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MUSICAL RHETORIC, NARRATIVE, DRAMA, AND THEIR NEGATION IN
MORTON FELDMAN'S *PIANO AND STRING QUARTET*

by

Ryan M. Howard

A dissertation submitted to the
Department of Music of the Graduate Center, City University of New York
in partial fulfillment of the degree of
Doctor of Philosophy

2014

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This manuscript has been read and accepted by the
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Abstract

Musical Rhetoric, Narrative, Drama, and Their Negation in

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by Ryan Howard

Advisor: Dr. Jeff Nichols

Though Morton Feldman famously expressed his aversion to conventional compositional rhetoric early in his career, an examination of his music from the late 1970s onward reveals a more complex and ambiguous relationship with musical rhetoric than has often been acknowledged. In his own writings Feldman hinted at the notion of illusory function and directionality in his music, as well as to the phenomenon of “negation.” It is my contention that the extended-length works written in the last years of the composer’s life, which frequently feature tantalizing suggestions of conventional musical narrative, provide rich opportunity for readings of these statements. My examination focuses upon *Piano and String Quartet*, one of the composer’s very last works, which, I argue, exemplifies compositional approaches characteristic of much of Feldman’s music from this period in its evocation and simultaneous negation of a sense of traditional narrative linearity.

Acknowledgements

My thanks go to my Advisor, Dr. Jeff Nichols, and First Reader, Dr. Joseph Straus, for their detailed guidance in the completion of this paper. I am grateful to Dr. Nils Vigeland and Dr. Bunita Marcus for offering unique insights gleaned from their experience as students of Morton Feldman. And I am deeply indebted to my mother, father, and grandmother, without whose support I would not have been able to complete this project.

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Introduction

Speaking about his *Projections I-V*, a series of graphic scores composed between 1950 and 1951, Morton Feldman commented that his aim in these works had been “not to ‘compose’ but to project sounds into time, free from a compositional rhetoric that had no place here.”¹ Much critical commentary on Feldman’s music has focused upon those qualities that seem to be encapsulated by this statement: namely, the music’s lack of teleology and absence of familiar narrative structures or rhetorical devices. Wim Mertens has argued that Feldman “[set] out to disrupt the dialectical continuity of music by removing all teleological and logical elements,” creating a music in which “[t]raditional causality is replaced by an atomized succession.”² Similarly, Jonathan Kramer, in discussing his conception of “vertical music,” or music which “tries to create an eternal now by blurring the distinction between past, present, and future, and by avoiding gestures that invoke memory or activate expectation,” cites Feldman as “the composer who perhaps best epitomizes vertical time,” who composed by “simply put[ting] one beautiful sound after another.”³

An examination of Feldman’s music from the 1970s onward, however, reveals a more ambiguous approach to musical time than the above-cited statements would seem to allow. Later in his career, Feldman had the following to say about his compositional process:

“One chord might be repeated three times, another, seven or eight – depending on how long I felt it should go on. Quite soon into a new chord I would forget the reiterated chord before it. I then reconstructed the entire section: rearranging its earlier progression and changing the number of times a

¹ Morton Feldman, “Determinate/Indeterminate” (1965), reprinted in B.H. Friedman, ed., *Give My Regards to Eighth Street: Collected Writings of Morton Feldman* (Cambridge: Exact Change, 2000), 35.

² Wim Mertens, *American Minimal Music* (London: Kahn & Averill, 1983), 106.

³ Jonathan Kramer, *The Time of Music: New Meanings, New Temporalities, New Listening Strategies* (New York: Schirmer, 1988), 386.

particular chord was repeated [...] Chords are heard repeated without any discernable pattern. In this regularity [...] there is a *suggestion* that what we hear is functional and directional, but we soon realize that this is an illusion; a bit like walking the streets of Berlin – where all the buildings look alike, *even if they're not.*”⁴

While Feldman’s remark about the illusion of functionality and direction refers here specifically to his technique of chordal repetition and variation (a feature found in much of his later music), I believe that his music of the 1980s provides rich opportunity for a broader reading of this statement, as the extended-length works written during this decade frequently feature tantalizing suggestions of conventional musical narrative. Feldman also recounted, with evident agreement, the characterization of his compositional method by his teacher Stefan Wolpe as one of “negation,”⁵ and though Wolpe’s statement was in reference to music written earlier in Feldman’s career, it is my contention that the term is an especially fitting description of the approach to musical time in his late works, with their suggestions of function and direction that seem deliberately frustrated or unfulfilled. It is important to note that, in this sense, “negation” is understood to have a distinct meaning from “absence” or “exclusion,” for it implies the *presence* of a phenomenon that is being negated; it acknowledges that Feldman’s music is not devoid of directionality, but rather contains directional elements that are rendered deliberately ambiguous.

