁵ Ibid.

provides a thread of unity. Moreover, Hoffman’s relationship connects the opening to only the first two measures of the horn call.

Fig. 2.2: Beethoven, Symphony No. 5 in C minor, Op. 67, mvmt. 1, mm. 59–62



Perhaps with Hoffmann’s essay in mind, Heinrich Schenker begins his own discussion of the symphony by arguing against the idea that the movement is based on only the first two measures. For Schenker, the principal motive consists of “the community of the four tones in bars 1–5” (Fig. 2.3). Instead of focusing on the rhythm of the theme as Hoffmann did, Schenker’s interpretation relies on pitch while also taking into account the meter, harmony, and the voice-leading progression.

Fig. 2.3: Beethoven, Symphony No. 5 in C minor, Op. 67, mvmt. 1, mm. 1–5⁶



In the opening five measures, Schenker understands the main notes to be E \flat 4 leading down to D4; the repeated eighth notes G4 and F4 are embellishments of these primary tones.⁷ According to Schenker’s hearing, the first two measures only elaborate the pitch E \flat 4, which is by itself insufficient to qualify as a motive. In short, Schenker has a radically different understanding of the opening motive than Hoffmann. Despite

⁶ Though Schenker claims the motive to be mm. 1–5, his excerpt from the score only provides mm. 1–4. See Heinrich Schenker, “Beethoven’s Fifth Symphony,” trans. William Drabkin, in *Der Tonwille* [English translation], vol. 1, ed. William Drabkin (New York: Oxford University Press, 2004), 25.

⁷ Except for quotations, all pitch references in this dissertation will be according to the Acoustical Society of America (e.g., C4 designates middle C).

these differences, Schenker connects the opening theme to many of the same passages that Hoffmann indicates, including the opening of the second group (his list of motivic connections is reproduced in Fig. 2.4; the horn call is in the third system).

Fig. 2.4: Schenker's analysis of Beethoven, Symphony No. 5 in C minor, Op. 67, mvmt. I, motivic relationships⁸

Finding a four-bar parallel in the horn call as opposed to Hoffmann's two-bar model, Schenker understands the primary pitch motion from Eb4 to D4 as remaining intact. This might seem strange, since the horn passage has no D4, but Schenker uses the principle of substitution to supply this pitch. He writes: "the note bb in bar 62 actually

⁸ Schenker, "Beethoven's Fifth Symphony," 25.

stands for d^1 .”⁹ This is not an ad hoc explanation; this interpretation is grounded in the harmony and voice leading of the passage.

Compared with Hoffmann’s, Schenker’s interpretation uses a completely different set of evidence for the connection: the metrical emphasis, the fundamental pitches of the first passage, the implied harmony of the second passage, and a voice-leading progression that occurs at both points.¹⁰ As Figure 2.4 also shows, Schenker does not strictly base motivic relationships on just these notes, and some of his later comparisons involve quite radical transformations (mm. 126–129 for example, where the main pitches are G and C, embellished by $B\flat$ and $D\flat$). In his discussion of the opening and its relationship to the horn call, though, the pitches $E\flat$ and D4 provide the basis for the connection.

Adding his voice to this already dissonant chorus, Arnold Schoenberg offers yet another explanation of this same connection between the first and second groups. Like Schenker, he understands the main motive of the Fifth Symphony as four bars long instead of two, and he similarly bases this motivic relationship on pitch as opposed to rhythm.¹¹ Yet contrary to Schenker, Schoenberg claims that the primary pitches in the opening are rather $E\flat$ and F4; the second theme then “is derived from a reinterpretation of the two main notes E flat and F.”¹² According to this interpretation, $E\flat$ and F are the essential constituents of the motive, they are merely placed between octave $B\flat$ s in the

⁹ Ibid., 26, 30. I will preserve Schenker’s system of referencing pitch when quoting him, the above designations would be $B\flat^3$ and D4 in the system used in this dissertation.

¹⁰ As this is an earlier essay (1921), Schenker had not fully developed the notion of the *Ursatz*, though he does refer to an *Urlinie*. While beyond the scope of the present discussion, the role of the *Urlinie* also played a role in Schenker’s selection of these notes as the “principal motive.”

¹¹ It is possible that Schoenberg could have been influenced by Schenker’s analysis as he had access to the *Tonwille* essays.

¹² Arnold Schoenberg, “Folkloristic Symphonies (1947),” in *Style and Idea*, ed. Leonard Stein, trans. Leo Black (New York: St. Martins Press, 1975), 164.

second theme, instead of between G4 and D4 in the first group (Fig. 2.5). This interpretation also leads Schoenberg to understand the violin response to the horn call (mm. 63–66) as based on the same motive, E^b to F, a connection Schenker explicitly denies.¹³ For Schoenberg, these kinds of thematic relationships reveal what he called “developing variation” and demonstrated the unity of the composition.

Fig. 2.5: Schoenberg’s analysis of Beethoven, Symphony No. 5 in C minor, Op. 67, mvmt. 1, relation between first and second group¹⁴

As a final comparison, consider Donald Francis Tovey’s position. His essay on the Fifth Symphony begins with a reaction against Hoffmann’s interpretation, but he would likely find that Schenker’s and Schoenberg’s interpretations also share a similar trait: each is equally wrong.¹⁵ Tovey denounces “the heresy which preaches that ‘the whole first movement is built up of the initial figure of four notes.’”¹⁶ For Tovey, such

¹³ Schenker, “Beethoven’s Fifth Symphony,” 30.

¹⁴ Schoenberg, “Folkloristic Symphonies,” 164.

¹⁵ Tovey’s objections are to the use and priority of motives, and would not necessarily apply to the rest of the analyses from which these observations come. In Schenker’s case, for instance, he follows voice-leading patterns that Tovey might even have agreed with, and there are other cases where Tovey describes similar voice-leading structures as governing a particular section. See, for example, his discussion of the rising bass pattern in Beethoven’s “Appassionata,” (mm. 35–50 and 109–122); Tovey, *A Companion to Beethoven’s Pianoforte Sonatas: (Complete Analyses)* (1931; repr., New York: AMS Press, 1976), 179–181.

¹⁶ Tovey does not actually discuss Hoffmann as the culprit of this “heresy,” and as Tovey’s essay was written long after Hoffmann’s work was published, Tovey can be understood as reacting against a tradition of interpreting the Fifth Symphony, rather than Hoffmann specifically. In this discussion, I am using Hoffmann’s position as a synecdoche of this tradition. Donald Francis Tovey, “Beethoven: Fifth

connections can be found too frequently in too many pieces, and he lists four other works by Beethoven that share the same rhythmic profile with the opening two bars. Tovey maintains that motivic relationships cannot act as the foundation of a piece:

No great music has ever been built from an initial figure of four notes. As I have said elsewhere, you might as well say that every piece of music is built from an initial figure of *one* note.¹⁷

The number of notes in the motive is merely splitting hairs for Tovey, because the whole enterprise of searching for motivic coherence is suspect. He maintains that if a theme is derived from an earlier theme, the composer would make the relationship aurally evident; it would be an explicit connection.¹⁸ In a different context, he warns analysts about relying on motivic relationships, preferring to treat them as “witty details.” But, these details are not the point of analysis, he cautions: “the student who, thinking that sonatas are built by thematic wit, begins by imputing it wherever he can see that there is a ‘b’ in ‘both,’ will never understand anything at all.”¹⁹

Yet, Tovey is not so dogmatic that he completely disavows these witticisms as he finds them. Notably, he discovers the same relationship between the opening and the horn call in the Fifth Symphony: “the opening of the second subject, shows ... the way in which the famous rhythmic figure (a) [i.e., three eighth notes and a half note] pervades the whole movement.”²⁰ According to Tovey, the rhythm is once again the basis for the

Symphony in C minor, Op. 67,” in *Essays in Musical Analysis: Volume 1: Symphonies* (New York: Oxford University Press, 1935), 38; repr. *Essays in Musical Analysis: Symphonies and Other Orchestral Works* (New York: Oxford University Press, 1989), 53; references will be to the 1935 edition.

¹⁷ Tovey, “Fifth Symphony,” 38.

¹⁸ See for instance his comments on Beethoven’s Op. 97 Trio, where he starts by indicating a seemingly far-fetched transformation and then validates the connection because of Beethoven’s treatment between the passages; Tovey, “Some Aspects of Beethoven’s Art Forms,” in *The Main Stream of Music* (New York: Oxford University Press, 1949; repr., AMS, 1979), 276–277. I am grateful to Wayne Petty for bringing this passage to my attention.

¹⁹ Tovey, *A Companion*, 4.

²⁰ Tovey, “Fifth Symphony,” 40.

connection between these two passages. While it might pervade “the whole movement,” Tovey understands this statement as quite distinct from claiming the rhythm is the basis of the piece or that it provides a unifying thread. This passage reveals the considerable skepticism with which Tovey approaches thematic relationships, even as he points them out. When he does find motivic connections, he rarely gives much attention to them, preferring to focus on other musical matters.

* * *

On one level, the four authors arrive at a similar observation: the second theme is somehow related to the first. Yet, the different factors they consider in recognizing this connection influences how they interpret later parts of the composition, or whether they find additional associations at all. By understanding the two motives as related in a particular way, by privileging certain similarities over others, these authors prefigure what relationships they will later find in the piece.²¹ In short, the kinds of recognition they use to make a seemingly simple connection can have profound analytic consequences.

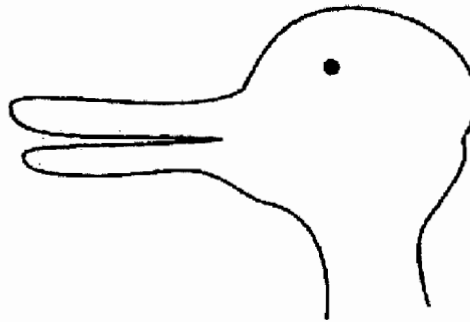
This idea of alternative types of recognition recalls Ludwig Wittgenstein’s ideas on perception and interpretation, specifically his notion of “seeing as.”²² Wittgenstein claimed that a single observer could interpret sense data in opposing ways at two different times, yet both interpretations might be supported by the data. His famous

²¹ Schoenberg, for instance, calls attention to m. 409 as a connection with his motive; Hoffmann and Tovey do not mention this passage and Schenker hears it as just a stepwise progression.

²² Ludwig Wittgenstein, *Philosophical Investigations*, trans. G.E.M. Anscombe, 3rd edition (Malden, MA: Blackwell Publishing, 2001), 165–173. I am grateful to Daniel Herwitz for pointing out some of the subtleties in Wittgenstein’s argument. The similarity between Wittgenstein’s idea and music analysis has also been noted by Marion Guck in “Analysis as Interpretation: Interaction, Intentionality, Invention,” *Music Theory Spectrum* 28/2 (Fall 2006): 194.

example was the “duck-rabbit,” which could alternatively be seen as the head of a duck or the head of a rabbit, but not both at once (Fig. 2.6).²³ Since alternative interpretations were supported by the figure, he called this experience of recognition “noticing an aspect.”

Fig. 2.6: Wittgenstein’s duck-rabbit, after Jastrow ²⁴



Wittgenstein’s crucial point is that in perceiving the figure either way, nothing changes in the drawing, but there is a drastic change in how one is mentally organizing the image. This process of organization is not necessarily voluntary, as contextual influences can play a large role in the interpretation (imagine the drawing surrounded by additional rabbits or ducks). It can also be forced, as when one is asked, “What do you see?” The process of reporting is a crucial element of “seeing as,” and the means by which it is possible to notice different interpretations. He puts it memorably: “The very expression which is also a report of what is seen, is here a cry of recognition.”²⁵

Like observers of Wittgenstein’s duck-rabbit example, music analysts can focus on different aspects of figures, and these differences become accentuated when they

²³ The example is actually from the psychologist Joseph Jastrow, whom Wittgenstein cites. Jastrow’s picture is much more realistic than Wittgenstein’s sketch.

²⁴ Wittgenstein, *Philosophical Investigations*, 166.

²⁵ The original German is: “Derselbe Ausdruck, der auch Meldung des Gesehenen ist, ist jetzt Ausruf des Erkennens.” Wittgenstein, *Philosophical Investigations*, 169.

relate two different passages as motives. The situation would be quite different if analysts did not try to relate themes to each other, but the process of connecting two disparate segments gives insight into what an analyst is hearing in each instance. In order to “hear” the relationship, one needs to understand the original motive in a particular way; in other words, by connecting the two motives, one is “noticing an aspect” and then relating that aspect. The various types of recognition analysts use can therefore be understood as different ways of “hearing as.”

Focusing on the different approaches to “hearing as” will shed light on some of the controversy surrounding thematic connections, exposing different standards for what constitutes a plausible relationship. As Kevin Korsyn points out, there is a counter-tradition in music scholarship that is skeptical about the validity and value of motivic links.²⁶ Brahms, for example, seemed unconvinced by Adolf Schubring’s thematic analysis of his own *Deutsches Requiem*.²⁷ Yet at the same time, he implicitly validated other connections, claiming that certain references were both intentional and obvious (hence his famous quip: “any ass can see that”).²⁸ Why did Brahms find some references plausible but not others? What criteria was he using?

Others scholars do not object to motivic relationships per se, but rather find that thematic connections and transformations are an insufficient means of demonstrating the

²⁶ This criticism has been voiced by many, some of whom are cited in Kevin Korsyn, *Decentering Music: A Critique of Musical Research* (New York: Oxford University Press, 2003), 97–98.

²⁷ For Brahms’s objections to Schubring’s analysis of the *Deutsches Requiem* see Walter Frisch, *Brahms and the Principle of Developing Variation* (Berkeley and Los Angeles: University of California Press, 1984), 30–32. Incidentally, John Rothgeb argues that Frisch misreads Brahms and dismisses Frisch’s appeal to the composer’s unconscious; see Rothgeb, review of *Brahms and the Principle of Developing Variation*, by Walter Frisch, *Music Theory Spectrum* 9 (1987): 213–214.

²⁸ Brahms’s comment is cited in Charles Rosen, “Influence: Plagiarism and Inspiration,” *19th Century Music* 4/2 (Autumn, 1980): 93; Schoenberg, “Brahms the Progressive (1947),” 398.

unity of a composition.²⁹ Adorno remarked that such analyses foster a suspicion that pieces are akin to jigsaw puzzles, mechanically put together, as opposed to dynamic unfolding works.³⁰ But does that mean that motives provide no cohesive function? What happens when we recognize a motivic transformation and how do such connections influence our understanding of the whole? Are there alternative understandings of unity or cohesion that more accurately describe webs of thematic connections? *Pace* Adorno, puzzle pieces can combine to make pretty pictures. An exploration of how these different approaches to recognition compare will clarify the different methods analysts use to make motivic connections and reveal the effect that this has on analytical practice.

As this discussion implies, it would be misleading to speak of motivic analysis as if it were a consistent methodological approach; through its various manifestations, wide range of practices, and different strategic procedures, thematic analysis can seem more akin to a wild and unruly animal. Rather than an attempt to tame the beast, Part I of my dissertation will explore a number of diverse but representative practices in order to explore how various kinds of recognition operate. In addition to developing a taxonomy of recognition, I will also examine how authors verify motivic connections. The methods of verification that an analyst uses in evaluating potential thematic associations can be understood as a self-monitoring process, whereby the analyst determines whether a connection really is valid. I will also identify what could be termed “privileged

²⁹ See for example, Leonard Meyer, “A Pride of Prejudices; Or, Delight in Diversity,” *Music Theory Spectrum* 13/2 (1991): 246.

³⁰ Theodor W. Adorno, “On the Problem of Musical Analysis,” trans. Max Paddison, in *Essays on Music*, selected, with introduction, commentary, and notes by Richard Leppert; new trans. Susan H. Gillespie (Berkeley and Los Angeles: University of California Press, 2002), 172–173.

relationships”; a motivic link can occur in a number of different contexts, and many authors seem to valorize certain types of connections over others.

This chapter will examine two views on the history of motivic analysis and provide the groundwork for the categories developed in Part I of the dissertation. Several compositional developments occurred contemporaneously with the rise of motivic analysis as a method, and suggest some reasons why this approach was adopted so quickly. A juxtaposition of two narratives, each of which attempted to shape a historical trajectory from the rise of motives to their pervasive use, will clarify the ideological biases of the analysts, and also justify the methodology that I adopt in this dissertation. The chapter concludes with an explanation of the categories that will be explored throughout the rest of this dissertation.

Histories of Motivic Analysis and Finding a Method

Since the composition follows formal laws of beauty, it does not improvise itself in haphazard ramblings but develops itself in organically distinct gradations, like sumptuous blossoming from a bud.³¹

Before I begin comparing various analysts’ understandings of motives, it will be useful to ask why motivic analysis developed at the particular historical moment that it did. What were the conditions of possibility that encouraged this sort of approach? The idea of tracing motives throughout a piece for the purpose of analysis has a tradition that would extend at least as far back as the early nineteenth century, if not before, through

³¹ Eduard Hanslick, *On the Musically Beautiful: A Contribution Towards the Revision of the Aesthetics of Music*, ed. and trans. Geoffrey Payzant (Indianapolis: Hackett Publishing, 1986), 81.

the use of program notes.³² But were there musical reasons that such a development might occur?

Carl Dahlhaus, among others, persuasively argues that there were remarkable changes in the Romantic period, where composers in the shadow of Beethoven were driven to focus more on shorter thematic ideas and simultaneously break free of standardized formal models.³³ While it is almost cliché to state that Beethoven changed the way we listen to music, it is nevertheless true that he had a profound effect on the way subsequent composers wrote music. Given his impact along with the Romantic *Zeitgeist*, composers were under increasing ideological pressure to produce novel, almost wild, pieces in order to explore the irrational and darker sides of the human psyche; Schumann is perhaps the paradigmatic example.³⁴ That composers began to treat themes differently, giving them more attention and importance, was but one result of this change in compositional style.³⁵

³² E.T.A. Hoffmann's analyses of several Beethoven pieces, most prominently the Fifth Symphony mentioned earlier, are usually acknowledged as a watershed moment in the history of analytical practice. David Charlton calls it "Hoffmann's most remarkable achievement of its kind; it has always been recognized as such"; see his introductory comments to Hoffmann, "Review of Beethoven's Fifth," 234.

³³ Carl Dahlhaus, "Issues in Composition," in *Between Romanticism and Modernism*, trans. Mary Whittall (Berkeley and Los Angeles: University of California Press, 1980; repr., 1989), 40–45; see especially 44. See also Adorno, "On the Problem of Musical Analysis," 170; Leonard Meyer, "A Pride of Prejudices," 242; Meyer, *Style and Music: Theory, History, and Ideology* (Chicago: University of Chicago Press, 1989), 337–340; Joseph Rufer, *Composition with Twelve Notes Related Only to One Another*, trans. Humphrey Searle (London: Rockliff, 1954), 16–23. Schoenberg also observes this in *Fundamentals of Musical Composition*, ed. Gerald Strang and Leonard Stein (Boston: Faber and Faber, 1967; repr., 1987), 31n1. Adorno has an extended earlier account that attempts to demonstrate the historical necessity of this development; see *The Philosophy of New Music*, trans. and ed. Robert Hullot-Kentor (Minneapolis: University of Minnesota Press, 2006), 29–102 passim.

³⁴ See for example M. H. Abrahms, *The Mirror and the Lamp: Romantic Theory and the Critical Tradition* (New York: Oxford University Press, 1953), 47–53; Beate Julia Perrey, *Schumann's Dichterliebe and Early Romantic Poetics: Fragmentation of Desire* (New York: Cambridge University Press, 2002), 13–20.

³⁵ Adorno half-jokingly claims that constructing motivic-thematic compositions was "obligatory... for more than 150 years"; see "On the Problem of Musical Analysis," 170.

With the decline in the use of conventional forms and the increasingly adventurous harmonic detours that a composition might take, the standard approaches of chordal analysis and formal division that were being applied so successfully to compositions up through middle-period Beethoven were seemingly unable to account for the structure of these new compositions.³⁶ The notion that analysts could use motives and melodic ideas as a means to understand a composition was an attractive one that found early success when applied to certain pieces.³⁷

Although he was not the first proponent, history has dubbed Schoenberg one of the most influential advocates of thematic analysis.³⁸ While primarily remembered as a composer and the creator of the twelve-tone method of composition, Schoenberg taught throughout his life and placed great importance on pedagogy and analysis.³⁹ In both his teaching and writing, he attempted to elucidate the concept of the *Grundgestalt*, or basic shape of a composition.⁴⁰ In practice this involved examining the opening of a piece and

³⁶ This trend has been noted by many; with respect to form, see Scott Burnham, "Form," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (New York: Cambridge University Press, 2002), 891 [hereafter *CHOWMT*]; with respect to harmony, see David W. Bernstein, "Nineteenth-Century Harmonic Theory: The Austro-German Legacy," in *CHOWMT*, 778; see also his discussions of Mayrberger, 791–794.

³⁷ Walter Frisch cites Schubert's *Wanderer Fantasy* as an example of a piece that encourages such approaches. He claims that "all the themes of the different movements are related by transformation," and observes that the same principle can be found in Liszt's *Sonata in B minor*, see *Developing Variation*, 46–48.

³⁸ See Bernstein, "Nineteenth-Century Harmonic Theory," 806; and Jonathan Dunsby, "Thematic and Motivic Analysis," in *CHOWMT*, 911–912.

³⁹ Arnold Schoenberg, "The Task of the Teacher (1950)," in *Style and Idea*, 388.

⁴⁰ The following discussion does not address Schoenberg's elaborate philosophical (and somewhat mystical) theory of the compositional process, beginning with an abstract idea (*Gedanke*), which is then shaped into musical terms (*Grundgestalt*) and would provide the basis of the whole composition. These issues have been much discussed elsewhere; see, for example, Charlotte M. Cross, "Three Levels of 'Idea' in Schoenberg's Thought and Writings," *Current Musicology* 30 (1980): 24–36; Patricia Carpenter, "'Grundgestalt' as Tonal Function," *Music Theory Spectrum* 5 (Spring 1983): 15–38; Severine Neff, "Aspects of *Grundgestalt* in Schoenberg's First String Quartet, Op. 7," *Theory and Practice* 9/1–2 (1984): 7–56; Brent Auerbach, "The Analytical *Grundgestalt*: A New Model and Methodology Based on the Music of Johannes Brahms" (PhD diss., Eastman School of Music, University of Rochester, 2005).

finding significant motives that one could relate to later passages. For Schoenberg, these relationships demonstrated organic unity by showing how an initial idea could grow and develop throughout the course of a work.⁴¹

As David Epstein and others have noted before, there are many reasons for Schoenberg's focus on motives, and it was no coincidence that the methods of *Grundgestalt* analysis could be applied to Schoenberg's own compositions.⁴² That all the pitch material in a piece could be related back to a twelve-tone row can be understood as analogous to the procedure of relating the themes of a movement back to a *Grundgestalt*. The possible reasons for his support aside, this method held great promise and breadth if it could be used to explore compositions ranging from the Viennese classical period through twentieth-century works.

Focusing on motives also allowed Schoenberg to situate his own work within the history of music, as opposed to understanding it as a radical break with tradition, as some of his critics charged. In his view, he had taken up and extended the compositional heritage of Brahms, and the method of motivic analysis was one means to demonstrate this historical continuity.⁴³ His teleology offered an explanation of the development of compositional practice by focusing on the use of motives. It provided a line of defense

⁴¹ Although he did speak of a single *Grundgestalt*, Schoenberg was not always convinced that a particular fertile motive should be considered the basic idea to the whole piece; see, for example, some of the reservations that he expresses about the importance of a motive that he tracks through Beethoven's Op. 95 string quartet in "Brahms the Progressive," 423.

⁴² Epstein states that Schoenberg formulated the twelve-tone method and the idea of the *Grundgestalt* at the same time, see *Beyond Orpheus: Studies in Musical Structure* (New York: Oxford University Press, 1987), 17. Joseph Rufer corroborates this in a letter, claiming Schoenberg used the concept as early as 1919; see Humphrey Searle, translator's preface to *Composition with Twelve Notes Related Only to One Another* by Joseph Rufer (London: Rockliff, 1954), vii.

⁴³ See particularly his essay "Brahms the Progressive," 398–441. René Daley provides further evidence of Schoenberg's historical positioning in "Music Treatises as Historical Constructs: Narrative Strategies in Schenker's *Harmonielehre* and Schoenberg's *Harmonielehre*" (paper presented at the Midwest Graduate Music Consortium, Evanston, IL, February 24, 2006).

against those who claimed that Schoenberg's compositions had rejected tradition by rejecting tonality.

Schoenberg is by no means the only theorist who showed an interest in motives, and at this point it will be productive to compare his version of the history of motivic logic with that of another theorist. While he is not often associated with motivic analysis per se, such connections play an important role in the work of Schenker, who offered what can be considered an alternative history to Schoenberg's. What is remarkable is that both theorists construct their accounts from a similar starting point before taking them on vastly different trajectories.⁴⁴ To examine these different histories, it will be helpful first of all to understand how each theorist conceived of motives.

* * *

The ideological dimensions of a historical account reflect the ethical element in the historian's assumption of a particular position on the question of the nature of historical knowledge and the implications that can be drawn from the study of past events for the understanding of present ones.⁴⁵

It might seem strange to consider Schenker in relation to motivic analysis, since so much attention is given to his ideas of structural levels, harmony, and voice leading. Within Schenkerian analysis, discussions of motives are often intimately tied to issues of structure.⁴⁶ A common understanding in contemporary scholarship maintains that while Schenker was concerned with motives in his earlier years, once he developed the idea of the fundamental structure, especially in his last work, *Free Composition*, the *Ursatz*

⁴⁴ Some of these initial similarities have been noted by other scholars; see, for instance, Frisch, *Developing Variation*, 11n13.

⁴⁵ Hayden White, *Metahistory: The Historical Imagination in Nineteenth-Century Europe* (Baltimore: Johns Hopkins University Press, 1973), 22.

⁴⁶ See, for example, Allen Cadwallader, "Prolegomena to a General Description of Motivic Relationships in Tonal Music," *Intégral* 2 (1988): 1–35. There are some notable exceptions to this; see, for example, Edward Laufer's mention of "poetic associations" in Laufer, review of *Free Composition*, by Heinrich Schenker, ed. and trans. Ernst Oster, *Music Theory Spectrum* 3 (1981): 170.

received far more importance. While this may be true, motives nevertheless play an important role in the Schenkerian approach, where they often complement the use of structural reductions.⁴⁷ Carl Schachter notes this influence: “the often crucial role of motivic details in specifying the governing harmony of a passage is, I think, not sufficiently acknowledged.”⁴⁸ Most Schenkerians recognize the importance of motives in actual analyses, although there have been some differences over how strictly or loosely one should be able to interpret motives in relation to the fundamental structure.⁴⁹

⁴⁷ Schenker’s ideas certainly evolved over time and I am not trying to discount these changes. I would even agree that Schenker likely positioned his own development as more continuous and attempted to smooth over any apparent contradictions within his changing priorities of analysis. That said, there is a section in *Free Composition* that seems wholly concerned with motives and how they relate (see below). While some might see this as Schenker’s attempt to project a line of continuity, he often delighted in pointing out concealed repetitions in his analyses. See, for example, Schenker’s preference of one structural interpretation over another due to motivic reasons; Schenker, “The Art of Improvisation,” trans. Richard Kramer, in *The Masterwork in Music*, vol. 1, ed. William Drabkin (New York: Cambridge University Press, 1994), 18; this passage from Schenker’s essay is discussed in Charles Burkhart, “Schenker’s ‘Motivic Parallelisms’,” *Journal of Music Theory* 22/2 (Autumn 1978): 170. In light of this, there are reasons to think that motives still played an important role in his thought. Richard Cohn has highlighted the tension that can arise between motivic relationships and voice-leading hierarchies and frames this as an inconsistency in Schenkerian methodology; see Cohn, “The Autonomy of Motives in Schenkerian Accounts of Tonal Music,” *Music Theory Spectrum* 14/2 (Autumn 1992): 150–170; and Richard Cohn and Douglas Dempster, “Hierarchical Unity, Plural Unities: Toward a Reconciliation,” in *Disciplining Music: Musicology and its Canons*, ed. Katherine Bergeron and Philip V. Bohlman (Chicago: University of Chicago Press, 1992), 156–181. This “inconsistency,” however, is viewed positively by some Schenkerians as it opens up pieces to multiple readings based on competing value systems, which makes analyses an artistic balance between different priorities. For these analysts the sacrifice of methodological rigor is worth the gains. That these competing priorities can be integrated within a reading is demonstrated in Wayne C. Petty, “Thoughts on Schenker’s Treatment of Diminution and Repetition in Part III of *Free Composition*, and its Implications for Analysis” in *Structure and Meaning in Tonal Music: Festschrift in Honor of Carl Schachter*, ed. L. Poundie Burstein and David Gagné (Hillsdale, NY: Pendragon Press, 2006), 73–78.

⁴⁸ Carl Schachter, “Either/Or,” in *Unfoldings: Essays in Schenkerian Theory and Analysis* (New York: Oxford University Press, 1999), 124; previously published in *Schenker Studies*, ed. Hedi Siegel (Cambridge University Press, 1990).

⁴⁹ See, for example, the exchange between Schachter and Rothgeb over the interpretation of Schubert’s op. 94, no. 1 in *Journal of Music Theory* 12/2, 13/1, and 13/2 (reprinted in *Readings in Schenker Analysis*, ed. Maury Yeston [New Haven: Yale University Press, 1977], 171–201); cited in Cohn, “The Autonomy of Motives.” According to Cohn, Schachter comes from a pragmatic view of analysis as opposed to the more dogmatic approach of John Rothgeb (see “Autonomy of Motives,” 162). While Cohn’s description amplifies these differences, he does point out some of the difficult and competing considerations that go into a Schenkerian reading.

How, then, did Schenker understand motives? Throughout his writing, Schenker both discussed motives in his analyses and acknowledged their significance in his theoretical essays. Significantly for the goals of this dissertation, Schenker verifies the relevance of looking at motives as a case study for repetition. For Schenker, as for Schoenberg, repetition was the most fundamental aspect of a motive, and he begins his discussion by linking the two ideas:

The motif is a series of tones that attains a repetition [succeeds in getting repeated]. Any series of tones may become a motif, however, it can be acknowledged as such only where its repetition follows *immediately*.... Not until it is repeated can a series of tones be elevated to the status of something definite. Only repetition has the power to illuminate “who” the series is and what it “wants.”⁵⁰

For Schenker, repetition was the key that determined motivic recognition. In analyses of pieces, he describes certain figures as having the potential to be considered a motive based on their initial prominence or treatment, but asserts that such a status is verified by repetition.

In his discussion of Bach’s Prelude in E^b minor from Book I of the *Well-Tempered Clavier*, for example, Schenker claims that the first arpeggiation “puts in a claim for individual motivic status”⁵¹ in virtue of its repetition and subsequent use in

⁵⁰ Heinrich Schenker, *Harmony*, ed. Oswald Jonas, trans. Elisabeth Mann Borgese (1956; repr., Chicago: University of Chicago Press, 1980), 4–5. I have modified the translation and would like to thank both Wayne Petty and John Rothgeb for assisting with this passage. The original German reads: “Motiv ist eine Tonreihe, die zur Wiederholung gelangt. Jede Reihe von Tönen kann Motiv werden, jedoch ist sie als solches erst dann anzuerkennen, wenn die Wiederholung unmittelbar folgt.... Erst die Wiederholung vermag eine Reihe von Tönen zu etwas Bestimmtem zu erheben, erst sie vermag zu erläutern, wer [sic] die Reihe ist und was sie will;” (Heinrich Schenker, *Neue Musikalische Theorien und Phantasien*, vol. 1, *Harmonielehre* (Stuttgart and Berlin: J.G. Cotta’sche, 1906), 4–5).

⁵¹ Heinrich Schenker, “The E^b minor Prelude from Bach’s *Well-Tempered Clavier*, Book I,” trans. Joseph Lubben, in *Der Tonwille* [English translation], vol. 1, 34. The original German is: “die [Brechung] gleichwohl auch auf individuelle Motivbedeutung Anspruch erhebt...” See Schenker, “Joh. Seb. Bach: Wohltemperiertes Klavier, Band I, Präludium Es=Moll,” *Der Tonwille*, vol. 1 (Vienna: Albert J. Gutmann, and Leipzig: Friedrich Hoffmeister, 1921); repr. in *Der Tonwille*, foreword by Hellmut Federhofer (New York: Georg Olms Verlag, 1990), 39.

inversion and through diminution (Fig. 2.7).⁵² He later calls attention to the registral transfer in m. 4, noting that “because the same danger and necessity [to regain a higher register] subsequently return, and are treated in the same manner, this gesture appears to be raised to the status of an independent motive.” The gesture not only creates a new motive, but it also avoids the “textural disadvantages that would arise if the upper octave were to lie fallow.”⁵³

Fig. 2.7: J. S. Bach, Prelude in E \flat minor, *Well-Tempered Clavier*, Bk.1, mm. 1–4



These passages are representative of how Schenker understood motives and they highlight the crucial role of repetition in his thought.⁵⁴ The previous example also gives insight into what musical elements could constitute a motive for Schenker. In earlier writing, such as *Harmony*, Schenker gives motivic examples based upon melody, rhythm, and harmony; in later work, such as this analysis of the E \flat minor prelude, he finds that a particular gesture can be a motive. More radically, he also hints that register as well can function as something that returns motivically.⁵⁵ This short passage demonstrates how

⁵² Kevin Korsyn has suggested that the idea of a figure putting in a claim for motivic status is possibly related to Schenker’s legal background and the associated terminology. See Wayne Alpern, “Music Theory as a Mode of Law: the Case of Heinrich Schenker, Esq.,” *Cardozo Law Review* 20 (1998–1999): 1459–1511. Schenker’s tendency to personify music, describing it with will and agency, would also support this idea.

⁵³ Schenker, “The E \flat minor Prelude,” 35. The original German is: “Kehrt nun in der Folge dieselbe Gefahr und Not wieder und wird ihr dann allemal auch in gleicher Weise begegnet, so erscheint dadurch auch dieser Griff zu einem selbständigen Motiv emporgesteigert,” and “vom rein klanglichen Nachteil abgesehen, der durch das Brachliegen der höheren Oktaven entstanden [sic, entstanden] wäre.” See Schenker, “Präludium Es=Moll,” 39.

⁵⁴ Coming from the first issue of *Tonwille*, this essay was published in 1921, and while this is certainly not late in Schenker’s life, it does show the importance that motives had in this period.

⁵⁵ Perhaps the most definitive and earliest signs of his conception of motivic registers can be found in

abstract Schenker's conception of motives could be and provides initial evidence for a re-evaluation of his relationship with them.

Rather than understanding Schenker as privileging motives in his earlier period then ignoring them late in life, we see instead that his idea of what constitutes a motive changed over time.⁵⁶ While his initial understanding and discussion of motives in *Harmony* seem somewhat conventional, by *Free Composition* he has developed a radical understanding of motivic relationships that can involve register, interruptions, contrasts, and other abstract conceptions. Indeed, as the above commentary implies, *any* prominent musical element, including pitch, rhythm, or even more abstract things such as gesture or register, can "put in claims" for motivic status. These claims are then verified only through repetition.

While motives play an important role in Schenkerian analysis, they are given even more prominence in Schoenberg's analytical method. For Schoenberg, motives are the key to the unity of a work, the crucial element to compositional integrity. Emphasizing this point from a compositional perspective, he writes: "Consciously used, the motive should produce unity, relationship, coherence, logic, comprehensibility, and fluency."⁵⁷

Schenker's monograph on the Beethoven's 9th Symphony; see *Beethoven's Ninth Symphony: A Portrayal of Its Musical Content, with Running Commentary on Performance and Literature As Well*, trans. and ed. John Rothgeb (New Haven, Yale University Press, 1992), 53, 59–60, 120, 175. I am grateful to Kevin Korsyn for bringing this early evidence to my attention. One acknowledged elaboration of this idea is his notion of "obligatory register," see Schenker, *Free Composition*, ed. and trans. Ernst Oster (New York: Longman, 1979; repr., Hillsdale, NY: Pendragon Press), 107–108.

⁵⁶ While he does dismiss the term "motive" in *Free Composition*, this is likely due to the Wagnerian/Lisztian associations with this term, as he does approvingly describe relationships that can be understood as motivic. See below for his discussion of motives in *Free Composition*.

⁵⁷ Arnold Schoenberg, *Fundamentals of Musical Composition*, 8.

Those familiar with his *Fundamentals of Musical Composition* will recall the similar importance that Schoenberg places on repetition in relation to motives.⁵⁸ It is one of the first principles he establishes: “A motive appears constantly throughout a piece: *it is repeated*.”⁵⁹ Elsewhere he states the necessary role of repetition, the motive “can manifest its presence only through repetition.”⁶⁰

In his general introductory remarks, Schoenberg also emphasizes: “the features of a motive are intervals and rhythms, combined to produce a *memorable* shape or contour which usually implies an inherent harmony.”⁶¹ Without specifying strict criteria for determining motives, he clarifies that the result must be memorable, a necessary part of recognition. While Schoenberg initially gives preference to “intervals and rhythms” as the musical elements that make up motives, he later leaves open the possibility for other factors:

Every element or feature of a motive [sic] or phrase must be considered to be a motive if it is treated as such, i.e. if it is repeated with or without variation.

Whether a motive be simple or complex, whether it consists of few or many features, the final impression of the piece is not determined by its primary form. Everything depends on its treatment and development.⁶²

As opposed to a privileged element (such as interval or pitch class), Schoenberg emphasizes contextual criteria for motives (i.e. “its treatment and development”). If a

⁵⁸ Schoenberg’s understanding of motives has also been explored in Pieter C. van den Toorn, “What’s in a Motive? Schoenberg and Schenker Reconsidered,” *Journal of Musicology* 14/3 (Summer 1996): 370–399. While van den Toorn does compare Schoenberg’s understanding of motives with what he terms “early” Schenker, he does not attend to the developed role that motives play in Schenker’s later work (see below), and focuses on Schenker’s *Ursatz*. Furthermore, he essentially defines motives according to and shows a preference for using Schoenberg’s terminology—undercutting a meaningful comparison with Schenker’s ideas.

⁵⁹ Schoenberg, *Fundamentals of Musical Composition*, 8–9, emphasis original.

⁶⁰ Schoenberg, “For a Treatise on Composition (1931),” in *Style and Idea*, 265.

⁶¹ *Ibid.*, emphasis mine.

⁶² Schoenberg, *Fundamentals of Musical Composition*, 8–9. While Schoenberg here leaves the possibilities open, in practice he seldom considered elements other than intervals, pitches, or rhythms.

motive is determined by its usage in a piece, then like Schenker, Schoenberg does not limit what elements could constitute a motive; the only necessary condition is repetition. It would seem that both Schenker and Schoenberg begin with very similar conceptions of a motive; it is a context-determined entity verified through repetition. Yet they situate this common understanding within radically different histories, and it is to these differences that we now turn.

* * *

According to Schenker, “An enormously long time was required before music incorporated the principle of repetition.” In his view of history, music was slow to recognize its importance, but once repetition was in place, true artistry began to bloom. In describing the development of music, he also places special emphasis on recognition:

And thus for centuries music proceeded through the school of the canon, the fugue, and related imitative forms. Repetition lay always on the surface; it was immediately and constantly perceptible to eye and ear as inversions, augmentations, contractions. These early discoveries made by Western man have remained effectual throughout subsequent time. Even now we find that kind of music most accessible in which there is repetition that is immediately recognizable. The ease with which we recognize a tonal series adds to the pleasure we derive from that recognition — what is simpler than to recognize a repetition of the brief succession of tones customarily designated a “motive”?⁶³

This accomplishment was but a stage in the development of music, though, for soon the technique of simple repetition (i.e. repetition that only occurs on the surface/foreground)

⁶³ Schenker, *Free Composition*, 99. The original German is: “Unermesslich lange Zeit brauchte die Musik, ehe sie das Gesetz der Wiederholung sich zu eigen machte.... und so ging die Musik jahrhundertlang durch die Schule des Kanons, der Fuge und verwandter Nachahmungen: stets lag die Wiederholung obenauf, sie war auch in Form einer Umkehrung, einer Vergrößerung oder Verkleinerung mit Aug und Ohr jederzeit und sofort begreifbar. Diese ersten Erfahrungen der abendländischen Menschheit blieben bestimmend auch in der Folge der Zeiten. Noch bis zur Stunde geht sie zur Musik am sichersten über eine sofort erkennbare Wiederholung; tritt doch zur Freude am Wiedererkennen einer Tonfolge noch die Mühelosigkeit eben dieser Freude hinzu, denn was ist einfacher, als eine ohnehin knappe Folge von Tönen — sie wird als “Motiv” bezeichnet — in der Wiederholung wiederzuerkennen?” See Schenker, *Neu Musikalische Theorien und Phantasien*, vol. 3, *Der Freie Satz*, ed. Oswald Jonas, 2nd ed., 2 vols. (Vienna: Universal Edition, 1956), 154.

“became stereotyped and shop-worn in the hands of composers of little talent.”⁶⁴ To use a Marxist term, simple repetition was commodified, and while still effective in some ways, it lost some of its artistic value. But there was a glimmer of hope for the advancement of music, for “new types of repetition then revealed themselves to composers of genius.”⁶⁵

These “new types of repetition” had all of the positive qualities of the old type of repetition, yet they had a crucial difference that made them more difficult to perceive: they were concealed. Concealed or hidden repetitions [“verborgenen Wiederholungen”] became for Schenker the fulfillment of the potential that was inherent in the principle of repetition.⁶⁶ They “freed music from the narrowness of strict imitation” and allowed for “extended tonal structures.”⁶⁷ No mere incidental technique, “in these concealed repetitions lie the seed and flowering of German creative genius,” the *ne plus ultra* in music.⁶⁸

Hidden repetitions for Schenker involved similarities revealed by the reduction of a passage to one or more structural levels. One example he cites is from Beethoven’s Sixth Symphony, where an earlier transitional passage returns on an enlarged scale (Fig.

⁶⁴ “Die Billigkeit in der Beschaffung vermehrten Tonmaterials und seines Genusses, dazu die Blossstellung und Abnutzung durch minderbegabte Tonsetzer schwächten aber auf die Dauer die Teilnahme an jenen Formen der Nachahmung.” See Schenker, *Der Frei Satz*, 154.

⁶⁵ Schenker, *Free Composition*, 99. “Dem Genius einzigartiger Künstler erschlossen sich nun neue Arten von Wiederholungen.” See Schenker, *Der Frei Satz*, 154.

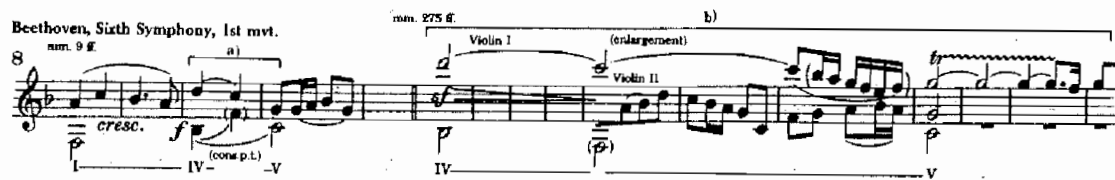
⁶⁶ Hidden repetition has also been referred to as “motivic parallelism,” “enlargement,” or the more fine grained, “first-order motive.” See Burkhart, “Schenker’s ‘Motivic Parallelisms’,” 168–169; Brian Alegant and Donald McLean, “On the Nature of Enlargement,” *Journal of Music Theory* 45/1 (Spring 2001): 31–32; Cadwallader, “Prolegomena to a General Description,” 5. See below for a review of these terms.

⁶⁷ “Gerade aber die verborgenen Wiederholungen haben die Musik aus der Enge der nachahmenden befreit und ihr weiteste Spannungen und Ziele gewiesen; also konnten auch umfangreichste Tongebilde sich auf Wiederholungen stützen!” See Schenker, *Der Frei Satz*, 155.

⁶⁸ “In den mehr verborgenen Wiederholungen liegt Wesen und Blüte der deutschen Genie-Kunst.” See *Ibid.*

2.8).⁶⁹ Schenker hears a repetition between the tail end of an expanded phrase in the exposition (m. 11) and a passage at the end of the development section, just before the recapitulation (m. 275). While this relationship does not involve comparing a foreground motive with a very deep structural level, the latter instance of the motive is only revealed through a reduction. By understanding the scalar motion between C6 and G5 as embellishing these pitches (he puts the scalar notes in parenthesis), the structurally important tones are revealed. These scalar notes are understood as diminutions and are bracketed in order to perceive the continuity of the motivic figure.⁷⁰

Fig. 2.8: Schenker's analysis of Beethoven, Sixth Symphony, mvmt. 1, concealed repetition



Schenker explicitly distinguishes these kinds of relationships from the kinds of motivic repetitions that were occurring in “German music-drama” (read: Wagner), leading him to reject the word “motive” because of its associations with such surface effects. Although he avoids using that specific term, his analyses show relationships that could be described as motivic, and have been called such by later scholars.⁷¹ Whether

⁶⁹ While Oster translates *Vergrößerung* as “augmentation,” I am following Laufer’s suggestion that sometimes a more appropriate translation is “enlargement”; see Laufer, review of *Free Composition*, 162.

⁷⁰ While Schenker does not comment on the excerpt, the distance between this “hidden repetition” is not as great as he implies (over 250 measures!). Arguably, the return of the previous melodic figure (mm. 9–12) towards the end of the development (reiterated from mm. 243–275) serves to make this relationship one of adjacency. This appearance and reiteration of the figure serves as a reminder that helps bridge and connect the “expanded repetition” (mm. 275–284), allowing a listener to more easily recognize the connection to the temporally distant original. There are cognitive theories that support the idea that the time between repetitions can be an important factor in recognition. Explanations for why this is so differ, ranging from the role of interference to the difficulty of reconstructing memories after time has elapsed. See, for example, Lawrence Barsalou, *Cognitive Psychology: An Overview for Cognitive Scientists* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1992), 131–133, 141–142. Also see chapter 3 on proximate verification.

⁷¹ Burkhart, “Schenker’s ‘Motivic Parallelisms’,” 145–175; see especially 168–169.

one refers to them as “hidden repetitions” or “motivic parallelisms,” the relationship of melodic figures revealed by structural levels are a privileged kind of relationship for Schenker and represent the last stage of development in his narrative account of compositional history.

As opposed to simpler forms of repetition in the initial stages of compositional evolution, hidden repetitions made new demands on a listener’s abilities to perceive and recognize structures. Far from being obvious, these connections were “less accessible because they did not offer creator and listener the same ease of perception.”⁷² It was only by deeply engaging with the music that such connections emerged; Schenker thus implies that a high level of musicianship is needed to perceive them. That only a few listeners would be able to hear such relationships fits well with Schenker’s commitment to the idea of genius.⁷³

For Schenker, progress began when music incorporated the principle of repetition; yet these simple forms were not the final stage of development. By creating a dichotomy between easily recognized and hidden or concealed repetitions, Schenker creates an aesthetic wedge to devalue obvious repetition on the one hand and celebrate novel, progressive technique (hidden repetition) on the other. This development represents the last stage of his teleological history of motives.

Turning now to Schoenberg, we find a remarkably similar historical structure that nevertheless arrives at a different end-point. In his teaching, Schoenberg made a logical

⁷² Schenker, *Free Composition*, 99. The original German is: “...so blieben sie dennoch weniger zugänglich als jene, weil sie dem Schaffenden und dem Hörer nicht die gleiche Bequemlichkeit boten.” See Schenker, *Der Frei Satz*, 154.