This paper will examine *Piano and String Quartet*, one of Feldman’s very last works, which, I argue, is at once unique in the composer’s oeuvre and exemplary of compositional approaches characteristic of his late music, in its simultaneous evocation and negation of a sense of traditional narrative linearity.

⁴ Feldman, “Crippled Symmetry” (1981), reprinted in B.H. Friedman, ed., *Give My Regards to Eighth Street: Collected Writings of Morton Feldman* (Cambridge: Exact Change, 2000), 137-138.

⁵ *Ibid.*, 146.

State of research

A handful of other scholars have drawn attention to formal and temporal processes in other works of Feldman. Thomas DeLio, Paula Kopstick Ames, and Wes York have examined aspects of form and sectionality in their respective analyses of *Last Pieces #3* (1959), *Piano* (1977), and *For John Cage* (1982),⁶ while Catherine Hirata and Margaret Thomas have taken strongly phenomenological approaches in examining temporal aspects of *For Frank O'Hara* (1973) and *i met heine on the rue fürstenberg* (1971). Hirata's analysis details how specific passages in *For Frank O'Hara* congeal into what she terms "progressions," in which a listener's attention is drawn less toward the quality of individual sounds than the *relationships* formed between successive sounds; she notes how fragments of materials from such progressions recur later in the work isolated from their original contexts, contributing to a sense of the progressions' disintegration, and argues that Feldman creates these very progressions primarily "for the purpose of being able to suppress them."⁷ Thomas cites Jonathan Kramer's categorization of Feldman as an entirely "vertical" composer, and argues, *pace* Kramer, that Feldman's music lies somewhere between the extremes of linearity and complete verticality. She takes as her starting point the notion that Feldman's music is best approached with a "reflective mode of listening rather than a directed linear or timeless one," arguing that relationships between musical events in a Feldman piece do not constitute forward-looking goal-orientation, but rather retrospection: "[a] given event in a piece may not have implications for what will follow, but, rather, may relate to an event that has already occurred." However, she focuses upon one set of relationships in *i met heine* that is more ambiguous in this respect: the series of melodic gestures sung by the

⁶ The essays by DeLio, Ames, and York are printed in DeLio, ed., *The Music of Morton Feldman* (Westport, CT: Greenwood Press, 1996).

⁷ Catherine Hirata, "Analyzing the Music of Morton Feldman" (PhD diss., Columbia University, 2003), 127-173.

wordless soprano that become progressively longer (though not in a systematic manner) over the course of the work, concluding with a sustained four-bar vocal melody just measures before the piece's end. She argues that the question of whether this gradual lengthening of melodic gestures constitutes "linear, processive motion" is difficult to answer; for the sake of argument, she posits a hearing of the final vocal melody as a "culmination of sorts," noting that it is not only the longest uninterrupted statement by the voice after a series of successively lengthening vocal phrases, but that it brings together intervallic ideas previously heard in separate vocal gestures, and that it reiterates pitches in certain registers that had been prominent in the vocal part earlier in the piece.⁸

Hirata's observations about "suppression" of progressions in *For Frank O'Hara* are a strong precursor to my own thoughts about "negation" of dramatic elements in *Piano and String Quartet*. My interpretation of linearity in this work is similar to, but distinct from, that of Thomas in *i met heine*: I contend that events in *Piano and String Quartet* can, in fact, have implications – or, at the very least, raise expectations – for what will follow, though the question of whether and how these implications are fulfilled is a complex one. My intent in studying *Piano and String Quartet* is to examine how such expectations are created and whether, and how, they are satisfied or denied, and to identify how these fulfillments or negations (or " suppressions") of linear/dramatic implications delineate – or, conversely, are delineated by – the work's large-scale form.

⁸ Margaret Thomas, "The 'Departing Landscape': Temporal and Timbral Elasticity in Morton Feldman's *i met heine on the rue fürstenberg*," *ex tempore*, accessed October 1, 2012, <http://www.ex-tempore.org/thomas/feldman.htm>.

Form

Piano and String Quartet can be described as having a fairly obvious dipartite form: mm. 1-517, in which a variety of musical ideas featuring different textures and harmonies are alternately introduced and repeated in a mosaic-like manner; and mm. 518-810, which are quasi-palindromic in form and more texturally monolithic than mm. 1-517, consisting of a long series of homophonic oscillating pairs of string chords as well as a proliferation of new chords and arpeggios in the piano. One might propose a further division of mm. 1-517 into two parts: mm. 1-209, in which a large number of musical ideas are introduced in a fairly short span of time, and mm. 210-517, in which a smaller number of new musical ideas appear over a longer time-span in alternation with repetition and variation of earlier material. For the purpose of this dissertation these areas of the composition will be designated Parts One (mm. 1-209), Two (mm. 210-517), and Three (mm. 518-810).⁹ Parts One and Two are further divided into sections designated “Regions,” which will be identified and discussed in Chapters 1 and 2, while for Part Three a letter system will be used to label the sub-sections of its quasi-symmetrical layout.

A relevant formal concept this dissertation will borrow is the notion of the “Rothko edge.” A term Feldman used in reference to his own music, and which Steven Johnson has explored in his study of *Rothko Chapel*, “Rothko edge” refers to painter Mark Rothko’s practice of blurring and overlapping boundaries of his characteristic rectangles of color, in which edges drift past one another or blend together in such a manner that a viewer may have trouble distinguishing precisely where one color plane ends and another starts.¹⁰ As will be examined in Chapter 2, one can hear Feldman achieve a comparable musical effect particularly between Parts

⁹ The measure numbers chosen here to represent formal divisions are partly arbitrary, as such divisions are difficult to draw precisely. The exact reasons for these measure number choices will later be discussed.

¹⁰ Steven Johnson, “*Rothko Chapel* and Rothko’s Chapel” (*Perspectives of New Music* 32/2, 1994): 36-38.

Two and Three, in which a sense of sectionalization is suggested by a series of recapitulatory gestures and ensuing new materials, yet old and new ideas intermingle in such a way that drawing a precise boundary between Parts is nearly impossible.

Rhetoric and linearity

Part One of *Piano and String Quartet* presents a series of ideas which, by virtue of their context and interrelations, are suggestive of particular formal or rhetorical functions. These associations become “negated” over the course of Parts One and Two as the ideas are repeated and varied stripped of their original context, either taking on different associations or, at other times, seemingly losing a sense of definite rhetorical meaning altogether. Crucial, too, to the sense of drama in Part One is the impression of *causality* among musical materials, evident on both the small scale and large scale: locally, changes that occur in one or more musical domains seem to anticipate proximate changes in others, while over larger spans of time, minor, perhaps seemingly transient, changes in a single domain eventually give rise to larger, more substantive changes in the same domain in a manner that fits Jonathan Kramer’s definition of “linearity,” as “the determination of some characteristic(s) of music in accordance with implications that arise from earlier events of the piece,”¹¹ or Milton Babbitt’s description of “directed motion,” as the recognition that at “a certain point in [a] piece [...] what is happening has been adumbrated” and “implied by secondary aspects of earlier parts of the piece.”¹² In Part Two, this sense of large-scale causality linking musical events across time is weakened or absent, contributing to the impression that the trajectories implied in Part One have been abandoned.

¹¹ Kramer, op. cit., 20.

¹² Stephen Dembski and Joseph Straus, ed., *Milton Babbitt: Words About Music* (Madison, WI: University of Wisconsin Press, 1987), 64.

Part Three presents a concentration of dramatically novel materials that may be construed as *developmental* in nature. While the concept of “development” is difficult to define precisely in athematic music, I contend that one possible understanding is the taking of basic *premises* established by the materials of the composition and stretching them beyond the limits within which they had hitherto appeared. The developmental materials in Part Three are situated, paradoxically, among other elements that seem rhetorically suggestive of large-scale formal closure, creating, much like the recontextualized ideas in Parts One and Two, a tension between the implied rhetorical meaning of musical materials and the larger context in which they are heard.