⁷³ See Ruth A. Solie, “The Living Work: Organicism and Musical Analysis,” *19th Century Music* 4/2 (Autumn 1980): 155–156.

distinction between two kinds of motivic repetition: exact repetition (which included “transpositions to a different degree, inversions, retrogrades, diminutions, and augmentation”) and modified repetition (“in which some features are changed and the rest preserved”).⁷⁴ He advises composers that they should strive to introduce variation in these repetitions, even giving a blunt judgment on simple repetition: “Repetition alone often gives rise to *monotony*. Monotony can only be overcome by *variation*.”⁷⁵

These variations are not mere embellishments, but become a higher order process that binds progressively larger sections of music together. Schoenberg saw the role of varied repetition as solving the problem of extended form, as each motivic variation could then be subject to similar treatment itself, forming a chain-link logic of connections through a composition. Some examples of his motivic transformations are given in Fig. 2.9.⁷⁶ As mentioned in his comments on Beethoven’s Fifth Symphony, Schoenberg dubbed this style “developing variation”:

Through substantial changes, a variety of *motive-forms*, adapted to every formal function, can be produced. Homophonic music can be called the style of “developing variation.” This means that in the succession of motive-forms produced through variation of the basic motive, there is something which can be compared to development, to growth.⁷⁷

Here one can already see the seeds of Schoenberg’s claim that motivic transformations, in the form of developing variation, produce unity.

⁷⁴ Schoenberg, *Fundamentals of Musical Composition*, 9. It is interesting to observe the degree of change that Schoenberg admits to the class of “exact repetition.” This broad class suggests he understood musical objects in terms of relations or proportions that would remain preserved under these operations.

⁷⁵ *Ibid.*, 8 (emphasis original).

⁷⁶ It is interesting to compare such illustrations to earlier composition treatises giving advice on how to vary a melody. See for example Christoph Bernhard, “The Treatises of Christoph Bernhard,” trans. Walter Hilse, in *The Music Forum* 3, ed. William J. Mitchell and Felix Salzer (New York: Columbia University Press, 1973) 77; Friedrich Erhardt Niedt, *The Musical Guide*, trans. Pamela Poulin (Oxford: Oxford University Press, 1989), 73; Anton Reicha, *Treatise on Melody*, trans. Peter M. Landey (Hillsdale, NY: Pendragon Press, 2000): 86–88, 181–183 (illustrations).

⁷⁷ Schoenberg, *Fundamentals of Musical Composition*, 8.

Fig. 2.9: Schoenberg's illustration of motivic variations (abbreviated)⁷⁸



As an aside, it is notable that in many of these melodic variations, Schoenberg considers the melody alone and subjects it to transformations; the melody is a separate element that can be disconnected from the context and varied.⁷⁹ This contrasts with Schenker, who almost invariably situates a melody within a contrapuntal framework, which places restrictions on the type of embellishments (what he would call diminutions) that are possible. While Schenker frequently discusses motives, he usually does so in light of contrapuntal settings (if not other contextual considerations).

Returning to Schoenberg, we find that he is suggestive but non-committal about the preference for developing variation in his treatise on composition. Elsewhere he specifies both that this type of repetition is more technically advanced and also that the development of this technique occurred along a teleological path. He cites the controversy between the “*Neudeutsche Schule*” and the “Brahmsian school” during the late nineteenth century, with the latter claiming that “unvaried repetition is cheap.”⁸⁰ He furthermore outlines how romantic period composers succumbed to writing unvaried

⁷⁸ Schoenberg, *Fundamentals of Musical Composition*, 12–13.

⁷⁹ Consider the various harmonizations that would be possible given some of Schoenberg's melodic variants, they are by no means consistent.

⁸⁰ Schoenberg, “Criteria for the Evaluation of Music (1946),” in *Style and Idea*, 131. Wagner and Liszt are perhaps the most recognized representatives of the *Neudeutsche Schule*.

repetitions only for the sake of the audience, what he calls “a popular demand for comprehensibility.”⁸¹

Yet these concessions to the audience worked against the inevitable flow of technical progress. In contrasting Brahms’s use of motives with Wagner’s, Schoenberg writes: “Why there is a lesser merit in such procedure [Wagner’s usage, with motives exactly transposed] than in variation is obvious, because variation requires a new and special effort.”⁸² Once again, Schoenberg distinguishes a privileged kind of relationship between motives; the technique of developing variation created the most artistically advanced motivic connections.

This new effort placed a new demand on a listener attempting to follow the developing variation. Schoenberg even hinted that compositional training, specifically the ability to vary basic motives, would help in hearing the transformations of the basic idea.⁸³ Like Schenker, Schoenberg divided his audience into two classes according to whether they could follow the more advanced kinds of repetition. Here then, we see an alternative history about the development of the motive, progressing this time from exact repetition to developing variation. Schoenberg explicitly acknowledges this formulation: “it is a justifiable thesis that repetition is the initial stage in music’s formal technique, and variation and development its higher developmental stages.”⁸⁴

* * *

Recognition of motivic repetition is a byproduct of analysis.⁸⁵

⁸¹ Ibid., 128.

⁸² Ibid., 129.

⁸³ Schoenberg, “Eartraining through Composing (1939),” in *Style and Idea*, 381.

⁸⁴ Schoenberg, “For a Treatise on Composition (1931),” 265.

⁸⁵ David Beach, “Schenkerian Theory,” *Music Theory Spectrum*, 11/1 (Spring 1989): 6.

In evaluating both of these histories there are remarkable degrees of overlap and both offer alternative understandings of recognition. For Schoenberg and Schenker, repetition is the key factor that is essential for something to be classified as a motive: a motive's recurrence provides a way for them to confirm its status. Beyond repetition, any musical element, or combination of elements, can constitute a motive (at least theoretically), and while both scholars point out similar common criteria (such as melody, interval, rhythm, and harmony), neither prohibits other musical elements from being understood motivically.⁸⁶ They both also understand simple repetition as an initial stage in a teleological history, which ends by revealing a new kind of repetition, and hence view Wagner's techniques as regressive.⁸⁷ This advanced type of repetition is aesthetically and technically superior to simple repetition, but it is more difficult to perceive, hence challenging for general audiences to follow. In this way, each author constructs his ideal listener as one who has quite discerning ears; in effect stratifying the listening audience into *connoisseurs* and *la foule*.

Where they differ is in what the new type of repetition actually is. Unsurprisingly, the culmination of each history is particularly well suited to benefit each author. For Schenker, his hidden repetitions accentuate long-range connections, the transformations of scale, and the importance of structural levels, all of which play an important role in his method. On the other hand, through the notion of developing variation, Schoenberg found a means of bridging his own methods with earlier

⁸⁶ As I have argued, Schenker even encourages more radical understandings of motives as abstract entities.

⁸⁷ In light of this it is important to realize that both authors also have faith in the notion that masterpieces contain pervasive motivic connectedness, something Ramon Satyendra has likened to a "motivic master narrative" for analysts.

compositional practice. If the techniques of varying motives are the true path of musical progress, then Schoenberg's pieces can be understood as the next step in this continuity as opposed to a divisive break with the past.

This comparison does not just exhibit the sometimes politically influenced nature of historical accounts; it also shows two alternative systems for privileging thematic connections. These approaches also clash in that the connections that each author considers most artistically advanced might not even count as a motivic link according to the other's perspective. Schenker would likely dismiss a purported repetition if it was varied in the manner given in Figure 2.9, and Schoenberg would likely disparage any of Schenker's abstractions from the foreground as destroying the music.⁸⁸

One aspect this comparison points out is that the criteria for motivic connections cannot simply be repetition, for these two accounts differ on what musical phenomena would be considered repetitions. Rather than deciding that one party is correct and the other misled, we can acknowledge an additional but implicit step that the authors use in making these claims by comparing how they *recognize* motivic repetition. Basing an understanding of motivic connections on recognition forces one to define how motives are identified and brought to the listener's attention. Recognition could be understood as the awareness of recurrence—this allows analysts to discriminate between what counts as a motivic repetition and how we know when such an event occurs. In addition to recognition, there are other ways that their approaches that can be compared.

⁸⁸ After viewing Schenker's analysis of Beethoven's Eroica Symphony, Schoenberg reportedly asked, "Where are all my favorite notes?"; cited in David Epstein, "On Schenker's Free Composition," *Journal of Music Theory* 25/1 (Spring 1981): 145 and 152n.9. This account is considered apocryphal by some.

An Introduction to the Categories

The rules of formation are conditions of existence (but also of coexistence, maintenance, modification, and disappearance) in a given discursive division.⁸⁹

As the comparison above has shown, there are many possible methods to understanding motives, both in terms of what they consist of, and also what kinds should be valued more. Yet, rather than seeing these views as worlds apart, these authors can be understood as occupying specified positions on a field of possible locations. The ways that Schenker and Schoenberg understand motives can be described in terms of a conceptual schema, a categorization of the possible ways to comprehend motivic relationships. In the first part of this dissertation, I will compare and contrast different writers according to the three categories that I introduce below. By situating these authors in a dialectic, I will allow their differences to cross-illuminate their positions, which will provide an initial map of the territory upon which scholars stake their motivic claims.

1) Kinds of Recognition

What are the kinds of recognition that these authors use? As an initial stage in developing a taxonomy, it will make sense to distinguish between two types of recognition: the first involves an exact repetition, and the second connects motives that have somehow changed. As some post-structuralist critiques have demonstrated, there is theoretically no such thing as an exact repetition; even if a single note was played and

⁸⁹ Michel Foucault, *The Archaeology of Knowledge and The Discourse on Language*, trans. A. M. Sheridan Smith (New York: Pantheon, 1972), 38.

then repeated, it would occur at different time points.⁹⁰ Location in time, as well as other relational properties, will wreak havoc on classification systems that focus on the traits of objects. Yet, on a pragmatic level, if there are indications in a score that are exactly replicated except for their temporal (literally spatial) placement, then we can claim this as sufficient grounds for a motivic relationship to be exact.⁹¹ In practice, this will not always ensure recognition of the motive, where the influence of context plays an important role (for example, it might be radically reharmonized or “buried” within a dense texture). This position is not so much a *type* of recognition as much as a *standard* of recognition and as such, it is an almost willful ignorance of all similarities aside from strict replication. Recognition of an exact motivic relationship requires that whatever a score specifies (i.e. pitch, rhythm, dynamics, tempo, timbre, articulation, slurring, etc.) must be precisely repeated for there to be a connection. This kind of recognition perhaps functions more as a placeholder in this taxonomy, as it likely has limited utility in analysis (where exact repetitions are often deemed trivial) and almost no use in describing our experiences of a piece.⁹²

Oposing this doctrinaire position, we have the class of motivic connections that involve change, by far the more common and likely the most useful class. Yet, by allowing change, we inevitably wade into what might be considered philosophical waters by making the claim that identity is preserved despite differences. Long considered a

⁹⁰ See for example Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994).

⁹¹ While this solution represents a pragmatic compromise, and one that seems to reflect practice, there are many issues and complications that cannot be dealt with here, including the prioritizing of a score and downplaying certain “ineffable” qualities of music that are not captured in notation.

⁹² Aside from pieces of electronic music, it is difficult to think that a live performance would exactly replicate a passage in every possible aspect, regardless if they are notated in the same way. Often there can even be reasons mitigating against attempting such a mechanical reproduction.

paradox, the crux of this problem has been encapsulated in a charming story surrounding the “Ship of Theseus.” I quote the source of this myth:

The ship on which Theseus sailed with the youths and returned in safety, the thirty-oared galley, was preserved by the Athenians down to the time of Demetrius Phalereus. They took away the old timbers from time to time, and put new and sound ones in their places, so that the vessel became a standing illustration for the philosophers in the mooted question of growth, some declaring that it remained the same, others that it was not the same vessel.⁹³

While Plutarch could have been clearer on where the philosophical paradox lies, we can quickly see the problem. If the original ship of Theseus progressively gets its old timbers replaced by new ones, at what point if ever does it stop being the ship of Theseus?

Where if ever can one draw this line of distinction?⁹⁴

Because motivic repetition often confronts this same paradox of the ship of Theseus, I will refer to this type of recognition as *Thesean* (see Fig. 2.10). Thesean recognition is a broad class and involves perceiving the identity of a motive despite one or more changes. I retain the reference to this paradox to acknowledge the many possible places of drawing the line separating a variation from a new entity. This demarcation is

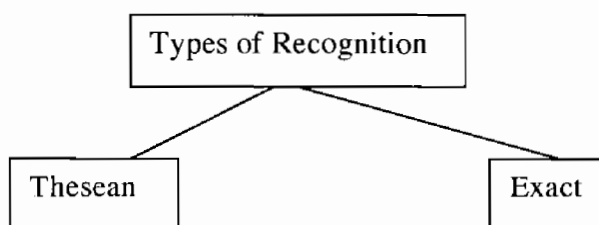
⁹³ Plutarch, *Lives: Theseus and Romulus, Lycurgus and Numa, Solon and Publicola*, trans. Bernadotte Perrin (repr., Cambridge Mass: Harvard University Press, 1993), 49.

⁹⁴ To complicate the issue, there have been further clever additions to this basic story, such as a nefarious entrepreneur absconding with the old rotting planks and reconstructing a new/original ship of Theseus. At a certain point after all the original wood has been replaced, there appears to be the ship of Theseus with new planks and the ship of Theseus reconstructed from old rotting planks—which one is the real ship of Theseus? Does this ship still exist? In light of such paradoxes it is understandable why some philosophers have made assertions about identity being linked to specific properties (such as my definition of exact recognition above) with such seemingly non-intuitive results such as: if a performance of a musical work includes one wrong note, then it is not really a performance of that work (Nelson Goodman tipping his hat to Leibniz). On the other hand, how many wrong notes can be played for a performance to stop sounding like the work it is supposed to be? The “no wrong notes” rule seems to avoid this slippery slope, but with a significant cost in how we use everyday language. Alternative conceptions that seem more palatable include socially constructed understandings of identity or cognitive approaches such as category theory, which might define a central prototype (perhaps an ideal type a la Weber) and a sphere of relationships to that prototype. Other approaches are possible, including critiques of the intersection between metaphysics and epistemology (Phenomenology and Pragmatism) and also those that attack the contextual and referential meanings of language (Derrida).

negotiated by the analyst in relation to the piece under consideration and need not be consistent across analyses. It also might not be a consciously determined point; many analysts often rely on a more intuitive approach, such as using notions like contour and gesture.⁹⁵ Acknowledging this continuum has the potential to clarify various analytical positions and I will show further distinctions within this category. When making an inexact motivic connection with an earlier passage, the analyst is in effect recognizing that the new planks have not changed the ship.

Looking at Schenker and Schoenberg's positions in light of this distinction, we can observe that Schenker's motivic connection in Beethoven's Sixth Symphony did not preserve the original rhythm, and Schoenberg's intention in Fig. 2.9 was to display various alterations. In light of these changes, however justified they might seem, both authors are relying on what I have called Thesean recognition.⁹⁶

Fig. 2.10: Taxonomy of types of recognition, initial division



⁹⁵ These terms are notoriously difficult to define precisely, but there has been significant work exploring each of them, see for example Robert S. Hatten, *Interpreting Musical Gestures, Topics, and Tropes: Mozart, Beethoven, Schubert* (Indianapolis: Indiana University Press, 2004), 93ff; Michael L. Friedmann, "A Response: My Contour, Their Contour," *Journal of Music Theory* 31/2 (Autumn 1987): 268–274; Robert D. Morris, "New Directions in the Theory and Analysis of Musical Contour," *Music Theory Spectrum* 15/2 (Autumn 1993): 205–228; and Ian Quinn, "Fuzzy Extensions to the Theory of Contour," *Music Theory Spectrum* 19/2 (Autumn 1997): 232–263.

⁹⁶ I will postpone an examination of more precise differences between their positions until discussing a comparison of two actual analyses in the next chapter.

2) Verification

If a kind of recognition can be considered a necessary requirement of demonstrating a motivic relationship, is it also a sufficient condition? How can an analyst be sure that the relationships pointed out are motivic? While not a necessary ingredient in theorizing a motive, authors often use other criteria to confirm that the relationships are valid. Other musical factors become a means to validate their thematic connections.

Both Schenker and Schoenberg emphasize that motives need to be repeated. Once the criteria for recognizing a motivic connection is in place, repetition functions as a means to verify that indeed this figure is a motive.⁹⁷ In Schenker's terminology, any candidate for motivic status that does not get treated in this way loses its claim. Schoenberg as well, defines motives as that which get repeated. In short, both authors cannot claim that a figure is a motive unless one can verify that the figure is repeated.

Unsurprisingly, these authors go on to specify further conditions surrounding a motivic repetition that are integral to this process of verification. Schenker, for instance, rarely discussed motivic connections between movements or pieces. Even when two figures might be very close or even exact, he would not consider them motivically related if they were in different movements.⁹⁸ As this suggests, there are other criteria for verifying a motive, and in the analyses I examine in the next chapter, I will specify

⁹⁷ While I imply a temporal ordering here, it is very possible that the process could occur in reverse, that is through noticing a repetition, one focuses in on the elements that are repeated (thereby clarifying a kind of recognition).

⁹⁸ Korsyn, *Decentering Music*, 99.

further means and limitations of verification.⁹⁹ In addition to the criteria of recognition, the methods of verification an author uses also limit the sphere of possible relationships.

3) Privileged Relationships

As mentioned before, the two authors privilege different kinds of motivic relationships over others: Schenker prizes hidden repetitions, while Schoenberg lauds developing variation. Acknowledgement of these preferences will begin to reveal the effect they have on analysis. But, what are the specific criteria that establish these kinds of relationships between motives? I will look at each author in turn.

The fundamental aspect of Schenker's hidden repetitions is that structural levels reveal the motivic connection. Yet, the terminology for describing this relationship is at best vague. A repetition on the surface could be understood as "hidden," for a wide number of reasons that have nothing to do with structural levels. Analysts who do not rely on middleground or background reductions also use Burkhart's term "motivic parallelisms" when discussing motives on the surface.¹⁰⁰ Two terms that seem to both distinguish and better capture the relationship are "enlargement" and "first-order motives."¹⁰¹

Enlargement accurately describes the differences in scale that occur when comparing motives on different structural levels, but it seems one-directional, applying to surface motives which are progressively revealed over larger temporal spans. What about a long-range voice-leading progression that is reduced to a surface feature towards

⁹⁹ Schoenberg's discussion of "variants" below suggests that he too distinguished real motives from "counterfeits"; although his criteria had to do with significance and function.

¹⁰⁰ Burkhart, "Schenker's 'Motivic Parallelisms'," 168–169.

¹⁰¹ Alegant and McLean, "On the Nature of Enlargement," 31–32; Cadwallader, "Prolegomena to a General Description," 5.

the end of a phrase?¹⁰² Or motives that relate across voice-leading strands of the same reductional level? The other term, “first-order motive,” is more specific, pointing to the particular level across which a motivic relationship spans. One could also describe second- and third-order motives, which would also illustrate specific relationships to different structural levels. Yet again, it does not distinguish the various temporal relationships involved, nor can it describe when motives are revealed only by a reduction to a similar structural level.

I will borrow a term from genealogy and anthropology in referring to these types of relationships as *generational*. This allows a distinction to be made between *intragenerational* links, and *intergenerational* connections. Intragenerational relationships are those that occur on the same structural level,¹⁰³ while intergenerational connections involve relating two motives that lie on different structural levels (Fig. 2.11). Just as the different levels of a family tree can show the various branches and descendents of a lineage, so can the various structural levels of a Schenkerian graph relate back to the *Ursatz*.¹⁰⁴ While there are certainly important differences between

¹⁰² In the next chapter, Schenker points to such a relationship in his analysis of Beethoven’s Sonata Op. 2/1, m. 43. These types of relationships are aptly referred to as “summaries.” I would like to thank Wayne Petty for bringing this usage to my attention.

¹⁰³ While surface relationships would, technically speaking, be considered intragenerational, it would not be appropriate to use that term since they do not involve structural levels (generations).

¹⁰⁴ Although the terms may seem similar, my notion of intergenerational recognition does not relate to the Wittgenstein’s notion of “family resemblances,” which is more appropriate to the kinds of relationships Schoenberg makes; see *Philosophical Investigations*, 27–28. For an exploration of Wittgenstein’s ideas in relation to music, see Nicholas Cook, “At the Borders of Musical Identity: Schenker, Corelli, and the Graces,” *Music Analysis* 18/2 (July 1999): 179–233, especially 211–13; Judith Etzion and Susana Weich-Shahak, “‘Family Resemblances’ and Variability in the Sephardic Romancero: A Methodological Approach to Variantal Comparison,” *Journal of Music Theory* 37/2 (Autumn 1993): 267–309; and Mark Gridley, Robert Maxham, and Robert Hoff, “Three Approaches to Defining Jazz,” *Musical Quarterly* 73/4 (1989): 513–531.

these two kinds of representational hierarchies, Schenker often described lower structural levels as emanating from the *Ursatz*, making this procreative analogy not unreasonable.

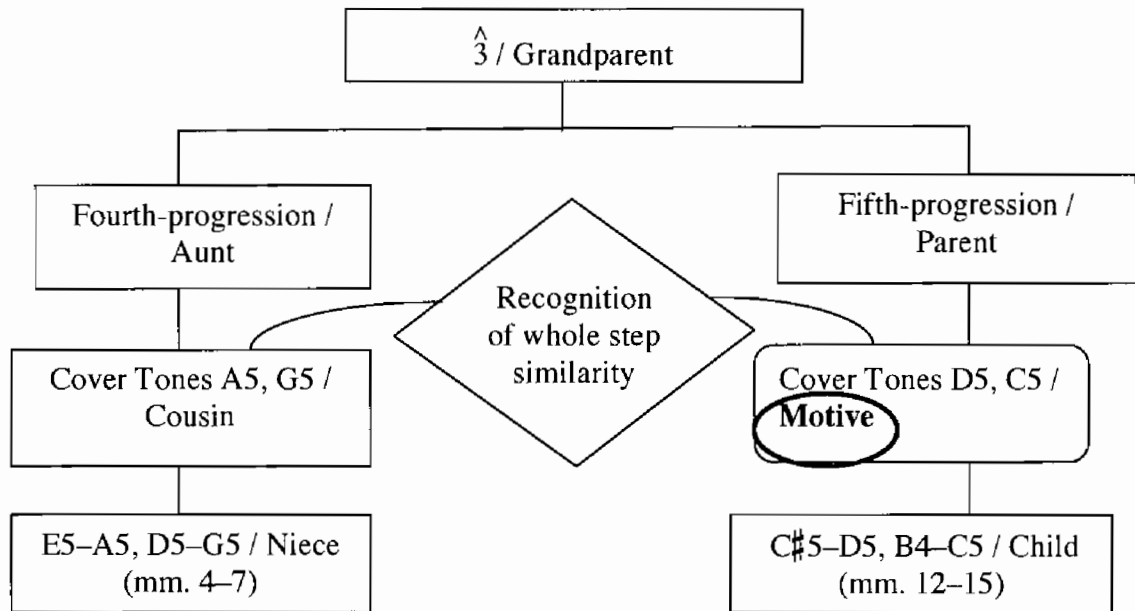
This terminological comparison has the advantage of offering the analyst the already available description of family relations, where a connection can be described according to its position within the reductional levels. One could even add Cadwallader's specification of first- or second-order for further clarity. In Figure 2.11 for instance, the foreground motions C \sharp –D and B \natural –C in mm. 12–15 of J. S. Bach's Prelude in C Major from the *Well-Tempered Clavier* are shown to be related to E–A and D–G in mm. 4–7 by being descendants of motivic siblings. We could therefore describe them as “first-order cousins”; the motives are one structural level removed from the foreground and stem from different prolongational strands (the fourth-progression and the fifth-progression respectively).

As this suggests, one can make an intergenerational distinction between a motive related to a structural grandparent (i.e. within the same hierarchical prolongation) and a motive related to a structural aunt (a relationship to a different prolongational strand). As some Schenkerians prefer to restrict motivic relationships to those within the same prolongational structure, this could be an important consideration.¹⁰⁵ While in many cases it might not be necessary to specify the exact connection, the terminology would nevertheless be available to clarify the type of relationships between levels.¹⁰⁶

¹⁰⁵ This distinction would clarify the kinds of relationships that some Schenkerians find problematic—those involving motivic correspondences across the boundaries of a particular prolongation (i.e. aunts or great aunts), such as the differences pointed out between Rothgeb and Schachter in Cohn, “The Autonomy of Motives,” 162–165. See also Rothgeb, “Another View on Schubert's Moment Musical, Op. 94/1,” *Journal of Music Theory* 13/1 (Spring 1969): 132–38, reprinted in Yeston, *Readings in Schenkerian Analysis*, 185–192.

¹⁰⁶ Additionally, there are various kinship relations according to social relations that cut across lineage boundaries, much in the same way that motives can be related across prolongational strands.

Fig. 2.11: A hierarchical structure comparing Schenkerian reductive levels with family relations (based on Schenker's graph of J. S. Bach, Prelude in C major, *Well-Tempered Clavier*, Bk.1)¹⁰⁷



Turning now to Schoenberg, it quickly becomes difficult to establish criteria for privileging some motivic forms over others. He frequently contrasted developing variation with exact repetition, and found the latter to be monotonous. Yet what kinds of changes were more important to Schoenberg within the world of Thesean recognition, what kinds of variations are valued over others? Motives can have completely different relationships depending on which elements are understood as altered, as exemplified by the different interpretations of Beethoven's Fifth Symphony given above. While his

Anthropologists frequently make a distinction between kinship based on biology and those based on social structures, or so called "symbolic kinship"; see David M. Schneider, *A Critique of The Study of Kinship* (Ann Arbor: University of Michigan Press, 1984). The analogy between the extensive networks of social and biological relations in anthropology is quite suggestive of the kinds of relationships that can be discerned between motives in addition to the distinction between motives that are part of the same prolongational strand and those that are not (for example, themes could be linked in virtue of contextual function).

¹⁰⁷ Heinrich Schenker, *Five Graphic Music Analyses*, with a new introduction by Felix Salzer (New York: David Mannes Music School, 1933; repr. New York: Dover, 1969), 36. I have represented Schenker's *Urfinie Tafel* on two levels to show the relative importance of the cover tones as compared with the linear progressions; in an analysis, one could clarify the relationship by making separate middleground levels.

prose descriptions of developing variations are vague, they do offer guidelines in determining whether such relationships hold between motives.

For Schoenberg, it is not just a matter of producing motives that are as radically different as possible, for they could potentially cease to be understood as motives. He shows an awareness of this danger:

Frequently, several methods of variation are applied to several features simultaneously; but such changes must not produce a motive-form too foreign to the basic motive.¹⁰⁸

While this begs the question of how to tell whether a motive form is “too foreign,”

Schoenberg provides further clues:

In the succession of motive-forms produced through variation of the basic motive, there is something which can be compared to development, to growth. But changes of subordinate meaning, which have no special consequences, have only the local effect of an embellishment. Such changes are better termed *variants*.¹⁰⁹

While the invocation of an organicist metaphor hardly provides a clear means of describing developing variation, his description of the function of a true variation does illuminate certain aspects. True variations, as opposed to mere variants, are fertile in that they open up functional possibilities, they are conducive to compositional elaboration, and they lend themselves to development. We could describe such motives as generative, implying the need of multiple continued treatment, as opposed to isolated links that happen once or twice.¹¹⁰ Metaphors, such as “links in a chain” or “stages of maturation,” also approximate his idea of a “succession of motive-forms.”

¹⁰⁸ Schoenberg, *Fundamentals of Music Composition*, 9.

¹⁰⁹ *Ibid.*, 8 (emphasis original).

¹¹⁰ These *generative* relationships should not be confused with the *generational* relationships with which I describe Schenker's analyses, here the relationship occurs without relying on structural levels, which are the basis of Schenker's preferred motivic connections.

Developing variation can be understood as having an imperative of continued growth, which acts as a means of distinguishing between motivic variations and what Schoenberg called variants. Not only does this differentiate important figures from unimportant ones, but this evaluation can also function as a means of verification. The determination of whether a motive is generative or not influences the decision whether it should be considered a motivic variation. While this does not confirm whether there is a connection between two figures, it does determine whether that relationship is an important one. Generative significance then can be understood as method of verification that is intimately wed to the strategy of developing variation.

Schoenberg's system is vague, but not limitless, as it does require a motivic relationship that generates more variations while not being "too foreign."¹¹ It is likely because of the generality of his descriptions that the legacy of developing variation has taken many forms, some of which will be explored below. While these are not strict criteria, they can nevertheless function as guide-rails in understanding the kind of motivic relationships that Schoenberg favored.

* * *

This comparison between Schenker and Schoenberg has mainly focused on their historical and theoretical writings. In the next chapter, I will explore how these translate into actual analyses by comparing how each author approaches the same piece. This

¹¹ There are certainly arguments to be made for having what might be considered vague methodologies, as they might more accurately reflect cognitive processes, as opposed to strict definitional criteria. That said, it becomes difficult within a discipline to have meaningful discourse about disagreements when one side uses vague criteria and the other specific—these two differences become what Lyotard has called incommensurable discourses, where the very ground of their disagreement lies in how they conceive of the objects and contexts in the discourse. See Jean-François Lyotard, *The Differend: Phrases in Dispute*, trans. Georges Van Den Abbeele (Minneapolis: University of Minnesota Press, 1988), 99, 128.

section will be neither limited to these theorists, though, nor to a single piece. I will explore a variety of analyses in dialogue to compare and contrast how different analysts understand motives in practice.

Chapter 3

Analyzing Beethoven: Expanding the Categories and Discovering Tensions

A monograph on the possibility of constructing a poetic vocabulary of concepts which would not be synonyms or periphrases of those which make up our everyday language, “but rather ideal objects created according to convention and essentially designed to satisfy poetic needs” (Nimes, 1901)

—from the personal files of Pierre Menard¹

Taxonomies, when they are carried out with precision and attention to detail, can be ruthlessly unyielding. A machine that cuts the world into various segments and quarantines certain groups of things together is in some ways comparable to an imperialist siege, an act of intellectual violence (*this* object will go into *this* group according to *my* definitions). As in all attempts of classification, there can be an inherent resistance to the scheme; an object seems to partially fit in two categories, or it calls into question the validity of a certain division. This dialectical tension between classification and resistance will be a constant presence in my exploration of kinds of recognition.

The tension is compounded because recognition, while ubiquitous in analytical discourse, is rarely discussed explicitly. To further complicate the matter, recognition itself is similar to a method of classification; it often seems to occur in a flash, just as we

¹ Jorge Luis Borges, “Pierre Menard, Author of *the Quixote*,” in *Labyrinths: Selected Stories & Other Writings*, ed. Donald A. Yates and James E. Irby (New York: New Directions, 1964), 37.

might “automatically see” the rabbit or the duck when presented with Wittgenstein’s figure. In this way, many analysts point to motivic relationships without explaining the basis of the connection; they simply hear the two motives as related.² Uncovering the types of recognition that an author uses in making a connection is a speculative enterprise akin to seeing the two endpoints of a maze, and trying to determine the path used to traverse the labyrinth.

Fortunately, an author’s prose and analytical annotations can sometimes reveal that what appears a meandering trail is nothing more than a single bend in the path. As such, I will consider the language that analysts use extremely important in discerning how they conceive of a relationship, especially when there are multiple possible interpretations. This corresponds to the importance that Wittgenstein gave to “reporting” on a perception. Yet, even in cases where there seems to be little doubt as to which kind of recognition an author is using, the classification should be understood as a provisional reading, an interpretation that “notices an aspect” of the analysis.³

In an attempt to work against this top-down classification scheme, I will continue the previous pattern of comparing two or more authors, allowing their differences to be accentuated in the contrast. This section will twice juxtapose differing motivic analyses of a single piece, first looking at Beethoven’s Sonata in F minor, Op. 2/1, and then examining his “Appassionata,” Op. 57. While this methodology does not halt the

² There is certainly a role for intuition in analysis, and according to some perspectives, gestalt psychology for instance, there are even some advantages to not trying to break down an observation into its constituent parts. Yet, within a disciplinary discourse, problems can arise; see note 111 in chapter 2. As a gesture towards this kind of disciplinary dialogue, I will assume that there are specific reasons or combinations of such that lead authors to make motivic connections.

³ The specter of recursion will haunt these comparative analyses; my textual analysis will be available for dissection to reveal how I recognize an author’s recognition, *ad infinitum*.

conquering armies of my taxonomy, it hopefully limits the scope of their deployment and mitigates against an inevitable personal bias.

First Comparison: Beethoven, Sonata in F minor, Op. 2/1

From the moment I wrote that page it became clear to me that my search for exactitude was branching out in two directions: on the one side, the reduction of secondary events to abstract patterns according to which one can carry out operations and demonstrate theorems; and on the other, the effort made by words to present the tangible aspect of things as precisely as possible.⁴

The first comparison that I will offer can be considered an oblique one. While Schenker and Schoenberg both comment upon Beethoven's Sonata in F minor, Op. 2/1, their analyses are about different aspects of this piece, and they largely focus on different sections. Schoenberg uses the opening of the work to illustrate both the sentence theme-type and the *Grundgestalt*, implying that an initial theme can contain the motive-forms of the rest of the composition. That said, he annotates only these first eight bars, and while this analysis is revealing, he writes very few remarks. Schenker gives a thorough discussion of the piece in one of his *Tonwille* essays, yet explicitly chooses to avoid a motivic commentary. These essays will not engage in direct dialogue, but they will offer preliminary illustrations of how these authors used the previously discussed kinds of recognition in practice.

While Schoenberg's discussion is representative, a single answer to the question "How do motives work in Schoenbergian analysis?" proves elusive. Just as there are various understandings of the *Grundgestalt*, Schoenberg's analytical legacy has largely evaded a consistent methodology. Throughout his writings, one finds a diversity of

⁴ Italo Calvino, *Six Memos for the Next Millennium* (London: Vintage, 1996), 74.

approaches that suggest a remarkably agile mind, rather than the complete exposition of one method. This is to say nothing of what followers after him have done. While Schoenberg seldom offers concrete analyses of large sections of pieces, he often makes bold claims about how they should be done.

In discussing methods of analysis, Schoenberg relies almost entirely on relating motives to the primordial *Grundgestalt*, or basic shape, which he usually finds in the opening measures.⁵ Yet he is vague about what exactly this structure is, and also leaves open the question of how to relate motives to it. Schoenberg usually indicates that the opening passage of the piece is the *Grundgestalt*, but frames it in such a way that it can relate to the many different parts of the whole composition. His own practice notwithstanding, this is one of the essential problems of Schoenberg's analytical legacy: how to interpret the *Grundgestalt* and make it an analytically fertile concept.

In his own analyses, Schoenberg often parses the opening of a piece in terms of its motivic content, giving special attention to intervals and highlighting how they could be found throughout the length of a passage.⁶ The motives are abstract enough that they can

⁵ He explicitly gave priority to motivic coherence over harmonic or tonal unity; see Arnold Schoenberg, "Problems of Harmony (1934)," in *Style and Idea*, ed. Leonard Stein, trans. Leo Black (New York: St. Martin's Press, 1975), 280. That said, Schoenberg did sometimes relate detailed motives to formal (large-scale) correspondences; one of the celebrated examples of this was his analysis of Brahms's Third Symphony in *Theory of Harmony*, trans. Roy E. Carter (Berkeley and Los Angeles: University of California Press, 1978), 164. Cited in Brent Auerbach, "The Analytical *Grundgestalt*: A New Model and Methodology Based on the Music of Johannes Brahms" (PhD diss., Eastman School of Music, University of Rochester, 2005), 41.

⁶ The issue of finding motives within a musical passage brings up the issue of segmentation, about which there is a large literature. Needless to say, many of the complexities are beyond the scope of this section but for some relatively recent and interesting work on this topic; see Chris Kennett, "Segmentation and Focus in Set-Genre Analysis," *Music Analysis* 17/2 (July 1998): 127–159; David S. Lefkowitz and Kristin Taavola, "Segmentation in Music: Generalizing a Piece-Sensitive Approach," *Journal of Music Theory* 44/1 (Spring 2000): 171–229; Dora A. Hanninen, "Orientations, Criteria, Segments: A General Theory of Segmentation for Music Analysis," *Journal of Music Theory* 45/2 (Autumn 2001): 345–433; an earlier article which deals with many interesting issues is Christopher Hasty, "Segmentation and Process in Post-Tonal Music," *Music Theory Spectrum* 3 (Spring 1981): 54–73. For some additional work that has been done from a cognitive perspective, see Emiliios Cambouropoulos, "Musical Parallelism and Melodic

be generalized and relate to many different parts of the composition, but specific enough that they could be exactly found in the piece. By labeling the motives on the musical score, Schoenberg can be understood as implicitly recognizing all of the musical elements of that figure, which would give him some liberty in finding those same elements in later musical passages.⁷

In his analysis of the first eight bars of Beethoven's Op. 2/1, first movement, we find him highlighting three motivic shapes, "a," "b," and "c" (See Fig. 3.1).⁸ His labeling of motive "c" is revealing of his analytical method. After its innocuous beginning in m. 2, it seems to multiply towards the end of the example (and it is likely implied in mm. 4–6, though it is not labeled). The various forms of the "c" motive in the last two measures show how freely Schoenberg views the process of developing variation. Once the seed of the motive has been planted in m. 2, it blooms into four different motive forms in mm. 7–8. Curiously, Schoenberg respects the bar line and does not indicate where one could find the motive at the exact pitch level of its first statement (i.e. G5–F5–E♭5, beginning on m. 7, bt. 4).⁹ Nevertheless, this recognition allows him to

Segmentation: A Computational Approach," *Music Perception* 23/3 (March 2006): 249–268, and "Melodic Cue Abstraction, Similarity, and Category Formation: A Formal Model," *Music Perception* 18/3 (March 2001): 347–370; Irène Deliège, "Similarity Perception ↔ Categorization ↔ Cue Abstraction," *Music Perception* 18/3 (March 2001): 233–243; David Temperley, *The Cognition of Basic Musical Structures* (Cambridge, Mass: MIT Press, 2001), 55–114; Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Cambridge, MA: MIT Press, 1983), 13–68; and Bradley W. Frankland and Annabel J. Cohen, "Parsing of Melody: Quantification and Testing of the Local Grouping Rules of Lerdahl and Jackendoff's A Generative Theory of Tonal Music," *Music Perception* 21/4 (June 2004): 499–543.

⁷ Consider how different his analysis would be if he had merely provided an index of the intervals within a given motive. Brent Auerbach expands upon this flexibility, by designating all possible musical parameters as the *Grundgestalt*; see "The Analytical *Grundgestalt*," 114–121.

⁸ This example serves as one of many demonstrating the sentence phrase type. William Caplin examines this same phrase and gives a thorough discussion of the sentence in *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (New York: Oxford University Press, 2000), 10 and 35–48.

⁹ One possible reason for this would be to avoid breaking apart the ornament at the F5 (m. 8), but seeing that he segments off the last note of this embellishment to indicate the last iteration of "c," there are likely other considerations. It is also curious to note that Schoenberg does not indicate any motives from the left

find the same motive even where the specific pitches and rhythmic values are freely varied, the motive is inverted, motive-forms overlap (sharing some of the same pitches), and the final note of an embellishment is unhitched to form a last instance of “c.” While there would not necessarily need to be a consistent factor or a strict definition of motive “c,” all of the forms Schoenberg indicates could be described as a “scalar motion spanning a third.”

Fig. 3.1: Schoenberg’s analysis of Beethoven, Piano Sonata in F minor, Op. 2/1, mvmt. 1, mm. 1–8¹⁰

Looking at motives “a” and “b” of his analysis might give further evidence towards a general description such as that of “c” above. Of particular note is how he labels mm. 3–4 the “dominant form” of the opening two bars. The opening motive “a,” presented in the upbeat and the first full measure, appears to be dissimilar to the dominant

hand part, revealing again Schoenberg’s willingness to separate melodies off as independent entities as opposed to Schenker’s consistent preoccupation with the contrapuntal setting of a melody.

¹⁰ Arnold Schoenberg, *Fundamentals of Musical Composition*, ed. Gerald Strang and Leonard Stein (Boston: Faber and Faber, 1967; repr., 1987), 63.

version, “a¹.”¹¹ The first follows the interval series <(+P4), +m3, +M3, +P4, +m3> and outlines a minor triad; the second presents <+P4, +M3, +m3, +m3>, a dominant seventh chord with no pickup note.¹² In face of these differences, we might understand motive “a” in a less specific way, not as a collection of intervals but rather as an “arpeggiation gesture.”

Yet, how far could these equivalences be stretched? Could an arpeggiation of a diminished chord (m. 52) be understood as a variation of motive “a”? Or a major triad (m. 49)? What about an inversion of the gesture (m. 21)?¹³ In short, what would make a motive form “too foreign?” In the absence of a prose description, one still wonders what the limits are to Schoenberg’s Thesean recognition.

The relationship between mm. 3–4 and the opening two bars would not likely be a controversial one; most theories of form would recognize such a motivic variation.¹⁴ Rather than an eccentric practice of a single theorist, Schoenberg’s employment of Thesean recognition here is well in line with much analytical discourse. Yet at this point, it will be pertinent to make some distinctions within this category of recognition.

Since Schoenberg’s motives can be described in general terms such as “arpeggiation,” or “scalar motion spanning a third,” we might describe these abstractions

¹¹ For clarity, I will follow Caplin (and the footnote by Gerald Strang, the editor of *Fundamentals of Musical Composition*) in referring to this as the “dominant version” as opposed to the ambiguous “dominant form.”

¹² Throughout this dissertation, angled brackets: “<>” will indicate ordered collections, “{,}” unordered.

¹³ This connection is perhaps the most “foreign” of the referenced variations. Yet, there are similarities with the opening motive: it is an inverted arpeggiation embedded in a two measure phrase with a very close rhythmic profile of: ♪ | ♪ ♪ ♪ ♪ | ♪ . ♪ ♪ .

¹⁴ It is interesting to note that most theories of phrase formation rely in one way or the other on motivic relationships. See, for example, Caplin, *Classical Form*, 10; Wallace Berry, *Form in Music* (Englewood Cliffs, NJ: Prentice-Hall, 1966), 3–8; Douglass Green, *Form in Tonal Music*, 2nd ed. (New York: Holt, Rinehart, and Winston, 1965; repr., n.p.: Wadsworth Publishing, Thomson Learning, 1979), 32–36. An important consideration again worth mentioning is the role of proximity in Op. 2/1, one reason that mm. 1–2 and mm. 3–4 are so easily associated is because they are directly adjacent.

as *Platonic*. Plato's theory of forms posited that every instance of an object in the real world (i.e. a real chair, your kitchen table, my house, etc.) was related to an abstract idealization that gave the essential properties of an object (i.e. the form of a chair, a table, a house, etc.). Much ink has been spilt on both the insightfulness and the problems of Plato's idea, but the analogy of a guiding abstraction seems to be an apt description of how Schoenberg is treating motives in this example.¹⁵ Platonic recognition then, refers to those cases where motivic connections can be described in abstract terms such as "leap of a fifth" or "downward leap of a third with a turn on the last note (motive 'b')."

Platonic recognition actually enables such conceptual descriptions to be defined in the first place; it is only by generalizing from the common traits of each instance of a motive that we arrive at a heuristic classification. A listener or analyst inclined to Platonic recognition would search for general similarities that could cover a wide range of instances. This would not necessarily require a conscious effort; recognition often seems to come as a flash, without premeditation or intentional searching. Often in such cases, context plays an important role in presenting the potential motivic passages so as to highlight their similarity.

It might seem unfair to compare Schenker's extensive discussion of Op. 2/1 to Schoenberg's, since the latter's indication of motives in the piece was done to illustrate theme types, and not a detailed analysis of the entire movement. It is a small consolation, but a significant one, to realize that Schenker explicitly tried to avoid a motivic analysis

¹⁵ I would not want to be misunderstood as trying to revive the theory of forms per se, but rather see the relationships that Schoenberg finds to be closely related to this idea. While the principle of generalization is certainly a valid one, contemporary cognitive science would likely prefer to use category theory as an alternative strategy for understanding classifications. Many have pointed out the problems with the theory of forms; from Aristotle's "third man" critique to Wittgenstein's invocation of language games, there have been various attempts to "shave Plato's beard" with or without Ockham's razor.

in writing on this piece; his discussion instead centers on the fundamental line and metrical interplay. The first mention of motives that he makes is to eschew their importance:

On this foundation of the *Urlinie* are now woven the motivic particulars—which will receive no further discussion here, however, despite this usually being the sole subject of an analysis.¹⁶

This comment reveals, among other things, Schenker’s desire to construct a new type of analysis and to distinguish his method from other approaches. Nonetheless, in the course of his essay he makes some interesting comments concerning motivic relationships that offer a comparison with Schoenberg’s analysis.

Fig. 3.2: Beethoven, Piano Sonata in F minor, Op. 2/1, mvmt. 1, mm. 33–36



One of Schenker’s first comments that concern motives is to note how the scalar passages in mm. 33–40 can be understood as “derived from arpeggiations, to which those of the left hand reply” (Twl 1, 75) (Fig. 3.2).¹⁷ Schenker understands both the scalar motion and the left hand arpeggiations as motivically related. In his *Urlinie* graph, he

¹⁶ Heinrich Schenker, “Beethoven’s Sonata in F minor, Op. 2, No. 1,” trans. Joseph Dubiel in *Der Tonwille* [English translation], vol. 1, ed. William Drabkin (Oxford: Oxford University Press, 2004), 72; subsequent page references will be given in the text as (Twl 1, 72). Schenker’s text is: “Aus diesem Urliniengrunde nun webt das Motivisch-Besondere, das aber hier, obgleich es sonst alleiniger Stoff der Inhaltsdarstellung zu sein pflegt, keine weitere Erklärung erfährt.” See Schenker, “Beethoven, Sonate opus 2 Nr. 1,” *Der Tonwille*, vol. 2 (Vienna: Albert J. Gutmann, and Leipzig: Friedrich Hoffmeister, 1922); repr. in *Der Tonwille*, foreword by Hellmut Federhofer (New York: Georg Olms Verlag, 1990), 2:28.

¹⁷ The original German reads: “... wie endlich die Läufe der r.H. in T. 33 ff. auf Brechungen zurückzuführen sind, die denen der l. H. erwidern (der Rhythmus der letzteren rührt von den Brechungen der vorausgegangenen Takte her).” See Schenker, “Beethoven: Sonate opus 2 Nr. 1,” 28.

represents these passages as two different arpeggiations, and it is on this basis that he recognizes their relationship (See Fig. 3.3). Yet, what kind of recognition is he using?

Fig. 3.3: Schenker's reduction of Beethoven, Piano Sonata in F minor, Op. 2/1, mvmt. 1, mm. 30–48

Although Schenker's comparison occurs on a reductional level removed from the surface, he uses perhaps the most common type of recognition in music analysis, which I will refer to as *equivalence*. Equivalence recognition bases relationships on the correspondence of one particular musical element or domain.¹⁸ This musical element then becomes the determining factor in making the motivic connection; other musical features do not affect the association. Creating an equivalence class is a common strategy in analysis and underlies many approaches to music (set theory, for example, bases equivalences on enharmonic pitch class and set type).

¹⁸ Of course it is possible to recognize equivalences using more than one element, but the minimum basis is one. Hasty explicitly compares various domains according to equivalence in describing considerations for segmentation; see "Segmentation and Process," 54–73.

In Schenker's comparison (given in Fig. 3.3), we first find him reducing the scale pattern in the right hand to an arpeggiation, where the passing tones are understood as diminutions between the notes of the arpeggio. Once he has reduced the right- and left-hand parts to two arpeggiations, he recognizes that they outline the same $A\flat$ chord and therefore bases his equivalence on the similar harmony. That they are in different registers, start on different notes, and have opposite contours does not influence Schenker's connection; the harmonic relationship is given more importance than these other factors.

In using the reduction to clarify this relationship, Schenker again is showing his preference for revealing generational relationships, he identifies the right-hand scale as an elaboration of the $A\flat$ arpeggiation that is also expressed in the left hand. Both arpeggiations in turn could be understood as motivic descendents of the $A\flat$ harmony which governs the passage.¹⁹ But this is not the only generational relationship that Schenker identifies; we also find him indicating multiple overlapping motives.

For Schenker, the fifth leap from $E\flat 5$ to $A\flat 4$ in mm. 42–43 “summarizes the fifth-progression just traversed by step”²⁰ (Twl 1, 75) (Fig. 3.3). Here Schenker gives a synechdochal interpretation of the leap that ends the fifth-progression begun in m. 39 (note the embedded brackets in his graph). His indication of multiple overlapping motives in this section might initially seem similar to how Schoenberg pointed out the

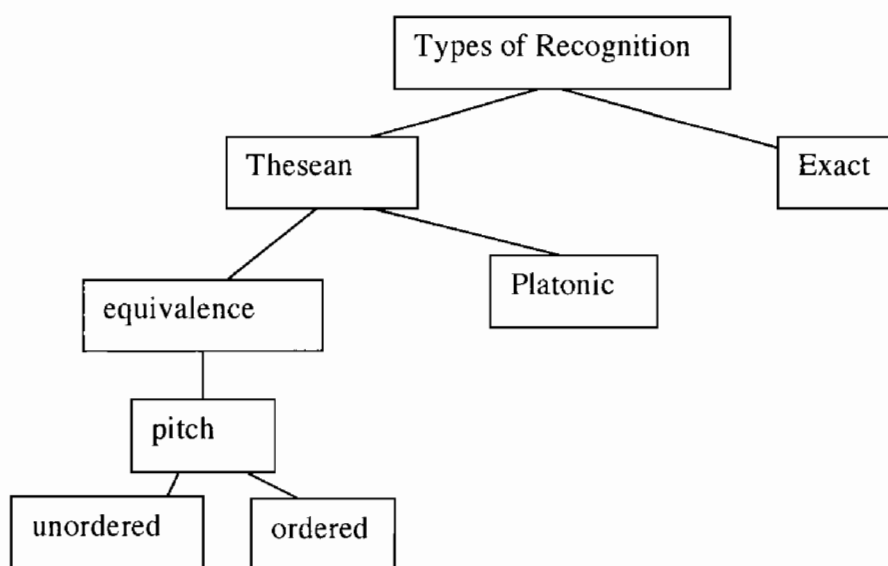
¹⁹ Assuming that Schenker would represent a single $A\flat$ harmony in place of both chords in a higher reductional level, the two arpeggiations in his graph are siblings, and their manifestations in the actual notation would make the relationship one of cousins. In more complicated instances, two or more analysts could make a different number of reductional levels, such as more intervening middleground graphs, and this would affect the description of familial relationships.

²⁰ The original German reads: “In T. 43, 45, und 47–48 fasst der Quintsprung es²—as¹ den soeben schrittweise zurückgelegten Quintzug eigens zusammen....” See Schenker, “Beethoven: Sonate opus 2 Nr. 1,” 28.

motive “c,” yet this relationship is intergenerational, as opposed to occurring on the same structural level. The fifth-progression would reduce into a leap from $E\flat_5$ to $A\flat_4$ on a higher structural level, which is precisely given on the musical surface. Rather than reducing two passages to find an equivalence, here Schenker reduces one, then finds a relationship between that reduction and the foreground.

Having reduced these passages, Schenker recognizes their equivalence on the basis of the exact pitches, and more specifically, the pitch succession from $E\flat_5$ to $A\flat_4$. Here we might distinguish between two kinds of equivalence on the basis of pitch, those that are ordered and those that are not. Recognizing unordered pitch equivalence would allow a leap from $A\flat_4$ to $E\flat_5$ (reversed order) to be an instance of the motive as well. Since the fifth-progression is an ordered event, as is the summarizing leap, we can understand Schenker as using equivalence recognition based on ordered pitch. Figure 3.4 summarizes the distinctions made thus far within the category of Thesean recognition.

Fig. 3.4: Taxonomy of types of recognition, first expansion



Like Schoenberg, Schenker hears a motive as beginning in the middle of an embellishment to form a unit:

In bars 115–116, the diminution indulges in a motive of its own: $e^2 - f^2 - g^2 - ab^2$, which works itself loose from the turning figure, as it were, and is imitated by the left hand. The repetition in bars 117–118 establishes the facts of the matter unambiguously. (Twl 1, 76)²¹

In recognizing the initial statements of the motive in mm. 115–118, Schenker is using equivalence based on ordered pitch (the exact sequence of pitches). He does not place importance on slurring, dynamic shading, or harmony; and while the rhythms are close, they are still different. Here Schenker is discussing foreground events, yet his treatment of them in the reduction gives an interesting insight into how he understood the passage, and reveals a tension in his method between structural counterpoint and motivic repetition (Fig. 3.5 and 3.6).

Fig. 3.5: Beethoven, Piano Sonata in F minor, Op. 2/1, mvmt. 1, mm. 112–120

²¹ "In T. 115–116 ergeht sich die Diminution in einem eigenen Motiv: $e^2 - f^2 - g^2 - as^2$, das sich gleichsam aus der Doppelschlagfigur losringt und von der l. H. nachgeahmt wird. Die Wiederholung in T. 117–118 bestätigt den Sachverhalt unzweideutig." See Schenker, "Beethoven: Sonate opus 2 Nr. 1," 30.

Fig. 3.6: Schenker's reduction of Beethoven, Piano Sonata in F minor, Op. 2/1, mvmt. 1, mm. 110–125

The first instance of the motive occurs over a $D\sharp 4$ in the tenor (lowest sounding voice) in m. 115, making the $E\flat 5$ dissonant against this note and the $F 5$ consonant. In the repetition of the motive, which “establishes the facts of the matter,” the tenor has a $C 4$, making the $E\sharp 5$ consonant. While the motive is repeated in close proximity it receives different contrapuntal and therefore harmonic support in both cases, so how does Schenker indicate this in his structural reduction?

Fig. 3.6 shows that these motives are not in the reduction at all. Even more curious is that the motive appears again just a few bars later in the graph (mm. 124–126).²² There would seem to be a hidden repetition waiting to be found between

²² Schenker's graph even shows that the alto takes the ascent from E to $A\flat$, and that the soprano voice takes over after that point.

these three parts; the motive introduced in mm. 115–116 is repeated in the next two bars and then expanded and embellished shortly after that. Why would he avoid making such a connection, especially since it would be a generational one?

A reasonable hypothesis would be that the first instance of the motive (mm. 115–116) does not have any contrapuntal support and therefore could not be included in the reduction. Since the second instance (mm. 117–118) occurred immediately after, Schenker understood them as intricately linked. Perhaps he did not point out the second instance as related to the third (mm. 124–126) because he would feel impelled to call attention to the first instance on the graph as well, which would contradict the voice-leading motion of the passage. While unsurprising, it seems that for Schenker the structural contrapuntal framework of the fundamental structure is more important than the motivic detail in question. Not only would the span of a diminished fourth not verticalize well, but the different bass supports also create different figures. This helps explain his cryptic comment that the “diminution indulges in a motive of its own”; while there is a surface motivic repetition, it is unrelated to the fundamental structure.

Schenker’s discussion also specifies a new means of verification. As quoted earlier, he saw proximity as a crucial factor in motives: “[a motive] can be recognized as such only where its repetition follows immediately.”²³ Here, we find him relying on close repetitions of a figure to corroborate the relationship as motivic, or, as he puts it, to “establish the facts of the matter unambiguously.” I will describe this strategy as relying

²³ Heinrich Schenker, *Harmony*, ed. Oswald Jonas, trans. Elisabeth Mann Borgese (Chicago: University of Chicago Press, 1956; repr., 1980), 4–5.

on *proximate* verification, that is the confirmation of a motivic repetition in virtue of its close proximity.

While both Schoenberg and Schenker rely on what I call *Thesean* recognition in their approach to Op. 2/1, they each have their own interpretations of what similarities determine motivic relationships. Schoenberg's labeling of motives primarily relies on *Platonic* recognition, my term for the situation where an abstraction guides the relationships made. Schenker uses *equivalence* recognition on the basis of harmony and ordered pitches. He also introduces a new method of verification based on the close proximity of the motives.

Yet, these differences are only based on the analyses of a single piece thus far; they should not be taken as generalized statements about these authors' treatment of motives. As the next section shows, Schenker certainly uses Platonic recognition, and one of Schoenberg's primary disciples also uses equivalence recognition. Because these and other analysts often handle motives in a rather unsystematic way, it is important to understand these examples as representative of analytical practice, but not as attempts to define the limits of these authors' approaches.

Second Glance: Beethoven, Piano Sonata in F minor, Op. 57, "Appassionata"

Beethoven's music is filled with memories and predictions.²⁴

The next comparison is between Schenker and Patricia Carpenter, who both offer complete analyses of the first movement of Beethoven's "Appassionata," Op. 57.²⁵ These

²⁴ Charles Rosen, *The Classical Style: Haydn, Mozart, Beethoven*, Expanded ed. (New York: W. W. Norton, 1997), 381.

next two essays allow a more sustained comparison as they focus on similar passages and find similar motives. In the insightful commentary that both authors give, we can examine how they each understand motives and their different criteria for recognizing repetition.

These essays also find their respective authors working to refine their still-developing methodologies of analysis. Schenker, for instance, gives a second reductional level (i.e., a reduction of his reduction), which normalizes register, and provides a two-part counterpoint model of the voice leading of the sonata. Although he refers to it as the *Ursatz*, it is not quite in the form with which most analysts are familiar. He notates the fundamental structure on a single staff with two accompanying staves showing the sounding registers he normalizes. He also gives priority to what in his later theory might be considered details, especially the persistent neighbor motive (C–Db–C), even calling it the “Urlinie motive” (Twl 2, 41ff).

Carpenter provides one of her first efforts at continuing and even extending the Schoenbergian tradition of analysis. She not only helps explain the *Grundgestalt* approach, but also attempts to synthesize it within Schoenberg’s theories of harmony and form.²⁶ While Schoenberg himself did not fully explore some of his analytical ideas, nor

²⁵ Heinrich Schenker, “Beethoven’s Sonata in F Minor, Op. 57,” trans. Robert Snarrenberg in *Der Tonwille* [English translation], vol. 2, 41–64. Subsequent references to this essay will be given in the text as (Twl 2, 41–64); and Patricia Carpenter, “‘Grundgestalt’ as Tonal Function,” *Music Theory Spectrum* 5 (Spring 1983): 15–38; subsequent references will be given as (Grd, 15–38). David Beach suggested that this would be an interesting comparison in “Schenkerian Theory,” *Music Theory Spectrum* 11/1 (Spring 1989): 7.

²⁶ She published a series of articles in which she attempted to combine many of Schoenberg’s ideas within an analysis of the basic idea, in addition to “‘Grundgestalt’ as Tonal Function” discussed here, see also: “Musical Form and Musical Idea: Reflections on a Theme of Schoenberg, Hanslick, and Kant,” in *Music and Civilization: Essays in Honor of Paul Henry Lang*, ed. Edward Strainchamps, Maria Rika Maniates, and Christopher Hatch (New York: W. W. Norton, 1984), 394–427; “Aspects of Musical Space,” in *Explorations in Music, the Arts, and Ideas: Essays in Honor of Leonard B. Meyer*, ed. Eugene Narmour and Ruth Solie (Stuyvesant, NY: Pendragon Press, 1988), 341–373; “A Problem in Organic Form: Schoenberg’s Tonal Body,” *Theory and Practice* 13 (1988): 31–63; “Tonality: A Conflict of Forces,” in

offer many analyses that illustrated the relationships he discussed, Carpenter and other scholars have developed this method, and attempted to remedy these shortcomings.²⁷

Carpenter begins her article “‘Grundgestalt’ as Tonal Function” by attempting to integrate Schoenberg’s theory of motivic development with his theory of harmony.²⁸ As with many Schoenbergian analyses, her reading considers more than just the motives of the piece, and a common thread in her work is relating the *Grundgestalt* to harmonic regions, what she termed the “Tonal Problem.”²⁹ Carpenter also reviews certain aspects of Schoenbergian thought and attempts to define some of the more difficult terms that he left vague. She clarifies that the *Grundgestalt* is the “concrete, technical aspect of the idea,” and that the “idea” (*Gedanke*) for Schoenberg is “that which a piece of music is ‘about’” (Grd, 15). While the musical idea is an abstract entity, the *Grundgestalt* is the “technical” and musical manifestation of that abstraction. This seems to aptly describe

Music Theory in Concept and Practice, ed. James Baker, David Beach, and Jonathan Bernard (Rochester: University of Rochester Press, 1997), 97–129. The first four essays have been understood as progression of articles dealing with Schoenberg’s theories, cited in Michael Schiano, “Arnold Schoenberg’s *Grundgestalt* and Its Influence” (PhD diss., Brandeis University, 1992), 99; Brent Auerbach replicates this series in “The Analytical *Grundgestalt*,” 94; yet the last article published in 1997, surely should be included within this progression. See also Janna Saslaw and James P. Walsh, “Carpenter: A Commemoration,” *Theory and Practice* 30 (2005): 1–4, which includes a commentary and overview of her work.

²⁷ In addition to Carpenter’s work above, many scholars have made very interesting advancements and alterations to Schoenberg’s theory; see, for example, Walter Frisch, *Brahms and the Principle of Developing Variation* (Berkeley and Los Angeles: University of California Press, 1984); David Epstein, *Beyond Orpheus: Studies in Musical Structure* (New York: Oxford University Press, 1987); Severine Neff, “Aspects of *Grundgestalt* in Schoenberg’s First String Quartet, Op. 7,” *Theory and Practice* 9/1–2 (1984): 7–56; David W. Bernstein, “‘Paths of Harmony’ in the First Movement of Brahms’s Cello Sonata in E minor, Op. 38,” *Current Musicology* 75 (Spring 2003): 169–183; and more recently Auerbach, “The Analytical *Grundgestalt*.”

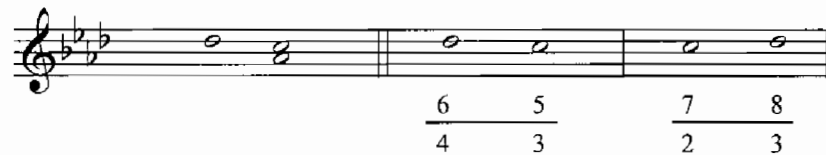
²⁸ “‘Grundgestalt’ as Tonal Function,” 15–18, subsequent page references will be given in the text as (Grd, 15–18).

²⁹ See Carpenter, “A Problem of Organic Form,” 47; Carpenter, review of *Schoenberg’s Error*, by William Thomson, *Music Theory Spectrum* 15/2 (Autumn 1993): 296–297; see also Murray Dineen, “The Tonal Problem as a Method of Analysis” and “Tonal Problem, Carpenter Narrative, and Carpenter Motive in Schubert’s Impromptu, Op. 90, No. 3,” *Theory and Practice* 30 (2005): 69–96 and 97–120.

Schoenberg's practice as illustrated in the previous section, where Platonic recognition allowed him to make connections through an abstract understanding of the motives.

In her analysis of the "Appassionata," Carpenter takes a strategy different from Schoenberg's by both pointing out motives in the music and also offering an abstraction in musical notation as the *Grundgestalt*.³⁰ She identifies the basic shape "in its most essential form as a major third (A^b/C) and its upper semitonal neighbor (D^b)" (Grd, 18) (Fig. 3.7).³¹

Fig. 3.7: Carpenter's Grundgestalt for Beethoven, Piano Sonata in F minor, Op. 57, "Appassionata," mvmt. I



An explicit goal of her article is to "demonstrate how the *Grundgestalt* functions on several levels—as motive, theme, span of bridge or development, and structural design—to make manifest [a network of tonal relations]" (Grd, 38). To that end, her annotations below the staff indicate scale degree interpretations, which become a crucial element to her argument. She also describes the harmonic implications of the *Grundgestalt*, calling attention to the D^b-C motion as implying a diminished seventh chord resolving (Grd, 19). As both Carpenter and Schenker give prominence to the neighboring motion, $C-D^b-C$, it will provide a nice entryway into a comparison. Yet,

³⁰ In other analyses, she does incorporate rhythmic aspects as well as contrapuntal reductions; see "A Problem in Organic Form," 44. The evolving changes of the *Grundgestalt* in Carpenter's writings are surveyed briefly in Auerbach, "The Analytical *Grundgestalt*," 94–101.

³¹ A reasonable question which never gets answered is: how did Carpenter decide that these abstract cells represent the *Grundgestalt*? As opposed to Schoenberg, who traced the motives of the theme from the actual beginning of the music, Carpenter indicates this abstraction without explaining how it is derived.

while each author signals the importance of this motion, they understand its various manifestations quite differently.

As the annotations in Carpenter's *Grundgestalt* imply (Fig. 3.7), she understands the motion from $D\flat-C$ as representing scale degrees, both $\hat{6}-\hat{5}$ in F minor and $\hat{4}-\hat{3}$ in $A\flat$ major. While this initial comparison seems to be based on unordered pitch class movement from $D\flat-C$, she interprets this part of the *Grundgestalt* more broadly, suggesting in the process another type of recognition at work. The opening modulation, for instance, from the tonic (F minor) to the flat supertonic ($G\flat$ major) is "projected from $D\flat$, the tonic $\flat 6$ " (Grd, 24). Carpenter highlights the movement from $\hat{1}$ to $\flat\hat{2}$; it is related to the *Grundgestalt* motion from $D\flat$ to C by transposition, and also influences other voice-leading connections (such as those in m. 42 and mm. 52–53, each of which can be interpreted as involving $\hat{1}$ to $\flat\hat{2}$ motion).³² In this way she is using equivalence recognition based on scale degree movement.

In a manner similar to Schoenberg's labeling of motivic intervals on excerpts, Carpenter also takes a motive from her own *Grundgestalt*, calling the semitone motion, motive "x," which she then sees as slowly infecting the whole composition (Grd, 23).³³ By creating a "semitone motive," Carpenter is recognizing equivalences based on interval alone. Carpenter usually discusses the half-step motive in terms of scale degrees, as mentioned previously in the $\hat{1}$ to $\flat\hat{2}$ motion. She points out another important instance of

³² Carpenter even hints that the $B\flat\flat$ (acting as $\flat\hat{2}$) in m. 42 points forward to the important role of $D\flat$ major (where $B\flat\flat$ would be $\flat 6$) in mm. 94ff. She also sees this spelling as correcting the previous instance of $A\flat$ in m. 7. Somewhat related to this, she understands Beethoven's spelling in this measure (m. 7) as "hinting" at $B\flat$ minor, which according to Schoenberg's theory of harmonic regions offers a link between F minor and $G\flat$ major in the opening measures (and also relates to $D\flat$ major).

³³ Dineen has called motive "x" a "Carpenter Motive" (noting a consistent preoccupation throughout her work with the intervals of the fifth, the third, and the half step) in "Tonal Problem, Carpenter Narrative," 112–113.

the semitone motive in m. 23 (Fig. 3.8), which she understands as a “transposition of the function $\flat 6-5$ to the mediant” in the motion from $E\flat 4-E\flat 4$ (Grd, 19). This motion is reinterpreted in the new key of $A\flat$, where the $E\flat 4$ stands for $F\flat 4$, and she locates the modulation to $A\flat$ on this enharmonic seam.

Fig. 3.8: Beethoven, Piano Sonata in F minor, Op. 57, “Appassionata,” mvmt. I, mm. 21–27

The musical score for measures 21-27 of Beethoven's Piano Sonata in F minor, Op. 57, 'Appassionata,' is presented in three systems. The first system (measures 21-23) features a piano (*p*) section with a semitone motive in the right hand, marked with a trill and an accent. The second system (measures 24-25) features a fortissimo (*ff*) section with a semitone motive in the right hand, marked with a trill and an accent. The third system (measures 26-27) features a mezzo-forte (*sfp*) section with a semitone motive in the right hand, marked with a trill and an accent. The left hand provides a steady accompaniment throughout.

Her interpretation of this semitone motive is confirmed through repetition in the transition section (the $F\flat$ to $E\flat$ in mm. 26–27). Given the short distance from the initial statement, we can understand Carpenter as relying on proximate verification. She also claims that this semitone motive paves the way for the further chromatic descent that spans a minor third (mm. 30–33, from $F\flat$ to $D\flat$). This chromatic span in turn “characterizes the next thematic section,” the minor third that will occur in the key of $A\flat$

in m. 51 (Grd, 21). In short, she understands an initially small motive as beginning to influence the larger design. The intimation of this semitone's expanding function and incremental influence verifies its motivic status through generative significance, exhibiting the qualities that Schoenberg favored in his privileged form of motivic relationship: developing variation.

Later, Carpenter finds another connection with the semitone $F\flat$ to $E\flat$ at the opening of the development section with an enharmonic reinterpretation of the motive, now inverted as $D\sharp$ to $E\flat$. This rising semitone, again referred to as motive "x," goes on to exert an influence over the whole first part of the development section, where, beginning in E minor, the motion $\hat{1}-\flat\hat{2}$ is reinterpreted as $\hat{3}-\hat{4}$ in a new key a third below (Fig. 3.9). Here we see Carpenter's equivalence recognition using scale degrees, but also enharmonic equivalent pitch classes.

Comparing Carpenter's account of this motive with Schenker's, we find a number of similarities, since the "Urlinie motive" plays a fundamental role in his essay as well. Paralleling his later preference of working from the background to the foreground, Schenker singles out the "Urlinie motive" ($C-D\flat-C$) from his *Urlinie Tafel* reduction, rather than pointing to a particular place in the score. In this way, both Schenker and Carpenter begin from abstractions of the musical surface. From the perspective of the *Urlinie Tafel*, the $D\flat$ is a dissonant neighbor note, $\hat{6}$, and it has an obligation to resolve back down to C, $\hat{5}$. This motion not only serves as a means of "unique linkage" for all of the groups of the exposition, but also acts as a "seed" allowing the "harvest [of] the

Urlinie's step \flat -c as a submotive and as something individual and characteristic" (Twl 2, 42).³⁴

Fig. 3.9: Carpenter's analysis of Beethoven, Piano Sonata in F minor, Op. 57, "Appassionata," mvmt. 1, Development section model (Grd, 31–2)

Besides the more obvious cases of this submotive, such as the prominent bass motion in m. 10, Schenker points out subtle instances, such as the change of a diminished chord into a diminished seventh in m. 15. \flat 3 is introduced in the same octave that will sound in the last chord of the measure, and then doubled above, the \flat resolves down to C as an instance of the harvested "submotive" (see Fig. 3.10). Schenker sees the alteration as strategic; Beethoven highlights the motive by saving it "until the end" (Twl 2, 43).

³⁴ Schenker's original reads: "Die geheime Aussaat des fallenden Sekundschrilles bei der 5–6-Folge des Ursatzes lässt auch beim Urlinie-Motiv einen Sekundschrill, des-c (s. die untere Klammer bei a [reference to a figure]), als dessen Teilmotiv, als ein Besonderes und Eigenes ernten." See Schenker, "Beethoven: Sonate opus 57," in *Der Tonwille*, vol. 7 (Vienna: Albert J. Gutmann, and Leipzig: Friedrich Hoffmeister, 1924); repr. in *Der Tonwille*, foreword by Hellmut Federhofer (New York: Georg Olms Verlag, 1990), 7:4.

Fig. 3.10: Beethoven, Piano Sonata in F minor, Op. 57, “Appassionata,” mvmt. 1, mm. 14–16



While this initial comparison shows Schenker recognizing motivic relationships on the basis of ordered pitch equivalence ($D\flat-C$), he makes a motivic connection that suggests another approach to recognition when discussing the transition section (mm. 23–35):

The Urlinie motive makes itself felt in $5-6-5, \flat\flat^2-\flat^3-\flat\flat^2$ (in diminution) and the submotive (bar 10) does the same in the succession $\flat^3-\flat^3$ (bars 26–27), which is required here by the reaching over as well as by the neighbor-note motion (Twl 2, 44).³⁵

Here we find Schenker making a connection similar to one Carpenter made, but also pointing to one that she did not signal. Both writers understand the half step ($F\flat$ to $E\flat$) in the transition as related to $D\flat-C$, based on scale degree equivalence. Both also see the upper voice motion as essentially $F\flat$ moving down to $D\flat$.³⁶ Yet, Schenker hears a connection with the “Urlinie motive” in the $5-6-5$ motion that occurs over an $E\flat$ pedal. This motivic link is not based on pitch classes nor scale degrees, but rather on a new type

³⁵ Translation slightly modified. (Additionally, there is a misprint in Snarrenberg’s translation, which gives \flat^2 as the upper neighbor note. The original reads: “In $5-6-5, \flat^2-\flat^3-\flat^2$, wirkt sich so das Urlinie-Motiv in Verkleinerung aus und zugleich das Teilmotiv (T. 10) in der Folge $\flat^3-\flat^3$ [sic, \flat^3], T. 26–27, die hier sowohl durch die Übergreiftechnik wie durch die Nebennotenbewegung gefordert wird.” See Schenker, “Beethoven: Sonate opus 57,” 7.

³⁶ They do differ on the interpretation of this chromatic movement: Carpenter sees it as a motivic preview of the minor third that will occur in m. 51, while Schenker understands it as prolonging the dissonant seventh ($D\flat$) through a reaching-over.

of equivalence: figured bass.³⁷ Since the $E\flat$ is acting as the dominant to the key of $A\flat$, this upper neighbor motion can only refer to intervals above the bass.

Schenker also questions a motivic relationship that Carpenter makes explicit: the $E\sharp 4 - E\flat 4$ in m. 23 relating to the $F\flat 6$ to $E\flat 6$ in mm. 26–27 (Fig. 3.8). Carpenter saw this initial chromaticism as the enharmonic seam between F minor and $A\flat$ major, and that the *Grundgestalt* motive from $D\flat - C$ is transposed into the new key and later confirmed as the scale degree motion $\flat 6 - 5$ in mm. 26–27. Schenker discusses the same relationship, yet expresses uncertainty over the connection: “Whether the submotive $f\flat - e\flat$ [was]³⁸ also influenced by [the] chromatic step $e\sharp - e\flat$ in the lower voice (bar 23) cannot be determined” (Twl 2, 44).³⁹

This passage is important for understanding how Schenker conceived of motives, at least in this essay. He had previously compared the descending chromatic motion in m. 23 with the ascending motion in m. 21, where $E\sharp 4$ rises to $F4$, giving an almost phenomenological description of the way the left hand “physically feels its way through the modulation” (Twl 2, 44).⁴⁰ Would Schenker’s earlier comparison cast doubt on the later motivic connection ($F\flat$ to $E\flat$ in mm. 26–27), or are there other considerations?

³⁷ Or more literally, he describes intervals above the bass.

³⁸ I have corrected Snarrenberg’s translation of “is also influenced” to “[was] also influenced” (see footnote below). I would like to thank Wayne Petty for bringing this to my attention.

³⁹ Ernst Oster perhaps exaggerates Schenker’s position when he comments: “In *Der Tonwille*, [vol. 7] p.7 Schenker mentions that the chromatic step $e\sharp^1 - e\flat^1$ in measure 23 may have suggested $f\flat^3 - e\flat^3$ in measures 26–27, and further on (mm. 30–31, 47–50, etc.). I believe that this is the case.” See Schenker, *Free Composition*, ed. and trans. Ernst Oster (New York: Longman, 1979; repr., Hillsdale, NY: Pendragon Press), 100. Be that as it may, Schenker’s actual text reads: “Ob auf das Teilmotiv $f\flat - e\flat$ auch der chromatische Schritt $e - e\flat$ bei der Unterstimme in T. 23 von Einfluss gewesen, lässt sich nicht entscheiden.” which seems to express more of an agnostic stance (see Schenker, “Beethoven: Sonate opus 57,” 7).

⁴⁰ “umso leichter wird dann die linke Hand in T. 23 den Gegenfatz gewahr des Aufwärtsschrittes in T. 21 und des Abwärtsschrittes in T. 23, fñlt die Modulation wie finger-körperlich durch und wird so auch befähigt, dieses Gefühl überzeugend mitzuteilen.” See Schenker, “Beethoven: Sonate opus 57,” 6.

One possible explanation lies in how each of these theorists recognizes equivalences and how that determines a “legitimate” instance of a motive. At first it might seem that there are not many differences in how they employ recognition. Yet Carpenter recognizes multiple equivalences based on scale degree, interval, and pitch class, while Schenker restricts his repetitions to those that preserve pitch class, scale degree, or figured bass, and does not include the ubiquitous category of interval. If Schenker understands the $F^{\flat}-E^{\flat}$ “submotive” in terms of scale degrees, that is as $\hat{6}$ to $\hat{5}$, this would exclude the E^{\natural} to E^{\flat} motion as a legitimate repetition because the E^{\natural} is clearly related to F minor and therefore does not act as $\hat{6}$ in A^{\flat} . At the same time, Schenker also recognizes that the pitch classes involved are enharmonically equivalent, which suggests a possible motivic relationship. His uncertainty about this connection reflects a conflict between his criteria of recognition, whether to prioritize an equivalence based on enharmonic pitch class motion over an equivalence of scale degrees. Schenker’s unwillingness to commit to this motivic connection can be understood as a cognitive dissonance concerning which equivalence class is more important.

While such matters cannot be decided for certain without invoking the intentional fallacy, these different criteria of recognition offer an explanation of why Schenker was unsure about the influence of the “submotive” in m. 23. It also suggests why Schenker does not follow Carpenter in indicating the “submotive” as inverted in m. 66–67 since it depends on two other enharmonically equivalent pitch classes, in this case $D^{\sharp}-E^{\natural}$. This motion would not count as a motive because he does not recognize it as a repetition; the passage does not fulfill his criteria for a legitimate equivalence.

This contrast highlights another aspect of Carpenter's work not yet mentioned, the importance of *Mehrdeutigkeit*, or "multiple meaning."⁴¹ By focusing on enharmonic motion, different scale degree interpretations of the same pitch classes, and intervals influencing the direction of the composition, Carpenter is valorizing multiple functions. She focuses on successive passages that treat invariance differently, and makes a connection between these various moments. As opposed to a moment in a composition where the listener is unsure of the meaning, *Mehrdeutigkeit* is here describing a relationship where a similar passage is reinterpreted at various points in the composition. In addition to developing variation, multiple meaning is a privileged relationship for Carpenter.⁴²

* * *

Often theorists will recognize motivic repetitions according to multiple equivalence classes, and as Schenker's comments illustrate, this can sometimes create a conflict between different criteria. Conflicting interpretations caused by different standards of equivalence are common in music scholarship, yet they are seldom recognized as such. As an example of this type of conflict, consider how Schenker describes mm. 105–108:

⁴¹ While Georg Joseph Vogler seems to have coined this term, credit is usually given to Gottfried Weber for incorporating this idea into analytic theory. See David Bernstein, "Nineteenth-Century Harmonic Theory," in *CHOWMT*, 781, 785–787; Janna Saslaw, "Gottfried Weber and Multiple Meaning," *Theoria* 5 (1990–1991): 74–103.

⁴² Other analysts have also privileged multiple meaning as a relationship; see, for example, Edward T. Cone, "Schubert's Promissory Note: An Exercise in Musical Hermeneutics," *19th Century Music* 5/3 (Spring 1982): 233–241; David Lewin, "Music Theory, Phenomenology, and Modes of Perception," *Music Perception* 3/4 (Summer 1986): 389–390.

The motive in bars 105ff only appears to be new; close examination reveals it to be a third-progression that prepares the third-progressions of the second subject, which forms the next segment of the development (Twl 2, 46).⁴³

Schenker is claiming that since the transitional passage reduces to a third-progression, it should be understood as equivalent to the previous and forthcoming third-progressions. Here we see one of Schenker's favorite relationships, a motivic connection revealed by a voice-leading reduction, an intergenerational relationship. This is also an instance of Schenker using Platonic recognition on the basis of an abstraction, "third-progressions."

Yet, not all theorists would recognize this connection, and some might not even want to hear it in this way. Compare Schenker's account with Tovey's comments on the same passage:

105–108.—As if the whole transition-passage were not enough, bars 33–34 are replaced by 4 bars (1+1+2) on an entirely new figure started by a bass below the dominant pedal and imitated by the treble. It is idle to try to derive this from previous material. It is new because the old transition-material, already severely simple, is exhausted, and any allusion to other known themes would be distracting; and it is melodious because the moment is not ripe for a themeless arpeggio. Lastly, it is thoroughly introductory and urgent.⁴⁴

According to Tovey, the new melodic material and the passage's function works against any connections with previous material. He claims the passage to be new and thinks it "should" be heard as something fresh, specifically as "introductory and urgent." Not only does Tovey not hear any motivic connections to this new figure, he seems not to want to ("It is idle..."), in light of how he understands its function. Elsewhere he writes:

The experienced composer can make one theme give rise to any number of delightfully different ideas; but these are not derived from one another by

⁴³ Translation slightly modified. The original is: "Das Motiv in T. 105 ff. ist nur scheinbar neu; genau besehen enthüllt es sich als ein Terzzug, der die Terzzüge des zweiten Gedankens als Inhalt des nächsten Abschnittes vorbereitet." See Schenker "Beethoven: Sonate opus 57," 10.

⁴⁴ Tovey, *A Companion to Beethoven's Pianoforte Sonatas: (Complete Analyses)* (1931; repr., New York: AMS Press, 1976), 180.

machinery, and their difference is aesthetically more important than their identity.⁴⁵

For Tovey, that a third-progression could be found and related motivically would hardly be as important as the role this moment plays in the section.

As mentioned in my discussion of Beethoven's Fifth Symphony in chapter 2, Tovey considered motivic relationships to be "witty details," less important than other analytical relationships. What this excerpt from his analysis of the "Appassionata" suggests is that for Tovey, the function of a passage is of prime interest and that connective relationships can even distract from the importance of this function. Tovey's position represents a particularly skeptical attitude towards motivic relationships. Consider how he grudgingly seems to acknowledge the connection between the first and second themes of the "Appassionata" (mm. 1–2 and mm. 35–37):

35–50.—New Theme (E) [mm. 35–37], allied to (a) [mm. 1–2] in rhythm and in the feature of a tonic arpeggio; but such derivations must not be stretched when the composer keeps the themes apart.⁴⁶

Tovey clearly hears a parallel between the themes, but seems reluctant to recognize it because of the distance between the two. The criteria he does signal out are rhythm and the abstract arpeggio, suggesting he recognizes the motive primarily on the equivalent rhythms (Tovey would surely not base a motivic relationship on arpeggios alone). As his final caution suggests, he places a high priority on proximate verification.

From Carpenter's perspective, though, this relationship is so obvious as to merit very little comment. She merely aligns the two themes in an analytic example, pointing out their relationship via the common third ($A\flat$ to C —indeed the *Grundgestalt*). She also

⁴⁵ Tovey, *Beethoven*, ed. Hubert J. Foss (New York: Oxford University Press, 1965), 74.

⁴⁶ Tovey, *A Companion*, 179.

notates the common use of motives “a” (a third) and “b” (a fifth), and reads the same third-progression that Schenker calls attention to in the reduction below the staff (see Fig. 3.11).⁴⁷ Here we find Carpenter picking up one of Schenker’s methods in relying on a voice-leading reduction to show a similarity. What this quick juxtaposition points out is the strange congruencies and marked clashes that can occur given the different combinations of recognition, verification, and privileged relationships.

Fig. 3.11: Carpenter’s thematic comparison of Beethoven, Piano Sonata in F minor, Op. 57, “Appassionata,” mvmt. 1

The figure displays two musical staves, A and B, in bass clef with a key signature of three flats (F minor) and a time signature of 12/8. Staff A begins at measure 1 and contains a melodic line with several eighth-note patterns. Brackets labeled 'a' and 'b' identify specific intervals: 'a' for a third and 'b' for a fifth. Staff B begins at measure 35 and shows a similar melodic structure. A dashed vertical line connects the start of Staff B to a voice-leading reduction below it, which shows the interval 'a' (a third) between two notes on a simplified staff.

Returning to the comparison between Schenker and Carpenter, we can observe a few more common approaches in addition to those mentioned above. One of the more significant similarities not yet discussed has to do with how each author makes a radical claim for what can count as a motive. One of the discursive threads that Carpenter pulls on throughout her analysis is the polarity between major and minor modes: “There is a second procedure expressing the harmonic implications of the *Grundgestalt* which I take

⁴⁷ As mentioned before, these motivic intervals, in addition to the semitone, play a consistent role in Carpenter’s analyses. Dineen refers to these as “Carpenter motives” in “Tonal Problem, Carpenter Narrative,” 112–113.

to be also basic to this work: the major/minor interchange” (Grd, 21).⁴⁸ She finds this “interchange” not only in the second group, changing A^b major to A^b minor, but also in the opening of the transitions between these modes (D^b minor in m. 42) and in the development (E major to E minor, mm. 67–79) (Grd, 21, 25, and 28).⁴⁹

By juxtaposing these analyses, we can see the ways that these essays complement each other. Schenker gives what could be seen as evidence for the importance of the “major/minor interchange” in his discussion of mm. 36–43. While Carpenter calls attention to that section and the inflection of the D^b triad to minor, Schenker’s argument is that the measures constitute an interrupted period, with the antecedent (mm. 36–39) proceeding in major, while the interrupted consequent (mm. 40–43) slips into minor. He understands this hidden repetition on the basis of a compound melody in the upper voice, which then gets repeated (and “augmented”) in the minor mode (Twl 2, 44–45) (Fig. 3.12).

Schenker also proposes what could be considered a radical understanding of motives in his commentary on the opening measures (mm. 1–16). Using the same metaphor of “seed to harvest” that appeared in his description of the “Urlinie motive” and “submotive,” he understands the opening as presenting “contrasts” motivically:

And even if we finally arrive at the fermata in bar 16, and retrospectively grasp the meaning of the arpeggiation as presenting the Urlinie motive for a third time, and in augmentation, we are left with the glaring opposition of *poco ritardando*—*a tempo* and *pp*—*f*, which remain a mystery for the time being. We only know for certain that the composer will supply us with similar ruptures and

⁴⁸ This technique is also mentioned by Schoenberg in a discussion of theme and variation form; see Schoenberg, *Fundamentals of Musical Composition*, 171.

⁴⁹ She could have also included the F major statement of the first theme in the second group of the recapitulation (mm. 174–189) that later returns in the *più allegro* (F minor, mm. 240ff). Schenker gives particular attention to this change of mode, claiming it brings “a fulfillment of the key that had been denied it in the recapitulation” (Twl 2, 48).

sudden twists: it is another sowing of a seed destined to bear fruit in the consequent phrase (Twl 2, 43–44).⁵⁰

Schenker discusses these contrasts in the same way as he talks about motives: as entities that get repeated throughout the composition and have implications for further development (“seed[s] destined to bear fruit”).

Fig. 3.12: Schenker’s analysis of Beethoven, Piano Sonata in F minor, Op. 57, “Appassionata,” mvmt. I, mm. 36–43

This radical conception suggests that a motive can exist outside of any particular musical domain, but rather function as a relationship between elements. Schenker is not suggesting that the motive is any specific tempo or dynamic, but rather that it is the dramatic juxtaposition of antipodes in both tempo and dynamics. The motive that gets repeated is a relationship that occurs across multiple musical domains (tempo and dynamics).⁵¹

⁵⁰ Translation modified, the original German reads: “Auch wenn wir, in T. 16 endlich bei der Fermate angelangt, im nachhinein den Sinn der Brechung begreifen, das Urlinie-Motiv zum dritten Mal und in Vergrößerung darzustellen, bleibt uns der grelle Gegensatz von *poco ritardando*—*a tempo* und von *pp*—*f* zunächst dennoch ein Rätsel, nur so viel sagt er bestimmt, dass wir uns vom Komponisten noch weiterer ähnlicher Brüche und Plötzlichkeiten zu versehen haben: eine Aussaat ist es wiederum, bestimmt im Nachsatz Früchte zu tragen.” See Schenker, “Beethoven: Sonate opus 57,” 6.

⁵¹ By pointing to a cross-domain relationship, Schenker could be understood as anticipating the attention that future scholars would give to the notion of transformation. The idea of focusing on the relationships

What kinds of recognition do Schenker and Carpenter use to point out these connections as motivic, and are they the same? Carpenter’s “major/minor interchange” could be understood through Platonic recognition (i.e. in terms of an abstraction where “major/minor interchange” or even “modal switch” would be appropriate designations). Alternatively, it could be seen as an equivalent figured bass progression. Under the rubric of figured bass, her example from D^{\flat} major to D^{\flat} minor could be expressed as an equivalent progression from 3 to $\flat 3$. Given the two options, I prefer to understand the motive in terms of the abstraction, if for no other reason than it seems to reflect the language Carpenter uses and therefore is more likely closer to her own conceptualization.⁵²

Schenker’s example proves more difficult to frame, for he recognizes a similarity across two distinct musical parameters: dynamics and tempo. As he frames them, an essential element to these motives is that they feature antipodal contrasts; the dynamic range, for instance, skips from one end of the spectrum, *pianissimo* and *piano*, to the other, *forte* and *fortissimo*. Yet, the dynamic change is perhaps the clearest instance of this, the tempo fluctuations of *poco ritardando* and *a tempo*, are not quite as stark. Even if the tempo differences are not as drastic as that of dynamics, another crucial factor could be their adjacency. Schenker surely recognizes these divergent extremes in virtue of their proximity, since they occur in successive moments in the piece. What kind of recognition is involved here?

between objects, as opposed to the objects themselves, was given a very persuasive formal grounding in David Lewin’s *Generalized Musical Intervals and Transformations* (New Haven: Yale University Press, 1987).

⁵² These alternative means of modeling a relationship point out that even in a meta-analysis, one can still use a different balance of recognition, verification, and privilege. Here, I prioritize the author’s language to verify which conceptualization seems more accurate.

A possible approach to understanding this in terms of a motive would be to conceive of the contrasts as an interval (that is a distance between two dynamic ranges and two tempo values). One could then argue that these intervals are similarly “marked,” or somehow uncommon in their respective domains, and therefore could be understood as equivalent in their degree of contrast.⁵³ This strategy would seem to work well for instances of the motive concerning dynamics, perhaps less so for the tempo differences (*poco ritardando* is a slight tempo deceleration, creating a very imprecise interval between the end of this ritardando and the *a tempo*).

While this strategy could be made to work, I will instead rely more closely on Schenker’s description of the events as “ruptures and sudden twists.” Such language suggests the element of surprise; it implies a change in direction, maybe even a frustration of expectations. Rather than a consistent realm, Schenker is metaphorically comparing these sudden changes across multiple musical domains.⁵⁴ As such, I understand Schenker as recognizing a cross-domain similarity based on discontinuity.⁵⁵ This cross-domain abstraction can be understood as a subtype of Platonic recognition; it

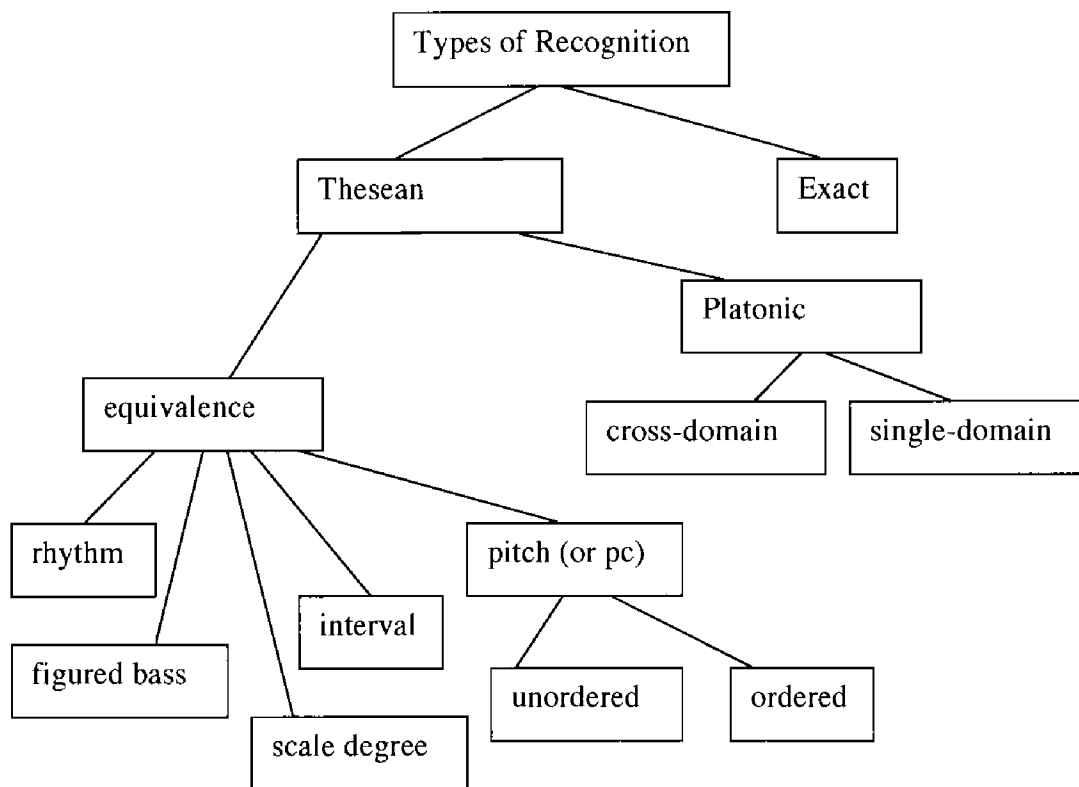
⁵³ The idea of an uncommon or characteristic trait of a motive is explored in the next chapter.

⁵⁴ Using a metaphor to compare one domain with another forms the foundation of Lakoff and Johnson’s work on cognition and conceptual metaphors; see George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago, University of Chicago Press, 1980); Lakoff and Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999). Cross-domain mapping has been explored in relation to music, though usually in terms of how we can conceptualize music, unlike what Schenker seems to do here (mapping a relationship between two musical domains); see Lawrence Zbikowski, *Conceptualizing Music: Cognitive Structure, Theory, and Analysis* (New York: Oxford University Press, 2002), 63–95; Janna Saslaw, “Forces, Containers, and Paths: The Role of Body-Derived Image Schemas in the Conceptualization of Music,” *Journal of Music Theory* 40/2 (Autumn 1996): 217–243.

⁵⁵ For more on musical discontinuity see Thomas Clifton, *Music as Heard: A Study in Applied Phenomenology* (New Haven: Yale University Press, 1983), 95–124; Marion Guck, “Dramatic Progression in Haydn, Sonata #46 in A \flat , Adagio,” in *Engaging Music: Essays in Musical Analysis*, ed. Deborah Stein (Oxford, New York: Oxford University Press, 2005), 180–189. For discussions on continuity from the perspective of cognitive psychology see Leonard Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956), 92–102; and David Huron, *Sweet Anticipation: Music and the Psychology of Expectation* (Cambridge, MA: MIT Press, 2006).

is an abstraction that relates changes across different musical domains.⁵⁶ These further expansions of the taxonomy of recognition are summarized in Figure 3.13.

Fig. 3.13: Taxonomy of types of recognition, second expansion



Friction in the Machine

His declared intention is not annulled by this but rather *inscribed* within a system which it no longer dominates.⁵⁷

At this point it will be helpful to comment on how the relationships that these authors privilege are affected and influenced by the kinds of recognition they employ and their methods of verification. Schenker privileges generational connections, and

⁵⁶ Implicit in this would be the binary pair of single-domain abstraction, which is how I have been using Platonic recognition thus far.

⁵⁷ Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak, Corrected edition (Baltimore: Johns Hopkins University Press, 1997), 243.

recognizes motives based on equivalences that can be represented in reductional levels: ordered pitch succession, scale degree, figured bass, and harmony. On the whole, the kinds of recognition that Schenker uses in these essays fit well with the kinds of relationships he privileges; it is unsurprising, for example, that he does not give as much attention to rhythmic motives.⁵⁸ Yet, one method of verification that does not seem congruent with these other kinds of connections is proximity. Although he stresses that motivic repetitions need to happen immediately, he finds many that occur over long stretches of time. In discussing Beethoven's Op. 2/1, the instance where Schenker clearly relies on proximate verification (mm. 115–118, Fig. 3.5 and Fig. 3.6), he did not relate this motivic repetition to the *Urlinie*, and his reductional graph seemed to work against his discovery of the motive because of the different harmonic setting. In spite of this proximate verification and even when the same motive reappears in enlarged form just a few measures later, he ignored this instance of the motive in his graph because of the contrapuntal structure. Yet, he still thought it important enough to mention in his prose, claiming, “the diminution indulges in a motive of its own” (Twl 1, 76). Here we can see Schenker wrestling with the priority of contiguous structural relationships, and these motivic ones that might contradict the voice leading. This mismatch reveals a tension in Schenker's argument; even when a motivic repetition seems verified, he does not want to show these relationships in his graph.