In analyzing Parts One and Two it is useful to draw upon the distinction Kramer makes between *directed* and *non-directed* linearity. Broadly speaking, in the former a listener understands linearity in a musical work to be oriented toward a goal that is *understood in advance*. The tonal system, for example, allows for directed linearity in that musical motion is directed first away from, then back toward, the tonic of a composition, and it is expected that the tonic key will return as the music’s ultimate goal; even music which ends in a different key from which it began depends, Kramer argues, on the denial of this expectation of tonic return for its expressive impact.¹³ In a non-tonal composition, if a musical goal is to be comprehended in advance, it must be established contextually. Kramer examines, for example, how Anton Webern creates such a contextual goal in the first movement of his *First Cantata*, Op. 29: in this work, a particular sonority becomes established as a harmonic goal by means of voice-leading patterns that repeatedly lead to it as a cadential gesture (a fact Webern even exploits by denying expected resolution to the chord at one point in the movement, in an effect Kramer likens to a deceptive

¹³ Kramer, op. cit., 25.

cadence).¹⁴ Kramer offers as a contrasting example of non-directed linearity the opening measures of Alban Berg's *Chamber Concerto*, in which a sustained C-E dyad is established as a cadential gesture by means of both pitch elements (stepwise motion in both directions toward the C; the sustained emphasis on E in the preceding measures; the slowing of harmonic motion approaching the cadence) and non-pitch parameters (*ritardando*, lengthening note durations, thinning texture and decreasing dynamics, and the contrast of the subsequent music).¹⁵ The C-E dyad is understood as cadential upon and after its arrival, but there is nothing in the preceding music to define this particular dyad as an *a priori* goal.

Under these definitions, linearity in *Piano and String Quartet* is *non-directed*. Specific ideas are established contextually in the composition as cadential gestures, but they are comprehended as such only upon and after their occurrence, their function as formal points of division seemingly confirmed by the contrasts in the music that precedes and follows them. On a larger scale, the coalescence of separate events into trajectories is similarly understood in retrospect; although in a vague sense particular events, such as the first appearance of diatonic harmony, may raise a listener's expectations that similar such events will occur as the piece unfolds, no specific musical idea is ever defined in advance as a clear end-point or goal for a trajectory. Whether any of the work's trajectories can be said to achieve such a goal, if one understood only after the fact, is an ambiguity that this dissertation will address.

Harmonic quality space

Large-scale causality in *Piano and String Quartet* is especially evident in the domain of harmony, in the form of gradual motion from highly chromatic to more consonant, at times

¹⁴ Ibid., 196-199.

¹⁵ Ibid., 33-38.

diatonic, sonorities, a fact suggesting the usefulness of a unified theory of chord quality in quantifying and categorizing Feldman's harmonies. This dissertation will use the notion of "fuzzification" of prototypical genera as outlined by Ian Quinn in "General Equal-Tempered Harmony." Quinn is concerned with developing a theory of basic harmonic categories in post-tonal music, into which commonplace and informal intuitions can be subsumed: he notes, for example, the frequent practice in analytical discourse on twentieth-century music of categorizing pitch collections into distinct "species" (such as chromatic clusters, quartal or quintal harmonies, whole-tone scales, and so forth), each with a distinct intervallic profile, noting that such categorization according to *prototypes*, where prototypes are defined as "central members of a category whose other members resemble the prototype(s) to a certain degree," is a basic, cross-cultural feature of human thought. Drawing upon insights from cognitive science on taxonomic hierarchies, Quinn suggests the necessity of "basic-level" categories of harmony that transcend the level of chord species, and notes the evident consensus among theorists on the existence of such categories, which he refers to as *genera*.¹⁶ Much of Quinn's work in "General Equal-Tempered Harmony" is concerned with how such basic genera may be generated and defined.

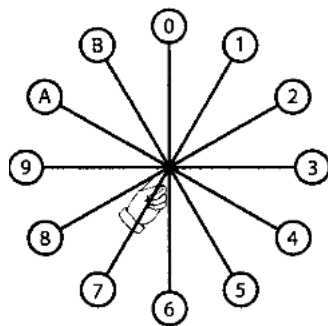
Quinn describes how a "remarkably simple and intuitive" theory of harmonic quality may be derived from David Lewin's "Fourier Properties." Quinn devises visuo-spatial representations of the Fourier Properties in the form of "Fourier Balances," each consisting of a certain number of "pans" containing particular pitch classes centered around a central balance point; he details how exemplars of particular genera may be found by exerting maximum *imbalance* on certain of the balances.¹⁷ Fourier Balances 1, 4, and 5, for instance, may be used to

¹⁶ Ian Quinn, "General Equal-Tempered Harmony (Introduction and Part 1)," *Perspectives of New Music* 44/2 (2006): 123-127.