⁵⁸ Although Schenker does not address rhythmic “motives” per se, he does discuss meter and hypermeter in the essays cited. In his analysis of Op. 2/1, he even refers to the “rhythmic freedom of the whole” (Twl 1, 77). It is also important to note that in other analyses, rhythmic motives do play an important role; see, for instance, Schenker's analyses of Chopin's Etude Op. 10/12 in *Five Graphic Music Analyses*, with a new introduction by Felix Salzer (New York: David Mannes Music School, 1933; repr. New York: Dover, 1969), 56–61; and his essay on Haydn's E \flat Sonata in *Der Tonwille*, vol. 3, 3. I am grateful to Wayne Petty for bringing the *Tonwille* example to my attention.

For Carpenter, proximate verification seems well suited to tracing developing variation. Since motives are “supposed” to constantly grow and affect the course of the composition, proximity would be an important factor in verifying this chain-link process. This means of verification would also help ensure that *mehrdeutige* relationships would be easier to relate. “Multiple meaning” also likely influenced Carpenter’s many kinds of recognition. As opposed to Schenker, she uses enharmonic relationships, abstract descriptions, various kinds of equivalences, and even reductions to show these, yet there is a tension in part of Carpenter’s methodology as well.

Developing variation describes a temporally evolving process, but Carpenter bases her *Grundgestalt* on an atemporal abstraction. Carpenter’s basic idea is a theoretical entity that guides her analysis in an asynchronous way, from the top down as opposed to in time. This approach also influences the structure of Carpenter’s essay, in the way that it jumps among various sections of the piece. In discussing “the Neapolitan region” for instance, she talks about the exposition, the development section, and then the transition to the second group in that order, as opposed to discussing how we perceive this motive growing through the composition in time (Grd, 21–24). As such, her essay does not step us through the process of developing variation, it merely gives us the puzzle pieces to put together ourselves. It would seem that Carpenter’s methodology, like Schenker’s, works in some ways against a type of connection that she privileges. What these tensions show is how the methods an author uses can conflict with the kinds of relationships they privilege.

* * *

In summarizing the comparison between these authors, we find each employing alternative types of recognition and different methods of verification according to a diverse set of privileged relationships in their treatment of motives (see Fig. 3.14). These differences often reflect the aesthetic priorities driving their analyses, and related to this, how they understand unity in a composition. An interesting aspect of this exploration found cases where authors' methodologies subtly worked against the kinds of relationships they seemed to prefer, demonstrating that dissonances that can occur between the categories I have been mapping out. The next chapter will explore further possible clashes, while unfolding more depths to the taxonomies and moving the focus into the analysis of twentieth-century music.

Fig. 3.14: Summary chart of theorists correlated with types of recognition, methods of verification, and privileged relationships, part 1

	Types of recognition	Methods of verification	Privileged relationships
Schenker	equiv: (any feature) harmony, pc (ordered), scale degree, fig. bass; Platonic (single and cross-domain)	repetition; proximity	Generational
Schoenberg	equiv: (any feature) interval; Platonic; mirror form transf.	repetition; generative significance	developing variation
Carpenter	equiv: (any feature) pc (unordered), scale degree, interval; Platonic	proximity; generative significance	developing variation; <i>Mehrdeutigkeit</i>
Tovey	rhythm (equiv.) + abstraction	proximity	function

Chapter 4

Each Ripple Like Another: Verification and Reverberations

All truth-claims take rise from some particular set of values, priorities, conventions, procedures of verification, etc.¹

What are the limits on a motive? How can we be sure that a repetition is motivic? These questions are not usually addressed directly, but many thematic approaches implicitly provide answers, and the way that writers navigate these issues greatly impacts the results of their analyses. This chapter continues to develop the categories explored in the previous two in relation to motivic repetition. While the previous chapter focused primarily on Schenkerian and Schoenbergian methods in relation to works by Beethoven, this chapter examines how motives are treated in other analytical frameworks, adding other voices to the discussion. It also addresses analyses of other repertoire; and while a Beethoven composition shows up once again, the writers in this section also examine pieces by Brahms, Schoenberg, and Berg.

¹ Christopher Norris, *What's Wrong with Postmodernism: Critical Theory and the Ends of Philosophy* (Baltimore: Johns Hopkins University Press, 1990), 78.

The previous chapter explored the different kinds of recognition used by authors, in addition to developing the other categories. This one will further expand the conceptual topography by elaborating on the distinct methods of verification that analysts use in constructing motivic connections. From contextual function, to statistical measurement, to intuition, there are a large variety of approaches to confirming thematic relations. Unlike recognition, analysts do not always consider verification an essential step, and there are some writers who seem to have little interest in trying to justify the connections they make. While verification is not a necessary part of making a motivic link, there are certain repercussions if it is not considered.

Finally, this chapter reframes the previous focus of motives in light of the overarching theme of repetition. I generalize my techniques of comparison, showing how the categories developed thus far can be used to describe other musical relationships beyond the study of motives. Through the examination of a controversy in set theory, I show the relevance of considering these issues in other contexts.

That Special Something: Uniqueness, Derivation, Diagnostics

I feel sorry for novelists when they have to mention women's eyes: there's so little choice, and whatever coloring is decided upon inevitably carries banal implications. Her eyes are blue: innocence and honesty. Her eyes are black: passion and depth. Her eyes are green: wildness and jealousy. Her eyes are brown: reliability and common sense. Her eyes are violet: the novel is by Raymond Chandler.²

As the previous chapter demonstrated, Carpenter privileges motivic relationships that display developing variation and *Mehrdeutigkeit*, which encouraged her to recognize multiple connections through various means. Schenker privileged generational

² Julian Barnes, *Flaubert's Parrot* (New York: Alfred A. Knopf, 1985), 78.

relationships, and the kinds of recognition he used were more restrictive (alternatively, they could be understood as more discerning), reflecting that prioritization. What other kinds of criteria have been used in constructing motivic relationships and how do these biases get reflected in analytical methods?

David Huron, for instance, valorizes very different kinds of motives, ones that have the quality of “uniqueness.” He writes that certain melodic patterns and rhythms are “shared between hundreds of works,” while other figures appear distinctive or characteristic of a single work.³ For Huron, this difference separates true “motives” from mere “figures.” He clarifies this distinction as follows:

What makes a figure a *theme* or a *motive* is that it is associated uniquely with a particular work.... Themes or motives are figures that occur frequently within some work, but rarely occur in other works.⁴

For Huron, this criteria of uniqueness is not a matter of personal opinion, as he proposes focusing on the elemental components of potential motives to discover whether it is unique:

Today it is possible to rely less on intuition and provide a more formal understanding of themes and motives. In characterizing themes and motives, the main task is describing a succinct feature that is truly distinctive of the work in question. In attempting to identify a distinctive musical pattern for a given work, it is easy to mistakenly describe a musical commonality instead.⁵

This immediately begs the question of how one can determine whether something is unique or “a musical commonality.” How do we know whether something is a “succinct feature that is truly distinctive”? To this, Huron supplies an immediate answer: statistical

³ David Huron, *Sweet Anticipation: Music and the Psychology of Expectation* (Cambridge, Mass: The MIT Press, 2006), 258.

⁴ *Ibid.*, 259.

⁵ *Ibid.*, 259. Huron uses the term “features” for what I have been referring to musical elements, I will use Huron’s terminology when discussing his position.

analysis. This might initially sound like a tedious exercise in note counting, but Huron employs technology to do the bulk of this work, relying on the Humdrum Toolkit that he developed to perform statistical analysis of music (such as extracting and enumerating different interval successions from a score).⁶

Before examining some of the ramifications of Huron’s position, it will be helpful to situate it within the context of a disciplinary discourse. His approach to understanding motives can be seen as a reaction against what he considers to be a particularly vague analytic practice. He critiques Allen Forte’s analysis of Brahms’s String Quartet in C minor, Op. 51/1 as an illustrative example, and specifically argues against Forte’s abstraction of motives into pitch cells (Fig. 4.1).⁷ It will be helpful to briefly summarize Forte’s article before examining Huron’s critique.

Fig. 4.1: Forte’s analysis of Brahms, String Quartet in C minor, Op. 51/1, mvmt. 1, motive “α” and its mirror forms



Forte’s strategy is similar to Carpenter’s in that he provides an abstraction from the surface of the piece that allows equivalences.⁸ As the figure shows, he considers the

⁶ David Huron, *Unix Software Tools for Music Research; The Humdrum Toolkit Reference Manual* (Menlo Park, CA: Center for Computer Assisted Research in the Humanities, 1995).

⁷ Allen Forte, “Motivic Design and Structural Level in the First Movement of Brahms’s String Quartet in C Minor,” *Musical Quarterly* 69 (1983): 471–502; reprinted in Michael Musgrave, ed., *Brahms 2: Biographical, Documentary and Analytic Studies* (Cambridge: Cambridge University Press, 1987), 165–196; subsequent references will be given in the text as (Forte, 471–502), and refer to the *Musical Quarterly* publication. Huron’s criticism is based on an earlier article he published, “What is a Musical Feature? Forte’s Analysis of Brahms’s opus 51, no. 1, Revisited,” *Music Theory Online* 7/4 (2001), <http://mto.societymusictheory.org/issues/mto.01.7.4/mto.01.7.4.huron.html>.

⁸ Forte makes a particular emphasis on the importance of intervals, he writes: “The motive is primarily an intervallic event, distinct from any particular pitch manifestation” (Forte, 474).

three transformations of inversion, retrograde, and retrograde inversion as equivalent to the initial motive form “ α ”; Schoenberg referred to these transformations as “mirror forms.”⁹ Mirror forms, in addition to other kinds of changes that preserve certain proportions of the original motive (such as augmentation and diminution) are representative of a general class of recognition that might be called transformational.¹⁰ That said, Forte seems primarily concerned with a kind of equivalence recognition that is primarily based on intervallic succession, and his analysis shows an emphasis on intervals in general. For instance, he labels sections where the full motive might not be present, but the boundary interval is spanned (i.e. the interval of a third for motive “ α ”).¹¹ After signaling out motive “ α ” and ten (!) other Greek brethren, Forte proceeds through the movement indicating occurrences of these motive on excerpts from the score.

As Forte himself acknowledges, motives are “the primary focus,” yet his analysis consists of more than just labeling the score. He privileges: “(1) the development of associations between initially distinct motives; and (2) motivic counterpoint” (Forte, 482). Related to this, he also gives attention to transformational replacements, where one motive changes into another (Forte, 493). Finally, he gives his article some suspense by postponing (Forte, 477) ... and postponing (Forte, 489) ... and yet still postponing (Forte,

⁹ Arnold Schoenberg, “Composition with Twelve Tones (1941),” in *Style and Idea*, ed. Leonard Stein, trans. Leo Black (New York: St. Martins Press, 1975), 225. Rudolf Reti listed these and other methods of transformation, some of which might seem quite radical, in *The Thematic Process in Music* (New York: Macmillan, 1951), 66–105.

¹⁰ This kind of recognition would not only include mirror form transformations, but also some of the more questionable changes mentioned earlier (Reti, *Thematic Process*, 66–105); as this category allows a very fluid meaning of identity it could certainly be expanded further. For some of the additional kinds of transformations that more recent scholars have used; see Lora L. Gingerich, “A Technique for Melodic Motivic Analysis in the Music of Charles Ives,” *Music Theory Spectrum* 8 (Spring 1986): 75–93. I am grateful to Ramon Satyendra for bringing this article to my attention.

¹¹ When indicating the motive with only the boundary intervals, Forte puts parentheses around the label (Forte, 492).

493–496), his dramatic revelation of motivic symbolism, involving Brahms’s encoding of Clara Schumann’s name (Forte, 499).¹²

The elusive motive sigma (“σ”) {A C E \flat }, which Forte takes to represent Clara Schumann, remains shrouded in mystery until late in the analysis. At this unveiling, though, Forte does briefly hint at a method of verification:

Foreground examples of sigma can be found everywhere in the movement, although not all have motivic significance. Those labeled in the examples previously discussed will serve to illustrate the point, and I refer the reader to Examples 3, 11, 12, 13, 20, 21, and 23 for further consideration of musical factors attending the appearance of this emblem. (Forte, 500–501)

While he does give the suggestion of discrimination in the first sentence, the “musical factors” are not specified, and despite his assumption of clarity, it is not evident what makes a particular instance of the motive significant. His analytic procedure of labeling does not explain his rationale for why he signals certain figures that correspond to his motive, but not others that could as well. And given his rather formalist labeling of the piece thus far, it is not clear what kind of significance this surprise disclosure could play in his larger argument. He proceeds as if his symbolic interpretation is correct and then cites examples where his reader can figure out the significance.¹³ This leaves one

¹² Forte’s surprise exposé deserves a comment in that it is representative of a significant analytical approach to understanding music. Analyses attempting to uncover such symbolism have long fascinated the theoretical community and there is significant evidence that many composers indeed made “secret” encryptions in their works (Schumann is a well noted example). In understanding this motive as a symbolic referent, Forte engages with a wider practice that explores the potential for music to act as a cipher, a kind of encryption that requires investigation and exploration in order to be decoded, thereby revealing its full significance. While Forte engages this practice on the level of motives, other avenues have been explored and indeed this generalized approach forms the foundation of much hermeneutical practice where seemingly polysemic events become fixed for the purpose of an interpretive reading. I would like to thank Kevin Korsyn for drawing my attention to the wider practice implicated in Forte’s “decryption” of Clara Schumann’s name.

¹³ Forte does make a gesture at highlighting the importance of the pitches contained in motive sigma to the movement, but says little about the three-note cell itself (Forte, 501).

wondering how such a symbolic interpretation enhances his analysis and also how it could affect one's experience of the piece.¹⁴

Furthermore, Forte does not seem interested in developing a method of verification, despite his cryptic warning that “not all [foreground examples of a motive] have motivic significance.” This brings up the question of whether verification is necessary if one defines strict criteria of recognition, as Forte does with his table of motives and transformations. Evidently, he thinks not. But his abdication of discussing this issue leads to many questions about his analyses, and brings up the issue of internal consistency.¹⁵

Fig. 4.2: Forte's analysis of Brahms, String Quartet in C minor, Op. 51/1, mvmt. 1, mm. 22–24¹⁶

The image shows a musical score for Brahms' String Quartet in C minor, Op. 51/1, mvmt. 1, mm. 22-24. The score is for Violin I, Violin II, Viola, and Violoncello. It shows a musical passage with annotations for motives alpha, alpha', and sigma. Motive alpha is marked with a lambda symbol above it. The score includes dynamics like 'f' and 'ff'.

¹⁴ This is surely not from a lack of possible interpretations, given the immense literature exploring Brahms's relationship with Clara Schumann. It is interesting to see how Forte takes the suggestive step towards a hermeneutic reading, but then leave the puzzle incomplete, allowing the reader to piece it together. As a methodological strategy, this is clever in that Forte can simultaneously take some of the credit for any possible hermeneutic reading (after all, he supplied the evidence), but not pin his analysis to any specific interpretation that might be subject to question.

¹⁵ For some it might also raise the question of external plausibility as well.

¹⁶ I have shortened Forte's example, which provides an annotated score up to m. 31.

Consider how Forte labels the previously examined motive “ α ” in mm. 23–24, where the run in the first violin mixes steps and leaps with chromatic inflections (F#4) (see Fig. 4.2). While the boundary interval is indeed a minor third from C up to E \flat , the relationship between this passage and the abstract motive transformations given in Forte’s table (Fig. 4.1) is not immediately clear.¹⁷ Forte’s discussion provides no clarity to the matter as he does not mention this motive and instead focuses on other connections in the example. Since he seems to bracket out of consideration all of the notes in between the boundary interval (which is actually a minor tenth, from C4 up to E \flat 5), the flexibility of his seemingly strict criteria of motivic relationships is called into question. This is surely one of the issues that Huron is responding to in his criticism.

While Forte focuses primarily on pitch motives (such as in Fig. 4.1), he does offer a table of rhythmic themes (Forte, 479) and also gives the following caution:

It is essential to bear in mind that these atomic constituents, however commonplace they may seem out of their musical contexts, are not in the least trivial. Nor are they floating about in some random musical space, but are attached to other elements in the composition at a specific structural level or levels, so that each motivic particle, however minuscule, relates to the whole through the organizational hierarchy. (Forte, 475)

While Forte does not go so far as to demonstrate a thorough organizational hierarchy, he can at least be understood as wanting to avoid the criticism that his motives are meaningful apart from their instances in the piece itself. It is reasonable to posit that Forte is highlighting a particular element of the motive (intervallic succession), but that these abstractions are only properly contextualized when “attached to other elements in the composition.”

¹⁷ Furthermore, the run does not start on C, although that note is given a metrical emphasis. Again the issue and importance of segmentation arises.

Huron, however, does not offer Forte such a charitable reading. He implicitly criticizes Forte for proposing “that the principal motive for this work can be described in set-theoretic terms by the interval-class set (2,1).”¹⁸ In the language of this dissertation, Huron does not agree that Forte’s equivalence class is a sufficient condition of recognition. It is not adequate, Huron maintains, because it is too inclusive; it allows too many connections and it does not capture the unique features of the figure. Huron then backs up his criticism with a statistical comparison listing the number of occurrences of the interval-class set (2,1)¹⁹ as compared to all of the other two-element interval successions in the whole piece.²⁰ Having correlated this data, he next runs the same statistical analysis on Brahms’s two other string quartets to determine how frequently this interval succession occurs in those pieces as well (Fig. 4.3). Huron’s findings show that the interval succession “ α ” (adding together all of its transformations) occurs more frequently in Brahms’s other quartets than in Op. 51/1. Huron understands this as “implying” that the interval-class set (2,1) is a musical commonality in the world of Brahms’s string quartets.²¹ But what then is the motive in this piece?

¹⁸ Huron, *Sweet Anticipation*, 260. Huron uses the term interval-class set to refer to the four permutations of the interval succession according to direction, i.e. P (+2,+1), I (-2,-1), R (+1,+2) and RI (-1,-2). Forte might prefer to call this generalization a basic interval pattern, specifically bip 1,2; see his “The Basic Interval Patterns,” *Journal of Music Theory* 17/2 (Autumn 1973): 234–272 and *The Structure of Atonal Music* (New Haven: Yale University Press, 1973), 63–64.

¹⁹ This comparison occurs in part II of “What is a Musical Feature?,” 32. Huron relies on the Humdrum Toolkit software (computer program) that he developed to extract and enumerate different interval successions from an electronic score; see Huron, *The Humdrum Toolkit*.

²⁰ Given the transformations and flexibility with which Forte applies his labels to the piece, it is questionable whether Huron’s analysis is really addressing Forte’s motive, or merely a restricted subset thereof. Huron’s statistics, for instance, would not “count” the alpha motive in the first violin part labeled in Figure 4.2, and in general, Huron does not show an interest in such abstractions from the musical surface.

²¹ The situation is actually more complicated than this, as Huron acknowledges that the prime form of Forte’s interval-class set actually *is* statistically distinctive in the piece, yet in the next paragraph he claims to want to discover the motive that is “clearly distinctive rather than merely prevalent” by introducing other musical features; see Huron, “What is a Musical Feature?,” 41–42. This seems to call for a discussion

Fig. 4.3: Huron's analysis of Forte's motive "α"

Prevalence of "Alpha" Patterns in First Movements of Brahms's String Quartets			
interval	Brahms Quartets		
pattern	No. 1	No. 2	No. 3
+2,+1	136	72	139
-2,-1	94	129	226
-1,-2	52	116	199
+1,+2	70	104	110
	<u>352 (5.00%)</u>	<u>421 (6.37%)</u>	<u>594 (7.92%)</u>
of	(7045)	(6612)	(7498) two-interval instances

Huron's theoretical intervention then involves taking other musical features and running further statistical analyses to see if they are significant, and then correlating these factors together. Finding a high degree of correlation among rhythm (and to a lesser degree, two other factors), he eventually claims that Forte's intuition was almost correct in finding the characteristic motive, but had mistakenly jettisoned the rhythmic profile that made it truly distinctive.²² Huron then gives an instance of the motive that qualifies as statistically significant (see Fig. 4.4).²³

about what degree of prevalence is required for something to be statistically significant, and what that would mean musically; Huron avoids this discussion.

²² While Huron's analysis points out some problems with Forte's abstraction, his own rebuttal could be understood as containing problems of its own. One might bring up issues concerning his sample size (only the two other first movements from string quartets by Brahms were examined, 3 pieces in total) and whether the features he tested for were not abstractions themselves (his rhythmic analysis relied on the vague contour, "long, short, long," which could be translated into many distinct rhythmic profiles). Furthermore, Huron does not address the fundamental assumption that being statistically significant has a correlate in how listeners hear works, (as opposed to prioritizing the order of events, their treatment (and salience), or other factors).

²³ Huron's schematic representation here is not strictly speaking derived from his statistical analysis (the rhythm "long, short, long," for instance, could have been represented in many ways (such as in m. 19, beat 2 of the Cello part), as could the "rest" before the motivic entrance, or the clef in which it is written); he has provided an interpretation of the data that fits well with the instances of the motive in the piece, and specifically that of the first measure. It is perhaps a little disingenuous then when he writes: "The feature [Fig. 4.4] bears more than a superficial resemblance to the opening statement in the first violin" as if the opening statement had had no influence on his representation; "What's in a Musical Feature?," 53.

Fig. 4.4: Huron's analysis of the statistically significant motive in Brahms, String Quartet in C minor, Op. 51/1, mvmt. 1²⁴



What kind of recognition is Huron relying on to claim motivic connections? Like Schoenberg and Schenker, he leaves open the theoretical possibility that any feature or combination of features could be considered motivic, but ends up using equivalence recognition on the basis of interval succession and rhythmic contour.²⁵ Such acts of recognition, though, are not the crucial factor for Huron. While he would likely not go so far as to claim that perceptions are unimportant, he insists that such “intuitions” need to be backed up by statistical evidence. For Huron, statistical analysis acts as a verification procedure for any kind of motivic recognition; the data functions as the ultimate arbiter about whether something can be considered a motive.²⁶

²⁴ “What is a Musical Feature?,” 52; reprinted in *Sweet Anticipation*, 261.

²⁵ I understand rhythmic contour in an analogous way to pitch contour (a similar threefold discrimination) as Huron uses the ratios longer, shorter, and same, to measure rhythmic differences.

²⁶ To complicate Huron's picture, we might introduce further considerations concerning how the data is gathered and how that would influence the results. Huron takes the whole first movement as his sample size, but why couldn't a statistical analysis be done on a smaller subsection, say the first group of the exposition. If a motive is statistically significant in a subsection of the piece, it could arguably function as a distinct and salient motive in that part of the composition. Or take a sectional form such as a rondo, where a motive could potentially be distinct and prevalent within section C, but not be statistically significant in light of the whole. Would that mean that the motive should not be used to analyze the middle section of the rondo? The idea that something could be statistically significant on the local level, but not globally so could be reflected beyond the borders of a single piece where this understanding of motives has more radical consequences. Consider, for instance, if miraculously, a fourth string quartet by Brahms was discovered in an old attic in Vienna, and the first movement of this quartet was saturated with the (+2, +1) interval succession and the “long, short, long” rhythm. Would Huron then need to revise his motive from the first quartet since this feature would no longer be statistically significant within the string quartets by Brahms? Huron's strategy raises the problem of comparative classification, (that is, classifying something solely on the basis of comparisons). While the string quartets of Brahms can be considered a closed set, what about contemporary music or popular music? For instance, when Webern first used a 12 tone row derived from trichord permutations in his *Konzert*, Op. 24, could that row be considered motivic up to the time when other composers, such as Babbitt (in *Composition for Four Instruments*), began to use it (at which point the row would stop being statistically significant)? See Babbitt's discussion of this in *Words about Music*, ed. Stephen Dembski and Joseph N. Straus (Madison: The University of Wisconsin Press, 1987), 25–28. Huron alludes to such problems when he discusses genre and how certain rhythms (he cites Ravel's *Bolero*) might be considered unique within a certain community of listeners, but within other

* * *

In sum, Huron has created clear and objective criteria for determining first if something is a motive, and then what parameters may be altered while still being considered that motive. That said, his strict criteria can have unintended consequences that seem to artificially limit how we experience a piece; they ignore the specific contexts in which these figures are situated. While Huron might be dubious of Forte's claim that the retrograde inversion of the motive is equivalent, what is the basis of his doubt? Does Huron object to the four versions of motive, or only to the way that Forte has conceptualized these versions of the motive?

The interval succession of Forte's retrograde inversion (+1,+2), for instance, could also be understood as a diatonic transposition of the motive (such as in m. 120 following mm. 118–119). Far from being an implausible transformation, many listeners would deem this a straightforward relationship (one could also imagine that Brahms had written a diatonic sequence with the motive, where the interval succession +1, +2 would seem very related to the previous incarnations). Furthermore, in mm. 84–91, Brahms presents the motive beginning on various pitches and in the process outlines a major third (+2,+2) as opposed to the original minor third. Huron's strict intervallic system would treat them as different motives, where most listeners might wish to hear the patterns as related. While verifying motivic status through statistical analysis could certainly defend an analyst against charges of capricious note-picking, it would not necessarily correspond

communities, it would constitute a general feature (the generic bolero rhythm to listeners familiar with Spanish dance music). After noting this though, he does not elaborate on the significance, but rather continues to discuss the role of uniqueness as if it were unproblematic.

to the salient musical events that one hears, and indeed, it might miss significant relationships.

Since Huron's method essentially provides a tally of repetitions within a particular domain, it would seem to relate to other work that focuses on the pervasive role that repetition can have in music. Though coming from a markedly different perspective, it is interesting to compare Huron's statistical method with Lawrence Kramer's notion of "romantic repetition."²⁷ The incessant repetition that Kramer describes could very well be understood as a kind of statistical accumulation, in addition to Kramer's reading as a kind of Romantic obsession.²⁸

While his methodology is novel, Huron's goal of classifying a motive as unique is hardly a new privileged category in music. Though he relies on modern technology and a scientific approach in order to demonstrate a motive's "uniqueness," the aesthetic endpoint to his analysis can be understood as reviving a priority from the Romantic era.²⁹ Romantic composers saw originality and creativity as the summit of aesthetic value, and hence held them at a much higher priority than using common or generic musical materials (which was highly respected in the Baroque and Classical periods).³⁰ While Huron's methods of compiling data and running statistics would likely be at odds with the ways that Romantic critics approached and understood music, both value uniqueness,

²⁷ Lawrence Kramer, *Music and Poetry: The Nineteenth Century and After* (Berkeley and Los Angeles: University of California Press, 1984), 45–56.

²⁸ The idea of statistical accumulation as a feature of romantic music is something discussed by Leonard Meyer (who in many ways might be understood as a bridge between the scholarly contexts of Kramer and Huron); see Meyer, *Style and Music: Theory, History, Ideology* (Chicago: University of Chicago Press, 1989), 305–307.

²⁹ I am grateful to Kevin Korsyn for pointing out this aspect of Huron's thought.

³⁰ Of course there are differences between analysis and composition, but the same privileged category can be understood as functioning in both contexts.

which determines on the one hand whether the musical materials are truly artistic, and on the other whether a figure is actually a valid motive. In short, uniqueness has a similarly privileged status in both contexts. This illustrates that despite using seemingly modern methods to approach the music, Huron's valorization of uniqueness, novelty, and the unfamiliar connects quite fluidly with a set of aesthetic priorities developed in the Romantic period.

Lastly we might remark that the relationships that Huron privileges could be understood as arising from the tools he developed to approach music. Having built the Humdrum toolkit, which is markedly adept at tracking statistical patterns in a score, it is no surprise that Huron finds these statistical relationships to be significant. He privileges these connections despite cases where the statistics seem to ignore what would be salient relationships, such as the diatonic sequences mentioned above.

* * *

Many theorists, like Huron, see uniqueness as an important property of motives, but depending on their methods of verification, they might grant a "musical commonality" motivic status. Charles Rosen takes this position in his discussion of thematic relationships in Beethoven's last string quartet, Op. 135. In an almost schizophrenic but rhetorically sophisticated discussion, his essay begins by occupying a skeptic stance and dismisses motivic analysis as a crude time-waster. He writes that not only can these kinds of connections be found all over tonal music, but also that it is too easy to "come up with superficial and meaningless motivic relationships."³¹ This

³¹ Charles Rosen, *The Frontiers of Meaning: Three Informal Lectures on Music* (New York: Hill and Wang, 1994), 93. Subsequent references will be in the text as (Rosen, 93).

vehement protest against the validity of thematic analysis certainly seems to echo Tovey’s skeptical position.

Attempting to prove the simplicity of such an approach, he casually throws out three melodic examples from Beethoven’s Quartet (Fig. 4.5 a–c). A “diatonic rising third” is hardly novel; Rosen refers to it as “a motif so common that it can be found in almost every piece of music ever written” (Rosen, 94). Finding a close proximity of the first two motives, he finds the third motive by going “further afield [sic] for an even less convincing and more obviously trivial example” (Rosen, 94).

Fig. 4.5 a–c: Charles Rosen’s analysis of Beethoven, String Quartet in F major, Op. 135, mvmt. 1, first violin part only, comparison of three motivic passages: a. mm. 1–4; b. m. 6; c. mm. 89–90



Thus far, Rosen seems in sync with Huron’s position; they both argue that Platonic recognition by itself does not offer a valid means of claiming a motivic relationship.³² Like many theorists who dismiss motivic relationships out of hand, Rosen is verbalizing the palpable frustration over analysts using recognition without a method of

³² It is perhaps a happy coincidence that they both discuss a “diatonic rising third” motive, yet it might be illuminating if statistics were done on the percentage of motivic analyses that relied on thirds as motives, which is surely one of the most common.

verification; such links are judged meaningless because they are ubiquitous. Yet, instead of leaving the connections as an example of the futility of motivic commonalities, Rosen changes course.

Despite his professed skepticism, Rosen spins around and instead argues for the validity of connecting the three versions of the motive because of the context in which they are set. After confessing to “cheating” in his earlier description, he focuses on how the previous two motives are woven together at the appearance of the third and gives a larger musical context as evidence for the connection (Fig. 4.6). Because of the proximity of statements of the motives, the listener is reminded of the previous passages just before a new link is forged in the chain.

Fig. 4.6: Beethoven, String Quartet in F major, Op. 135, mvmt. 1, mm. 86–91

The image displays a musical score for Beethoven's String Quartet in F major, Op. 135, mvmt. 1, mm. 86–91. The score is presented in two systems, each with four staves. The first system (mm. 86-88) shows the initial part of the passage. The second system (mm. 89-91) is marked "a tempo" and features a prominent triplet in the first staff, with dynamics "p" and "sempre p" indicated. The score concludes with a final measure (91) featuring a triplet in the first staff and a dynamic "p".

For Rosen, reintroducing the earlier motives re-activates our memories of them within the new context and triggers our recognition of the new variant.³³ Though similar to proximate verification, we might refer to this new means of verifying a motivic connection as “prompting.” Defined in general, prompting describes the statement of a previously heard motive form in close proximity to a new transformation of the motive.³⁴

In Rosen’s case, multiple statements of earlier motive forms are situated both before and simultaneously with the new transformation. Rosen understands these multiple statements of the same motive form as verifying that the new figure is motivically related. Although Platonic recognition (of a rising third) alone is not a sufficient means of demonstrating a motivic relationship for Rosen, if such connections are verified through prompting, then they should be understood as motives.³⁵

Given his vitriolic prose earlier, one might expect that while acknowledging it, Rosen would deem this connection as having little significance, since, as he stated,

³³ While Rosen does not go into too many specifics, perhaps for considerations of space, a more rigorous analysis of the same passages would likely take into account the sixteenth-note triplets introduced in m. 15, which provide a rhythmic contrast to the doubly dotted eighth- and thirty-second-note rhythms. This rhythmic texture begins to develop beginning in m. 38, where arpeggiations and leaps become more prevalent than stepwise runs. Especially important is how the motivic strata are clarified during the juxtaposition in mm. 62ff (the triplets enter in m. 68). Here, each motive maintains a contrasting melodic and rhythmic profile. The passage that Rosen cites as the entrance of the third version of the motive (m. 89) can thus be heard as derived from multiple sources earlier in the piece, which were just heard separately at m. 62ff. It is at this moment that these contrasting motives are seemingly integrated (if indeed one tries, with Rosen, to hear them as related). The idea of a new motivic variation derived from previous sources is similar to Forte’s idea of motives blending together. Additionally, Edward T. Cone has discussed such instances of motives which seem to derive from multiple sources with the term “portmanteau” from Lewis Carroll, see Cone, “On Derivation: Syntax and Rhetoric,” *Music Analysis* 6/3 (Oct. 1987): 245. Portmanteaux are words derived from multiple other words; Carroll was known for such playful treatments of language including many made up words such as: “slithy” (lithe and slimy) and “mimsy” (flimsy and miserable). From everyday usage one can find the words spork (spoon and fork) and brunch (breakfast and lunch).

³⁴ In prompting there is an implied distance between the first instance of a motive and its return as a reminder, and an implied transformation (or new motive-form), as opposed to proximate verification, which has no such implications.

³⁵ This is similar to the criteria for motivic relationships that Tovey advocates; see, for instance, his discussion of Beethoven’s Op. 97 Trio in “Some Aspects of Beethoven’s Art Forms,” in *The Main Stream of Music* (New York: Oxford University Press, 1949; repr., AMS Press, 1979), 276–277.

motivic analysis is often “trivial.” Yet, he takes this motivic connection one step further than many analysts would: not only *can* these motives count as related, but recognizing them as such is *crucial* to understanding the passage. He enters territory that Huron would surely avoid by claiming to divine what Beethoven “meant” to do. With his intentional fallacy card in hand, he maintains that: “Beethoven wants us to hear these relationships and sets them out for us” (Rosen, 96). In the process of pushing this argument further, Rosen reveals what kinds of motivic connections he privileges:

We can therefore link the first appearance [of the motive] with the other two; or rather—and I wish to emphasize this very strongly—Beethoven has linked up these motifs for us and has forced us to perceive both the invariance and the way the simplest possible succession of notes is both transformed throughout the piece and identified each time in its original form.

In short, what is interesting is not the identity of two motifs—that can be found anywhere in tonal music, as I have said—but the way that we are forced to perceive the transformation and the underlying invariance. (Rosen, 96)

Rosen’s excitement is palpable as he first suggests that Beethoven “wants us to hear” the connections, and then restates the claim in a bolder manner: the composer *forces* these relationships upon us.³⁶ The end of this passage clarifies that he privileges relationships that involve both transformation and underlying invariance. Rosen understands these relationships as necessary elements in the significance of this passage. He clarifies what is at stake:

If you cannot remember where the second example was first played and connect it up to the third, you cannot be said to be hearing the Beethoven quartet in any sense of that word that implies understanding. (Rosen, 95)

This series of motivic connections has become the essential element to understanding the work. Without generalizing too far from this high point in his prose, Rosen’s claim is

³⁶ At this point in his argument, one might also wonder what role the listener has according to Rosen’s account, and specifically how autonomous a listener can be in the face of “forced” relationships.

that in some cases, rather than trivialities, motivic relationships are essential components to listening with understanding.³⁷

* * *

He recognized a portrait of Einstein because he picked up the characteristic hair and moustache; and the same thing happened with one or two other people. ‘Ach, Paul!’ he said, when shown a portrait of his brother. ‘That square jaw, those big teeth—I would know Paul anywhere!’ But was it Paul that he recognized, or one or two of his features, on the basis of which he could make a reasonable guess as to the subject’s identity?³⁸

How important is uniqueness as a consideration in motivic analysis? While this surely depends on the analyst, a convincing argument for using this criterion might depend on what is singled out as unique. What if, for instance, there was a single element that was distinctive enough that it immediately validated a motivic connection? Severine Neff comes close to adopting this position in her analysis of Schoenberg’s First String Quartet in D minor, Op. 7.³⁹

Neff’s approach is very much influenced by Schoenbergian analysis, and she offers an alternative means of demonstrating developing variation, which for her is the most valued kind of relationship that can be found in music. In discussing the opening three measures of the piece, which she takes to be the *Grundgestalt*, she signals out three melodic motives, and one based on rhythm (Fig. 4.7). Significantly for our purposes, she theoretically grounds her determination of the melodic motives on the basis of one factor:

³⁷ This passage, while not unusual for Rosen, is not quite representative of his overall approach to analysis, where he often focuses on connecting analytical observations to large-scale comments about form and compositional structure. Additionally, he often relates his work to issues of performance and listening, though with much less insistence than displayed above.

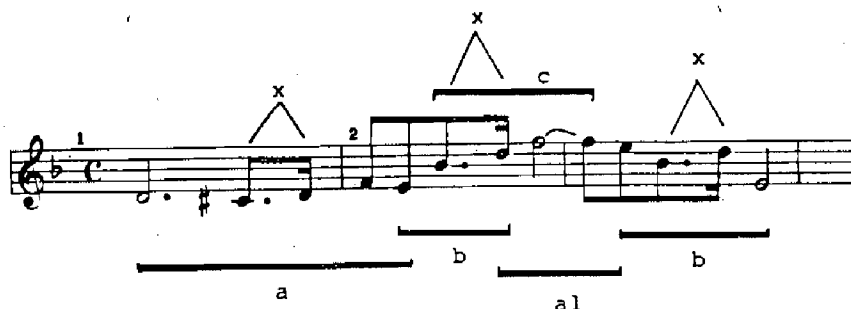
³⁸ Oliver Sacks, *The Man Who Mistook His Wife for a Hat, and Other Clinical Tales* (1970, repr., New York: Touchstone / Simon and Schuster, 1998), 13

³⁹ Severine Neff, “Aspects of *Grundgestalt* in Schoenberg’s First String Quartet, Op. 7,” *Theory and Practice* 9/1–2 (1984): 7–56. Subsequent references will be given in the text as (Neff, 7–56).

Within this “shape” are three motives, labeled a, b, and c in the Example [Fig. 4.7], and a variant of motive a, labeled a1. Each motive is based on a characteristic interval: motive a on the minor second, motive b on the tritone, and motive c on the perfect fifth (outlining a major triad). (Neff, 13)

While Neff is signaling actual figures in the music, she grounds her designations by “basing” it on a single characteristic interval. In this way, she lays the foundation for how these motives are to be understood and subsequently related.

Fig. 4.7: Neff’s Grundgestalt for Schoenberg, String Quartet in D minor, Op. 7, mvmt. 1, first violin part, mm. 1–3⁴⁰



What kind of recognition is Neff using here? Where analysts use a single specific characteristic, in this case a particular interval, as the determinant factor, I will refer to this type of recognition as *pathognomonic*. Borrowed from medicine, this term refers to a single property that unambiguously determines a medical affliction.⁴¹ It is defined as: “specifically distinctive or characteristic of a disease or pathologic condition; a sign or symptom on which a diagnosis can be made.”⁴² While I would avoid any close associations between judging two musical passages as motivically related and diagnosing a patient with a disease, pathognomonic features function similarly in both cases as they are single characteristics that immediately allow recognition to occur.

⁴⁰ In her analysis, the label “x” refers to the indicated rhythmic pattern (dotted-eighth – sixteenth).

⁴¹ In the terms of philosophical clarity, pathognomonic symptoms are sufficient (and could be either necessary or not depending on how they are defined).

⁴² *Dorland’s Illustrated Medical Dictionary*, 26th ed., (Philadelphia: W.B. Saunders, 1985), s.v. “pathognomonic.”

Pathognomonic recognition can be considered a very straightforward means of determining a relationship: either the trait is present or it is not. As such it can function as both a type of recognition and a means of verification. Often, though, authors rely on other verification procedures in order to make a more persuasive connection. Neff takes this extra step by offering four criteria as a means of verifying a motivic connection. She lists these criteria in discussing ambiguously derived motives—that is, motives that could potentially come from two or more possible sources:

Motivic units will be given the same letter as those in the basic shape if they preserve 1) at least three pitch classes of the motive in the *Grundgestalt*, 2) interval content unique to the original motive, 3) the interval content of the original motive in any order, or 4) if they state the pitch content of the original motive (or part of it) in terms of chromatic substitutions. (Neff, 18)⁴³

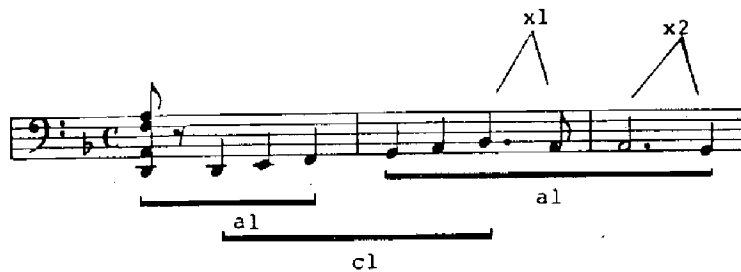
While she uses these criteria to confirm derivations of motives, she has actually given alternative kinds of recognition. Specifically, she has given four kinds of equivalence according to pitch class, interval content (ordered and unordered), and her last permissive kind: chromatic substitution. These criteria in combination allow Neff to discover a wide range of motivic connections.

Consider how she understands the first motivic variation of motive “c,” which she labels motive “c1” (see Fig. 4.8). Since this variation occurs in the cello part beginning in m. 1, it appears, paradoxically, before the prime instance of the motive itself. In one respect, this is a mere quibbling with the order of derivation, as Neff chose to deal with

⁴³ There is some ambiguity in Neff’s second and third criteria in her usage of the term “interval content.” Not only would the third condition seem to encapsulate the second, but it is not sufficiently defined as to whether it refers to directed intervals or interval classes. Neff’s criteria of motivic transformation seem to be influenced by those set out in Reti, *Thematic Process*, 66–105; specifically his techniques of “interversion” (criterion 3) and “changed accidentals” (criterion 4). Though likely more acceptable to contemporary scholars than Reti’s work, Gingerich provides a similar list of possible motivic transformations that she sees as appropriate for the analysis of Ives’s music; see Gingerich, “Technique for Melodic Motivic Analysis,” 75–93.

the violin part first, but it does reveal the same dissonance between method and privileged relationship that was found in Carpenter’s analysis. Despite focusing on how motives are growing and evolving throughout the piece, the analysis is asynchronous, and Neff finds connections that seem to derive backwards in time.⁴⁴

Fig. 4.8: Neff’s analysis of Schoenberg, String Quartet in D minor, Op. 7, mvmt. 1, first transformation of motive “c”



In her commentary, Neff also understands this new version of motive “c” as “fill[ing] in the trichord D–G–B \flat (motive c) with passing tones E and A” (Neff, 26). There are some interesting and somewhat curious claims in this purported connection: 1) the original motive she signaled in the violin part contained the notes B \flat –D–F, not G (c.f. Fig. 4.7); and furthermore she does not mention the pitch F, which the cello also plays in its ascending scale. 2) As it occurs in the composition, the collection does not contain a P5, the purported basis of motive “c.” And finally, 3) her intermixture of language implies an atonal understanding of the passage (“trichord”), yet she also uses terms that imply a tonal perspective (“passing tone”).

Although she does not mention the cello’s F2 in her description of the motive, we might assume that, like the E and A, it is a passing tone. We can understand her as

⁴⁴ The ability of derivation to work backwards, or more lucidly put, for music to reveal connections retrospectively, is a fascinating topic that deserves more attention in music scholarship, although certain writers have discussed such connections; for example, see David Lidov’s discussion of Chopin’s Prelude in C major, Op. 28/1 in *Is Language a Music?: Writings on Musical Form and Signification*, (Bloomington: Indiana University Press, 2004), 104–105.

bracketing these notes out of consideration in a way similar to Schenker's in pointing out the motivic connection in Beethoven's Sixth Symphony (c.f. Fig. 2.8). The first point might be a simple oversight.⁴⁵ The second issue suggests that Neff likely uses the term "interval content" to include interval classes; this opens up a contentious issue that I will return to below.

Lastly, her intermixture of tonal and atonal language reflects an intersection between the source of her analytical ideas (Schoenberg's analytical comments were often focused on the tonal repertoire) and the language of the piece she analyses (which is highly chromatic). Pre-twelve-tone works by Schoenberg (this quartet was composed between 1904 and 1905) can be quite difficult to approach analytically, since the music often combines both tonal gestures and unusual harmonic and contrapuntal motion. The opening measure of the quartet, however, is much less ambiguous than many other parts of the piece; it seems rooted in D minor. That said, by understanding this opening sonority as a trichord, Neff has much more flexibility in finding relationships later in the piece. And find them she does. However, as with Schoenberg's system of motivic transformations (and more so with some of his followers), one wonders what the limits are to the various alterations a motive can undergo, especially when certain notes can get bracketed out of consideration as "passing tones."

The question over the limits of successive transformation comes to the fore when Neff tracks the evolution of motive "c." Although she presents a separate set of criteria

⁴⁵ Though perhaps not—interpreting the F2 as a passing tone within a measure that seems to be unambiguously in D minor would surely raise some analytical eyebrows. The next measure is more open to interpretation, so the case for the importance of G can surely be made. Ignoring the consonant F calls this analytical statement into question, in that it oversimplifies the classification of this figure as motive "c1."

for determining how motives can be understood as deriving from other motives (quoted above), there are some instances where her analyses raise questions as to whether such processes can be kept distinct given the transformational permissiveness of her approach.

Fig. 4.9: Neff's analysis of Schoenberg, String Quartet in D minor, Op. 7, mvmt. 1, mm. 7–8, first and second violin and viola parts; instances of motive "c" circled

The figure displays three staves of musical notation for measures 7 and 8. The top staff is the first violin part, the middle is the second violin part, and the bottom is the viola part. Motives are identified with labels: 'c1' (circled), 'a1', 'a2', 'a3', 'a7', and 'y1'. Brackets and lines connect these labels to specific notes or groups of notes in the score.

Consider her analysis of the viola line in mm. 7–8 (Fig. 4.9). The evolution of motive “c” into “c1” was discussed previously, where it was transformed into an ascending arpeggiation (with passing tones) of a “D–G–B \flat ” trichord. In the next measure, the same D–G–B \flat trichord shows up in a configuration that seems remarkably similar to the evolution of motive “a.” In her analyses of the second half of m. 8, where the second violin and the viola play in parallel thirds after trading the notes D and B \flat back and forth, she labels the two figures as motive “a3” and motive “c1” respectively.

There are certainly reasons for her to designate the motives in this way; the second violin part changes from B \flat 4 to B \natural 4 (an enharmonic m2), while the viola part

could be understood as embellishing the D–G–B \flat trichord.⁴⁶ But these parts enter at the same moment with such similar material; this calls into question the validity of Neff’s motivic labels. If these two motives could be considered transformations of each other, then the class of figures designated by motives “c” and “a” could begin to blend as well. While a new hybrid motive “a/c” might be used as a significant analytical tool, Neff seems unwilling to intertwine her motivic categories, despite the musical transformations that seem to push in that direction.⁴⁷

* * *

Summarizing the argument up to this point, the first part of this chapter has further elaborated each of the three categories, focusing especially on the methods of verification that analysts use. While many scholars rely on a variety of means to verify a particular motive’s status, others show little concern for the procedure of verification. Unlike recognition, confirming a motivic connection is an additional step that bolsters an argument, but is not conceptually required. This section has also found additional kinds of privileged relationships, and explored how they influence, and are shaped by, particular methodologies. While these taxonomies could certainly be expanded, they provide an initial means of comparing various writers’ views on motives. Figure 4.10 summarizes the different positions of the authors examined thus far. Additionally, Figure 4.11 gives an expansion of the kinds of recognition that have been discussed in chapters

⁴⁶ Although in this measure, the bass harmonic support changes between the third and fourth beats, making the determination of consonance and dissonance more problematic.

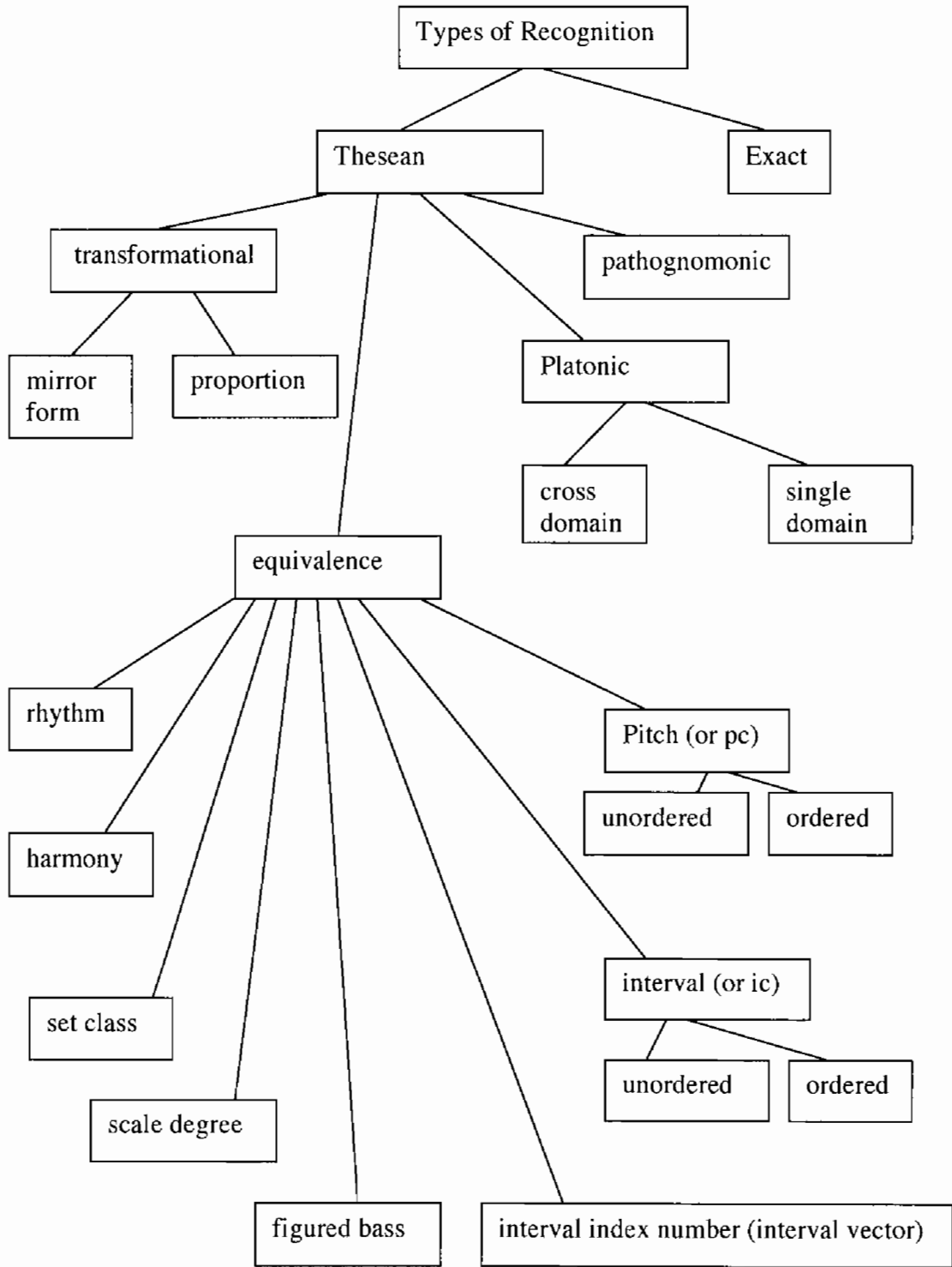
⁴⁷ As mentioned before, Neff could explore this new hybrid motive as a “portmanteau,” see Cone, “On Derivation,” 245.

2–4. The next section closes Part I, and will explore some of the ramifications of these ideas outside of the realm of motives.

Fig. 4.10: Summary chart of theorists correlated with types of recognition, methods of verification, and privileged relationships, part 2

	Types of recognition	Methods of verification	Privileged relationships
Huron	equiv: (any feature) interval + rhythmic contour	statistical analysis (data)	Uniqueness
Forte	equiv: interval; Platonic; mirror form transf.	“musical factors”? (vague)	associations btw. different motives; motivic counterpoint; symbolism
Rosen	Platonic	prompting; motive form saturation; “composer’s intentions”	transformation with invariance
Neff	pathognomonic; equiv: (any feature) pc (unordered), interval; chromatic substitution	pathognomonic; equiv.	developing variation

Fig. 4.11: Taxonomy of types of recognition, third expansion



Echoes Beyond Motivic Connections: Repetition and Similarity

Motives are inseparable from patterns of repetition.⁴⁸

Up to this point, I have explored the issues of repetition, recognition, verification, and privileged relationships in relation to motivic analysis. As mentioned in the introduction, I understand these meta-analytical categories as having a broader application beyond connections between motives. The following discussion will provide a brief illustration of how some of these issues can be generalized to other relationships outside the realm of motivic analysis.⁴⁹ I first return to Neff's analysis, before using it as a springboard into a broader issue.

As mentioned before, one of Neff's secondary criteria of recognition includes the ambiguous term "interval content." How does this come to play in her analyses? In the first variation of motive "c" that Neff indicates, the characteristic interval of a P5 is lacking, or rather, a P4 stands in as its substitute. In effect, she allows an inversion to represent the characteristic interval, and thereby can be understood as discussing interval classes as opposed to intervals.

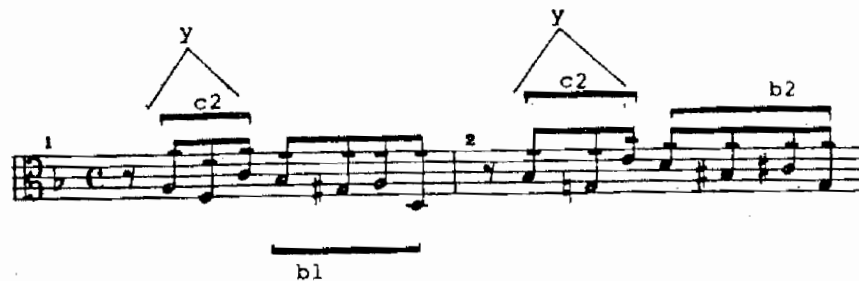
In other places Neff indicates a preference for interval classes. Consider how she maps the first transformations of motive "b" in the viola part (see Fig. 4.12). She writes that, "like motive b of the basic shape, motives b1 and b2 contain a tritone" and also preserve the "whole-tone" of the first motive (Neff, 18). In the first instance of motive

⁴⁸ Pieter C. van den Toorn, "What's in a Motive? Schoenberg and Schenker Reconsidered," *Journal of Musicology* 14/3 (Summer 1996): 370.

⁴⁹ Alternatively, I could also describe this section as merely enlarging the scope of what is traditionally understood to be a motive, and using that term instead to describe a class of similarity relations. Such expansions of the meaning of "a motive" can already be found in analysis; see, for instance, Patrick McCreless, "Motive and Magic: A Referential Dyad in *Parsifal*," *Music Analysis* 9/3 (Oct. 1990): 227–265. I would like to thank Ramon Satyendra for bringing this essay to my attention.

“b,” the “whole tone” that Neff refers to occurs as a minor seventh from E4 to D5 (c.f. Fig. 4.7), while in each of these instances it is an actual whole step. Furthermore, she indicates nonconsecutive intervals as evidence for her classifications: the tritone in “b2,” (C \sharp 4–G \flat 3), is between two adjacent notes, like the original instance of motive “b,” while the tritone in “b1” occurs between the second and fourth note (G \sharp 3–D \flat 3).⁵⁰

Fig. 4.12: Neff’s analysis of Schoenberg, String Quartet in D minor, Op. 7, mvmt. 1, analysis of motive “b”



Neff’s claims are reminiscent of a controversial issue that plagued the early history of twentieth-century analysis concerning whether a comparison of interval class content is an adequate means of demonstrating equivalence. While she is tracking motivic derivation, and not claiming equivalence per se, some kind of recognition is at work in order for there to be a motivic relationship, and the secondary criteria that Neff uses to determine derivation are equivalences based on pitch class, chromatic substitution, and interval content. While she consistently uses the term “motive,” the way that Neff generalizes her motives based on “interval content” is reminiscent of a similar generalization that occurs in set theory.

⁵⁰ In this context her claim that the figure contains the interval of a tritone might seem dubious for in this seemingly tonal context the G \sharp 3 (just like the B \flat 3) is acting as a chromatic neighbor to the A3, which then falls a fifth to D3. Furthermore, her figure also demonstrates the difficulty of keeping her motivic categories separate. The second motive labeled “c2” in m. 2 contains a tritone, (B \flat 3 to E4), and if the next note is also included, it would also contain a “whole step.” In this case, it would even use the same pitch classes {E, D, B \flat } as the opening statement of motive “b” (c.f. Fig. 4.7), yet she labels it as derived from motive “c.” This issue again highlights the crucial importance of segmentation in analysis.

Some set-theoretical analyses can be understood as a strictly defined list of criteria for the equivalence recognition of motives, giving a number of what David Lewin would generalize as “canonical transformations” of “objects” that create a group.⁵¹ Yet, just as we have seen radically different conceptions of what constitutes a motive, there are also various ways of conceptualizing what the “objects” are that are being operated upon and how to relate them. A common understanding in set theory is that these objects can refer to many things, such as pitch classes, pitch class sets, or rows, among other things. But there have also been controversial alternatives that focus instead on intervals.⁵² In particular, some authors claimed set equivalence based on interval content, specifically, Forte’s “interval vector.” With the diversity of claims for set equivalence, there came disagreements about what criteria described valid relationships. I will explore this problem through an example that sparked a lively debate in the field.

* * *

In the preface to her study on Berg’s *Wozzeck*, Janet Schmalfeldt provides a brief history of the development of set theory up to the early 1980s.⁵³ In the process of

⁵¹ David Lewin, “Forte’s Interval Vector, My Interval Function, and Regener’s Common-Note Function,” *Journal of Music Theory* 21/2 (Autumn 1977): 195.

⁵² Forte, following Martino, begins by defining sets in virtue of their interval vector though he later changed his position; see Allen Forte, “A Theory of Set-Complexes for Music,” *Journal of Music Theory* 8/2 (Winter 1964): 143. Focusing on intervals between pitch classes is essentially what Regener proposes in his alternative symbolization of a set; see Eric Regener, “On Allen Forte’s Theory of Chords,” *Perspectives of New Music* 13/1 (Fall–Winter 1974): 195–198. Richard Chrisman also developed a similar system for dealing with sets in terms of intervallic content, see “Identification and Correlation of Pitch-Sets,” *Journal of Music Theory* 15/1–2 (Spring–Winter 1971): 58–83. Lewin later engages in what I understand as a creative misreading of Regener’s position that generalizes intervals into “things” in relationships with other “things,” see Lewin, “Forte’s Interval Vector,” 230–235; though implicit in some of his earlier work, this is one of the early indications of Lewin’s “transformational swerve.”

⁵³ While Schmalfeldt’s summary is quite informative it is hardly unbiased and shows a marked deference to Allen Forte’s development of the subject; see Janet Schmalfeldt, *Berg’s Wozzeck: Harmonic Language and Dramatic Design* (New Haven: Yale University Press: 1983), 1–24. Further references will be made in the text as (Schmalfeldt, 1–24). For an alternative and more comprehensive history; see Jonathan W. Bernard, “Chord, Collection, and Set in Twentieth-Century Theory,” in *Music Theory in Concept and*

introducing the idea of an interval vector,⁵⁴ she describes two passages in Berg's opera to explore the notion of equivalence (see Fig. 4.13). Notably, the two sets are unrelated by transposition or inversion (i.e., they are not in the same T/I group), but do have a common interval vector (i.e., they are Z-related pairs). Both are also dramatically associated with the Doctor (Schmalfeldt, 14–22).⁵⁵ While Schmalfeldt does not extrapolate on the relationships between these sets, she implicitly gives some kind of significance to them.

The relationship between two sets possessing the same interval vector but unrelated by T/I had already sparked some controversy in the early history of set theory. A debate occurred during the mid-1960s about whether an interval vector was an adequate means of demonstrating that two sets were equal.⁵⁶ Schmalfeldt even recounts how at first Forte understood the relationship as a valid basis for equivalence, but then recanted, claiming that sets were the same if and only if they were related by T/I. Taking him to be an authority on the matter, she understood this reversal as amounting to proof that the “total interval content could not provide the general criterion for equivalence” (Schmalfeldt, 21–23). Yet with the other extra-musical factors at work, Schmalfeldt still saw the relationship between the two Z-related set classes above as an important one in

Practice, ed. James M. Baker, David W. Beach, Jonathan W. Bernard (Rochester, NY: University of Rochester Press, 1997), 11–51.

⁵⁴ Schmalfeldt's definition of interval vector follows Forte. This definition of an interval vector of a pc set is given concisely by Rahn as “an ordered 6-tuple of the multiplicities of interval [classes] 1,2,3,4,5,6 in that order” (John Rahn, *Basic Atonal Theory* (New York: Longman, 1980), 100).

⁵⁵ They are also the two all-interval tetrachords.

⁵⁶ This debate is skimmed over by Schmalfeldt but involved Donald Martino and Allen Forte on one side and John Clough, Hubert S. Howe on the other; David Lewin was exploring such relationships with his interval function but not in terms of equivalence. The following articles are cited in Schmalfeldt and give an overview of the disagreement: Forte, “Theory of Set-Complexes”; John Clough, “Pitch-Set Equivalence and Inclusion (A Comment on Forte's Theory of Set-Complexes),” *Journal of Music Theory* 9/1 (Spring 1965): 163–171; Hubert S. Howe Jr., “Some Combinational Properties of Pitch Structures,” *Perspectives of New Music* 4/1 (Autumn–Winter 1965): 45–61.

Wozzeck. Subsequently, this relationship became the basis for one of Martha Hyde's criticisms of George Perle's book on *Wozzeck*, where she accused Perle of missing the connection between these two *leitmotives*.⁵⁷

Fig. 4.13: Schmalfeldt's analysis of Berg, *Wozzeck*; relating pc sets by interval vector

{0,5,9,e} Set Class (0137) Interval vector [111111]

tur, Wozzeck! Der Mensch ist frei! In dem Menschen verklärt sich die In-di-vi-du-a-li-tät zur

{4,6,9,t} Set Class (0146)
Interval vector [111111]

Frei heit!

In a rebuttal, Perle countered that equivalences based on the interval vector are “of a more esoteric and specialized sort. They are, in fact, specialties of the music theory department of Yale University,” in reference to Forte’s previously published work.⁵⁸ He went on to specifically question the validity of connections on this basis, claiming to not “hear the closer aural association” between the two sets.⁵⁹ In later writings, Perle directly

⁵⁷ Hyde acknowledges Schmalfeldt’s work as a basis for this part of her criticism. The examples that Hyde mentions as illustrating the missed connection of *leitmotives* include a transposed version of the comparison above; see Martha MacLean Hyde, review of *The Operas of Alban Berg, I: Wozzeck*, by George Perle, *Journal of the American Musicological Society* 34/3 (Autumn 1981): 573–587.

⁵⁸ George Perle, letter to the editor, *Journal of the American Musicological Society* 35/2 (Summer 1982): 374; Perle is likely referring to the article where Forte makes a claim for equivalence based on the interval vector: Forte, “A Theory of Set-Complexes,” 143.

⁵⁹ Perle, letter to the editor, 375.

attacked the notion that interval vectors should be used as a means of relating two sets

(see Fig. 4.14):

Is identity of interval vectors an appropriate measure of the similarity of interval content of two pitch-class sets? ...[compare two Z-related sets (given in Fig. 4.14)]...For the set on the left [6-Z10, (013457)] it takes all six of its elements to unfold the three representations of interval 4. A compositional statement of these must necessarily entail the total intervallic content of the set. For the set on the right [6-Z39, (023458)] only three elements are involved in the three representations of interval 4, and none of the remaining components of the interval vector are entailed. The identical cardinality of interval 4 in the interval vectors of these Z-related pitch-class sets counts for nothing at all in view of the totally different structures that generate this interval in the two sets, and their totally different compositional implications.⁶⁰

Perle not only discounts the equivalence of two different sets with the same interval vector, but also questions the idea that the interval vector even describes a similarity between the two hexachords, in light of how they can be used compositionally.

Fig. 4.14: Perle's comparison of two Z-related hexachords (the second is only partially represented)



While he attempts a *reductio ad absurdum* with his discussion of the two Z-related sets, one could imagine that given a different composer's compositional language, interval vector similarity could "count for something," and could even have broad compositional implications.⁶¹ Some composers might even take this to be a

⁶⁰ George Perle, "Pitch-Class Set Analysis: An Evaluation," *Journal of Musicology* 8/2 (Spring 1990): 151–172; repr. in *The Right Notes: Twenty-Three Selected Essays by George Perle on Twentieth-Century Music* (Stuyvesant, NY: Pendragon Press, 1995), 290. Citations are to the Pendragon edition.

⁶¹ There are certainly cases where composers use the Z-relation towards compositional ends; see, for instance, Elliott Carter's use of the all-interval tetrachords (the controversial motives in Schmalfeldt's analysis) in his first String Quartet, and his Double Concerto, this last example is cited in Jonathan W. Bernard, "The Evolution of Elliott Carter's Rhythmic Practice," *Perspectives of New Music* 26/2 (Summer 1988): 197. Robert Morris states that the all-interval tetrachords "are a hallmark of Carter's music from circa 1950–1965," and shows how these sets can be conceived of quite similarly (both can be partitioned into a tritone and a minor third); see "Compositional Spaces and Other Territories," *Perspectives of New*

compositional challenge on how to bring out this relationship between the two hexachords.⁶²

Compositional utility is one thing, though; the other barb of Perle's criticism has to do with perception and experience. Perle's other strategy of attack, which is a common one in discussions of motivic analysis, is to claim that the connection has no basis in perception ("aural association"). He appears to take a moral high ground in the dispute, as if claiming for his position an access to how we truly experience music. In general, it is likely that the most common strategy used to disprove a motivic connection is the phrase: "I don't hear it that way." Yet by moving the argument from a discourse about properties of an object to one about our experience of that object, there is the assumption that people experience music in the same way.

From experiments in cognitive science to general discussions after a concert, many sources point to the conclusion that this assumption is mistaken. In regards to Z-relationship, we can quickly find writers that do find an association between these types of pc sets. To cite just two examples, Robert Morris claims that "Ic vectors enable us to profile the intervallic 'color' of a pcset," and Joseph Straus understands them as "summarizing" the "basic sound" of a sonority.⁶³ Implicitly in Morris and directly in

Music 33/1–2 (Winter–Summer 1995): 343. Additionally, Andrew Mead has also pointed out that both all-interval tetrachords can be divided according to the two whole-tone scales, giving an (026), with an additional pitch from the other scale. Mead describes this as a general strategy of understanding pc sets; see Mead, "Pedagogically Speaking: A Practical Method for Dealing with Unordered Pitch-Class Collections," *In Theory Only* 7/5–6 (March 1984): 54–66. In this article, he also suggests how the all-interval tetrachord is relevant to Carter's music.

⁶² As David Lewin points out, Forte's interval vector is a harmonic conceptualization, and would be most relevant to those contexts where sets were being used harmonically; see Lewin, "Forte's Interval Vector," 197–201, 215–216.

⁶³ Robert Morris, *Class Notes for Atonal Music Theory* (Lebanon, NH: Frog Peak Music, 1991), 21, see also 39–40. Straus's full passage is discussing the interval vector's applicability to tonal music in comparison with the post-tonal repertoire: "[In tonal music], only a few basic sonorities—four kinds of triads and five kinds of seventh chords—are regularly in use. In post-tonal music, however, we will

Straus, these authors claim that interval vectors relate to how these pitch collections can be experienced, and are not just compositional abstractions.

* * *

Rather than an impasse, we can see this opposition between Perle and Schmalfeldt/Hyde as clarifying two perspectives. Rather than leaving these positions in a state of relativistic disagreement, or even ignorant indifference, a consideration of the three categories that I have been developing in this dissertation can illuminate some of the ramifications of the viewpoints discussed above. What kinds of relationships are revealed by using the interval vector as a basis of comparison? Are there other factors that validate these connections? How does linking these passages aid in understanding or experiencing the composition? Furthermore, what privileged relationships (and associated methodologies) underlie this connection, and which would seem most appropriate to the composition at hand?⁶⁴

Returning to the controversy over the interval vector, I will make just a few remarks. While Perle's criticism is important in reminding analysts that the aural experience of music is of prime importance, he mistakenly assumes our experiences to be uniformly consistent. The many different analytical interpretations of motives reveals how differently two listeners can understand the "same" objects. From the alternatives of

confront a huge variety of musical ideas. The interval vector will give us a convenient way of summarizing their basic sound." Joseph Straus, *Introduction to Post-Tonal Theory*, 2nd ed. (Upper Saddle River, NJ: Prentice Hall, 2000), 12.

⁶⁴ Jonathan Culler proposes a similar argument for literary criticism, he first states that what matters in literature is its "literariness" and then gives the almost Capitalist evaluative criteria that critical analyses should be judged by which best highlights and reveals the "literariness" of a work. There would of course be an infinite regress if one attempts to ground any of these terms outside of subjective experience, that is why a statement that lays out what I've called privileged relationships can aid in mediating such disagreements within disciplines. See Jonathan Culler, *Literary Criticism: A Very Short Introduction* (New York: Oxford University Press, 2000).

“hearing as,” to the aesthetic priorities that might lead one to want to hear something in a particular way,⁶⁵ there are a variety of conceptual matters that influence our experience of music. Perle’s criticism actually highlights his own listening biases (we now know that he does not hear certain collections according to interval vectors), more than it invalidates any purported relationships.⁶⁶

Furthermore, a consideration of such disagreements can clarify what is at stake in taking various positions.⁶⁷ While this will not dissolve arguments, it could transform the hostile “I don’t hear it that way” into something that fosters a more interactive discussion: “I prefer to hear it this way for these reasons.”⁶⁸ This in turn can clarify the assumptions that a particular listener or analyst brings to a piece, while also offering up alternative ways of listening, and showing some of the rewards of exploring those alternatives. In other words, it could foster a dialogue.

All these issues reaffirm the truism that like perception, analysis is an interpretive (and even aesthetic) act. An analytical comment that might initially seem jarring and unfamiliar (“I’ve never heard it that way”) could be an opportunity to examine the foundation of our own hearing to see why the comment “seems wrong.” This would then allow us to discover a more interesting way to experience something, and/or find that either position has only limited validity, and/or discover reasons why we wish to reject

⁶⁵ Or, as we saw in Tovey’s discussion of the “Appassionata,” to *not* want to hear a passage in a particular way; see chapter 3.

⁶⁶ Such attempts to legislate hearing (as opposed to merely suggesting, or even advocating for a particular listening strategy among many) are likely doomed to be ineffective.

⁶⁷ This is in many ways what Lewin does in comparing his interval function with Forte’s and Regener’s analogous conceptualizations, he first generalizes three different positions before discussing the advantages, disadvantages, and importantly, the applications to which they seem most appropriate; see Lewin, “Forte’s Interval Vector.”

⁶⁸ A suggestive rejoinder to the claim, “I don’t hear it that way,” would be “did you try? Because here are some persuasive reasons why hearing this relationship can be significant....”

the proposed alternative. In all cases a productive dialogue could ensue, as compared with a frozen disagreement.

In this way, the categories that I've developed in this dissertation, rather than limited to motivic analysis, are applicable to the widest consideration of repetition possible, sometimes even crossing the boundary of what some would prefer to describe as similarity relationships.⁶⁹ By understanding the ways that analysts make connections based on repetition (or similarity) in terms of the criteria that I have developed, one can easily compare the methodologies that enables these relationships, while also clarifying (at least partially) the implied aesthetic perspective that the authors take (through the notion of privileged relationships). Furthermore, this approach elucidates those cases where there seems to be an underlying tension between these categories, such as when an author uses methods (kinds of recognition or types of verification) that do not support the kinds of relationships they privilege. As these taxonomies still remain subject to expansion, this project must be understood as providing a beginning to a new way to look at the terrain of repetition, one that I will explore in future work.

⁶⁹ There has been significant work done on the notion of similarity relationships, especially in relation to pc sets; see, for instance, Eric J. Isaacson, "Similarity of Interval-Class Content Between Pitch-Class Sets: The IcVSIM Relation," *Journal of Music Theory* 34/1 (Spring 1990): 1–28; Robert D. Morris, "Equivalence and Similarity in Pitch and Their Interaction with PCSet Theory," *Journal of Music Theory* 39/2 (Autumn 1995): 207–243; Damon Scott and Eric J. Isaacson, "The Interval Angle: A Similarity Measure for Pitch-Class Sets," *Perspectives of New Music* 36/2 (Summer 1998): 107–142.

Chapter 5

Analytical Perspectives on Repetition I: So you want to Analyze a Fugue?

If a theorist cannot speak to our future, let us leave him to the antiquarians.¹

If repetition can mean so many things, how should we analysts attempt to approach it? As the last chapters demonstrated, there are many ways to answer this question, and the most appropriate method often depends on the piece at hand. Part II begins to take up this question of analytical perspective, providing a counterpoint to the meta-analytical exploration of Part I. The following three chapters each examine a piece that poses challenges to standard forms of analysis. While the compositions are markedly different, they each benefit from an approach that incorporates a direct consideration of repetition.

The way that an analyst interprets repetition in music is usually determined by a combination of listening and looking at the score itself. Yet, there are a wide range of influences that also come to bear on an analysis that are seldom acknowledged in practice. The experience and familiarity gained from playing through a piece, knowing the background of a particular composition, or studying biographical information can all

¹ Kevin Korysn, "Schenker and Kantian Epistemology," *Theoria* 3 (1988): 3.

influence the way an analyst proceeds. Analytical approaches are also influenced by the reception histories of the piece or composer under scrutiny, in addition to more general stylistic and historical matters.²

The influences of texture and genre, for instance, should not be overlooked, and the history of listening strategies often encourages specific types of connections. Knowing that a piece is in sonata-allegro form, for example, might foster a different listening attitude than expecting a through-composed tone poem. These influences can even affect how an analyst understands the basic materials of a piece, and as the previous chapters have shown, this can drastically affect the direction of an analysis. To demonstrate some of these issues, I will offer an analysis of Hindemith's Fugue in E \flat from *Ludus Tonalis*, and highlight how a focus on repetition can reinvigorate a standard analytic perspective on fugues.

* * *

“...Go ahead and write a fugue, write a fugue that we can sing...
Just forget all that we've told you and the theory that you've read....”³

The fugue, ever since the time of J.S. Bach and perhaps more than any other musical texture, seems to invite a specific analytical approach.⁴ Yet, what I will refer to

² Attempts to draw a clear line of demarcation between the piece and the context are always provisional and subject to deconstruction; see Kevin Korsyn, *Decentering Music: A Critique of Musical Research* (New York: Oxford University Press, 2003), 91–137.

³ Glenn Gould, “So You Want to Write a Fugue” in *The Glenn Gould Collection*, vol. 4, VHS (n.p., Canadian Broadcasting, 1987; repr., Sony Music Entertainment, 1992).

⁴ The history behind this approach can likely be traced back to Wilhelm Marpurg's *Abhandlung von der Fuge* (1753–1754), which was one of the first attempts to codify what made a “normal,” “regular,” or even what he called: “natural” fugues; see Alfred Mann, *The Study of Fugue* (New Brunswick, NJ: Rutgers University Press, 1958), 56–57. Additionally, in a widely disseminated “text book” on fugue, Cherubini prescribed an approach to composition that was quite methodical if not mechanical; see Luigi Cherubini, *A Treatise on Counterpoint and Fugue*, trans. Mary Cowden Clarke (New York: Novello, Ewer, 1884). Further historical and sociological reasons for this are too complex to explore here, but an oversimplified sketch might find the pedagogical traditions of teaching fugal writing getting appropriated by teachers as a

as the “standard method of fugal analysis” often glosses over the way that repetition is constructed both compositionally and analytically.⁵ The standard protocol for examining a fugue consists in taking it apart into its constituent components—subject, answer, countersubjects—and mapping out the formal areas of exposition, episodes, development, and closing. Add to this a number of specific techniques to look for, such as stretto, inversion, augmentation, and diminution, and the toolbox of fugal analysis is mostly complete. Of course many analyses go beyond this point, but drawing this initial map would often seem to be all but obligatory.⁶

method of analysis, providing a schematic way to divide up a fugue. It would seem that the procedural rules for *writing* a fugue, became tools with which to *analyze* fugues. I am grateful to Kevin Korsyn for bringing Cherubini’s influence to my attention, and for suggesting that the separate histories of fugal composition and fugal analysis might clarify the source of this “standard” methodology.

⁵ For just some of the many examples of what I am referring to as the standard approach; see Wallace Berry, *Form in Music* (Englewood Cliffs, NJ: Prentice-Hall, 1966); Joseph Groocock, *Fugal Composition: A Guide to the Study of Bach’s “48,”* ed. Yo Tomita (Westport, CT: Greenwood Press, 2003); C. H. Kitson, *The Elements of Fugal Construction* (London: Oxford University Press, 1929; repr. Westport, CT: Greenwood Press, 1981); Kent Kennan, *Counterpoint: Based on Eighteenth Century Practice* (Englewood Cliffs, NJ: Prentice-Hall, 1959); Harold Owen, *Modal and Tonal Counterpoint: From Josquin to Stravinsky* (Belmont, CA: Wadsworth Group / Thomson Learning, 1992); Ebenezer Prout, *Fugal Analysis: A Companion to “Fugue”* (London: Augner, [preface signed 1892]); and Prout, *Fugue* (New York: Haskell House, 1891; repr., 1969); among others.

⁶ Even some analyses that are ostensibly concerned with Schenkerian voice-leading structures still identify these elements and formal divisions; see, for example, William Renwick, *Analyzing Fugue: A Schenkerian Approach* (Stuyvesant, NY: Pendragon Press, 1995), which divides chapters according to such topics as “Subject and Answer” and “Exposition.” That said, there are notable Schenkerian analyses of fugues which place less stress on the formal segments as opposed to the voice-leading structure; see Heinrich Schenker, “The Organic Nature of Fugue,” trans. Hedi Siegel, in *The Masterwork in Music*, vol. 2, ed. Ian Bent (New York: Cambridge University Press, 1996), 31–42; although, even Schenker labels the entrances of the subject, answer, and countersubject (33). To his defense, he is primarily concerned with invertible counterpoint in his discussion of this chart. See also Carl Schachter’s analysis of “Bach’s Fugue in B \flat Major, *Well-Tempered Clavier*, Book I, No. 21,” in *Unfoldings: Essays in Schenkerian Theory and Analysis*, ed. Joseph N. Straus (New York: Oxford University Press, 1999), 239–259. Schachter in particular objects to dissecting fugues into “independent entities, intelligible when separated from each other and from the work as a whole” (240). He goes on to discuss numerous voice-leading connections, including reading a linear progression that spans the subject, first countersubject, and the second countersubject (242–245, hence, challenging the idea that these parts can be meaningfully separated), yet, even he acquiesces to tradition and gives the required table of fugal entries and formal outline (240). In general, Schenker was very skeptical of standard analyses (including that of fugues) and this skepticism has been inherited by many Schenkerians.

While this partly testifies to the standardization of fugal composition, specifically the exposition, it also represents a normalized version of motivic analysis that seems intimately associated with this musical texture. Part of this approach to fugues involves tracking the role of particular elements (subjects and countersubjects) through the piece as if they were motives, much like the thematic analyses discussed in Part I of this dissertation. Additionally, various transformations are permitted within this genre that have become so common as to seem natural or unremarkable. The distinction between real and tonal answers, for instance, highlights how certain intervallic transformations presented in the exposition are traditionally understood as preserving the essential identity of the subject. Other transformations that do not stem from the need to preserve a tonal center, such as augmentation and diminution, in addition to inversion, constitute standard alterations that are understood as unquestionably derived from the subject. In short, the fugue in general, and the subject in particular, seem to lend themselves to motivic connections.

Yet, unlike the many varieties of motivic analysis, the procedure for examining fugues is more constricted. Even the standard terminology that is brought to investigate a fugue can itself be limiting, since it can focus prematurely on familiar musical objects as opposed to finding novel understandings of the music. Given the exploration of motivic analysis in part I of this dissertation, it is possible that a broader consideration of fugal elements as repetitions could open up new readings and ways of approaching this texture.

Developing Variation, with its prioritization of themes and how they influence the larger issues of a composition, would seem to provide an alternative method to analyzing fugues. Similar to how Schoenberg's system posited thematic growth through connecting

alterations and transformations, one could understand the tradition of fugal writing as encouraging a listener to make motivic connections in spite of changes. Of course, Schoenberg emphasized the progressive development of themes in his analyses, finding an evolutionary character as opposed to the more static treatment of subjects in many fugues; a subject does not usually develop in the same way as a theme from a sonata.⁷ That said, his understanding of how the *Grundgestalt* functions in a piece seems quite similar to how many theorists conceive of fugues, where the subject acts as the source from which the whole composition flows.

While the standard approach to fugal analysis does have similarities with developing variation, there are notable differences. Unlike developing variation, the protocol for fugal analysis seems markedly less flexible. This rigidity is especially apparent in the analysis of twentieth-century music, which adopts some of the procedures of traditional fugal writing while discarding others.⁸ While the standard approach to fugues certainly provides useful information, and can even work quite well when applied to particular pieces, there are many fugues that seem to question the formal molds of the standard approach and push against its boundaries. Hindemith's Fugue in E \flat from *Ludus Tonalis*, is just such a piece. While unquestionably conservative in conception, it invites an expansion of the traditional approach.

⁷ In more traditional fugues the subject is often recontextualized rather than altered, but this as well could be followed as a kind of development or growth.

⁸ Gregory Joseph carried out a seemingly naïve, but nonetheless interesting study in 1964 where she wrote to contemporary composers inquiring whether they thought the fugue was a “dead” genre or not. Most worthy of note are those replies (such as Milton Babbitt's) that interrogate the meaning of the term fugue, and find contemporary analogies to the procedural aspects of fugal writing; see Leon Stein, ed., *Twentieth Century Composers on Fugue* (Chicago: DePaul University, 1966).

Hindemith, Fugue in E^b, from *Ludus Tonalis*

There is no single hard-and-fast style that must be followed in fugues any more than in other musical forms.⁹

Like many fugues with a traditional exposition (i.e. successive introduction of each voice on the subject or answer), Hindemith's Fugue in E^b suggests a pre-packaged strategy for the analyst and listener, that of following the subject, tracing its repetitions and developments.¹⁰ Yet, this fugue both accommodates and resists this method, and the way that analysts understand repetition has a dramatic impact on the kinds of relationships they recognize in the piece, as well as how they situate this fugue within a historical tradition. My analysis first proceeds according to the standard method, but will highlight places where the piece seems to resist the approach.

To begin, I will heed Tovey's commandment to "know thy theme!" and examine the fugue subject in some detail.¹¹ It breaks into two clear parts, labeled the head and the tail in Figure 5.1. The rhythmic profile of the head, in addition to its internal repetition, provide a distinct rhythmic figure that contrasts markedly to the steady eighth and quarter notes of the both the tail and the majority of the piece.¹² In comparison, the tail, with a steady stream of eighth notes, seems rhythmically generic. The distinguishing rhythmic

⁹ Paul Hindemith, *A Concentrated Course in Traditional Harmony: Book II, Exercises for Advanced Students*, trans. Arthur Mendel (London: Schott, 1949; repr. New York: Associated Music Publishers, n.d.), 54; cited in David Neumeier, *The Music of Paul Hindemith* (New Haven, CT: Yale University Press, 1986), 226.

¹⁰ Please see Appendix 1 for the complete score to this fugue.

¹¹ While he stressed the importance of understanding themes throughout his writings, Tovey particularly stressed this maxim in discussing Theme and Variations form, dividing composers into two groups, those that knew the theme and those that didn't; see Donald Francis Tovey, *The Forms of Music* (New York: Meridian, 1956), 245; for a more specific discussion of the important considerations of fugue subjects, see Tovey, *A Companion to "The Art of the Fugue"* (New York: Oxford University Press, 1931), 1–2.

¹² The only changes from these two predominating rhythms, not including the head of the subject, are the dotted eighth – sixteenth pattern (mm. 8 and 42; both times in the soprano voice) and the paired sixteenth notes (mm. 19, 27, 31; all three times in the alto voice).

elements of the head, and the fact that the surrounding texture tends to move in even eighths, make it unlikely that entrances of the subject would be subtle or concealed.

Fig. 5.1: Hindemith, Fugue in E \flat , from *Ludus Tonalis*, mm. 1–4, the subject



While rhythmically simple, the tail is comparatively chromatic. Its arching chromatic line destabilizes the diatonic implications just established by the head. The rhythmic and intervallic polarity between the two parts of the subject is an important element that paves the way for Hindemith's transformations of the theme. Even if a listener was not aware of the title ("Fuga"), the opening clearly lays out the three statements in succession, each of which presents the subject without alterations (i.e. a real answer).¹³ As with all standard fugal expositions, each entrance of a new voice reinforces the familiarity of the subject through repetition.¹⁴ But after the exposition, the standard approach to fugal analysis encounters some difficulties in interpretation.

Following the exposition, it would be common to find an episode that might lead to a more developmental section, and while not an absolute rule, this episode often continues using material from the exposition. While Hindemith's fugue certainly provides what could be considered an episode (with no statements of the subject), it

¹³ The keys implied by the head of these entrances alternate between tonic (E \flat), subdominant (A \flat), and back to tonic, which, while less common than the tonic/dominant polarity, can still be found in the literature; see Prout, *Fugue*, 26–31. I am grateful to Wayne Petty for bringing this passage to my attention.

¹⁴ A curious detail is the enharmonic spellings of the subject in mm. 11–12 (as compared with mm. 3–4). There are a few other interesting enharmonic notations throughout the piece (for example, the piece ends on a D \sharp major chord (= E \flat major) in second inversion.). Despite these changes in the notation of the tail, the ordered interval pattern: < +2, +3, -1, -5, -2, -1 >, is nonetheless preserved in all three statements.

seems quite unrelated to the material that came before. The linear continuity of the tail of the subject is abruptly broken as the episode introduces leaps of a seventh, which contrast with the previously predominant stepwise motion (mm. 12–13).

After this seemingly strange episode, the return of the subject in the key of the dominant (mm. 17–20) seems to bring in what is traditionally the developmental part of a fugue. In line with this implied formal section, the subject appears to be inverted at m. 21, but this statement is transformed in multiple ways. The head is likely recognizable in inversion as it uses the same distinct rhythmic figure and also reverses the ordered interval pattern, $\langle +7, -7, +7, -5 \rangle$, outlining a perfect fifth and then a fourth. The tail however, is changed with respect to rhythm, pitch, and interval, and questions whether this is a statement of the subject at all (Fig. 5.2 a–b).

Fig. 5.2 a–b: Hindemith, Fugue in $E\flat$, from *Ludus Tonalis*: a. bass, m. 21–24; b. hypothetical version based on a strict inversion

a. m. 21

Ordered Interval Pattern: $\langle +1, -7, +1, +7, -2, +5 \rangle$

b. Hypothetical continuation

Ordered Interval Pattern: $\langle +1, -2, -3, +1, +5, +2, +1 \rangle$

While the two versions of the tail in Figure 5.2 are distinct, the boundary interval, spanning ic 4, and the intermediary downbeat on $E\flat 3$ are preserved in both the actual variation and a strict inversion of the original subject. Closer inspection reveals that the

tail also preserves certain intervals from the opening, such as ic1 between G2 and Ab2 (instead of A2 and Bb2), and also ic 2 between Eb3 and Db3 (although here, the line falls instead of rising). In addition to these changes of melodic motion, there is a significant alteration in the rhythm. The first note of the tail, a quarter note D3, is perhaps the most arresting alteration in that it halts the expected flow of eighth notes (and results in the loss of a note). Even if a listener had not calculated the specific intervals to predict under inversion, he or she would still expect the same rhythmic movement. Thus, elements of the original tail, when compared to a strict inversion, are inconsistently preserved across several domains.¹⁵

The statement of the subject that immediately follows (mm. 24.5–27) is similarly inverted, and while the head is unaltered as before, the tail is seemingly closer to an exact inversion of the original subject (Fig. 5.3 a). In this statement, the opening of the tail is altered, but after the E4, the ordered interval pattern, < +1, +5, +2, +1 >, is a strict inversion of the original subject (c.f. Fig. 5.2 b). Notably, though, the boundary interval spanned has shrunk to ic 3 (between Bb3 and Db4). This same interval pattern is almost exactly repeated in the next statement of the theme (mm. 28–31), yet the tail here begins on E#5, a half step above the end of the head (Eb, see Fig. 5.3 b) as opposed to the previous tail, which began a semitone below (c.f. Fig. 5.3 a). The melodic line of the tail is extended as well, repeating the G5 before rising again a semitone, which wrenches what would have been the wrong boundary interval, ic3, up to the correct one, ic4 (between E#5 and G#5). Compared to the two previous statements of the subject, the

¹⁵ Comparing and contrasting the constituent domains of these melodies is an analytical technique used in Christopher Hasty, "Segmentation and Process in Post-Tonal Music," *Music Theory Spectrum* 3 (Spring 1981): 54–73.

soprano part in m. 28 is the closest to what a strict inverted statement would be, yet it contains differences that call its identity as an instance of the subject into doubt.¹⁶

Fig. 5.3 a–b: Hindemith, Fugue in E^b, from *Ludus Tonalis*: a. soprano, mm. 24–28; b. soprano, mm. 28–32

a. m.24

Ordered Interval Pattern: <-1, -1, -5, +1,+5 +2, +1>

strict inversion

b. m.28

Ordered Interval Pattern: <+1, -1, -5, +1, +5 +2,+1 +1>

strict inversion

As the piece progresses, there are other similar departures and twists within statements of the subject, but one of the most radical turns in the composition comes at the end. At m. 43, where there appears to be a statement of the theme in E^b, giving the impression of a recapitulatory function, yet the tail begins to unravel after the first measure. Here, where we might expect a final resolution of the troubled adventures of the subject through the development section, Hindemith gives us the opposite. Once again, he problematizes the identity of the central element of his fugue.

¹⁶ One could almost imagine a performer improvising this fugue, where they easily manage to invert the head of the subject and then bumble their way through the tail. In the next two statements, they improve their rendition of the tail, improvising the interval succession <-1, -5> in place of <-2, -3>, before finding the way back to the remainder of the interval succession <+1, +5, +2, +1>. Each successive time is better, but never quite a “strict” inversion.

Bracketing these problems momentarily, we can still make out the generic outlines of what would constitute a traditional tripartite form. Figure 5.4 gives an overview of the piece according to the standard approach. Proceeding from this top-down perspective, the division of this composition into three main parts might seem relatively unproblematic. Functionally, the labels seem to accurately describe what each section does. From this large-scale point of view it would appear that the formal sections correspond well to the generic conventions of a fugue, but the issues raised above question the validity of these divisions. When investigating the bases of these classifications, the question of defining repetition emerges. After the exposition, the piece seems to interrogate its very foundation: it asks what is the fugue subject?

Fig. 5.4: Hindemith, Fugue in E^b, from *Ludus Tonalis*, formal outline

Exposition (mm. 1–12)				
Subject (S)	Answer (A)	Link	S	
mm. 1–4.5	4.5–8	8	9–12.5	
Episode 1 (mm.13–16)				
Middle Section (mm. 17–31)				
S	Inv. S?	Inv. S?	Inv. S?	
mm. 17–20.5	21–24.5	24.5–28	28–31.5	
Episode 2 (mm. 32–35)				
Closing Section (mm. 36–50)				
S	S?	S? (Recap.)	-----Extension (episode3?)	Cadence?
mm. 36–39.5	39.5–43	43–45	46–49	49–50

What are the factors that work towards and against a listener recognizing the music in mm. 21, 24, and 28 as inversions of the original subject? And furthermore, how do such alterations affect experience and analysis? The head is in exact inversion and

preserves a distinct rhythmic and intervallic profile, and thus creates a specific and recognizable relationship with the original subject. Given that the piece is a fugue, a texture in which inversion relationships are more common than in other contexts, the head clearly makes a claim that this should be recognized as an inversion. Yet, the tail, with its transformations of rhythm, interval, and pitch, creates obstacles to this clear recognition. By having such a transparent relationship to the head but gradations of difference in the presentations of the tail, Hindemith seems to be pushing the boundaries of Thesean recognition.

A critical question for an analyst becomes: what kind of relationship holds between these passages and the opening theme? If these statements are not derivations, are they variations? Are they merely allusions? Much like Rosen's analysis of Beethoven's String Quartet, Op. 135, where motives act as mnemonic triggers that encourage the relationship to a new section, the head serves as a reminder of the subject. Yet, in the development section, where the tail is radically altered, is the head alone sufficient to stand in for the theme? On the one hand, the exposition seems to establish the unity of the whole subject through repetition; the successive pairing likely creates the expectation of the tail. On the other hand, the treatment of the theme in this middle passage might persuade a listener to fragment the subject, hearing only the head as preserved.

As the previous chapters demonstrated, the way an analyst or listener conceptualizes the initial object can affect the status of potential repetitions. Below, I use the framework that I developed in the previous chapters as a reflexive tool to clarify the analytical issues mentioned above and suggest an alternative means of conceptualization.

By focusing less on the classifications mandated by the standard approach to fugal analysis, we can discover that other compositional considerations can influence a large-scale reading of the piece. This will impact the interpretation of these details and how we select criteria for repetition.

Loosening the Subject and Saving Repetition from a Binary Abyss

...the true eternity does not lie behind either/or, but before it.¹⁷

While the determination of the subject is unproblematic in the exposition of this fugue, the statements in the development and final sections are less secure; they seem partial and incomplete, even fragmentary. They raise the question of whether these instances should count as repetitions at all. This question is not novel to Hindemith's fugue; the category of "false entries," or incomplete statements of the subject, is meant to distinguish "true" versions of the subject from these masquerading counterfeits. While this division provides a clear means of classification, it is a rather blunt tool to deal with a piece such as the fugue in E \flat , which seems to blur the significance of such a distinction.¹⁸

As Part I of this dissertation demonstrated, there are many possible ways to construct repetition as a listener or analyst, and many of the methods examined earlier offer suggestive ways to nuance our classifications, or even replace them altogether. For instance, there are similarities between the standard approach to fugal analysis and developing variations. This can provide an initial starting point to reexamine the

¹⁷ Søren Kierkegaard, *Either/Or* trans. David F. Swenson and Lillian Marvin Swenson with revisions and a foreword by Howard A. Johnson (Garden City, NY: Anchor Books/ Doubleday, 1959), 38.

¹⁸ Many false entries in Bach occur in cases of stretto, where the earlier or later entrances of the subject, "cover" for the false entry—attracting attention away from its incomplete continuation. Just from the first book of the *Well Tempered Clavier*, see for instance: Fugue 1, mm. 14–15; Fugue 16, mm. 29–30; Fugue 20, mm. 32–33; and Fugue 22, mm. 50–53; among others.

previous analysis before surveying more generally how this piece can be understood as constructing repetition in various ways.

* * *

How might a different conception of the opening subject affect the interpretation of the piece? From the perspective of Schoenberg's *Grundgestalt*, these changes to the tail of the subject might be celebrated as novel excursions, rather than obstacle to a tidy classification scheme. Such transformations open a window for interpreting the fugue subject as exhibiting growth and influencing the shape of the composition as a whole. The inversion of the subject and the further alterations in mm. 21–24 could be understood as elaborating the clearly established model of mm. 1–4. In addition, each of the following inverted statements of the theme (mm. 24.5–27 and mm. 28–31) grows closer to what a strict inversion would be. This trajectory fits well with a common compositional plan that Schoenberg discussed: imbalance created and then balance restored.¹⁹ As other authors have mentioned, such narratives (or rather, analogies to a dramatic narrative) are useful in analysis, especially in a developing-variation approach, where they provide shape and significance to the various thematic transformations.²⁰

Schoenberg's practice of focusing on the intervals of a theme also provides a starting point. This analysis begins by framing the opening of the fugue as a whole step

¹⁹ Schoenberg discusses this in relation to themes and melodies, see *Fundamentals of Musical Composition*, ed. Gerald Strang and Leonard Stein (1967; repr., Boston: Faber and Faber, 1987), 102. Among other places, Patricia Carpenter explains this as an analytical approach in "'Grundgestalt' as Tonal Function," *Music Theory Spectrum* 5 (Spring 1983): 21–23.