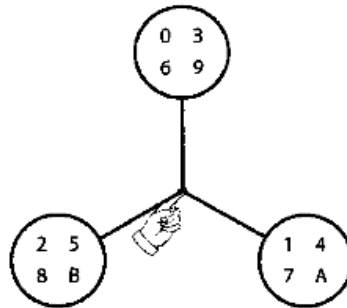
¹⁷ Quinn, "General Equal-Tempered Harmony: Parts 2 and 3," *Perspectives of New Music* 45/1 (2007): 30-45.

generate, respectively, the chromatic, octatonic, and diatonic collections, those genera most characteristically present in *Piano and String Quartet*.

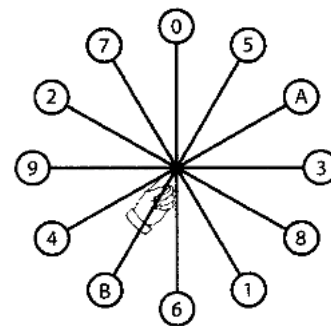
Example I-1: Chromatic, Octatonic, and Diatonic Fourier Balances



Fourier Balance 1



Fourier Balance 4



Fourier Balance 5

An exemplar of each of the aforementioned genera may be found by selecting those pcs that maximally “tip” each balance, with the force of any single pitch class on a balance represented as one *Lewin* (Lw). Quinn has formulated a metric of summing the individual force of pitch classes by taking account of their spatial directions on the balance, in the manner of summing directional forces in elementary physics.¹⁸ It should be noted that any exemplar and its complement exert equal (but opposite) force on the balance. In the cases of Balance 1 and Balance 5, these are simply complementary chromatic ([012345]) and diatonic ([024579]) hexachords, while on Balance 4 a complete octatonic collection ([0134679T]) and an [0369] tetrachord exert equal force. The difficult question of whether, and how, prototypicality in a given genus is related to cardinality Quinn seems to regard as impossible to answer

¹⁸ Ibid.: 41-45.

meaningfully,¹⁹ but it should be evident that there is at least some positive correlation between cardinality and what we might call *exclusive* prototypicality, in the sense that smaller pc collections may be prototypical of multiple genera, while the larger a set's cardinality, the more constrained its possibility of being a prototype tend to become. (To take an example, [023] and [0235] can be considered prototypical of both the octatonic and diatonic genera, while [02356] and [02357] are each prototypical only of one genus, respectively.) Defining "exclusive" prototypicality in the chromatic genus is, of course, problematic, as the chromatic collection subsumes all possible sub-collections, but Fourier Balance 1 measures collections consisting of chromatically adjacent pitch-classes as *maximally* prototypical ([0123], for instance, exerts greater force on the balance than does [0235]). A further potential problem with Balance 1 is that, while one might intuitively think of the full chromatic aggregate as being "maximally" prototypical of its genus just as full octatonic and diatonic collections are of theirs, the aggregate exerts zero force on Balance 1 as the twelve pitch classes are spread evenly around the center – in this sense, "chromatic force," as Quinn measures it, must be understood as a distinct phenomenon from "chromatic saturation" (a similar, though lesser, problem exists with the diatonic genus, in that a full diatonic collection, [013578A], exerts slightly lesser force on Balance 5 than does an [024579] hexachord). Perhaps the most significant limitation of Quinn's system is its inability to take into account pitch space and temporality: by regarding harmonies solely as pitch-class collections, it cannot address, as this paper will, aspects of registral spacing and temporal pitch ordering that may emphasize or deemphasize a given collection's relationship(s) to particular genera by making certain subsets aurally conspicuous. Despite these limiting factors, what is most valuable about the Fourier-Balance approach is that it allows for a

¹⁹ Ibid.: 47-48.

“fuzzy” notion of prototypicality, in which a prototype becomes, in Quinn’s words, “the limit case of a phenomenon that comes in degrees” – an extremely useful feature in quantifying Feldman’s harmonies which, as will become clear, can be understood as exhibiting different degrees of proximity to or distance from exemplars from given genera. This paper will use both Fourier Balances and Lewin graphs as visual illustrations of these measurements, under the premise that they provide distinct and complementary information: graphs of chromatic, octatonic, and diatonic “force” allow one to see the relationships of *Piano and String Quartet*’s harmonies to the genera over given spans of time, while the balances present information about particular pitch-class collections not discernable from the graphs alone.