²⁰ See for instance Fred Maus, "Music as Drama," *Music Theory Spectrum* 10 (Spring 1988): 56–73; Maus, "Narrative, Drama, and Emotion in Instrumental Music," *The Journal of Aesthetics and Art Criticism* 55/3 (Summer 1997): 293–303; Anthony Newcomb, "Schumann and Late Eighteenth-Century Narrative Strategies," *19th Century Music* 11 (1987): 164–174. As Marion Guck has argued, all analytical accounts are in some way comparable to fictional narratives centered around a piece, see "Analytical Fictions," *Music Theory Spectrum* 16 (1994): 218–19.

from B \flat down to A \flat , emphasizing the interval of a major second. The immediate repetition supports this whole-step interpretation; B \flat leads down to the A \flat , stops, and then repeats this same motion. The tail then begins with a G, almost as if completing the descent of the line through a third, but as mentioned before, these diatonic implications are soon unraveled.

Understanding the primary motion of the head as outlining the interval of a major second provides a plausible way to relate the exposition with the first episode; the downward intervals of minor sevenths can be heard as inversions of the initial major second. The saturation with these large leaps contrasts markedly with the largely stepwise exposition; in terms of the narrative, they could be characterized as destabilizing or less grounded. The first episode is intervallically related to the subject through transformation, but also opposed to it gesturally, since the smooth motion of a step contrasts with the disjunct leap of a seventh. The inversion of the whole-step figure begins a dichotomous relationship between balanced forms of the subject, and inversions that undermine that stability. Since inverting the subject also initiates many of the transformations of the theme in the development section, the process of inversion is an interesting thread to track through the composition.

The first episode might at first seem a mere digression, because when the subject re-enters in m. 17, it appears to be unfazed by the episode's large leaps. The subject is presented on the Dominant, B \flat , reinforcing the key of E \flat . Yet, there is a telling detail that signals an impending change: at the end of the tail the soprano leaps up to double the low B \flat (m. 20), leading into the first inversion of the subject (mm. 21–24). There is an audible similarity to this moment and the entrance to the first episode, which also began

with a solitary eighth-note pick-up doubling the previous bass note. As previously mentioned, the first statement of the inversion fragments the tail, which in this interpretation signifies a further disruption of balance. Significantly, it also begins a half-step above the previous statement; m. 17 outlines a fifth from $B\flat_3$ to F_4 , and in m. 21 the bass spans $C\flat_3$ to $G\flat_3$. This inversion not only ends with a disruption, but also begins by destabilizing the texture, as it is chromatically wrenched up a semitone.

As discussed above, the subsequent entries of the subject are progressively closer to what a strict inversion would be (c.f. Fig. 5.2 and 5.3); additionally, they enter at an enharmonic major second (ic 2) away from the initial inversion on $C\flat$ ($A\sharp$ and $D\flat$ respectively).²¹ While the successive entrances of the subject might highlight the major second, the accompaniment²² to each of these statements consistently focuses on a different interval. Each repetition of the head is reharmonized with part of the counterpoint transposed by a half-step (Fig. 5.5). The last statement in $D\flat$ also touches upon the relatively low registral ceiling of the piece, $A\flat_5$, which is then connected through stepwise motion in the tail, leading into the second episode.

The second episode (mm. 32–35) restores an emphasis on whole-step motion that was dispersed in the middle section. The upper voices largely move downward in major seconds, and the alto even gives a quasi-canonical repetition of the first two bars of the soprano in mm. 34–35 (cf. soprano part in mm. 32–33). The bass has sequences that repeat in descending whole steps from E_3 to D_3 , and then again from $C\sharp_3$ to B_2 , each

²¹ I assume octave equivalence here, as they are not in the same register.

²² I will use this term to refer to the melodic counterpoint to the theme as opposed to the term countersubject, which implies a more consistent pattern of association.

time leaping up to a lower neighbor embellishment of a major sixth (mm. 32–35).²³ As opposed to the first episode, which created an imbalance in the composition, this section restores order by largely adhering to a pattern.

Fig. 5.5 a–c: Hindemith, Fugue in E \flat , from *Ludus Tonalis*, middle section: a. mm. 21–22; b. mm. 24–25; c. mm. 28–29

The figure displays three musical examples, labeled a, b, and c, from Hindemith's Fugue in E \flat . Each example is presented on a grand staff with a treble clef on top and a bass clef on the bottom.

- Example a (mm. 21–22):** Shows an interval of a half step (1/2 step) between the notes [t,9] and [9,8]. Both notes are part of a triplet in the bass line.
- Example b (mm. 24–25):** Shows an interval of a half step (1/2 step) between the notes [4] and [5] in the treble line, and [6] and [7] in the bass line. Both pairs are part of triplets.
- Example c (mm. 28–29):** Shows an interval of a half step (1/2 step) between the notes [t,6] and [e,7]. Both notes are part of a triplet in the bass line.

²³ These ascending sixths can be heard as an answer to the descending sevenths of the previous episode. It is also noticeable that in m. 35, Hindemith does not give the G a lower neighbor on F \sharp . As this is just before the entrance of the next subject (using B and F \sharp) he likely did not want to emphasize this pitch before the next entrance. Aside from the oscillating head of the subject, Hindemith is very conscious to avoid consecutive pitch repetitions. Three of the four cases of a note repetition (that are unrelated to the head) occur in transitional passages (the link, m. 8; and leading to the final statement, m. 42) with the also anomalous dotted-eighth, sixteenth rhythm mentioned earlier. The last instance is in mm. 44–45, with the repeated E \flat in the bass across the bar line.

This episode also leads to a statement of the original subject, with the head and tail exactly transposed from the opening (mm. 36–39.5). Not only does this return of the subject re-establish the initial version, but it also does so on the exact pitch level of the first inverted statement (c.f. m. 21), as if returning to the same pitch space where the composition was led astray (Fig. 5.6 a–b).²⁴ The accompaniment similarly reflects the restorative function of this entrance: instead of a semitone shift for the repeated measure (as in mm. 21–22), the soprano accompaniment is lowered a whole step (mm. 36–37).

Fig. 5.6 a–b: Hindemith, Fugue in E \flat , from *Ludus Tonalis*: a. mm. 21–22; b. mm. 36–37

The figure displays two musical excerpts, labeled 'a' and 'b', from Hindemith's Fugue in E \flat . Each excerpt consists of a treble clef staff and a bass clef staff. In both, the bass clef staff features a triplet accompaniment. Excerpt 'a' (mm. 21–22) shows the subject in the treble clef. Excerpt 'b' (mm. 36–37) shows the subject in the treble clef, with a bracket above it indicating a whole step shift from the pitch class [1,2,9] to [e,0,7].

But much as the subject in mm. 17–20 gave the false impression of returned stability, the statement in mm. 36–39.5 similarly restores an order that is soon called into

²⁴ In these two places, Hindemith's use of enharmonic notation is remarkable and possibly suggests that a symbolic exchange occurred through the middle section. It is as if the return and correction of the subject on these pitch classes is accomplished with a sacrifice of the notation, which is irrevocably drawn to the sharp side. While the subject does come back in E \flat (m. 43), it too soon loses its way and musters a final cadence in D \sharp major, still showing the effects of this transformation. A performer could certainly find significance in Hindemith's notation, if not a listener (with the score).

question. The next statement of the subject (beginning in m. 39.5) appears to be a repeat of the same pitch classes B and F \sharp , but in the second bar (m. 40.5), the whole repetition is lowered a whole step: from B4 and F \sharp 5, to A4 and E5 (mm. 39–41).²⁵ The bass also picks up on the whole-tone scale that was emphasized in quasi-canon during the second episode, proceeding down stepwise from G \sharp 3 to C3. This statement of the subject is quite radical with both an altered head, and a tail that seems to self-destruct just as it begins, stalling out on D5 and then D \flat 5.

As if a final attempt to restore order, the fugue subject enters in m. 43, outlining E \flat 4 and B \flat 5, just as it began the piece in a gesture approximating a fugal recapitulation. The close proximity with the most drastically altered statement of the subject (m. 39) gives a strong impression of recapitulatory function, restoring order and stability. The head of the subject is unaltered, as if once grounded in the original tonic the piece has finally settled, but the tail soon reveals otherwise. In the first measure of the tail (m. 45), there is a telltale rest in the lower voices, revealing an unaccompanied note in the soprano, which could be recognized as signaling a forthcoming disruptive inversion.²⁶ The subject is indeed fractured, though in a way that has a cumulative function; it can be understood as summarizing the previous disruptions.

The bass outlines a minor seventh, yet splits this interval into two perfect fourths. This can be heard as not only referencing the downward leaps from the first episode, which were inversions of the whole step motion of the head, but also as inversions of the

²⁵ One could hear this whole step drop as a reference to the second statement of the subject in inversion, again, acting as a gesture to “correct” the inversion using the same pitches (cf. m. 40 with m. 24). The missing “correction” to the middle section would then be to the inverted theme on D \flat and A \flat , which however is never realized.

²⁶ This note however does not double the previous bass pitch class, and so differs from the other two instances (mm. 12 and 20).

two fifths which embellished that opening major second. In a compacted way, Hindemith has inverted much of the intervallic content of the opening measure (Fig. 5.7). These bass arpeggiations also sequence downward in whole steps, and beginning on G \sharp 2, it possibly recalls the quasi-canon from mm. 32, 34, and 40, though it is not complete.²⁷ In this way, the bass's disruptive inversion of the intervals of the head and the breaking off of the last statement of the subject function as a sort of counter-recapitulation, one that summarizes the role of the destabilizing material and the many types of disruptions introduced in the work.

Fig. 5.7 a–b: Hindemith, Fugue in E \flat , from *Ludus Tonalis*, comparison of intervallic content between: a. m. 1; b. bass of mm. 45–6

The upper voices of this interruption and extension also reveal a telling exchange as they enter m. 46. E4 jumps to E5, while B4 stays constant, such that the two voices invert, and change a fifth into a fourth using the same pitch classes (m. 45). This inversion occurs just as the tail becomes distorted, exhibiting once again how this simple process is consistently associated with a distortion of the fugue subject. The upper voices then stagger down to a fourth on E4, before proceeding in parallel fourths to complete an octave descent, arriving on B3 (m. 47–48).

²⁷ This repetition beginning on G \sharp 2 represents the lowest register of this quasi-canon and completion of an octave cascade that began at m. 32 with G \sharp 5, then G \sharp 4 (m. 34), to G \sharp 3 (m. 40) and finally this last statement.

As a last attempt at returning to the stability, the upper voices find the interval of a fifth at m. 49, using the pitches G \sharp 3 and D \sharp 4 (the enharmonic equivalent of the subdominant, A \flat and E \flat). In m. 49, the subject then seems to enter as if acknowledging the intervallic alteration of the fifth to the fourth by changing this defining interval of the head. The last gesture in the bass oscillates between G \sharp 2 and D \sharp 2, again an inversion of the previously stated fifth in the upper voice. This time though, the interval eventually expands upwards to the fifth, as opposed to descending. Appropriately enough, the piece ends on a D \sharp major chord (enharmonically E \flat) with A \sharp in the bass: even the final tonic triad succumbs to inversion.

Reflexive Analysis: Other Observations

The questioning of one's categories and procedures may, of course, be carried out with considerable complacency, but the principle, the strategy, may be stated quite unequivocally: even if in principle we cannot get outside conceptual frameworks to criticize and evaluate, the practice of self-reflexivity, the attempt to theorize one's practice, works to produce change.²⁸

The previous analysis traced the course of the fugue along the lines of Schoenberg's developing variation with attention given to the process of inversion. Specifically, it compared the treatment of the subject with the narrative "imbalance created and balance restored," which was subsequently modified at the close. While the middle section initially suggested this arching plot, the end of the piece did not quite fit with the outline, since the last section showed a combination of both the initial subject and episodic material in inversion. This ending could be interpreted in various ways, ranging from a synthesis of opposing elements, to an infiltration of the subject by the

²⁸ Jonathan Culler, *On Deconstruction: Theory and Criticism after Structuralism* (Ithaca, NY: Cornell University Press, 1982), 154.

process of inversion, to the subject wresting control back from the disruptive forces in the final cadence. One could even understand the closing gesture as an amalgamation of the struggle between subject and inversion. In any case, the narrative trajectory was something much closer to a story of entropy, where the piece continues to change under the influence of inversion, even through the final cadence.

What kinds of recognition were used in constructing this analysis? This self-reflexive question can encourage further investigation of the piece, through examining how other kinds of recognition might offer different connections. Tracing repetition over an entire composition allows the use of multiple lenses to scrutinize the work that reveal other types of relationships. These new observations might not necessarily contribute to the narrative trajectory already outlined, but the relative success or failure of a method can itself be a significant observation about the piece. By looking at the work from various angles, we can highlight those perspectives that deepen our understanding or appreciation of the piece, while passing over others. I will begin by summarizing the various types of recognition used above, drawing on the categories I developed in the first section of this dissertation. I then go on to explore what alternative approaches might reveal about this piece.

I understood the head of the subject and the movement from $B\flat$ down to $A\flat$ primarily in terms of interval content, which provided the basis of the dichotomy between transpositions and inversions. In terms of my taxonomy, this would be an equivalence relationship based on interval, while also marking the mirror form transformation of inversion with a special significance. Borrowing from later interpretations of

Schoenberg's work, I then characterized these versions of the motive in terms of different compositional function.²⁹

The rhythm of the head was also a determining factor in recognizing repetitions of the subject, acting as a means of verification, but it did not figure in the relationships to the major second interval, as this was a distillation from the rhythmic surface in the first place. Aside from tracing the subject, I highlighted the repetition of quasi-canonic passages (mm. 32, soprano; 34, alto; 40, bass; 46, bass again (augmented and incomplete)) on the basis of equivalence, specifically using pitch class and rhythm (with a reduction of the last statement according to the lowest note of the sequence). The repetition of the eighth-note pick-ups prefacing inversions (mm. 12, 20, and 45) might be best understood as an instance of what I termed Platonic recognition,³⁰ since there are no specific equivalences, and the argument for repetition relies on contextual function.³¹ This motive, while not part of the primary intervallic or thematic material, is consistently associated with the process of inversion, and I used proximate association as a means of verifying its status as a motive.

As opposed to a standard interpretation according to the principle of developing variations, where a single theme is usually understood as the primary element in the action of a piece, my interpretation relied on an opposition between the theme and the process of inversion. While the focus on inversion provided a narrative of conflict that

²⁹ See the discussion of Patricia Carpenter mentioned above, and also Lawrence Zbikowski, who takes this strategy in discussing Beethoven's Op. 18/1 string quartet; see *Conceptualizing Music* (New York: Oxford University Press, 2002), 177–191.

³⁰ So named because of its similarity to the idea of Platonic forms, I define Platonic recognition as relying on an abstraction to make a connection, such as “third descent” or “downward leap of a third with a turn figure on the last note”; see chapter 3.

³¹ Although one could certainly specify some of the characteristics such as texture/accompaniment (a single note with no accompaniment), doubling the bass (a specific interval equivalence by register).

could be traced through the piece, it led me to focus on elements of the theme that were susceptible to inversion—in many cases, interval. My taxonomy of recognition can become useful by examining which other compositional moves are compatible with the idea of inversion.

* * *

The previous analysis was very much in line with Schoenberg's practice in focusing primarily on the melodic treatment of intervals. This interpretation did not search for contrapuntal patterns, nor did it rely on abstractions from the surface of the music. This latter omission is understandable, given the difficulties in making a hierarchical system for twentieth-century music that would enable what I have termed generational connections³² in twentieth century music.³³ Nevertheless, creating a hierarchy that ranks degrees of consonance or dissonance, and then separating out and evaluating intervals would be one possible approach to finding structural levels in this fugue.³⁴

Instead, I will focus on the immediate repetition of the first measure of the head, how this implies a segmentation, and how these repetitions are set contrapuntally. While not providing structural levels per se, this strategy will show connections that are somewhat abstracted from the musical surface. The following interpretation will explore

³² Generational recognition involves motivic repetitions that are revealed by a comparison of different structural levels in a piece. The Schenkerian idea of what Charles Burkhart called "motivic parallelisms" would be one possible kind of generational connection, yet this term can also cover broader usage; see chapters 2 and 3.

³³ Brian Alegant and Donald McLean give an outline of what such theory could look like for twentieth century music; see "On the Nature of Enlargement," *Journal of Music Theory* 45/1 (Spring 2001): 31–71; Joseph Straus has also dealt with some of these issues in "The Problem of Prolongation in Post-Tonal Music," *Journal of Music Theory* 31/1 (Spring 1987): 1–21.

³⁴ Indeed, Hindemith's own theories assume just this possibility; for a very favorable and compact summary and comparison of his evolving theories, see Neumeyer, *The Music of Paul Hindemith*, 19–76.

both of these areas (counterpoint and generational connections) in combination and I will argue that such relationships can play a role in hearing this fugue while also contributing to the previous analytical narrative.

While many criteria for segmentation are based upon degrees of difference (a radical change is often interpreted as something new), sometimes repetitions can also create a disjunction, such as the repetition of the first measure in this fugue. Immediate repetitions of this sort give the impression of beginning again, with an implicit juncture between the statement and the repetition.³⁵ The separation of the head into two parts, bisected through this repetition, creates a compositional challenge for the accompaniment. While a composer might simply repeat all the parts twice, Hindemith assiduously avoids this solution and varies the contrapuntal settings of each repetition.

His contrapuntal treatment of the subject reveals an interesting relationship between the horizontal and vertical expressions of intervals that the previous analysis traced through the piece. In the fugal exposition, while the soprano presents the answer (mm. 4–5) with its melodic motion from E \flat 5 to D \flat 5, the alto provides a countermelody that begins on E \flat 4, and then sets the repeated head figure in m. 5 beginning on D \flat 4. Beginning a similar contrapuntal figure on E \flat and then D \flat expresses the same melodic relationship as the answer above, but over a longer time span.

Further accentuating this nexus, the two voices switch places over the barline (mm. 5–6), changing a major ninth into a minor seventh between E \flat 4 to D \flat 5 (see Fig. 5.8). While not based on ideas of consonance, this voice exchange that occurs over these

³⁵ Thomas Clifton has discussed the idea of second beginnings in reference to Beethoven's Ninth Symphony; see *Music as Heard: A Study in Applied Phenomenology* (New Haven: Yale University Press, 1983), 83–88.

the two measures expresses the main melodic pitches of the repetition in multiple ways. The major second is presented horizontally, vertically (as a major ninth), and inverted as a minor seventh. This last transformation that occurs between the head and the tail of the answer could be understood retrospectively as introducing the idea of inversion while also forecasting the minor seventh leaps that come in the first episode.

Fig. 5.8: Hindemith, Fugue in E \flat , from *Ludus Tonalis*, treatment of the major second in mm. 4–6

The final statement of the subject in the exposition (mm. 9–12) does not repeat this pattern, though there does seem to be an emphasis on ic 2.³⁶ Hindemith frequently resorts to using minor sevenths and major ninths (ic 2) as an accompaniment to the head of the subject, and this interval class is present in most statements of the head. In m. 17, for instance, the horizontal notes of the subject are expressed vertically by the relation between soprano and bass; in the soprano's motion from F4 to E \flat 4, the bass first descends from G \flat 3 to F3 underneath the E \flat 4. Then in the repetition, the bass again sounds F3, this time at the same moment as the soprano falls to E \flat .

³⁶ At both of these repetitions, Hindemith uses the pc set (025) on the second beat (i.e. m. 9.5 and 10.5, the trichords are {8,1,T} and {8,6,3} respectively). In mm. 24–25, there are similar (025) trichord relationships formed at m. 24.5 and m. 25 (the trichords are {4,6,9} and {6,9,E} respectively). While further implications of this approach would lead this discussion astray, there does seem to be a careful treatment of trichords in this piece.

Later on in the piece, there is an interesting voice exchange in the tail of the first appearance of what seems an inverted subject. Specifically, the notes $E\flat$ and $D\flat$ exchange between the bass and alto voices (m. 24), highlighting ic 2 (this can be seen in Fig. 5.5 b, first beat). What should have been a rising whole step in the Bass part (as a strict inversion of the tail) is reversed to a falling one, providing the exchange of these voices and expressing ic 2 in four ways (twice vertically and twice horizontally). It is suggestive that this exchange recalls a similar saturation of these same pitch classes and intervals in the exposition (mm. 4.5–6), and it occurs just before the statement of the subject a tritone away from the home key, as if highlighting the distance traveled.

Although there are other instances of this procedure, one of the more notable examples occurs in mm. 28–29, which contains the final statement of the inverted theme (this can be seen in Fig. 5.5 c). Here, the initial sonority verticalizes the interval $E\flat^3$ to $D\flat^5$ as a compound minor seventh, and as the soprano note rises up to $E\flat^5$, the alto leaps up to a $D\flat^4$, forming the interval of a major ninth. In the next measure (m. 29), as the soprano repeats the head, the bass note $E\flat^3$, still held from before, moves down to $D\flat^3$, exchanging with the soprano, which moves up. This again changes a vertical minor seventh into a major ninth. This last statement of inversion is saturated with ic 2 in its many forms, and as such creates a convincing turning point in the piece. According to the interpretive narrative sketched earlier, this could be heard as motivating the second episode and the attempt to return to stability.

As the last two instances demonstrate, the repeated emphasis on $E\flat$ and $D\flat$ is suggestive of another use of repetition: that of pitch class. Since the work does not rely on traditional means to provide a sense of tonic, it instead resorts to emphasizing the $E\flat$

in other ways throughout the beginning. Given that this pitch is the purported tonic, it is interesting to discover how Hindemith maintains this emphasis without resort to normal cadences. Furthermore, the way that this pitch center is destabilized can contribute to the interpretive narrative.

The composition opens by exploring all of the potential roles that the pitch $E\flat$ can play within the theme, and the first four statements of the subject exhaust these relationships. The first statement of the subject begins with $E\flat$ as the lower note of the fifth, while the answer sets the $E\flat$ as the upper note. After the Exposition, the next statement of the subject in m. 17, presents $E\flat$ as the middle note, thereby completing the three possible permutations of positions that this pitch could have in the head of the subject.³⁷ It is only after exhausting these three possibilities that the subject is inverted. $E\flat$ is also given prominence in the first episode, since it is the first and upper note of the inverted interval (seventh leap).

Yet after this weighted beginning, the importance of the tonic fades markedly, and is never fully recovered. While the piece does end up back at the tonic in the final chord, a second inversion triad provides a questionable close.³⁸ Moreover, while it does sound like the tonic it is not notated as such; this can be understood as symbolically depicting how the home key becomes altered and loses influence as the composition progresses. Although it does not deal with the role of inversion, this rough sketch of the role of $E\flat$ could provide further support to my reading of conflict and entropy.

³⁷ One could also frame this as $E\flat$ occupying the three possible positions of set class (027).

³⁸ Alternatively, it is possible to hear the lower note $D\sharp 2$ as mentally retained into the final chord, in which case the tonic would be in root position.

While this narrative interpretation provided a thread of continuity to follow through the piece, others would surely be possible.³⁹ Alternative types of recognition and different aesthetic priorities could give vastly different readings. By moving beyond the standard approach to fugal analysis, I showed how a number of relationships that might not have been considered could contribute to an analytical interpretation. This exploration was meant to be suggestive rather than exhaustive; but it does give an idea of how the previous meta-analytical method can act as a stimulating tool for analysis.

* * *

The next chapter, instead of focusing on how repetition can contribute to analysis, demonstrates that sometimes when repetition is so pervasive, the piece can be more difficult to analyze. In this role reversal, repetition is not the element that needs to be constructed, but rather the condition that seems to persist. Rather than a rejection of our current methodologies, I argue that approaching this work with a different set of privileged relationships can open up novel understandings.

³⁹ One suggestive avenue of approach would be to find other kinds of generational relationships throughout the piece. A fertile starting point would be how the initial interval of a perfect fifth is “composed out” by the rest of the subject, making the head and tail a single voice-leading strand that is unwound later in the piece. In this reading, one could understand the initiation of the tail on G as bisecting the fifth with the major third, and thereby asserting the tonic (again showing how Hindemith emphasized this harmony without resorting to cadences). Although intriguing, this interpretation conflicted with the one offered above, and hence was not pursued.

Chapter 6

Analytical Perspectives on Repetition II: If You've Heard It Once...

"Mistrust anything that tells you not to explore an aural impression you have once formed...."¹

While many would agree that repetition is essential to musical comprehension, how far can this principle be taken? In the history of Western classical music there is perhaps no other style of composing that attempts to push the limits of this maxim more than minimalism.² In the approaches examined so far in this dissertation, the various analytical understandings of repetition treated it as a marked event—something that stood out from an otherwise changing surface.³ In process music, these roles can be reversed. Pervasive repetition creates a static texture within which even slight changes can seem incongruous. When repetition becomes so omnipresent, how are we to deal with these pieces analytically?

¹ David Lewin, "Music Theory, Phenomenology, and Modes of Perception," *Music Perception* 3/4 (Summer 1986): 359–60.

² I am following Dan Warburton in his use of this term as a broad classification meant to cover the many sub-genre distinctions that can be made such as "process -," "systems -," "repetitive -," or "structuralist music"; see Warburton, "A Working Terminology for Minimal Music," *Integral* 2 (1988): 135–159. Here I focus primarily on a specific piece by Steve Reich that would be considered "process music" according to Warburton's scheme, but the section is certainly applicable to other kinds of minimalism.

³ This generalization is meant to function as a comparative between the two repertoires. From various perspectives, tonal or serial music could be considered quite repetitive, and has been interpreted as such (as Part I demonstrates, this depends on the criteria one uses to define repetition). Here I refer to music with a high degree of exact repetition (relying on the notational restrictions mentioned earlier, i.e. the same measures are literally repeated).

Paradoxically, even though recognizing repetition would seem to be such a fundamental part of analysis, minimal music has proven very difficult to analyze. This may be because process music is often understood as rejecting the aesthetic terrain implicit in much of the history of Western music,⁴ almost reveling in a non-teleological, non-developmental stasis.⁵ Since many analytical techniques were shaped around music with goal-oriented qualities, it is perhaps no surprise that these same techniques seem of limited use in confronting pieces with incessant repetition. But do these new methods of composition require a completely novel analytic approach or merely a different adaptation of the current methodologies?⁶ While I certainly support analytical experimentation, I also think that when provided with a different aesthetic framework, a great deal can be accomplished using the current tools.

Process music has carved out a new compositional terrain that has already stimulated many diverse analytical approaches, and this chapter will add to this discourse through a sustained examination of Steve Reich's *Drumming*. While it focuses on a single piece, it has potential applications to a wide variety of repertoire. That said, the

⁴ For instance, Steve Reich's music has been described as reacting against the predominant paradigms in the 1960s of serialism and indeterminacy; see K. Robert Schwarz, "Steve Reich: Music as a Gradual Process: Part I," *Perspectives of New Music* 19/1–2 (Autumn 1980–Summer 1981): 376; and Schwarz, "Steve Reich: Music as a Gradual Process: Part II," *Perspectives of New Music* 20/1–2 (Autumn 1981–Summer 1982): 278–280. These articles also provide a useful overview of Reich's career up to 1980.

⁵ This characterization has certainly been disputed though, and a number of studies have used Reich's music as an example to demonstrate teleological development; see, for instance, Richard Cohn, "Transpositional Combination of Beat-Class Sets in Steve Reich's Phase-Shifting Music," *Perspectives of New Music* 30/2 (Summer 1992): 146–177; Roberto Antonio Saltini, "Structural Levels and Choice of Beat-Class Sets in Steve Reich's Phase-Shifting Music," *Integral* 7 (1993): 149–178; Gretchen Horlacher, "Multiple Meters and Metrical Processes in the Music of Steve Reich," *Integral* 14/15 (2000/2001): 265–297; John Roeder, "Beat-Class Modulation in Steve Reich's Music," *Music Theory Spectrum* 25/2 (Autumn 2003): 275–304.

⁶ There is a divide within minimalist composers over how they hope an audience will engage their work; some composers such as Terry Riley encouraging listeners to "zone out," while others including Steve Reich and Philip Glass prefer a more attentive experience. See Warburton, "Working Terminology," 137–141.

choice of Reich will be felicitous if he is indeed, as Eric Salzman claims, “the composer who best represents the structural possibilities of minimalism and its potential for development.”⁷

In the first half of this dissertation, I argued that methodologies could be understood separately from the purposes of their use. Sometimes a preferred analytic technique can even be an inappropriate tool to demonstrate a privileged relationship. Similarly, certain methods are essential to constructing particular kinds of connections. The separation of these two components of analysis can have a profound effect on how one approaches a piece. If analyses make implicit arguments that validate certain relationships, it would seem possible to reverse this process and instead begin with a consideration of what kinds of relationships seem most meaningful (or interesting) in this music, and then find the tools to best highlight, demonstrate, or explain them.

In analyzing *Drumming*, I will begin with a phenomenological approach to the piece in order to highlight what I see as a novel subject position suggested for the listener. I then investigate how certain of Reich’s compositional decisions encourage and reward taking this relationship to the piece, and how the work creates novel phenomenological effects. Finally, I demonstrate structurally how Reich’s choice of initial pattern, and the combinations through which it is combined, impact the perceptual processes described.

⁷ Eric Salzman, *Twentieth-Century Music: An Introduction* (Upper Saddle River, NJ: Prentice Hall, 2002), 215. Alex Lubet also places Reich prominently in what he calls the “second generation” of American experimental composers (the first generation including Ives, Cowell, Cage, and Feldman, among others); see Alex J. Lubet, “Indeterminate Orgins: A Cultural Theory of American Experimental Music,” in *Perspectives on American Music Since 1950*, ed. James R. Heintze (New York: Garland Publishing, 1999), 121. Schwarz has also noted the important pivotal role that this work plays in Reich’s music; see Schwarz, “Steve Reich: Music as a Gradual Process Part II,” 235.

Palimpsests, Resulting patterns, and “Pointing Out” the Role of the Listener⁸

Very early on, I realized repeating patterns are only interesting in an ambiguous metric context.⁹

In many ways, *Drumming* represents a culmination of an early period of Reich’s career;¹⁰ it was both the longest piece he had composed up to that point and also the last piece in which he used his almost trademark procedure of “phasing.”¹¹ It is pivotal in that he also employed a number of new techniques that would become increasingly more important in his later work. This piece can reflect on both his previous compositions as well as looking ahead to some of his more recent works.

As with Reich’s other phase compositions, the patterns used in *Drumming* have rhythms that challenge the notion of a strict meter and instead offer a number of possible interpretations. Especially notable is the way that Reich builds up and takes down the patterns in this piece through the technique of substituting beats for rests and vice versa. While others have commented on this new procedure, few have mentioned the conflicting metrical emphases implied by this process.¹² Paul Hillier notes this as a general quality of Reich’s music:

⁸ I would like to thank Michael Udow and the University of Michigan Percussion Studio for organizing and hosting a workshop on *Drumming* led by Russell Hartenberger, who also deserves much thanks for both introducing, explaining, and bringing this piece to life for the studio. I would also like to thank Neil Sisauyhoat for discussing some of the further preparations involved in preparing for their performance.

⁹ Steve Reich, “Steve Reich in Conversation with Paul Hillier (2000),” in *Writings on Music: 1965–2000*, ed. Paul Hillier (New York: Oxford University Press, 2002), 218. (also discussed in “Non-Western Music and the Western Composer,” in *Writings on Music*, 150.)

¹⁰ Reich himself positioned the work as a pivotal point; see Reich, “Drumming (1971),” in *Writings on Music*, 64.

¹¹ Phasing is the procedure by which two instrumental/vocal/electronic parts repeating the same pattern, gradually shift their rhythmic relationship by a predetermined amount (commonly an eighth or quarter note) while constantly repeating the pattern (usually one performer plays slightly faster while one maintains the original tempo. e.g. from a unison, player 2 speeds up slightly, till she is one eighth note “ahead” of player 1).

¹² Cohn, “Reich’s Phase-Shifting,” 167; Robert Fink, *Repeating Ourselves: American Minimal Music as Cultural Practice* (Berkeley and Los Angeles: University of California Press, 2005), 107.

[His] special brilliance lies in making apparently simple melodic/rhythmic states yield surprising aural ambiguities, so that our sense of a phrase's identity—its beginning and end, or the precise location of its downbeat or principal accents—may suddenly shift as new light is shed on it from within.¹³

This shifting and ambiguous quality is certainly present in the opening of *Drumming*, and is later amplified by his compositional treatment.¹⁴ Significantly, the opening of the piece presents two different kinds of ambiguity. Following Mark Butler, I will refer to these as “ambiguities of orientation” and “ambiguities of metrical type.”¹⁵ Ambiguities of orientation have to do with where a listener hears strong and weak beats (i.e. hearing metrical emphasis), while ambiguities of metrical type refer to the implied meter that a listener hears.¹⁶

The piece opens with an introduction of four bongo players playing in unison. Reich begins by adding a single note in each region and slowly builds up the composite pattern (Fig. 6.1).¹⁷ The first stroke, while notated as the 10th eighth note, provides the first orientation and serves as an initial downbeat for the listener.¹⁸ With the entrances of

¹³ Paul Hillier, introduction to *Writings on Music*, by Steve Reich, 4–5.

¹⁴ Many have noted the importance of metric ambiguity in Reich's music; see for instance Horlacher, “Multiple Meters”; and Roeder, “Beat-Class Modulation,” 278 and 278n10.

¹⁵ Mark Butler, *Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music* (Bloomington: Indiana University Press, 2006), 123–137. Butler's original term for the first instance of ambiguity is “ambiguity of beginning,” having to do with location of the downbeat. I prefer to describe this as an “ambiguity of orientation” as the strong/weak emphasis of meter does not necessarily have to imply where a pattern begins (the downbeat). In a different context, Harald Krebs has also referred to the two types of ambiguity that Butler describes as displacement and grouping dissonances (although he often discusses cases where there is an implied dominant meter to which these dissonances interact. He terms the established meter the “primary consonance” or the “primary metric layer”), see Harald Krebs, *Fantasy Pieces: Metric Dissonance in the Music of Robert Schumann* (New York: Oxford University Press, 1999), 30, 82. I have followed Butler's terminology as it is unusual that such a clear meter is established in Reich's music (as mentioned before, he deliberately seeks out ambiguity).

¹⁶ Gretchen Horlacher has referred to this ambiguity of metrical interpretation as “multiple meter”; see Horlacher, “Multiple Meters,” 268.

¹⁷ As Cohn has noted, “measures” in this work determine the sequence of events that take place, but do not represent proportional segments as some measures are held substantially longer (through repetition) than others. Because of this, I will refer to notated measures as regions (symbolized R1, R2, etc.); these should be understood as denoting successive formal segments of the music, rather than the commonly understood bar that quickly passes. See Cohn, “Reich's Phase-Shifting,” 152–153.

¹⁸ Tovey often commented that the first sounds of piece serve as initial the point of orientation for a listener, regardless of how the piece was notated, or whether the listener is subsequently reoriented. In commenting

the second, third, and fourth notes, the metrical emphasis can hint at compound meter or triple meter depending on what the performers bring out and how they phrase the notes (Fig. 6.1, A and B).¹⁹

Fig. 6.1: Possible metrical interpretations of Reich, *Drumming* (1971), R1–R4²⁰

The figure displays four staves of musical notation, each representing a different metrical interpretation of the same rhythmic pattern. The notation is in bass clef with a key signature of three sharps (F#, C#, G#). The notes are: a dotted quarter note (F#), an eighth note (C#), a quarter note (G#), a quarter note (F#), a quarter note (G#), a quarter note (F#), and a quarter note (G#). The interpretations are:

- 1:** The first note is the downbeat. A '7' is written above the final note.
- 2:** The second note is the downbeat. A '7' is written above the final note.
- 3:** The third note is the downbeat. A '7' is written above the final note.
- 4:** The fourth note is the downbeat. A '7' is written above the final note.
- A:** Labeled 'A', this interpretation uses a 6/8 time signature. The first note is the downbeat.
- B:** Labeled 'B', this interpretation uses a 3/8 time signature. The first note is the downbeat.

Additionally the entrance of the fourth note exhibits an ambiguity of orientation, as the low G# might encourage the listener to shift the downbeat to that place (Krebs

on analysts who would hear the opening of Beethoven's Op. 10/1 as an anacrusis, he writes: "We ordinary beings for whom the angelic Beethoven writes find it easier to assume that the initial bump is the beginning of the music, and that somewhere, no matter where, the rhythm has changed step during the pathetic continuation." see *Beethoven*, ed. Hubert J. Foss (New York: Oxford University Press, 1965), 90–91.

¹⁹ As it is an ambiguous pattern up to this point, it is also likely that a listener if so determined could hear the pattern in one way or the other, or even alternate between multiple interpretations.

²⁰ The numbers above the staff correspond to the measures/regions of Reich's piece, which is scored for Bongos all playing in unison. The metrical interpretations shift the initial beat heard to the downbeat position to correspond to how the listener would orient this beat.

would describe this as a displacement dissonance).²¹ This initial ambiguity is only heightened as the next notes are subsequently added.²²

Fig. 6.2: Possible metrical interpretations of Reich, *Drumming* (1971), R5–R8

Possible metric interpretation

Possible metric interpretations

The fifth and sixth notes further complicate the clarity of the meter with four equally spaced attacks on the note B3, suggesting a pattern in four which conflicts with

²¹ The role of register and contour in influencing the perception of downbeats and upbeats has been explored by a number of theorists; see, for instance, Maury Yeston, *The Stratification of Musical Rhythm* (New Haven: Yale University Press, 1976), 69.

²² As these multiple possibilities accumulate, the listener is presented with a number of strata, and as Joti Rockwell has put it, is free to “toggle” between them; see Rockwell, “Rhythmic Strata in Bach’s Solo Violin Works” (paper presented at the Music Theory Midwest Annual meeting, Oberlin, OH, May 21, 2005).

both interpretations of the opening measures (Fig. 6.2, C).²³ Lastly, as the seventh and eighth notes enter to complete the full pattern, the composite again offers multiple metric interpretations. With multiple repetitions, the registral placement of the notes likely begins to influence how the pattern is heard, and also suggests a re-orientation of the downbeat (Fig. 6.2, D and E).²⁴

The result is that the listener has many possible ways to hear the meter as suggested in Figs. 6.1 and 6.2. The initial buildup also progresses from a non-existent meter to various stages of what still remains undetermined meter.²⁵ These ambiguities are an important aspect of the rhythmic figure that Reich exploits throughout the piece. But these processes of re-orientation are furthered by a significant compositional element that Reich used to highlight certain melodies.²⁶

²³ The metric reversal that can take place here is similar to that described by Mark Butler in his discussion of electronic dance music. Butler invokes a distinction made by Andrew Imbrie that is also useful in this case, that hearing the metric shift would be more likely for a “radical” as opposed to a “conservative” listener, (this distinction describes the propensity of a listener to shift the metrical emphasis from an established one). Additionally, Butler notes fertile parallels with the music of Reich; see Butler, “Turning the Beat Around: Reinterpretation, Metrical Dissonance, and Asymmetry in Electronic Dance Music,” *Music Theory Online* 7/6 (December 2001), 9,15.

<http://mto.societymusictheory.org/issues/mto.01.7.6/mto.01.7.6.butler.html>; Andrew Imbrie, “‘Extra’ Measures and Metrical Ambiguity in Beethoven,” in *Beethoven Studies*, ed. Alan Tyson (New York: Norton, 1973), 45–66, see especially 62–66; cited in Butler, “Turning the Beat Around,” n10.

²⁴ Cohn, “Reich’s Phase-Shifting,” 150; In addition to the work on register done by music theorists, from the cognitive perspective, Moelants and Van Noorden have also found experimental evidence that supports that register has an important effect on the perception of rhythm, specifically the location of the “primary pulse”; see Dirk Moelants and Leon Van Noorden, “The Influence of Pitch Interval on the Perception of Polyrythms,” *Music Perception* 22/3 (Spring 2005): 425–440. Roeder additionally provides a lucid and systematic approach to investigating accent and emphasis, including the role of register (as he acknowledges though, it does not yet provide a means of evaluating the relative importance of the many types of accents, aside from the rather crude enumeration of which beat class has the most types of accent. That said, a prioritization scheme could surely be devised, regardless of whether it would be agreed upon as universally acceptable.). See Roeder, “Beat-Class Modulation,” 287.

²⁵ Butler, *Unlocking the Groove*, 111.

²⁶ Reich discusses this process often, see *Writings on Music*, 26, 64, 119, 216.

* * *

In repetitive music perception is an integral and creative part of the musical process since the listener no longer perceives a finished work but actively participates in its construction. Since there is no absolute point of reference a host of interpretative perspectives are possible.²⁷

Unlike some of his other phasing compositions, *Drumming* has a performer-directed component that can radically alter the way an audience hears the piece, and suggests a novel approach to listening to process music. Reich's use of this procedure dates back to *Violin Phase*, written in 1967, but it also appears in many of his later compositions such as *Six Pianos*; *Sextet*; and the three-piece series *Vermont Counterpoint*, *New York Counterpoint*, and *Electric Counterpoint*; among others.²⁸ The technique derives from Reich's own experience of repetitive music. He gives a lengthy description of how he began to perceive *Violin Phase* in multiple ways:

I became clearly aware of the many melodic patterns resulting from the combination of two or more identical instruments playing the same repeating pattern one or more beats out of phase with each other. As one listens to the repetition of the several violins, one may hear first the lower tones forming one or several patterns, then the higher notes are noticed forming another, then the notes in the middle may attach themselves to the lower tones to form still another. All these patterns are really there; they are created by the interlocking of two, three, or four violins all playing the same repeating pattern out of phase with each other. Since it is the attention of the listener that will largely determine which particular resulting pattern he or she will hear at any one moment, these patterns can be understood as psychoacoustic by-products of the repetition and phase-shifting.²⁹

²⁷ Wim Mertens, *American Minimal Music: La Monte Young, Terry Riley, Steve Reich, Philip Glass*, trans. J. Hautekiet (Belgium, 1980; repr., London: Kahn and Averil, and White Plains, NY: Pro/Am Music Resources, 1988), 90.

²⁸ Reich, *Writings on Music*, 26, 134, 145–147. It additionally appears in the earlier work *Phase Patterns* (1970), cited in Mertens, *American Minimal Music*, 56–57.

²⁹ Reich, "Early Works (1965–68)," in *Writings on Music*, 26.

What Reich realized in *Violin Phase* is that an additional performer can manipulate the listener's attention by accenting these "resulting patterns;"³⁰ he referred to this procedure as "pointing out."³¹ By doubling the notes of any resulting pattern and then gradually increasing the volume to a louder dynamic, these patterns appear to emerge from the surface of the composite mass. Significantly Reich notes that: "The listener thus becomes aware of one pattern in the music that may open his ear to another, and another, all sounding simultaneously in the ongoing overall texture."³²

The effect of pointing out these patterns is more pronounced in *Drumming*, as Reich uses timbral differences to accent some of the resulting patterns.³³ Additionally, the formal layout of the composition suggests how the procedure of pointing out can "open" a listener's ear. Reich begins pointing out these resulting patterns quite early in the piece, immediately after the first pattern has been built up and the first phasing has occurred (in R10).³⁴ As the two players continue to perform the rhythmic pattern phased

³⁰ Unfortunately, "resulting" or "resultant pattern" has the potential for confusion in that Reich does not use this term to reference the composites of the various combinations of his rhythms (as for example does Krebs, *Fantasy Pieces*, 39), but rather this refers to the patterns that performers or listeners bring out of the composite (the "results" of an active mental or musical interpretation). For clarity, I will refer to the "composite mass" or "overall texture" when discussing the amalgam of sound in any particular region.

³¹ One could additionally term it "noticing an aspect," to make the allusion to Wittgenstein's work all the more clear. One of the philosopher's more popular ideas, Reich was likely exposed to this as he wrote a senior thesis on late Wittgenstein in his undergraduate at Cornell, and he also makes references to the *Philosophical Investigations*, from which these ideas come (see Reich, *Writings on Music*, 8, 191–193).

³² Reich, "Early Works (1965–68)," in *Writings on Music*, 26. Arguably the act of pointing out would have more perceptual importance than the "beat-class mode" that Roeder finds inherent to some of the patterns that Reich uses, although this does not deny that these are important especially in works that don't use the pointing out procedure. Alternatively one could describe the process of pointing out these resulting patterns as related to Roeder's idea of "modulating" between various beat-class modes of the basic pattern. See Roeder, "Beat-Class Modulation," 280, 286–289.

³³ Reich clarifies that when bringing out "resulting patterns" the performers should attempt to imitate the sounds of the instruments (playing the basic pattern) as closely as possible. At the same time, he acknowledged that in *Drumming* the effect is more pronounced because of these timbral differences; see Reich, "Steve Reich in Conversation with Paul Hillier (2000)," 216.

³⁴ Reich's choice of this phase relationship will be discussed below. I will use the term phase relationships to refer to these reflexive combinations of the basic pattern (which occur on the level of the region). Other terms in usage are "canonical transpositions," or "transpositional modules," which carry an implicit

at $T_{0,1}$ (i.e. the pattern begins on the first and the tenth eighth note of the region), the other percussionists or singers take turns pointing out certain notes from the combined texture.³⁵ The compositional directions are as follows (see Fig. 6.3 for the score examples A and B referenced):

This one-quarter note out of phase relationship is maintained by drummers one and two while drummers three and four sing and/or play patterns they hear clearly emerging from the combination of the first two drummers. Two of these resulting patterns are written out above at A and B, but others can be added or substituted in the blank bars. Though A and B are both four bars long, patterns of other lengths can obviously be heard. When singing these patterns a microphone is necessary in order to be heard. The voice should be used to imitate the exact sound of the drum patterns which may involve using syllables like “tak,” “duk,” and so forth. The voice(s) should enter softly and gradually increase in volume so that these patterns gradually rise to the surface of the music and then just as gradually subside by lowering the volume of the voice. A similar approach should be used when playing these patterns [on the drums].³⁶

Reich gives the performers quite a bit of latitude, and the suggestion that they should “clearly hear” a pattern is assisted by the score, which provides the composite of the two drummers ($T_{0,1}$, this is shown right below the first two staves of players 1 and 2 in Fig. 6.3). This aspect of the score offers the performers a visual aid in composing their

analogy to pitch material, and are potentially confusing within a rhythmic context. This last term was coined by Saltini, “Structural Levels and Choice,” 153.

³⁵ A note on notation: I will follow Cohn’s abbreviations of phase relationships, where the subscripts to T designate on which beats the patterns begin. In this shorthand, $T_{n,m}$ is understood to stand for: $T_n(Q) \cup T_m(Q)$, where Q is the basic set, and n and m are the beat classes on which the set begins (is transposed to). *Drumming* does not combine “block additive” procedures simultaneously with phasing, therefore Warburton’s symbolism of the phase relationship is unnecessarily cumbersome. Since the patterns in *Drumming* have 12 eighth notes, all designations are to be understood as mod-12 (i.e. 0,1,2,...,11, e). See Warburton, “Working Terminology,” 148–153; Cohn, “Reich’s Phase-Shifting,” 153.

³⁶ Steve Reich, *Drumming* (n.p., Boosey & Hawkes, 1971), 3. The score I reference here is a photocopy of Reich’s manuscript given to me by Russel Hartenberger during his residency at the University of Michigan. In a footnote of a description of the piece, Paul Hillier mentions that in 1975 Reich removed the instructions for the male voices to sing the patterns preferring that they be played on the drums (Reich, *Writings on Music*, 64 n1). As any updated score for *Drumming* is only available for performance rental, I will refer to the 1971 score, which does not include any changes in the instructions. For some of the difficulty in accessing Reich’s scores, and the “bootleg” versions that abound (such as my copy); see Keith Potter, “Review: Reich in Score,” *The Musical Times* 131/1773 (Nov. 1990): 597–598.

resulting pattern, and elsewhere Reich encourages the idea that these patterns should be written out and even that their ordering should be planned.³⁷ In practice, the performers often arrive at resulting patterns through experimentation with different ways to hear the composite during rehearsals. When Russell Hartenberger introduced the piece to the University of Michigan Percussion Ensemble, for example, he described the pointing out procedure in a casual way, giving the performers very few restrictions or structure, as opposed to Reich's description above which seems more crafted and planned.³⁸

While Reich states that the performers are free to arrive at their own resulting patterns, the two that he offers in the score suggest alternative metrical emphases (that were also implied in the opening of the piece). The first resulting pattern suggests a compound meter 6/4, while the first measure of the second example implies 3/2 (given as A and B in Fig. 6.3).³⁹ Not only do these different patterns provide conflicting metrical interpretations of the composite, but they also introduce the listener to the interpretive process of pulling out selective notes, in effect constructing new melodies out of the mass texture.