The graphs and balances will be used to illuminate how harmonic contrasts in *Piano and String Quartet* are formally articulative on both a small and large scale. On a local level, they will measure how Feldman’s successions of harmonies in Part One fluctuate between degrees of octatonicism and chromaticism to form arrangements that are, at times, suggestive of familiar phrase structures. Over larger time-spans, they will quantify how temporally separate harmonies suggest trajectories by means of incremental increases or decreases in chromatic, octatonic, or diatonic force, as well as how occasional sudden and substantive shifts in harmonic qualities seem to articulate formal divisions.

As hinted at earlier, motion away from strong chromaticism toward diatonicism might also be understood, more broadly, as motion from dissonance toward consonance. The precise definition of these terms requires some clarification; one may take the position espoused by Babbitt, for instance, that consonance and dissonance have no inherent definitions and are *entirely* contextual,²⁰ but I use the terms here in both absolute and relative senses. “Consonance”

²⁰ Dembski and Straus, ed, op. cit., 12-13.

and “dissonance” refer to the objective relationships of pitch frequencies (with ic 1 intervals being the most “absolutely” dissonant in the twelve-tone equal-tempered system), but the *degree* to which a listener perceives particular pitch combinations as consonant or dissonant remains dependent upon the context in which they are heard. Although “absolute” dissonance is virtually always present to some degree in *Piano and String Quartet*, its *relative* strength or weakness makes possible the perception of contrast between comparatively “dissonant” and “consonant” harmonies.

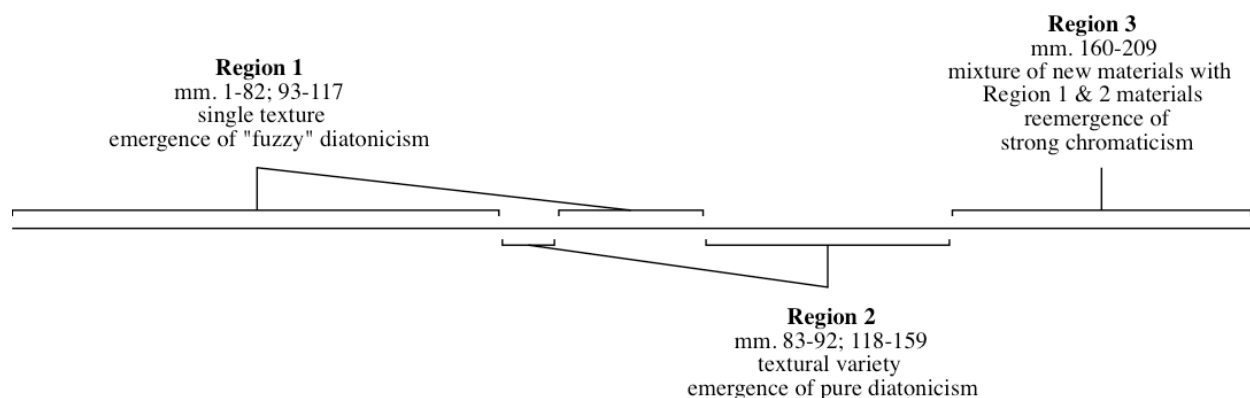
The evocation of traditional rhetorical functions in the work raises the question of whether motion from dissonance to consonance may also be understood to possess a familiar rhetorical meaning, in the sense that such harmonic contrast would imply “tension” and “resolution” akin to the way it does in tonal music. Whether, and how, such implications are relevant to perception of the harmonic trajectory of Part One, as well as to the work’s overall form, is a question this dissertation will attempt to answer.

Chapter 1: PART ONE, mm. 1-209

Introduction

Part One may be divided into three “Regions,” diagrammed in Example 1.1, respectively defined by their textural and harmonic qualities as well as the presence or absence of trajectories in one or more domains. Region 1 consists entirely of a single texture – arpeggiated piano chords and string chords or single pitches attacked simultaneously, with intervening silences – in which several subtle harmonic shifts occur, the greatest changes occurring near the end with the first appearance in the work of a fuzzy diatonic sonority. Region 2 is characterized by greater textural variety while continuing the harmonic trajectory toward diatonicism instigated in Region 1, culminating in the emergence of a pure diatonic harmony, while Region 3 seems to halt this trajectory with the reintroduction of highly chromatic sonorities. As Example 1.1 shows, some overlapping of material occurs between Regions 1 and 2, constituting a kind of small-scale “Rothko Edge” that ambiguates the boundaries between Regions, while Region 3 consists of a continuous mixture of new materials with repetitions and variations of objects from the prior Regions.