³⁷ Reich, "Steve Reich and Musicians (1973)," in *Writings on Music*, 79–80.

³⁸ Furthermore, Reich seems to emphasize that this process is not improvisation, while in practice the two procedures can be closer than his text implies (Reich, "Music and Performance" in *Writings on Music*, 80). This aspect of the composition will vary according to the performers and how they are introduced to the piece. Notably, in Hartenberger's introduction, he emphasized that the original ensemble learned it by rote, and encouraged the University of Michigan Percussion Ensemble to do the same (the instrumental set up almost requires this). This could possibly also influence the approach a group takes to the pointing out procedure (i.e. the Percussion Ensemble at Michigan did not have a set plan of the order of resulting patterns, but they did discuss the number that would be performed in each section).

³⁹ After the initial measure, the second resultant pattern could also imply a 6/4 meter displaced by one quarter note. In Krebs's notation this could be notated as: D6+1, (1 = quarter). The first number of a displacement dissonance gives the pulse unit (or what he calls the "cardinality" of the pulse) and the second gives the displacement (i.e. D6+1 means the pattern is six sub-units long and it is displaced by one unit); see Krebs, *Fantasy Pieces*, 35–36.

Fig. 6.3: Resulting pattern suggestions from Reich, *Drumming* (1971), R10

The figure displays six musical staves, each representing a different musical element in Reich's *Drumming*. The staves are labeled as follows:

- Drummer 1:** A single melodic line with eighth notes and rests.
- Drummer 2:** A single melodic line with eighth notes and rests, offset from Drummer 1.
- Composite Texture:** A complex texture where the two drummers' parts are overlaid.
- Resulting Pattern A:** A single melodic line showing a specific rhythmic pattern.
- Resulting Pattern B:** A single melodic line showing a different rhythmic pattern.
- Resulting Pattern B:** A second instance of the pattern shown in the previous staff.

After the performers point out a number of resulting patterns, the second player begins phasing again, moving the group into the next region (R11).⁴⁰ This introduces a different composite texture ($T_{0,8}$) for the other performers to use in pointing out resulting patterns. Here again, Reich suggests some examples for the players; his first sequence, for instance, is eight-measures long and emphasizes the second beat of an implied 3/2 meter and even implying a hemiola in the last two bars (Fig. 6.4 A). A third player joins

⁴⁰ Reich is very casual about the time that one remains in each transpositional module before moving on; that said, he does seem to imply that there are certainly limits to what a tasteful performance will do, implying these sections will not be unnecessarily prolonged; see Reich "Second Interview with Michael Nyman (1976)," in *Writings on Music*, 96–97.

the combined texture in R12, at first imitating the second players part before phasing a quarter note faster into the resultant texture $T_{0,8,t}$ in R13. In this region, the pointing out procedure is repeated again, and Reich offers some suggestions for resulting patterns that emphasize different meters.

Fig. 6.4: Resulting pattern suggestions from Reich, *Drumming* (1971), R11

The figure displays musical notation for Reich's *Drumming*, R11. It consists of seven staves of music, all in a key signature of four sharps (F#, C#, G#, D#) and a common time signature. The notation is as follows:

- Drummer 1:** A single melodic line in bass clef, consisting of eighth notes and quarter notes with rests.
- Drummer 2:** A single melodic line in bass clef, consisting of eighth notes and quarter notes with rests, offset from Drummer 1.
- Composite Texture:** A single melodic line in bass clef, representing the combined rhythmic pattern of both drummers.
- Resulting Pattern A:** A single melodic line in bass clef, showing a sparse pattern of notes and rests.
- Resulting Pattern B:** A single melodic line in bass clef, showing a different sparse pattern of notes and rests.

Because of the gradual crescendo and decrescendo, the resulting patterns emerge from the thick texture and then recede into the background. Yet, from a phenomenological perspective, even after the resulting pattern has faded to silence, it is

very much still present.⁴¹ We might refer to this phenomenon as “trace melodies,” because the resulting patterns that the soloists play seem to leave a mental trace on the composite texture. The psychological effect of creating trace melodies is a planned part of the composition. Reich mentions this in the instructions to two later sections of the piece where musicians point out patterns from composites played by marimbas and then glockenspiels:

[Figure] F should be simply sung as a solo for a while and then very gradually faded out so that it is clearly heard continuing in the ongoing marimbas.

...

Just enough volume is used so as to cause the individual resulting patterns to gradually rise to the surface of the music and then, to slowly fade out enabling the listener to hear them continuing in the glockenspiels.⁴²

Here, Reich explicitly acknowledges the psychological effect of trace melodies, where the resulting patterns remain present in a listener’s ear despite having faded as an accented pattern on the surface. In discussing *Violin Phase* above and in other places, Reich has acknowledged the importance of trace melodies in his work.⁴³

These trace melodies are then overwritten by new resulting patterns, yet the previous melodies are still recoverable from the composite texture after the new pattern fades. The combined effect of these traces can provide a radical re-conceptualization of the composite texture depending on the resulting pattern chosen, especially with regards to meter, as mentioned above. Additionally, the notion of multiple overlapping patterns

⁴¹ It is akin to emphasizing the interior voices of a chord either alone or louder than the outer voices in an ear training class. Once heard, these voices do not disappear when the full chord is played normally, rather they remain more present in consciousness.

⁴² Reich, *Drumming*, 14, 19.

⁴³ Reich, *Writings on Music*, 26, 64,

being retained by the composite texture as a number of available memories suggests that through his composite patterns, Reich has created the aural equivalent of a palimpsest.⁴⁴

* * *

Palimpsest: a parchment, tablet, etc. that has been written upon or inscribed two or three [or more] times, the previous text or texts having been imperfectly erased and remaining, therefore, still partly visible.⁴⁵

The use of a palimpsest as a metaphor to describe the interaction between perception and memory is not new, yet its ability to describe a perceptual situation in music has seldom been explored.⁴⁶ As far back as 1925, Freud made an analogy between a contemporary palimpsest device and his theories concerning the separate functions of both perception and memory. In his “A Note upon the ‘Mystic Writing-Pad,’” Freud analyzed a children’s drawing pad as a persuasive metaphor for how to understand the interaction of these processes. His example of a palimpsest had two component parts—a transparent sheet with celluloid covering upon which children could write with a stencil, and then a wax slab as a backing, which affixed to the transparent sheet when pressed by the stencil. Any writing upon this could be “erased” by lifting up the transparent sheet and celluloid cover, breaking the contact between the sheet and the wax block. Yet if one pulled away the transparent sheet and celluloid covering and then held the wax block under the right lighting, the former traces and marks of the stencil became visible.⁴⁷ This structure provided an elegant metaphor that allowed Freud to simply demonstrate his

⁴⁴ I would like to thank Wayne Petty for suggesting this metaphor as a way of understanding the composite patterns.

⁴⁵ *Webster’s New World Dictionary of American English*, 3rd College Edition, s.v. “palimpsest.”

⁴⁶ Ronald Radano uses the palimpsest metaphor (quite differently than my purposes here) to describe the cultural layering involved in the perception of African-American sacred music, see *Lying up a Nation: Race and Black Music* (Chicago, University of Chicago Press, 2003), 3, 121.

⁴⁷ Sigmund Freud, “A Note Upon the ‘Mystic Writing Pad,’” trans. James Strachey in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. 19, ed. and trans. James Strachey (London: The Hogarth Press, 1961; repr. 1991), 227–232.

theories of the way perceptions are transformed into memories.⁴⁸ Since that time, the idea of a palimpsest has remained present in humanistic discourse, especially in recent discussions of language, history, and space.⁴⁹

In relation to the perception of music, this metaphor might seem to be uncanny, as the more common examples of a palimpsest describe mostly visual or spatial effects. Yet, paradoxically through its incessant repetition, Reich has accomplished the seemingly counterintuitive feat of fixing an object in our aural perception.⁵⁰ By constantly reiterating a single temporal unit, a listener's expectations grow ever more confident; we can easily predict the near future of the piece.⁵¹

In *Drumming*, each time a new resulting pattern emerges from the surface, it will inscribe once more upon the palimpsest that is the composite texture. With each new melody, either following previous traces and metric emphases or creating new alternative possibilities, what might otherwise be considered a static background is reframed and

⁴⁸ The metaphor elegantly exhibited both our mind's (virtually) limitless retention and limitless receptive capacity, two qualities the Freud had observed of memory but had had trouble conceptualizing in the same mental apparatus.

⁴⁹ See, for example, Andreas Huyssen, *Present Pasts: Urban Palimpsests and the Politics of Memory* (Stanford CA, Stanford University Press, 2003); Michel Foucault, "Of Other Spaces," trans. Jay Miskowicz, *Diacritics* (Spring 1986): 22–27. Also in literature, Gérard Genette writes: "This palimpsest of time and space, these discordant views, ceaselessly contradicted and ceaselessly brought together by an untiring movement of painful dissociation and impossible synthesis—this, no doubt, is the Proustian vision." (Gérard Genette, *Figures of Literary Discourse*, trans. Alan Sheridan (New York: Columbia University Press, 1982), 213.) In the context of philosophy, Derrida interrogated Freud's metaphor and how the conceptualization of memory as writing radically altered his initial project; another instance of the pervasive influence of writing on culture (Jacques Derrida, "Freud and the Scene of Writing" in *Writing and Difference*, trans. Alan Bass (Chicago: The University of Chicago Press, 1978), 200). On another level, Derrida's idea of the supplement as a constant presence in language, essentially turns language into a permanent palimpsest. I would like to thank Daniel Herwitz for pointing out the larger significance of this concept in Derrida's work.

⁵⁰ The temporal length of these segments are not trivial, and it is significant that the repeated patterns in his music usually fit within what psychologists have claimed is the duration of the sensory store; see, for instance, Lawrence Barsalou, *Cognitive Psychology: An Overview for Cognitive Scientists* (Hillsdale NJ, Lawrence Erlbaum Associates, 1992), 94.

⁵¹ That is until a sudden change snaps the listener into a new pattern which then seems to similarly accumulate iterations in a reassuring way.

nuanced. As the successive instances of pointing out continue, these resulting patterns begin to accumulate in a listener's memory, since they are constantly "present" in the composite texture. Similar to how the erased markings of a textual palimpsest never really disappear, the previous resulting patterns are available to the listener who searches for them. Having all of these possibilities simultaneously perceivable allows for these moments of ambiguity in the composite pattern to interact with each other. While the experience of these different melodies interacting can provide a remarkably refreshing way to hear each composite pattern, it also suggests a very creative and novel listening strategy for the audience.

* * *

1— Would you like to know the story of the three lively little peas?
if yes, go to 4.
if no, go to 2.⁵²

As opposed to a piece that presents a salient melodic/rhythmic pattern to follow, the form and structure of *Drumming* encourages listeners to actively highlight different notes from the combined texture, thereby producing their own melodies.⁵³ The piece suggests a participatory subject position for the audience, creating a porous and permissive border between listener and performer.⁵⁴ While one could certainly choose

⁵² Raymond Queneau, "A Story of Your Own," in *Stories and Remarks*, trans. Marc Lowenthal (Lincoln: University of Nebraska Press, 2000), 126.

⁵³ In a very suggestive footnote, Cohn alludes to the role of the performers in pointing out melodies, comparing it to the function of a "paratext" in literary criticism. He then likens them to a reader in "reader response" criticism, yet does not take the implications of this suggestion any further. My exploration of the role of the listener, falls within the more traditional interpretation of "reader response criticism," and highlights the active role that a listener as well as a performer can play when experiencing this music; see Cohn, "Reich's Phase-Shifting," 175n33.

⁵⁴ Wolfgang Hufschmidt has suggested an interesting parallel between Reich's music and pictures/drawings by such artists as Jackson Pollack, where there is no clear figure represented but viewers are able to find "their own" patterns within the drawing. See Wolfgang Hufschmidt, "Musik als Wiederholung: Anmerkungen zur Periodischen Musik," in *Reflexionen über Musik heute: Texte und Analysen*, ed. Wilfried Gruhn (Mainz, Germany: Schott, 1981), 165–166.

not to engage in this creative approach to the piece, there are formal aspects that encourage an audience to do so.⁵⁵ As Mertens claims for other repetitive music, the listener is encouraged to “actively participate in [the piece’s] construction.”⁵⁶

The procedure of pointing out just discussed is given a prominent position formally and its occurrence at the beginning of Part I of the piece is a crucial element to this interpretation.⁵⁷ After building the initial pattern in R1–R8, adding a player in R9, and getting into the initial phased relationship ($T_{0,i}$) in R10, the teleological progress of the composition is suspended as other performers bring out these resulting patterns. At each of the subsequent phased relationships (R11 and R13) the composition similarly comes to a point of stasis while the other players bring these resulting patterns to the musical surface.

As mentioned earlier, at these places where the composite is repeated over and over, the listeners and performers can grow very accustomed to the pattern. It becomes exceedingly predictable, which is an important condition for the performers, who have to point out resulting patterns. By having such clear expectations about the composite sound, it is easier to mentally construct resulting patterns. These periods of static, reiterated temporal units provide a comfortable ground for experimentation and creative construction.

⁵⁵ I intend this reading as a contrary position to the pessimistic and passive role of the listener described by Robert Fink, where the “mindless repetition” in the music imitates the desire for commodities in consumer society (Fink, *Repeating Ourselves*, 114–117).

⁵⁶ Mertens, *American Minimal Music*, 90, see also 50.

⁵⁷ The division of this piece into four parts according to the successive changes in timbre has been noticed by many, including Schwarz, “Music as a Gradual Process Part II,” 237. It was also suggested by Russell Hartenberger in rehearsal, where he alluded to performances of the piece that only consisted of Part I.

Having set up this pattern of hearing emergent patterns with the entrances and phasing of the second and third players, player four begins in a phased relationship with the other players, giving the composite $T_{0,6,8,r}$. By far the most complex combination heard so far, Reich's directions state that, "this relationship between all four drummers should be held for a minute or so."⁵⁸ As before with the previously composite relationships, there are multiple ways to hear this amalgam of sound. However, without any remaining players to bring out aspects of the texture, this creative part of pointing out now falls on the listener. The performers previously drew melodic figures out of the palimpsests, now they hold the composite texture in place for the listener to have a turn. The emergent patterns brought out of the three phased relationships heard earlier encourage the audience to mentally construct melodies from this new composite texture.

Just as Reich's own experience with his phasing pieces involved a creative engagement of mentally pulling out resulting patterns, he holds this new phased relationship in R14 so the listener can do the same. While it is debatable how much importance should be given to the temporal indications in his score, some of the instructions do seem to imply that the performers should hold these composite patterns longer than other regions. The directions reveal, for instance, that when Reich introduces a new player to the texture, or changes the timbre through stick changes, he usually holds these composite relationships for "several seconds." Yet, after a phase has occurred and there is a new composite (as opposed to a return to unison), the directions are to hold "for a little while" or "about a minute," implying a longer duration.⁵⁹

⁵⁸ Reich, *Drumming*, 6.

⁵⁹ See for instance Reich, *Drumming*, 8. There are two notable exceptions to this, where after some parts fade out, Reich allows the pattern to remain for "a minute or so." This occurs in R64 and R65, where the

While I have amplified what I hear as an implicit suggestion of the score, it is significant that throughout the remainder of this first section of the piece (R14–R47) the performers do not point out more resulting patterns. Even in cases where players drop out and a new combinatorial composite is formed, Reich refrains from adding in these quasi-improvised sections (see for instance, R30 and R34). As if encouraging the listening strategy I have described, this allows the audience to take over this creative role through the remainder of the section.

The other three parts of the piece add interesting twists to the active role that I suggest for the listener. In Part II (R47–R68), Reich expands the very constricted register of the drums and changes the timbre to marimbas. As these marimba patterns are phased out of sync, resulting patterns are again pointed out (R53, R55, R60, R62, and R63). This time the marimbas are doubled by female voices, providing a slight timbral contrast to the combined sound.⁶⁰ The reintroduction of performers pointing out the resulting patterns might suggest that a listener should not try to mentally “add” their own melodies, since the combination is already more complicated than before. While it is certainly true that there is more happening in the music and one could simply listen, there are also reasons to think that the listener’s active part is still welcome.

two parts in question (marimba 2, player 1 and then marimba 2, player 2) were playing the lowest notes of the composite texture, and their removal has a pronounced effect on the total sound. The second occurrence of this is in R91, where again the bottom register is faded out while the upper parts remain, and Reich allows “perhaps a minute or so” to adjust to the new registral expanse of the composite texture. The progressive changes in both timbre and register were important considerations in Reich’s formal planning of the piece; see Reich, “Conversation with Paul Hillier (2000),” 218.

⁶⁰ Reich’s instructions are for the players to imitate the sounds of the instruments, yet in practice there is still a discernible difference, especially as the voices are usually amplified electronically, while the marimbas need no such assistance for volume. That said, in Part III of the piece, Reich suggests that certain melodies “may be too low for the piccolo to sound like the glockenspiels, in which case this pattern should be whistled only” (Reich, *Drumming*, 20). This seems to reinforce the idea that the timbres of the emerging resulting patterns should be as close as possible to the composite sound, which would seem to best accomplish the psychological effect of creating “trace melodies” described earlier.

In the examples of resulting patterns that Reich provides in Parts II and IV, he gives combinations of two voices sounding simultaneously. In Part II, he even notes in his prose description that two of the suggested resulting patterns (a solo and a duet) could be combined, allowing a trio to emerge from the texture. The use of contrapuntal combinations in addition to single melodies suggests that the mental additions of an audience are in no way contradicted by the more active role of the resulting patterns. This more prominent role of the other musicians can in fact create an intriguing challenge for the listener to take on. Whereas in Part I the audience largely had free rein to pull their mental patterns from the texture, in Part II the mental patterns meet a new challenge in that they are interacting contrapuntally with the other resulting patterns that the performers are bringing out.

As the piece continues, Part III expands the registral ceiling of the piece by changing the instrumentation to glockenspiels (again the resulting patterns nuance the composite texture at each significant phased relationship). In this section, Reich adds to the timbral composite created thus far by having the vocalists whistle and also introduces the piccolo to point out resulting patterns. Not only has the whole registral range shifted up, but the timbral differences between the instrumental parts with the phasing patterns and the musicians pointing out the resulting melodies has also become accentuated. What began as drums accenting drums, becomes voices highlighting patterns on the marimba, to eventually a piccolo and a vocalist whistling pointing out resulting patterns in the glockenspiel melodies.⁶¹

⁶¹ This timbral progression has been observed before; see Hufschmidt, "Musik als Wiederholung: Anmerkungen zur Periodischen Musik," 167.

The last part of *Drumming* serves a cumulative function for the whole composition in that Reich reintroduces the bongos and marimbas from Parts I and II, adding to the already present glockenspiels from Part III, and then simultaneously builds up a new pattern in each of the instrumental groups. Each group then successively phases creating a final structure that is maximally diverse in each of the instrumental groups (see below).

The last region of the piece again revels in pointing out, as performers bring out lines from each of the instrumental groupings. For a listener who has been creatively engaging in this procedure, the final region holds a smorgasbord of opportunities. Not only can one find patterns within each instrumental grouping as Reich instructs his performers to do, but it is also possible to create patterns that cross between instruments, traversing a wide registral and timbral span. The composite texture provides constraints on the imagination, but the potential melodies are vast and varied. And, just as Reich gave examples of patterns that were 4 and then 8 measures long (Fig. 6.4 A), a listener, if so inclined, could extend the duration of imagined melodies to greater lengths than this, even attempting to reach Wagnerian proportions.

From Seed to Bloom: The Materials of *Drumming*

Und diese Stücken sollst du mir schmieden: dann schwing ich mein rechtes Schwert!⁶²

Given the formal outline and approach to listening to this piece that I've described thus far, it is important to examine the raw materials that Reich is working with, as these largely determine and limit the experiences described above. For instance, what are the

⁶² Richard Wagner, *The Ring of the Nibelung*, trans. Andrew Porter (New York: W. W. Norton, 1976), 167.

properties of the basic patterns that Reich uses, especially in regards to the phasing procedure? These features are important because they limit what resulting patterns performers and listeners can pull from the music. Seeing how the basic patterns combine with themselves will also shed light on the relationship between the formal structure of *Drumming* and the properties of the repetitive patterns that he uses.⁶³ Needless to say, the order and relationships of the phases that Reich employs all contribute to the overall experience of the piece.

Reich's patterns likely influenced many of his formal decisions concerning phasing relationships and the order of sections. The basic patterns (after they are successively built up and dismantled, e.g. in R1–R8) contain significant properties that he exploits throughout the piece. One example of this is his choice of particular phasing relationships, which provide the piece with a formal shape.⁶⁴ While many descriptions of minimalist music claim that it is not goal-directed, and even that the predominant paradigm is antithetical to such designs, there have nevertheless been some telling investigations that reveal a large-scale formal structure at work in certain pieces.⁶⁵

In *Drumming* this is certainly the case, and phase relationships are constructed in a way that gives them both a crescendo of attack-point density (i.e. the number of sonic

⁶³ The archetypal strategy of investigating the basic materials of a composition in order to determine the significance of certain aspects of the piece has a long history in music theory, but received a persuasive grounding in two seminal articles by Milton Babbitt: "Some Aspects of Twelve Tone Composition," in *The Collected Essays of Milton Babbitt*, ed. Stephen Peles, Stephen Dembski, Andrew Mead, and Joseph N. Straus (Princeton, NJ: Princeton University Press, 2003), 38–47; previously published in *The Score and I.M.A. Magazine* 12 (1955); and "Set Structure as Compositional Determinant," in *The Collected Essays*, 86–108; previously published in *Journal of Music Theory* 5/1 (1961).

⁶⁴ These could also be referred to as the intervals of canonical transposition.

⁶⁵ As cited above, a number of them are notably in relation to Reich; see Cohn, "Reich's Phase-Shifting"; Saltini, "Structural Levels and Choice"; Horlacher, "Multiple Meters"; and Roeder, "Beat-Class Modulation."

events per measure) and an increasing variety of possible resultant patterns.⁶⁶ I will first investigate the idea of attack-point density and will then focus on the formal structure of Part I to see how Reich's materials impacted some of his formal decisions. The first part of *Drumming* can be understood as consisting of an introduction (R1–R22), and a presentation of the main process (R23–R47).⁶⁷ The structure of Reich's patterns seems to play an integral role in the formal layout of both sections of Part I. Finally, I will look at significant subsets of the basic patterns in order to demonstrate some of the ways in which the phase relationships that Reich uses offer performers and listeners an increasing variety of resulting patterns.

In order to investigate the way this basic pattern combines with itself, it will be useful to incorporate some of the technical tools from set theory. Given that this pattern has 12 eighth-note durations per region, a comparison with twelve-note pitch-space seems particularly apt, although the meanings of the relationships discussed are significantly different. Just as set classes can be used to describe pitch content, they can also serve as useful tools to describe repetitive rhythmic patterns, where they are referred to as beat class sets (bc sets).⁶⁸ From a purely rhythmic perspective, the initial basic pattern of the piece (used in R8–R15) is representative of the whole composition, as

⁶⁶ Following Cohn, each attack point (in this case, eighth notes) is given a number, beginning with the downbeat: 0, 1, 2, ..., 9, t, e; see Cohn, "Reich's Phase-Shifting," 149. What I am calling the density of attack points, is the number of sounding notes per region. Given this piece has 12 eighth note durations, the density of attack points will be a number from 0 to 12; see below.

⁶⁷ This second section of Part I reveals a design with close parallels to the formal outlines of Parts II and III. In many ways, Part IV functions as a summary and conclusion to the whole work.

⁶⁸ Cohn, "Reich's Phase-Shifting," 149.

Reich consistently uses this same attack-point pattern and merely alters the pitches within the beat-class set (see Fig. 6.5).⁶⁹

The beat class representation for this basic pattern is {0,1,2,4,6,7,8,t}, which is also the bc set type. While Reich will alter various aspects of the pitch relationships of this pattern within each of the successive parts, the bc set remains consistent throughout the piece. While my remarks focus on the introductory section of Part I, these comments also apply more generally to the whole composition.

Fig. 6.5: Reich, *Drumming* (1971), basic pattern #1 of Part I

Attack point number: 0 1 2 3 4 5 6 7 8 9 t e

Basic Pattern: {0, 1, 2, 4, 6, 7, 8, t}

= Beat Class Set [0124678t]

One immediately apparent property of the bc set is how it “overlaps”⁷⁰ with itself in the phasing process. By examining the cycle of permutations as the set phases with itself, we can determine the “Intersection” that occurs given any particular phase relationship, as well as the attack-point density. The set maps onto itself at T_6 (and trivially at T_0)⁷¹ giving a complete overlap of all 8 elements. I have therefore simplified

⁶⁹ Milton Babbitt initially referred to these as “time-point numbers”; see his “Twelve-Tone Rhythmic Structure and the Electronic Medium,” in *The Collected Essays*, 122; previously published in *Perspectives of New Music* 1/1 (1962).

⁷⁰ I use “overlap” in the sense of doubled attack points or intersection (i.e. two notes played on the same beat). In pitch class terminology this is often called the intersection of the two sets. In reference to transformations of the same set, Babbitt also referred to these as invariants; see Milton Babbitt, “Twelve Tone Invariants as Compositional Determinants,” in *The Collected Essays*, 55–69; previously published in *Musical Quarterly* 46/2 (1960).

⁷¹ This is just in regards to the number of beat classes that contain sonic events, there are still pitch/registral differences that will be explored below.

the complete rotational permutations to show from $T_{0,0}$ to $T_{0,6}$ with the understanding that the process would then repeat (see Fig. 6.6).⁷²

Fig. 6.6: Reich, *Drumming* (1971), basic pattern #1, phase relationship and corresponding cardinalities of the: Intersection set, the number of attack points and rests per region; and a visual representation⁷³

Phase Relationship	Intersection (Overlap)	# of attack pts. / rests in Region	Visual Representation									
			0	1	2	4	6	7	8	t		
$T_{0,0}$	8	8/4	0	1	2	4	6	7	8	t		
			0	1	2	4	6	7	8	t		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,e}$	4	12/0	0	1	2	4	6	7	8	t		
			0	1	3	5	6	7	9	e		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,t}$	6	10/2	0	1	2	4	6	7	8	t		
			0	2	4	5	6	8	t	e		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,9}$	4	12/0	0	1	2	4	6	7	8	t		
			1	3	4	5	7	9	t	e		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,8}$	6	10/2	0	1	2	4	6	7	8	t		
			0	2	3	4	6	8	9	t		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,7}$	4	12/0	0	1	2	4	6	7	8	t		
			1	2	3	5	7	8	9	e		
Composite			*	*	*	*	*	*	*	*	*	
$T_{0,6}$	8	8/4	0	1	2	4	6	7	8	t		
			0	1	2	4	6	7	8	t		
Composite			*	*	*	*	*	*	*	*	*	

⁷² This chart largely follows Saltini, "Structural Levels and Choice" 153–157; but I have substituted most of the terms he uses for clarity. There are multiple ways to arrive at this same information and one could use Morris's T matrix to determine how many members of the set would overlap at any possible transposition; see Robert D. Morris, *Class Notes for Atonal Music Theory* (Lebanon, NH: Frog Peak Music, 1991), 84–86. Alternatively one could also use Regener's (or more likely Lewin's generalization of Regener's) "Common Note Function" to determine the various overlaps of the set (CMNF (A,X,Y), where A is limited to transposition, and X and Y are the basic set Q. This formula gives the number of common notes (in this context beat overlap) between A(X) and Y); see Eric Regener, "On Allen Forte's Theory of Chords," *Perspectives of New Music* 13/1 (Fall–Winter 1974): 191–212; David Lewin, "Forte's Interval Vector, My Interval Function, and Regener's Common-Note Function," *Journal of Music Theory* 21/2 (Autumn 1977): 217–218. I am grateful to Ramon Satyendra for bringing both of these alternatives to my attention and for clarifying some of the ways of conceptualizing these phase relationships.

⁷³ The visual representation is Boolean, in that it distinguishes between the presence or absence of an attack (the bc numbers are merely provided for clarity).

The chart of phase relationships shows that beyond the complete overlap of all beat classes ($T_{0,0}$ and $T_{0,6}$) there will be a high overlap (of 6 elements) at $T_{0,t}$ (and inversely $T_{0,2}$) and $T_{0,8}$ ($T_{0,4}$); the remaining phase relationships will present the minimum possible overlap (4 elements).⁷⁴ Given that there are 8 elements in the collection, and 12 total in the region, the amount of overlap also reveals the number of sounding attack points within any particular phase relationship.⁷⁵

It is significant that in the opening, Reich uses phase relationships that contain the most amount of overlap, $T_{0,t}$ and $T_{0,8}$ (aside from the trivial $T_{0,0}$ and $T_{0,6}$), as if presenting all of the possible relationships that do not contain all 12 attack points.⁷⁶ In this way he can be understood as holding back the saturation of attack points in the initial phases of the piece. Throughout the composition, Reich consistently sets up phased relationships at the distance of one or more quarter notes (i.e. at *even* permutations), which ensure the highest amounts of overlap possible.

This strategy delays the inevitable increase of attack-point density, which instead comes by introducing more players to the composite (and therefore more instances of the pattern). By withholding the saturation of attack points, Reich provides a direction to the formal structure. At R12 the third player enters ($T_{0,0,8}$) before quickly phasing into R13 with the resultant transposition module, $T_{0,8,t}$ (see Fig. 6.7). This canonical relationship

⁷⁴ That is the minimum possible for two 8-element sets mod-12.

⁷⁵ Given there are 12 possible attack points, and T_0 of the basic pattern occupies 8 of them, leaving 4 rests; at any given phase relationship with the basic set, the number of elements that do not overlap with the T_0 statement will be filling in the rests.

⁷⁶ Robert Fink states that this combination “provide[s] an attack on every beat,” an error likely due to the ambiguous placement of notes in his transcribed examples; there are indeed two rests that provide slight pauses in the first phase ($\{4,T\}$). Fink also interprets this pattern as “a paradiddle,” while Reich notates it as an alternation between the hands (Fink, *Repeating Ourselves*, 107).

becomes a touchstone for the piece as a whole, and is significant in that it saturates all the possible attack points, while creating a very heavy weighting to the even beat classes.

Fig. 6.7: Reich, *Drumming* (1971), R13, basic pattern #1 at $T_{0,8,t}$

Phase Relationship	Intersection (Overlap)	# of attack pts./ rests in Region	Visual Representation												
			0	1	2	3	4	5	6	7	8	9	t	e	
$T_{0,8,t}$	6	12/0	0	1	2	3	4	5	6	7	8	9	t	e	
			0	1	2	3	4	5	6	7	8	9	t	e	
			0	1	2	3	4	5	6	7	8	9	t	e	
Composite			*	*	*	*	*	*	*	*	*	*	*	*	*

This transposition module, which appears in various doublings (e.g., $T_{0,0,0,8,8,t,t}$ in R65) serves as the endpoint of the formal plan of phasing relationships in Parts II and III. The canonical transformations successively move from $T_{0,0}$ to $T_{0,t}$ (in doublings) and then phase from $T_{0,t,t}$ to $T_{0,8,t}$, the composite pattern mentioned above. Arriving at this point there are either adjustments to the pitches in the patterns,⁷⁷ changes in the number of players performing, or there is a transition to a different formal section (i.e. between Parts II and III). The saturation of beat classes (as shown in Fig. 6.7) was likely the structural determinant that led Reich to focus on these particular phasing relationships and to choose this endpoint as a formal goal in Parts II and III.⁷⁸ In this way not only are there micro repetitions at the level of the region (and even half region), but there are also repetitions of the overarching formal structure of phasing relationships (progressing from $T_{0,0,0}$ to $T_{0,8,t}$) between Parts II and III.

⁷⁷ Roeder uses the term “pitch contour accents” to refer to the changes in a pattern that effect the highest or lowest sounding registers (Climax and Nadir respectively). See Roeder, “Beat-Class Modulation,” 280, 286.

⁷⁸ In essence, he is completing the aggregate. There is of course, much more going on in these sections than merely cycling through the phase relationships; Parts II and III develop varied relationships of pitch and notably register—each part pushes the registral ceiling higher and consists of a gradual ascension into some of the highest pitches that are still perceivable (Reich, “Conversation with Paul Hillier (2000),” 218).

Returning to the progression of Part I, once the phase relationship of $T_{0,8,t}$ is established, the fourth player enters directly in R14 at T_6 to the original pattern, making the composite phase relationship $T_{0,6,8,t}$. It is at this moment of the piece, as the composite texture is the most complex thus far, that the role of pointing out resulting patterns falls on the listener. After holding this relationship, players 2, 3, and 4 phase until they join player 1 in the initial pattern (i.e., the players form $T_{0,0,0,0}$), and then they begin successively taking apart the pattern one note at a time (R16–R22). This introductory section serves to lay out some of the compositional territory of the piece, and also serves the heuristic function of suggesting the listening strategy (see Fig. 6.8).

Fig. 6.8: Reich, *Drumming* (1971), formal outline of R9–15

Region	R9	R10	R11	R12	R13	R14	R15
Phase relationship	$T_{0,0}$	$T_{0,t}$	$T_{0,8}$	$T_{0,0,8}$	$T_{0,8,t}$	$T_{0,6,8,t}$	$T_{0,0,0,0}$
Phasing to next Region	->	->		->		->	
Resulting patterns	no	yes	yes	no	yes	no, but held longer	no

Similar to the relationship between Parts II and III, the remainder of Part I and Part IV share a formal goal in their progression of phase relationships; both sections move towards $T_{0,4,8}$, a tripartite division of the basic pattern which offers interesting properties compared with the previous phase relationships (Fig. 6.9).⁷⁹ While the beat class set relationships between $T_{0,4,8}$ and $T_{0,8,t}$ seem identical in terms of attack-point

⁷⁹ Additionally, the remainder of Part I changes the basic pattern so as to initiate a limited but definite registral expansion, similar to the more noticeable procedures in Parts II and III.

density, there are important differences that become apparent when investigating the subset relationships.

Fig. 6.9: Reich, *Drumming* (1971), basic pattern 1, phase relationship $T_{0,4,8}$

Phase Relationship	Intersection (Overlap)	# of attack pts. / rests in Region	Visual Representation											
			0	1	2	3	4	5	6	7	8	9	t	e
$T_{0,4,8}$	6	12/0	0	1	2		4		6	7	8		t	
			0		2		4	5	6		8		t	e
			0		2	3	4		6		8	9	t	
Composite			*	*	*	*	*	*	*	*	*	*	*	

Of primary interest here is to observe that the relationship $T_{0,8,t}$ contains low G#3s on beats 0, T, and 8, giving an implied duple division of the measure, while $T_{0,4,8}$ will more strongly imply triple meter with the lowest sounding notes. There are other interesting properties of the bc subsets in this initial pattern and the 3 other patterns that Reich uses in Part I. But there are also some bc subsets that remain consistent throughout all four parts of *Drumming*, and provide a contrasting layer of metrical interest. It is to these differences that I now turn.

* * *

In addition to the ambiguous metrical quality of the basic pattern, it has significant beat-class subsets that become important at certain kinds of phasing relationships.⁸⁰ Of the multiple bc sets that could be signaled out for examination in the initial pattern of the piece, I will focus on [0369], primarily due to the way that Reich uses it as a layer of repetition with a consistent periodicity (see Fig. 6.10).

⁸⁰ Cohn's analyses of two other works from Reich's phase-shifting period provide an important methodological model for this approach; see "Reich's Phase-Shifting," especially 154–164, which while quite technical, offers a rich examination of Reich's compositional materials. Additionally, Cohn's work has an important predecessor that he acknowledges as both conceptually and formally grounding much of his article; see Regener, "Forte's Theory of Chords," 191–212, especially 201–204.

One of the notable characteristics of the initial basic pattern that gives it rhythmic interest is the regular temporal iteration of the pitch B. This layer provides an alternative stratum that largely works against the prevailing metric interpretations. As an instance of bc set [0369], it also provides a counter-balance to the even transpositional values that Reich uses in his phasing relationships.⁸¹ Because the pattern and the attack-points of the phase relationships bring out resultant patterns that involve even groupings, this alternative provides a welcome contrast that persists through the piece. In fact, bc set [0369] is present in virtually all of the patterns that Reich uses in the whole composition (Parts I–IV), most involving the consistent iteration of a single note or dyad. Here these repetitions of a single note create a conflicting metrical level that provides much of the rhythmic interest of the work.

Fig. 6.10: Reich, *Drumming* (1971), important subset of basic pattern #1 of Part I

Attack point number: 0 1 2 3 4 5 6 7 8 9 t e
 Repeated B3: { 1, 4, 7, t }
 = Beat Class Set [0369]

There is also an important gestural aspect to this bc set in that Reich's notation specifies which hand/arm the percussionists use in playing each of the patterns.⁸²

Thereby, even in cases where different pitches are used, bc set [0369] is consistently

⁸¹ The idea of Strata and the technique of analyzing a piece in terms of Stratum is based on Yeston, *Stratification of Musical Rhythm*.

⁸² More accurately, his notation specifies alternation but the choice of the initial sticking is up to the player. That said, Reich's gestures are intimately idiomatic for the prescribed instrumental set ups, so when he claims that the players may choose which hands to use in performing the basic patterns in Part I, the physical set up of the bongos makes one sticking elegant and the other virtually impossible. Significantly, in Part I, the percussionists are facing each other with the bongos in between, which necessitates a mirrored sticking as they perform the same pattern.

associated with one side of the performers body, giving the players a physical manifestation of this cross-rhythmic layer (and the audiences a visual one). This bc set is usually metrically dissonant with the perceived meter (as exemplified by {1,4,7,t}), and as such creates an internal division for the performer in which half of their body brings out this consistent pulse, while the other half has an irregular but similarly repetitive pattern of [0268]. While a physical separation is not necessarily felt by the performers (arguably the alternating nature of the pattern has a stronger phenomenological presence), the physical component certainly makes it easier for the percussionist to experiment and bring out this opposition.

Significant as well is how this bc set intersects at even transpositional phase relationships. At both $T_{0,8,1}$ and $T_{0,4,8}$ this bc set completes the aggregate; it saturates all the available attack-points (Fig. 6.11).⁸³ What is initially heard as a cross-rhythm becomes a constant flurry of notes; a persistent sounding presence in the composite texture.

This property has a profound effect on how the performers can approach resulting patterns. Since the same notes are constantly present at each attack point under these transpositional relationships, a performer (or listener) pointing out resulting patterns has a virtually unlimited range of metrical possibilities. While these patterns might consist of only one or two notes, irregular meters (such as patterns in 5/8 or 7/8) even if melodically simple, can have a jolting effect on the experience of the composite texture. While this

⁸³ Bc set [0369] completes the aggregate at many more transpositional combinations as well, akin to the way that many combinations of three diminished seventh chords can complete the chromatic aggregate in tonal space. One could notate this in terms of Krebs symbology of displacement dissonances as the intersection of the pulses D3; D3+1; and D3+2 (1 = eighth note). E.g. D3+1 means the pattern is three sub-units long (a dotted-eighth note in *Drumming*), and it is displaced by one unit, as in the initial occurrence of [0369] in *Drumming* at {1,4,7,t}; see Krebs, *Fantasy Pieces*, 35–36.

might slightly bend Reich’s instructions that such patterns should be “clearly heard,” according to certain performance priorities, the destabilizing results might just be worth the indiscretion.

Fig. 6.11: Reich, *Drumming* (1971), combinatorial aspects of beat-class set [0369] at $T_{0,8,t}$ and $T_{0,4,8}$

Phase Relationship	Intersection (Overlap)	# of attack pts. / rests in Region	Visual Representation											
			1	2	3	4	5	6	7	8	9	t	e	
$T_{0,8,t}$	0	12/0	0	1	2	3	4	5	6	7	8	9	t	e
Composite			*	*	*	*	*	*	*	*	*	*	*	*
$T_{0,4,8}$	0	12/0	0	1	2	3	4	5	6	7	8	9	t	e
Composite			*	*	*	*	*	*	*	*	*	*	*	*

As these examples show, Reich’s choice of basic pattern and the phasing permutations that he subjects it to appear to be carefully planned. They not only withhold completion of the aggregate until the final phasing relationship is reached, but they also offer multiply ambiguous metric interpretations. It is this richness in ambiguity that makes the active role of the listener a fascinating means of engaging with this composition.

* * *

The ability of a constantly repeated pitch to draw attention to itself within a dense composite texture attests to the perceptual importance of repetition, even within repetitive music. Similarly, the repetitive temporal units in this piece allow the listener to settle into a very comfortable rhythm, where one can easily predict what is coming. This secure foundation allows both listener and performer a more easily manageable tableau

upon which to experiment with mentally pointing out resulting patterns. Both of these instances demonstrate how the incessant reiteration of a consistent temporal unit (either a single pitch evenly spaced, or a whole measure repeated) can shape experience.

Yet, how would the experience change if there were incessant repetition without rhythmic consistency? In an attempt to answer this question, the next chapter will investigate Morton Feldman's composition *For Samuel Beckett*, which provides an alternative consideration of repetition as a structural principle. Repetition is pervasive in Feldman's piece, but it is wholly different from Reich's usage. Similarly, though, as in this analysis of *Drumming*, the unconventional use of recurrence in *For Samuel Beckett* will call for an alternative aesthetic approach to the composition.

Chapter 7

Analytical Perspectives on Repetition III: Repetition and the Construction of Time

If on arriving at Trude I had not read the city's name written in big letters, I would have thought I was landing at the same airport from which I had taken off. The suburbs they drove me through were no different from the others, with the same little greenish and yellowish houses. Following the same signs we swung around the same flower-beds in the same square. The downtown streets displayed goods, packages, signs that had not changed at all. This was the first time I had come to Trude, but I already knew the hotel where I happened to be lodged; I had already heard and spoken my dialogues with the buyers and sellers of hardware; I had ended other days identically, looking through the same goblets at the same swaying navels.

Why come to Trude I asked myself. And already I wanted to leave.

'You can resume your flight whenever you like,' they said to me, 'but you will arrive at another Trude, absolutely the same, detail by detail. The world is covered by a sole Trude which does not begin and does not end. Only the name of the airport changes.'¹

Since pervasive repetition can immerse us into a world of familiarity and stasis, how does it impact our sense of expectation and our perspective on the past? To ask this question in a different way, how does it influence our experience of time? The previous chapter explored a composition that foregrounded repetition of temporal units as a foundational technique. This chapter investigates a piece where the role of repetition lacks this temporal consistency. It could still be referred to as minimalist music, but in a different way compared with the fast moving flurry of notes in Reich's piece. As with many works by Morton Feldman, the surface of *For Samuel Beckett* moves very

¹ Italo Calvino, *Invisible Cities*, trans. William Weaver (London: Pan Books Ltd, 1979), 102.

deliberately, almost glacially, and as such it affords a very different experience of time. In this piece repetition occurs not on the level of short musical patterns that are literally replayed, but rather within slow moving regions, as if obsessively focusing on similar material.

A number of music scholars have explored the way that repetition interacts with perception and our sense of time, notably in reference to meter.² In discussing twentieth-century music, Jonathan Kramer gives a particularly relevant account of certain pieces that induce an experience of what he refers to as “vertical time.” Vertical time describes an alteration in the normal temporal experience of music, where the listener has no sense of progression or phrase but rather has the feeling of stasis. Kramer describes it as, “a single present stretched out into an enormous duration, a potentially infinite ‘now.’”³

Kramer relates a personal anecdote that captures the essence of what this term means. His account begins with a team of musicians at Oberlin Conservatory who decided to play Erik Satie’s *Vexations*, taking seriously the instructions to repeat the movement 840 times.⁴ The piece itself is rather short, based on a quirky meandering bass-line that is repeated fourfold and harmonized on the second and last times. But performing the work with the instructed repeats can take up to 18 hours. In order to stave off fatigue, the pianists in this concert decided to swap out as unobtrusively as possible,

² See for instance, David Epstein, *Shaping Time: Music, the Brain, and Performance* (New York: Schirmer, 1995); Christopher Hasty, *Meter as Rhythm* (New York: Oxford University Press, 1997); Harald Krebs, *Fantasy Pieces: Metric Dissonance in the Music of Robert Schumann* (New York: Oxford University Press, 1999); Justin London, *Hearing in Time: Psychological Aspects of Musical Meter* (New York: Oxford University Press, 2004).

³ Jonathan Kramer, *The Time of Music* (New York: Schirmer Books, 1988), 55.

⁴ Satie’s directions are often taken to be whimsical assertions meant to poke fun at those critics who claimed that the instructions to his music were not specific enough, see Robert P. Morgan, *Twentieth-Century Music: A History of Musical Style in Modern Europe and America* (New York: W. W. Norton, 1991), 52–53.

each taking twenty-minute shifts. Each performer imitated the interpretation of the preceding player so that the entrance of the new pianist would be as seamless as possible.

While normally the piece is played once, or merely repeated a few times, actually carrying out the instructions of 840 repeats can radically alter a listener's experience of the music. I would not claim that in this way, Satie's composition becomes minimalist music, but it certainly has affinities from a listener's perspective.⁵ This was certainly Kramer's experience when he attended part of the performance. His account is rich in introspective detail and deserves to be quoted at length:

When I first entered the concert, I listened linearly. But I soon exhausted the information content of the work. It became totally redundant. For a brief period I felt myself getting bored, becoming imprisoned by a hopelessly repetitious piece. Time was getting slower and slower, threatening to stop.

But then I found myself moving into a different listening mode. I was entering the vertical time of the piece. My present expanded, as I forgot about the music's past and future. I was no longer bored. And I was no longer frustrated, because I had given up expecting. I had left behind my habits of teleological listening. I found myself fascinated with what I was hearing. The music was not simply a context for meditation, introspection, or daydreaming. I was *listening*. True, my attention did wander and return, but during periods of attending I found the composition to hold great interest. I became incredibly sensitive to even the smallest performance nuance, to an extent impossible when confronting the high information content of traditional music. When pianists traded off at the end of their twenty-minute stints, the result was an enormous contrast that opened a whole new world, despite their attempt to play as much like each other as possible. What little information I found in the music was in the slight performance variability, not in the notes or rhythms.

I never lost touch with myself or my surroundings. Although I listened deeply enough to the music to accept its extended present, I never ceased to be aware of my mental and physical environment.

After what seemed forty minutes I left. My watch told me that I had listened for three hours.... This impersonal music had enabled me to create for myself a very personal feeling of timelessness.... It became not so much difficult

⁵ One would likely wish to respect the different historical traditions of minimalism and *fin de siècle* parody although here they do produce similar results.

as irrelevant to distinguish past, present, and future: the music of each was the same.⁶

Vertical time describes a way of interacting with incessant musical repetition where one's sense of temporal directionality loses its importance. It could alternatively be understood as a change in the priorities of a listener's attention; as opposed to looking for large-scale temporal changes to occur, one follows nuanced details and subtle features on the surface of the music. The experience of vertical time can be considered an important part of listening to many twentieth-century compositions, and I will return to this idea in more depth below. But significantly, Kramer commented that, "the composer whose music perhaps best epitomizes vertical time was Morton Feldman."⁷

I will follow Kramer's suggestive remark by looking at Feldman's music in order to discover how his music might "encourage" this experience. Specifically I will argue that in Feldman's case, vertical time is a cumulative effect of having rigidly structured compositional constraints within a seemingly unpredictable rhythmic framework. Using a conceptual metaphor from Husserl, I will show how Feldman's composition withholds certain kinds of expectations that are normally part of the listening process. Lastly, I will take a further step back and illuminate the effect of these musical repetitions by juxtaposing them with a theoretical perspective from literary criticism. The use of repetition in *For Samuel Beckett* is quite different from the pieces examined thus far but poses an equally difficult challenge for musical analysis.

⁶ Kramer, *The Time of Music*, 379.

⁷ *Ibid.*, 386.

Repetition in Morton Feldman's *For Samuel Beckett*

You can either do two things with music, you could be involved with variation, which in simple terms means only vary it, or you could be in repetition. Reiterative. What my work is, is a synthesis between variation and repetition.⁸

As Feldman's career progressed his compositions changed markedly. Towards the end of his life, he seemed to settle into a style that even today seems idiosyncratic and poses challenges to an audience. His pieces are often quiet and utilize a compressed dynamic range. While not devoid of any rhythmic articulations, they have sometimes been described as very slow moving blocks of vertical sonorities, with shimmers of rhythmic distinction. There is often no melodic line to speak of and his music can be said to discourage horizontal connections, since it usually consists of certain pitches repeated within specific instrument groups for long stretches of time. These drawn-out sonorities are not consonant; Feldman utilizes dissonant combinations, sometimes sounding the full aggregate at once. Furthermore, he usually varies the voicing of these chords within the instrumental groups, giving particular attention to the vertical intervals employed, and thereby achieving a wide range of effects with a single vertical sonority.

He also began composing pieces that take up comparatively long spans of time. The shortest of his late works are around twenty minutes, but many last over an hour—*For Philip Guston* and the second string quartet are extreme examples lasting around four and a half and six hours, respectively. Especially in these longer compositions, the stasis that settles in as the same pitch material is repeated over and over has often been described as a slowing down of time, where the pace of the composition

⁸ Morton Feldman, "The Future of Local Music," in *Give My Regards to Eighth Street*, ed. B.H. Friedman (Cambridge, MA: Exact Change, 2000), 185.

seems to overtake the normal flow of experience. As one critic wrote, Feldman's music needs this kind of scale in order to transport the listener into his sound world, in isolation from a normal concert or daily events.⁹ While this extreme length poses both mental and physical challenges for performers and listeners, it certainly creates a unique experience and also encourages the effect that Kramer called "vertical time."

In interviews and writings, Feldman often focuses attention to the vertical aspects of his pieces; nevertheless, a number of theorists have found interesting relationships of a more horizontal nature.¹⁰ Of particular interest for this project is Feldman's use of repetition. While he repeats similar pitch material for long spans of time, he invariably changes slight and subtle aspects of these reiterations. In some cases, he alters a voicing; in others he changes the timbral qualities (such as pizzicato or harmonics), or adjusts the order in which instruments playing the notes of a chord enter. The repetition involved in many of his later pieces consists in re-ordering different segments of the music.

An illustration from the flute parts of *Coptic Light* is representative of this practice and gives an example of how he manipulates rhythm (see Fig. 7.1). Feldman consistently associates the same two pitches with each flute part, and then varies the rhythms in each measure.¹¹ He only uses four different rhythmic variations, each lasting a measure. The order of the recycling might initially seem haphazard, but in the first eight measures, Feldman uses each rhythmic variation only twice in each part. As Figure 7.1 shows, labeling each bar of rhythmic patterns a–d, the order for the first eight

⁹ Alex Ross, "The American Sublime," *The New Yorker*, June 19, 2006.

¹⁰ See, for instance, Dora Hanninen, "Feldman, Analysis, Experience," *Twentieth Century Music* 1/2 (2004): 225–251.

¹¹ More accurately, there are two groups of two flutes, each of which only plays two pitches; flutes 1 and 3 play A5 and E6, while flutes 2 and 4 play C4 and D5.

measures in the flute part is: a, b, a, c, b, d, c, d. This particular ordering of the rhythmic pattern is not consistent across instrumental groups, and these patterns for other instruments are variously altered and shifted. For instance, in contrast to the flutes, the oboes use virtually the same rhythmic patterns, but in a different order: c, c, b, d', d', b, a, a; while the violins use the exact rhythmic patterns in a palindrome: b, d, c, a, a, c, d, b.¹²

Fig. 7.1: Morton Feldman, *Coptic Light*, flute part, mm. 1–8, with rhythmic pattern [a–d] indicated

As each instrument has different pitch material, the patterns above only refer to rhythmic structures. A similar rhythmic process governs the opening in the clarinets, bassoons, and trumpets, while the violas and cellos also have a similar palindrome pattern, like the violins. Despite having such an organized compositional process, the results for a listener can seem to be anything but ordered, as the combined orchestral

¹² The rhythm of the d' variation is slightly different in the oboe part. Since the violins are divided into two groups, they only play the rhythms from the upper staves of the flute patterns (i.e. Flute 1 and 3).

mass covers over and obscures the pattern of each part. The similarity with Ligeti's micropolyphony technique is remarkable.¹³ While the rhythmic surface is quite structured, it is not likely that the listener hears these rhythmic repetitions.

This rhythmic re-shuffling is only one of many ways that Feldman incorporates repetition into his works. Likewise, many of these other methods can be difficult to identify aurally due to the size of the ensemble and the individuality of the patterns. From unbalanced palindromes to exact repetitions, many of Feldman's late works exhibit a remarkable degree of methodical control combined with playful treatment of musical materials. Differences such as altering register, instrumentation, or the weighing of certain pitches within a chord, which would be clear in a small chamber group, become muddled in a small orchestra. Another technique that is difficult to hear in Feldman's music involves repeating rather long segments of music. This process will have particular relevance to the exploration of repetition in *For Samuel Beckett*, whose opening touches upon many of these issues.¹⁴

* * *

As in many of his later works, Feldman divides the large instrumental ensemble into groupings of related register and timbre. Dora Hanninen has pointed out in another context that one technique of Feldman's late works is to associate certain pitch classes

¹³ Many have discussed Ligeti's micropolyphony, particularly in relation to *Apparitions* and *Atmospheres*, see for instance: Richard Steinitz, *György Ligeti: Music of the Imagination* (Boston: Northeastern University Press, 2003), 98, 103–104, 106; Marina Lobanova, *György Ligeti: Style, Ideas, Poetics*, trans. Mark Shuttleworth (Berlin: Ernst Kuhn, 2002), 49–55. See also, Jane Piper Clendinning, "Structural Factors in the Microcanonic Compositions of György Ligeti," in *Concert Music, Rock, and Jazz since 1945: Essays and Analytical Studies*, eds. Elizabeth West Marvin and Richard Hermann (Rochester, NY: University of Rochester Press, 1995), 229–256.

¹⁴ Please see Appendix 2 for the score excerpt discussed here (mm. 1–45).

with instrument groups; the same procedure underlies the structure of this piece.¹⁵ In the opening, Feldman has a rather methodical organizational process for these instrument-pitch pairs.

The first region, up to m. 42, divides the ensemble into six instrumental groups (see Fig. 7.2). Because of Feldman's sometimes eccentric spellings, I give these pitches in numeric notation.¹⁶ The flutes, oboes, and clarinets have rhythmically varied parts and alternate the same two dyads, {8,t} and {9,e}, between each instrument. The trumpets are also out of sync rhythmically, but they repeat a single pitch dyad {9,e}. These trumpet notes balance out the other three woodwind parts; each dyad pair is played approximately twice every two measures, such that {9,e} and {8,t} have equal weight. However, the trumpets are not as intimately related to the upper three woodwind instruments, as I will show below.

The piano and vibraphone parts are also grouped together, and similarly articulate the same pitch classes {8,9,t,e} melodically. The harp seems to act alone, by doubling and thereby weighting certain pitches from the surrounding texture. The fifth group is composed of the bassoons, horns, and trombones, which play in rhythmic unison. After the initial chord, this group trades off the pc dyads {5,7}, {8,t}, and {9,e}. The last

¹⁵ See Hanninen, "Feldman, Analysis, Experience," 233–235.

¹⁶ While not central to the concerns of my analysis here, the way Feldman spells notes is often significant in a composition. Similar to how minor details and nuance are essential to his compositional process, these unusual spellings offer an intriguing message to the performers and give them license to make something of the different spellings. He seems to have begun this practice in writing for strings and then later expanded it to include wind instruments. I have not yet come across the use of odd spellings for fixed pitch instruments such as piano or vibraphone. Mark Janello has already noted a recording that makes these differences significant: *For John Cage* with Paul Zukovsky and Marianne Schroeder (CP2 101). See Mark Janello, "The Edge of Intelligibility: Late Works of Morton Feldman" (PhD diss., University of Michigan, 2001), 47.

group, the string section, similarly plays in rhythmic unison and alternates the pcs {7,8,9,t,e}.

The overall sonority, {5,7,8,9,t,e}, is heavily weighted; the latter four notes are emphasized through multiple doublings. The pitch class 7 (G) occurs in only two instrument groups, while pc 5 is thinly played by one instrument in the group of lower winds. The texture also emphasizes interval class 2 both horizontally and vertically. This emphasis on ic 2 within each instrumental timbre governs the whole first region, with a few notable exceptions (given in the footnote).

Fig. 7.2: Morton Feldman, *For Samuel Beckett*, instrumental pitch-class associations in first region (mm. 1–42)

flutes, oboes, clarinets	{8,9,t,e} voiced as {8,t}, {8,t} and {9,e}
trumpets	{9,e} up to m. 31; {t,e} mm. 31–42.
harp	single pitches from surrounding texture
piano, vibraphone	{8,9,t,e}
bassoons, horns, trombones	{5,7,8,9,t,e} voiced as {5,7}, {8,t}, and {9,e} ¹⁷
strings	{7,8,9,t,e}
	Collection: {5,7,8,9,t,e}
	Set Class: [0,1,2,3,4,6]

While the strict control of pitch classes ensures a basic similarity in the various iterations of the chord, there are further technical aspects of repetition. Feldman's linear treatment of this opening section reveals a fascinating insight into his compositional

¹⁷ The dyad pairs for this group begin after the first chord (The first sonority has a {7,9} dyad replacing the {9,e}). The dyad pairs are altered at mm. 11–14, diluting the saturation of ic 2 with dyads of ic 1. The pairs are: {5,7}, {8,9}, and {t,e} (see Fig. 7.7). A similar alteration occurs at m. 36 (where Feldman voices the dyads: {5,e}, {7,8}, and {9,t}). Both of these alterations (m. 11 and m. 36) coincide with structural changes in the upper wind group.

process and also a glimpse into the wide variety of his methods of control. As mentioned before, the flutes, oboes, and clarinets share a close relationship that excludes the trumpets, despite their pitch and rhythmic similarities. Feldman’s approach to writing for these instruments is to recycle the same linear patterns through each instrumental part for the first 30 measures (Fig. 7.3).

Fig. 7.3: Morton Feldman, *For Samuel Beckett*, permutation of lines in flutes, oboes, and clarinets (mm. 1–30), (A: flute melody in mm. 1–10, both rhythm and pitch; B: the oboe melody, mm. 1–10; C: clarinet)

	m. 1–10	11–20	21–30
Fl.	A-----	C-----	B-----
Ob.	B-----	A-----	C-----
Cl.	C-----	B-----	A-----

The music that the flutes play in the first 10 measures is then given to the oboes at m. 11. At that point the clarinets pick up the oboes’ line, and the flutes get the clarinets’ pattern. This shifting of parts occurs again at m. 21. Many early analyses of Feldman’s music argued that the composer was exclusively concerned with the vertical sonority—composing one beautiful sound, and then moving on to another.¹⁸ While this might be true in many of his works, this example demonstrates that he sometimes uses strict horizontal control in order to achieve that vertical result.

At m. 31, Feldman introduces a new six-measure pattern in this group of upper winds. Then the pattern repeats, the oboes play the same line and the flutes and clarinets trade parts (Figs. 7.4 and 7.5). Each individual line becomes more rhythmically active,

¹⁸ See Wim Mertens, *American Minimal Music: La Monte Young, Terry Riley, Steve Reich, Philip Glass*, trans. J. Hautekiet (Belgium, 1980; repr., London: Kahn and Averil, and White Plains, NY: Pro/Am Music Resources, 1988), 106. This passage is also quoted approvingly in Kramer, *Time of Music*, 386.

but the melodic patterns are highly imitative and realize horizontally what the group has been compositely producing for the last 30 measures. The overlap of parts does create a noticeable difference on the musical surface due to the connectedness of the lines. As the players “phrase” the leaps, fragments of melodies seem to come from the high register.

Fig. 7.4: Morton Feldman, *For Samuel Beckett*, mm. 31–42, flutes, oboes, and clarinets

There is also a noticeable difference in the emphasis on ic 1 (see Fig. 7.4).

Because the individual lines are staggered, the interval that each individual instrument spans (still ic 2) is interrupted by the other part, forming an ic 1 relationship. The trumpets also emphasize the same interval class at this same point in time. Although they do not participate in the rearrangement of parts, they alter the first note of their dyad {9,e} and instead play {t,e}.

Fig. 7.5: Morton Feldman, *For Samuel Beckett*, mm. 31–42, permutations in flutes, oboes, and clarinets

	m. 31	m. 37
Fl.	A-----	C-----
Ob.	B-----	B----- ¹⁹
Cl.	C-----	A-----

The group of the bassoons, horns, and trombones follows a comparable process after the opening chord of the piece. Though not as strict as the relationships in the upper winds, there is a similar consistency of pattern and permutation. Yet, this group only completes two cycles in the first 40 measures (see Figs. 7.6 and 7.7).

Fig. 7.6: Morton Feldman, *For Samuel Beckett*, mm. 1–40, altered permutation of pc lines in bassoons, horns, and trombones

	m. 5	m. 20
Bn.	A-----	B'-----
Hn.	B-----	C'-----
Tbn.	C-----	A'-----

Here the permutation occurs on the level of pitch class, as opposed to pitch. Additionally, Feldman blurs the previously established dyad pairings at certain points, where otherwise consistent dyads are split between two instruments. These alterations are of formal significance, since they occur at the same point that the upper wind group shifts lines, at m. 11 and again with the new melodic pattern at m. 36. Yet, there is one formally significant location where there is no alteration between pairings, as if Feldman were spurring strict methodology: at m. 21, which is both a juncture for the upper winds

¹⁹ A new pattern begins in m. 42, replacing the rest that was in m. 36.

and this lower group, Feldman holds the dyad pairs constant, creating a maximally smooth seam in the lower group. Despite these blurs, the overall consistency of the patterning in the lower parts is enough to see the treatment of this group as a distortion of the consistent cyclic pattern in the upper winds.

Fig. 7.7: Morton Feldman, *For Samuel Beckett*, mm. 1–40, pc dyad sequences of bassoons, horns, and trombones, showing dyad pairs ($\{5,7\}$, $\{8,t\}$, and $\{9,e\}$) (alterations to typical dyad pairings in **bold**)

mm.	1	5	8	11	14	17	20	24	30	36	42	
Bn.	$\{5,7\}$	$\{5,7\}$	$\{9,e\}$	$\{t,e\}$	$\{8,9\}$	$\{9,e\}$	$\{9,e\}$	$\{5,7\}$	$\{8,t\}$	$\{5,e\}$	$\{8,t\}$	
Hn.	$\{8,t\}$	$\{9,e\}$	$\{5,7\}$	$\{8,9\}$	$\{5,7\}$	$\{8,t\}$	$\{8,t\}$	$\{8,t\}$	$\{5,7\}$	$\{7,8\}$	$\{5,7\}$	
Tbn.	$\{7,9\}$	$\{8,t\}$	$\{8,t\}$	$\{5,7\}$	$\{t,e\}$	$\{5,7\}$	$\{5,7\}$	$\{9,e\}$	$\{9,e\}$	$\{9,e\}$	$\{9,t\}$	$\{9,e\}$

The string group, by complete contrast, seems to have been composed without any regard to the previous permutational procedures. While the strings alternate the distribution of the pitch classes, they do so without any consistent pattern until m. 31, where the flutes, clarinets, and oboes completed their imitative sequences. At this formal juncture, the strings stop exchanging pitch classes and each instrument takes a single pitch class. They also begin to fall out of sync rhythmically. Again, a change in the structure of one group is coordinated with the change that occurs in another instrumental group—in this case, the upper winds. Although the groups do not share the same compositional procedure, the simultaneous change is notable.

If ignorance is bliss, then the compositional processes for the trumpet and harp proceed quite happily. Throughout this section, these two instruments seem completely incognizant of the structured organization that shapes the rest of the ensemble, and they

both play their own independent part. The piano and vibraphone have progressively reduced melodic lines and different rhythmic patterns, in preparation for the very active role they play beginning in the next region.

Summarizing briefly, this first region shows a carefully controlled series of interacting compositional procedures. While the structural logic is not consistent between parts, and in some cases seems lacking, there are definite signs of interaction, coordination, and a prevalent emphasis of repetition. The next region, mm. 42–79, successively introduces new pitch classes, expanding the hexachord into a decachord.²⁰ Feldman also alters the instrumental groupings, and organizes the section through two large-scale palindromes that occur in most instrumental groups (but not all). This shows again, a varied but still tightly controlled structure.

Listening Strategies and the Construction of Time

Thus repeats, both the external ones, in which whole sections of works are literally played again, or internal ones, where small musical figures or patterns are reiterated, are the means by which the composer of the sonic carpet makes his design, in the large and in detail.²¹

Given the very strict linear control in the upper winds, the consistent pitch class associations in the strings, and the simultaneous alterations in multiple groups, one might expect that the organizational procedures would be a crucial element of listening to the piece. This is not the case. Despite repetition being such a fundamental aspect in the construction of composition, the experience of these reiterations does not necessarily come across to a listener with the same clarity. One may perceive a general quality of

²⁰ Feldman finally completes the aggregate in the third region (m. 81).

²¹ Peter Kivy, "The Fine Art of Repetition," in *The Fine Art of Repetition* (New York: Cambridge University Press, 1993), 351.

“sameness,” but it is difficult to notice the many large-scale repetitions in the score.

Even when these structural reiterations are pointed out, they can be difficult to hear. As in *Coptic Light*, the combined mass of sound makes it challenging to pick out repetitions or the interactions within the groups. Additionally, the slow tempo, long sustained notes, and the length of the repeated segments create obstacles to hearing these restatements as repetitions. If not the repetitions then, what are the things that a listener is likely to pay attention to?

As Catherine Hirata has pointed out, Feldman carefully controls the degree of difference in his music, alternating and emphasizing certain changes over others.²² For example, the re-voicing of the dyads played by the lower wind/brass group in m. 11 are noticeable because Feldman has disrupted a texture containing primarily interval class 2, with a pair of interval class 1s. This move calls attention to the intervallic and voicing alterations that play an important role in this instrumental group. These changes do not stand out as drastic because they are merely re-arrangements of the same pitch classes sounding previously, and as inner voices they still sound similar to the previous two chords in the lower wind group. Additionally, the composition has just started and most listeners are still settling into the piece. But at m. 31 when a similar change occurs, it is likely more noticeable, and creates that touchstone of coordination discussed above.

Given the emphasis and repetition of the same pitch classes, each vertical sonority seems to be familiar, and there is a pervading similarity to the texture despite some noticeable differences, such as the intervallic alterations just mentioned. As more

²² See Catherine Costello Hirata, “How to Make a Difference,” *Contemporary Music Review* 25/3 (June 2006): 221–226.

pronounced changes are introduced, such as the when the upper wind group becomes more rhythmically active in m. 31, the exact same pitch material and the constancy of the other parts preserves enough of the former texture to still provide a great deal of continuity. Yet the musical events at m. 42, which begin the second region, qualify as a much more noticeable change. Here, not only does the tuba enter for the first time on a new pitch class 2 (D), but the trumpets also play two previously unheard pitches, 1 and 0 (D \flat and C), thickening the composite sound from a hexachord to a nonachord.²³ Notably, the tuba also enters in with the lowest pitch heard thus far in the piece, and this expansion of register can be quite surprising. The combined additions of timbre and pitch class provide quite a contrast to the consistent reiteration of the previous hexachord and instrumental groups.

These types of changes are not uncommon in Feldman's music, and it is particularly fascinating to examine how they can affect the perspective from which one listens to the composition. If someone has been focusing on the intricate timbral changes, the use of inversions, and the alteration of interval classes, the new material at m. 42 can appear as a seismic shift that fundamentally alters the field upon which the previous elements were interacting. I will return back to this idea of structural changes as a dramatic rupture and how this affects the listener, but first I want to explore how a listener can relate to the more static sections, and specifically how they encourage the experience of vertical time.

* * *

²³ The entrance of the clarinets four measures later introduces the E \flat , making the overall sonority a decachord.

As the description of Kramer's concert experience implies, vertical time is not something that is "in" a composition; rather, it is a relationship, or even attitude, that a listener has towards a piece. When confronted with consistent repetition, vertical time represents one way of relating to the music presented. In quite a different sense than those examined in Part I, it could be described in terms of "hearing as." Yet, if vertical time is not "in" the composition, how can it be understood?

If Hanninen is correct in pointing out that "Feldman's music asks analysts to become intensely introspective," then it would seem that ideas from the field of phenomenology could provide a useful addition to an examination of this work.²⁴ I will use Husserl's tripartite understanding of temporal awareness as a metaphor through which to understand how repetition can structure time in Feldman's composition. While my discussion will treat this specific piece, it is applicable to a wide range of other repertoires, and is specifically relevant to those works that offer the experience of vertical time. By exploring and explaining Husserl's model, I hope to both clarify the meaning of vertical time, in addition to showing how it is at work in Feldman's composition.

In a prescient exploration of the mental processes of perception, Husserl's tripartite structure of temporality posits that every moment experienced is composed of three parts, which he labeled: "primal impressions," "retentions," and "protentions."²⁵ Primal impressions [*Urimpressionen*] was Husserl's term for immediate incoming sense data. These impressions get impacted and affected by retentions, or the memories that

²⁴ Hanninen, "Feldman, Analysis, Experience," 228.

²⁵ One of the first theorists to mention Husserl's tri-partite structure was David Lewin in his "Music Theory, Phenomenology, and Modes of Perception," *Music Perception* 3 (1986): 327–392. Though he explicitly mentions the tri-partite model, his actual analysis focuses elsewhere.

are being utilized at each moment; and protentions, or the future expectations associated with any specific time point.²⁶ The similarity between the idea of protention and some of the work being done within music perception and cognition on implication and expectation is notable.²⁷

Husserl's term for the window or zone in which these three aspects of perception interact was the "living present," and can be compared with the notion of sensory memory or the sensory store in cognitive science.²⁸ Husserl's basic idea is that at every moment we are simultaneously influenced by what immediately precedes our experience and by what we expect for the future, in addition to the multitude of sensory data we are barraged with. The living present is the temporal span within which our interactions with the world take place.

To begin to understand vertical time, it will be important to explore how protentions interact with repetition. As was shown in the previous chapter, if a musical pattern is repeated, after a certain number of iterations one begins to expect the same; the

²⁶ Edmund Husserl, *The Phenomenology of Internal Time Consciousness*, ed. Martin Heidegger, trans. James S. Churchill (Bloomington: Indiana University Press, 1964), 43–52, 76–79. While Husserl himself said relatively little about protentions as compared with retentions, others have continued exploring this side of temporality; see Lanei Rodemeyer, "Developments in the Theory of Time-Consciousness: An Analysis of Protention," in *The New Husserl: A Critical Reader*, ed. Donn Welton (Bloomington: Indiana University Press, 2003), 125–154.

²⁷ Husserl's work is often considered to be one of the many fields that contributed to the development of cognitive science. Some music scholars who rely on similar ideas, and who have in many cases expanded our understanding of protentions include: Leonard Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956); Eugene Narmour, *The Analysis and Cognition of Basic Melodic Structures: The Implication-Realization Model* (Chicago: University of Chicago Press, 1990); David Huron, *Sweet Anticipation: Music and the Psychology of Expectation* (Cambridge, MA: MIT Press, 2006); and notably from a phenomenological perspective, Hasty, *Meter as Rhythm*.

²⁸ It is interesting how commensurate these terms are; both are theorized to function as a processing window that creates holistic patterns and makes "sense" out of the enormous sense data presented to us. Husserl's model is also flexible enough to incorporate such ideas as "chunking" where sense data is organized into larger groups which are then processed as elements. See for instance, Lawrence Barsalou, *Cognitive Psychology: An Overview for Cognitive Scientists* (Hillsdale NJ, Lawrence Erlbaum Associates, 1992), 104.

structure has become predictable. As the analysis above demonstrated, there is a remarkable amount of repetition in the introductory region of Feldman's piece (mm. 1–42). Yet, arguably, the piece is not predictable. At least, it is not foreseeable in the same way as in Reich's *Drumming*. In Feldman's work, there is no immediately apparent rhythmic organization, no obvious order to the entrances of the instruments. While they do repeat the same pitches, there is no temporal framework that allows for clear expectations on the level of moment-to-moment experience. This is notably different from a piece that offers replicated temporal units, where there can be a clear sense of a cyclic return. This distinction suggests that these two kinds of persistent repetition are unlike.

In Reich's *Drumming*, the repetitions occurred as temporal restatements; there were repeat signs, which "replayed" the exact sequence of events that was just heard. When such short temporal sequences recur, it creates a framework of temporal expectations, which become quite confident as each successive reappearance confirms the prediction of another iteration. One seems to know what is going to happen next, which can create the delightful little surprises when there is a slight change. This consistency also allows the mental experiments explored in the last chapter.

In Feldman's piece, on the other hand, there seems to be little temporal pattern for a listener to hold on to. The instrumental groups duplicate the same pitch classes, but the order in which they enter is seemingly unstructured; reiteration occurs without reference to a temporal framework, but rather on the level of the objects that return. We expect to hear a certain range of pitches that are consistently replicated, but there is no rhythmic scheme that allows us to know when the next sound will come, when the next

instrumental *klang* will occur. We lack the ability to foresee any immediately subsequent moment with any accuracy.²⁹ This could be described as an expected consistency of pitch class, and indeterminate expectations with regard to rhythm, articulation, register, order of entrance, interval, and the relationships between the instruments. In Husserlian terms, we could describe this situation by saying that our short-range or shallow protentions are obscure.

Yet, *For Samuel Beckett* does create expectations on a larger scale. From the standpoint of long-range protentions, this piece can seem quite static, and even predictable; it reiterates the same hexachords, passes back and forth the same dyads and groupings. It is only from a closer-range perspective that the work can seem almost indeterminate. This unexpectedness of entrances combined with the inevitable recognition that occurs from hearing similar pitches and instruments provides a balance of elements that offers the experience of vertical time. If the immediately approaching moments are unpredictable, and the longer-range structure seems all but known, an active searching towards the future of this composition would seem to hold little interest. By creating a piece with such a radical field of protentions, Feldman's work pushes listeners to focus their attention on the present and the past.

Kramer's own description of his experience of the performance of *Vexations* bears this out. He quickly assimilated the "information content of the work," but then began listening to a different level, by comparing current sounds with those still available in retention to find slight differences. Notably, he "g[ave] up expecting." The changing

²⁹ A similar point is made by Paula Kopstick Ames in reference to Feldman's work, *Piano*; see "Piano (1977)," in *The Music of Morton Feldman*, ed. Thomas Delio (Westport, CT: Greenwood Press, 1996), 106.

of pianists would not seem like a whole new world because of any expectations for what was coming, but rather because nuances of the sounds he heard, or in Husserl's terms, the primal impressions, were so different than what he had just previously heard. In other words, he was actively focused on comparing retentions with primal impressions, and searching for the differences, the small but persistent variability within the sounds. This comparison occurs on a small scale, though, to compare in this way is not to dwell on the past. The piece did not force this; it was Kramer who changed his experience by focusing his attention in a different way. This would seem to be one of the hallmarks of vertical time: one level of the composition creates very stable expectations that become less interesting than paying attention to more subtle nuances of the past and present. In this way, the listener does not engage the piece looking for goal-oriented development, but rather lets go of teleological expectations.

The effect of this reprioritization can also result in a very unique experience of time. In discussing how music shapes time, Thomas Clifton claimed that the past, the present, and the future are related by "'rays' of consciousness"; one could imagine beams of light directed towards different aspects of the living present. He also understood musical works as influencing the balance between how we experience these temporal directions.³⁰ Time for Clifton is intimately wedded to experience, and therefore each particular perceptual environment will exhibit time in a different way. He stresses that time is "in" our interaction with a composition, rather than something exterior or determinable by our measuring devices. Describing *For Samuel Beckett* with Clifton's

³⁰ Thomas Clifton, *Music as Heard: A Study in Applied Phenomenology* (New Haven, CT: Yale University Press, 1983), 56.

metaphor, our consciousness mostly shines upon primal impressions and retentions, and it varies mostly in how closely we are focusing the beam.

It is arguably on this level that Feldman's composition holds the most interest. There are intricate details waiting to capture our attention, pulling our focus away from the future to concentrate on the present and the recent past. This helps explain why many describe Feldman's music as vertically oriented even though this is not the case in his methods of construction. Rather, it describes the experience of listening to his music. Feldman's pieces encourage a retrospective orientation; we are more likely to either appreciate multifaceted particulars of a new sonority on its own,³¹ or relate it to those just heard.

If listeners engage in this way of listening, if they enter into the vertical time of the piece, the composition can seem quite active indeed. The reiterated pitch collections still greatly influences the sound, but as these unchanging elements are restated, they become less central, and act as more of a background to other factors. In front of this static backdrop, there are many smaller changes that invite the listener to search deeper into the sounds, to listen past the similarities. The particular weighting and disposition of a chord, the moving relationships between the instruments, the order of their entrances, in addition to the trading of pitches between registers, and the intervallic differences, all become more prominent.

³¹ Catherine Costello Hirata describes the careful nuance and peculiarity of vertical slices in Feldman's music, how each sound seems to have its own character that seems independent of the context; see "The Sounds of the Sounds Themselves: Analyzing the Early Work of Morton Feldman," *Perspectives of New Music* 34/1 (Winter 1996): 6–27.

These aspects do not create the same sense of larger continuity as if they were simply replacing pitch or rhythm. Catherine Hirata has described the tracking difficulty in Feldman's music as a failure to find change across a consistent domain.³² Differences seem to jump out and call attention to previously unnoticed elements in inconsistent ways, whereby hearing a new sound highlights a difference that was not being considered previously. As each instrumental group enters out of sync, these variations seem to jump out; for instance, we follow the strings for two chords before the registral change in the lower winds calls out for our attention. Our focus shuttles back and forth between interesting details, without a continuous thread to hold the observations together. This tracking is one of the fascinating challenges of listening to Feldman's work, and like Kramer's experience of vertical time, it alters the level of detail to which we pay attention. While we are closely scrutinizing the compositional surface, the larger structure of the piece arguably begins to seem less important.

Yet, when more drastic changes do come, as in m. 42, the contrast likely causes a radical pulling back from the surface, as mentioned before. This is surely one of Feldman's favorite compositional tricks: keeping things relatively static for an extended period of time, allowing listeners to focus on fine details and nuances in the sound, and then fundamentally altering the sonority that has grown familiar. In this way, Feldman's music can cause a listener to shuttle back and forth between different levels of attentiveness, toggling between a close surface hearing of fine distinctions and an observation of large-scale patterns. These ruptures in the continuity of our "close range" listening do not greatly impact where our attention is focused; while the scale of our

³² See Hirata, "How to Make a Difference," 221–226.

observations change, we are still examining primal impressions and retentions. These breaks also contribute to the already fractured sense of continuity, where there are seemingly more domains than we can keep track of; the strata of change do not seem to add together.

If this examination has successfully shown some of the phenomenological results of Feldman's repetitive music, what are some of the effects of this composition? While there can be no final word on this matter, I would like to make a comparison that will help describe aspects of this experience.

Alternative Models of Privileged Relationships

The former work of art, in other words, has now turned out to be a text, whose reading proceeds by differentiation rather than by unification.³³

If the above description of listening to this work by Feldman is persuasive—that the music sets up slow moving static fields of details that are perceived in succession, with too many levels of continuity to keep track of—then what kind of listening experience does this music give an audience? What kind of sense can be made if one cannot reel in the whole of a piece? Does this music encourage what Adorno called regressive listening, a fluctuation “between comprehensive forgetting and sudden dives into recognition?”³⁴ As an alternative to much of the current debate centered on musical

³³ Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press, 1991; repr. 2003), 31.

³⁴ Theodor W. Adorno, “On the Fetish-Character of Music and the Regression of Listening,” trans. Richard Leppert, in *Essays on Music*, selected, with introduction, commentary, and notes by Richard Leppert; new trans. Susan H. Gillespie (Berkeley and Los Angeles: University of California Press, 2002), 303.

unity,³⁵ I would like to approach this issue from a different direction. This perspective begins from different assumptions, which can better capture some of the complexity and ambivalence of our listening experiences.

In her fascinating book on the negative emotions associated with contemporary art, Sianne Ngai coins a neologism that provides an apt comparison to the experience of listening to Feldman's music: "stuplimity."³⁶ This concatenation of terms captures the idea that modern art can be stupefying—dulling and exhausting because of the accumulation of huge quantities of information through repetition, which since the so-called "avalanche of numbers"³⁷ has increasingly become a part of everyday life. Yet simultaneously, this experience of innumerable individual parts or crafted pieces can be fascinating as each object is slightly different and becomes suggestive of the immense possibilities of variety. As Ngai comments on this second aspect, the allusion to the Kantian sublime is quite intentional:

Stuplimity reveals the limits of our ability to comprehend a vastly extended form as a totality, as does Kant's mathematical sublime, yet not through an encounter with the infinite but with finite bits and scraps of material in repetition.³⁸

By "negatively" invoking the sublime in such a way, she reveals a novel strategy for understanding contemporary art that both acknowledges the experiential fatigue that

³⁵ See for instance the colorful exchange sparked off by Robert P. Morgan's "The Concept of Unity and Musical Analysis," *Music Analysis* 22/3 (Mar. 2003): 7–50 and the subsequent replies, by Kevin Korsyn, Daniel Chua, Jonathan Kramer, and Joseph Dubiel in *Music Analysis* 23/2–3 (July 2004).

³⁶ Sianne Ngai, *Ugly Feelings* (Cambridge, Mass: Harvard University Press, 2005), 248–97. Her paradigmatic examples are Gertrude Stein's *The Making of Americans* and notably for this project, Samuel Beckett's *How It Is*. I am grateful to Kevin Korsyn for bringing this work to my attention.

³⁷ This phrase was coined by Ian Hacking who traces the beginning of this phenomenon to around the 1820s, see his "Biopower and the Avalanche of Numbers," *Humanities and Society* 5 (Summer/Fall 1983): 279–295; and *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science* (Cambridge: Cambridge University Press, 1983).

³⁸ Ngai, *Ugly Feelings*, 271.

can often accompany extended repetitive works, but also reveals how such a piece intimates a larger experience. These larger wholes are never quite present in the work, nor are they ever quite coherent. Such syntheses are just beyond our capacities of memory and comprehension.

Furthermore, the smaller parts are presented in a way that emphasizes a kind of indifference, as if they were collected and clumped together without concern or rationale to ordering. Ordered serialization is abandoned in favor of an incessant accumulation. Rather than large integrated units, these works are bound together by connections that are more tenuous and amorphous. Ngai is careful in describing the kind of “whole” she thinks is implied by such experiences. In the subsection of her essay entitled “Mushy Masses and Linguistic Heaps,” she lays out the middle ground that is invoked by such artworks. She cleverly points out that Frederic Jameson’s image of a “heap of fragments,” which he considered to be a paradigmatically incoherent object typical of postmodern art, is actually a whole of some sorts, albeit an unordered globulous mass with varied degrees of adhesion.³⁹

As should be evident, her idea should not be confused with a neo-Romantic notion that through these repetitions we somehow transcend the material and discover the greater meaning of our initial bewildering confrontation. The experience of stuplimity is an amplified or exaggerated ambivalence, a reaction, that far from offering a higher synthesis, instead offers “a tension that holds opposing affects together.”⁴⁰ The stuplime

³⁹ Ngai, *Ugly Feelings*, 285–291.

⁴⁰ Ngai, *Ugly Feelings*, 271.

is the product of experiencing repeated and seemingly endless intricate details, one after the other, which in the end hint at but do not offer transcendence.

This description captures some of the ambivalence in Kramer's own description of vertical time. He admits, "my attention did wander and return," as if the exhausting concentration required to follow the nuances of performance could not be sustained for too long. However, when not needing a break from intense listening, his moments of attending were fascinating and engaging. Each moment had intriguing aspects to explore, though at times the steady accumulation could become overwhelming.

In relating the concept of stuplidity to Feldman's music, there are many points of resonance, and my comparison with Kramer's experience has already suggested some parallels. Rather than understanding Feldman's work as aiming towards a large transcendent whole, we can understand his work as intentionally seeking the stuplime. His incessant varying of minutiae (such as the order of attacks, inversions of dyads, changes in register, and timbral variations) all create an abundance of crafted details. While this invites a listener deep into the texture of an intricate sonority, it also makes it difficult for listeners to place these differences into a familiar hierarchy or scheme of development. These crafted and intricate fragments, while fascinating, seem to not fit together: the pieces of the puzzle don't seem to add up to make a bigger picture.

Furthermore, because Feldman's music seems to constantly vary different aspects of each vertical sonority, a multitude of changing characteristics become fore-grounded and create overlapping threads to follow. It is as if we are trying to listen in on too many conversations going on at once, and enjoy fascinating snippets of many discussions while losing the connecting thread to all of them. By focusing our attention towards the details

of each sonority, it is easy to lose track of larger-scale progressions, which indeed during the periods of relative stasis are not nearly as interesting as the details. Yet when more radical changes do come, they can snip the threads that we had been focusing on. These dramatic ruptures in the compositional tapestry remind us of the larger picture that is unfolding. By shuffling the listener back and forth between a fascination with the moment-to-moment sound and attempts to place such sounds into a larger schema, the experience can indeed be frustrating and overwhelming. Yet it almost seems futile to try to ignore either aspect of this piece, as this would lead to either boredom or obliviousness.

For Samuel Beckett offers a fascinating carnival of intricately changing details to explore. But it also contains trapdoors that seem to pull listeners outside of the festivities, giving them a view of the whole, and perhaps even showing them a new attraction in the process. After listeners enter again, the process repeats: they are welcome to ride the rides and explore the funhouse, but never know when they will suddenly find themselves on the outside of the fence. While it is certainly more interesting to enter into the fairground than remain at its gates, this admission, as always, comes with a price.

* * *

This chapter shows that even something as seemingly straightforward as incessant repetition can be distinguished into meaningfully different types. As opposed to Reich's *Drumming*, which creates a temporal framework that is repeated, Feldman's piece repeats the same objects without any temporal consistency. While these previous chapters only

touched the surface of these works, they do demonstrate how it is necessary to consider the many facets and shades of repetition within an analysis.

Concluding Remarks—Postscript

Giving Voice to Echo

...but if we die of repetition we are also saved and healed by it...¹

It began as a curse. Having lost the power to initiate speech, Echo felt like a shell of her former self. Yet, she had also been released of any obligations to conceal others' illicit activity, and hence freed, she had set off to explore the world and discover things beyond the boundaries of language. After ceasing to go with Artemis on hunts, it is perhaps no surprise that she would discover love. Though she never felt the sting of Cupid's arrow, she began to secretly favor a hunter. She often gazed upon the fair mortal, who appeared almost too beautiful to be male, but alas, she was ashamed of her condition and did not approach him. And while the Fates seem to have doomed these amorous feelings from the start, Echo began following Narcissus—watching him go about, listening to the pattern of his movements, and secretly hoping for the chance that she might be able to express her feelings towards him.

* * *

¹ Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), 6.

Aren't repetitions everywhere in music? This largely depends on how we recognize and verify them, in addition to the reasons why we would want to show such relationships in the first place. These three considerations together form a means of comparing how various writers understand repetition in music. As opposed to something that is simply given by the score, listeners and analysts must construct repetitions as temporal relationships. As chapter two demonstrated, this construction begins by understanding a particular passage in a way that allows it to be replicated later; it first requires "hearing as" before it can allow hearing again. The variety of ways that authors have approached this phenomenon is revealed by their different understandings of a paradigmatic instance of musical repetition: the motive. In addition to its analytical utility, I showed that this seemingly simple musical object is embedded within certain historical narratives of the development of Western music, where it was used to demonstrate continuity, progress, or both.

Although motives provide an insightful lens through which to view the past, it is primarily through analyzing and listening that they are important and remain relevant. Chapter three examined how several authors have conceived of motives through their analyses of a pair of Beethoven Piano Sonatas, Op. 2/1 and Op. 57, the "Appassionata." Through investigating the themes of each piece, these writers employ various kinds of recognition to connect musical passages as motivic, and also rely on multiple systems to confirm these relationships. These methods are often influenced by the kinds of relationships that an author finds most significant, though sometimes a tension can arise between certain kinds of connections analysts privilege and the analytical approaches they employ.

The last chapter of Part I continued to expand upon these categories, focusing on the various means of verification that an author uses while also suggesting the broad class of musical phenomena that can be considered motives. Among the wide range of views, a consistent requirement is that a motive is repeated, and authors rely on many ways to confirm this repetition. Since the motives examined in Part I were so different, the tools used to investigate motivic relationships are also relevant to a broader consideration of repetition in general. The chapter closed with an example of this relevance, comparing two contrasting views on a pair of musical passages from Berg's *Wozzeck* and suggesting how the categories developed in this dissertation help clarify the disagreement.

Part II explored how issues of repetition can arise in analyzing a piece, looking at three very different compositions. I examined the Fugue in E^b from Hindemith's *Ludus Tonalis* in chapter five. Just as historical considerations play a role in understanding the importance of motives and repetition in music, they can also impact analysis. Fugal analysis has its own tradition of approaches, but this composition calls certain standard designations into question. After examining this inheritance in terms of its relevance to the piece, I considered an alternative approach where the idea of repetition was central and which opened up a novel reading of the work.

While fugues are often understood as constantly repeating the subject, certain twentieth-century compositions take the idea of incessant repetition to a new level. Chapter six investigated a prime example of this by engaging Steve Reich's *Drumming*, a piece that revels in the literal reiteration of musical segments. With repeat signs written at the end of each measure, the same musical passages are played over and over, yet the order of these repeated regions is highly controlled. Through an analysis of the formal

structure of the work, I showed that Reich's composition offers a novel listening strategy to the audience, one that is both participatory and creative. Relying on writings from Reich and those from critical theory, I developed some of the implications of this approach to listening and ended by demonstrating how the specific properties of Reich's compositional materials likely influenced the compositional plan and contributed to these effects.

Persistent repetition was once again the focus of chapter seven, which considered *For Samuel Beckett* by Morton Feldman. As opposed to *Drumming*, Feldman's composition treats repetition in a wholly different way, not by duplicating a series of temporal units, but by constantly reiterating the same musical objects so that familiar sonorities reoccur at erratic temporal intervals, seemingly at random. The lack of a chronological framework in which to structure the reiterations can have a peculiar effect on a listener's expectations; while the sonority can seem predictable, there is a high uncertainty about when it will come. This encourages listeners to search deep within the sounds themselves, finding the subtle and nuanced details that change between each restatement. In this way, *For Samuel Beckett* also invites a novel listening approach, one that oscillates between detailed scrutiny and large-scale overview.

This investigation into the many varieties of repetition has revealed it to be a crucial consideration in music. From examining a composition structurally to merely listening to a piece, the ways in which we understand and construct repetition can have a dramatic effect on these activities. Restatement describes a special connection that one makes between two musical moments, and while they are related, musical reiteration describes a stronger link than stating that two passages are similar. Repetition describes a

specific kind of similarity relationship, an exact correspondence that it is more precise and implies a greater commitment than merely claiming a likeness of properties.

Understanding a musical passage as repeated is an ontological assertion; one is claiming that the identity of something is encapsulated in the features that are reiterated. Both similarity and restatement involve a form of comparison, but the relationships they describe are quite different. In claiming that two things are the same, repetition could even be described as a privileged kind of similarity.

An area of exploration suggested by this dissertation would be to further examine what other kinds of privileged relationships are important within different analytical systems. One relationship that could also be considered a special kind of similarity, and which is currently receiving a fair share of attention in analytical scholarship, is symmetry. Just as this investigation into repetition revealed the many different kinds and ways of understanding this seemingly simple concept, a similar richness of usage could likely be found in exploring symmetry. From mirrored voice-leading to parallel transformations or phrasing, there are many kinds of musical equilibrium that deserve critical attention.

Alternative privileged relationships also revealed themselves even within this investigation of repetition. In discussing Schenker's conflicting priorities between motives and voice leading, he revealed a preference for relationships of continuity over those of repetition. One of the remarkable aspects of a Schenkerian structural graph is how it frames an entire composition as one long continuity; despite a seemingly broken surface, voice-leading connections are shown to hold disparate passages together. Yet, there are a remarkable number of considerations that are taken into account when making

a Schenkerian graph (for instance, what voices to show, how to connect them, and which connections should be considered more or less important). An examination of the competing factors of continuity that influence a voice-leading reduction would reveal the many nuanced sides to a seemingly simple kind of connection.

Such investigations would clarify the way that certain analytical traditions privilege different kinds of relationships; indeed, it could even reveal an aesthetic impulse behind analyses. What kinds of relationships are considered more important in the construction of a hermeneutical reading of a piece? What is privileged in a semiotic interpretation? Analysis is a complex procedure that involves many competing priorities and a closer examination of the many other kinds of relationships that are favored is surely worth repeating.

* * *

Realizing that she had fallen in love, Echo finally decided that she could bear it no more. She followed the hunter through the woods in an attempt to court him, yet she could neither call out, nor beckon him closer. When she finally came before Narcissus, he cruelly rebuked her affections claiming, “I would rather die, than let you love me.” But through this stark rejection, Echo could finally express her feelings; she replied to the hunter, “love me....” Through those same words, she transformed what had been a negative denial into a tender pleading. Through his speech, she found her voice.

Repetition can also mean many different things in music, even when it might sound the same. And just as the cursed nymph needed to use the words of others to express herself, these musical reverberations often say something different from the first

utterance they replicate. Like Narcissus, we are pursued by repetition, and one hopes that we should not be so vain as to ignore what it conveys.

Appendices

Paul Hindemith, Fugue in E \flat , from *Ludus Tonalis* (pg. 1 of 2)

The image displays a musical score for the Fugue in E \flat from Paul Hindemith's *Ludus Tonalis*. The score is written for piano and is in 4/8 time. It consists of five systems of music, each with a treble and bass clef staff. The first system (measures 1-5) begins with a piano (*p*) dynamic and features a triplet of eighth notes in the right hand. The second system (measures 6-10) continues the melodic development. The third system (measures 11-15) includes a mezzo-forte (*mf*) dynamic and a fermata over a measure. The fourth system (measures 16-20) returns to a piano (*p*) dynamic. The fifth system (measures 21-24) features a crescendo (*cresc.*) and a mezzo-forte (*mf*) dynamic. The score includes various musical notations such as slurs, ties, and dynamic markings.

Hindemith, *Ludus Tonalis*, © 1942 Schott Music, © renewed, All Rights Reserved. Used by permission of European American Music Distributors LLC, U.S. and Canadian agent for Schott Music.

Paul Hindemith, Fugue in E \flat , from *Ludus Tonalis* (pg. 2 of 2)

26

31

36

41

46

f

dim.

mf

p

rit.

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For Samuel Beckett

(1987)

Morton Feldman

(1926 - 1987)

♩ 63-66

FL. *ppp*

OB. *ppp*

CL. *ppp*

BN. *ppp*

HN. *ppp*
sord.

TRP. *ppp*
sord.

TBN. *ppp*
sord.

TBA. *ppp*
sord.

HP. *ppp*

PF. *ped. → ppp*

VIB. (no motor)
ped. → ppp
sord.

1. VN. *ppp*
sord.

2. VN. *ppp*
sord.

VLA. *ppp*
sord.

VC. *ppp*
sord.

GB. *ppp*

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⑩

FL.

OB.

CL.

BN.

HN.

TRP.

TBN.

TBA.

HP.

PF.

VIB.

1. VY.

2. VY.

VLA.

VC.

CB.

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⑨

FL.
OB.
CL.
BN.
HN.
TRP.
TBN.
TBA.
HP.
PF.
VIB.
VN. 1
VN. 2
VLA.
Vc.
CB.

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4
28

FL.
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1. VN.
2. VN.
VLA.
VC.
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57

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VIB.
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VLA.
VC.
CB.

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