Example 1.1: Part One formal diagram



This chapter will begin by examining the progression of harmonies through Region 1, focusing particularly upon their degrees of octatonicism, chromaticism, and diatonicism, first by evaluation of the harmonies' pitch-class content, then taking into account registral layout and temporal ordering. It will examine the effects of pitch- and pitch-class retention and rotation between these chords over time, and identify how arrangements of chords form both small- and large-scale phrase structures. Finally, it will evaluate how related musical events spanning Regions 1 and 2 form large-scale trajectories in the domains of texture and rhythm as well as harmony, how small-scale collections of musical events serve to articulate these trajectories, and how the materials of Region 3 seem to signify a turning away from them.

Harmonic qualities of Region 1

Region 1 features eight distinct piano chords, the majority of which can be understood as “fuzzifications” of prototypical octatonic collections, with a single pitch a semitone “off” from where it would form a perfectly octatonic harmony. Example 1.2 shows the pitch class content of the chords in normal form above the prototypes to which they are related, as well as the octatonic collections to which these prototypes belong. Example 1.3 shows the temporal arrangement of the eight chords through the Region. The reoccurrences of chord A in mm. 37 and 72 suggest the division of Region 1 into two large “sub-regions,” mm. 1-38 and 39-72, followed by a briefer episode (mm. 74-82) in which changes in multiple domains happen in swift succession.

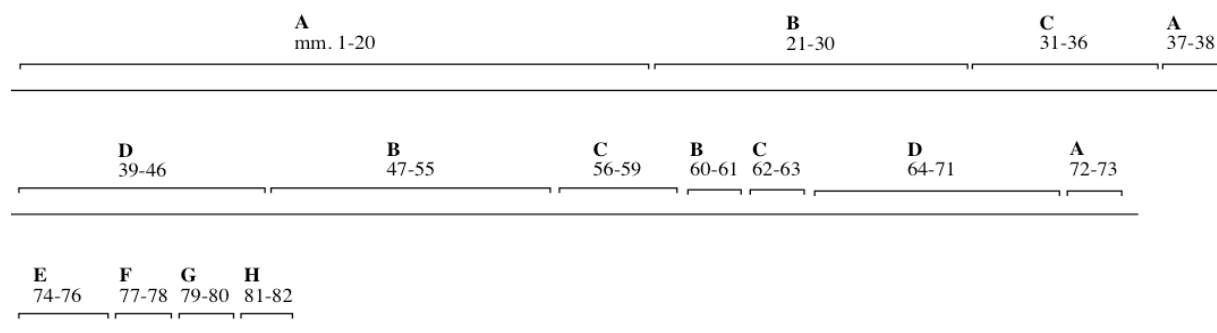
Some of the piano's chords recur multiple times throughout the region, while other occur only once; in all but a single case they are accompanied by chords, dyads, or single pitches in the strings. The string accompaniment to some chords is relatively static, always occurring in the same or nearly the same manner, while for others it is more dynamic, resulting in continual oscillation between degrees of octatonicism and chromaticism. All appearances of piano chord A

Example 1.2: Region 1 piano chords

Example 1.2 displays eight piano chords (A-H) in Region 1, each with its constituent notes and theoretical labels.

- Chord A:** Fuzzy octatonic hexachord {34678A} and Prototypical octatonic hexachord {34679A} (OCT 0,1).
- Chord B:** Fuzzy octatonic hexachord {023678} and Prototypical octatonic pentachord {02368} (OCT 0,2).
- Chord C:** Chromatic cluster {345678}.
- Chord D:** Fuzzy octatonic hexachord {34678B} (no strong collectional quality).
- Chord E:** Fuzzy octatonic hexachord {4578B0} and Prototypical octatonic pentachord {4578B} (OCT 1,2).
- Chord F:** Fuzzy octatonic hexachord {34678A} and Prototypical octatonic hexachord {34679A} (OCT 0,1).
- Chord G:** Fuzzy octatonic hexachord {134567} (Fuzzy chromatic cluster) and Prototypical octatonic pentachord {13467} (OCT 0,1).
- Chord H:** Fuzzy octatonic hexachord {134567} (Fuzzy chromatic cluster) and Prototypical octatonic pentachord {13467} (OCT 0,1).

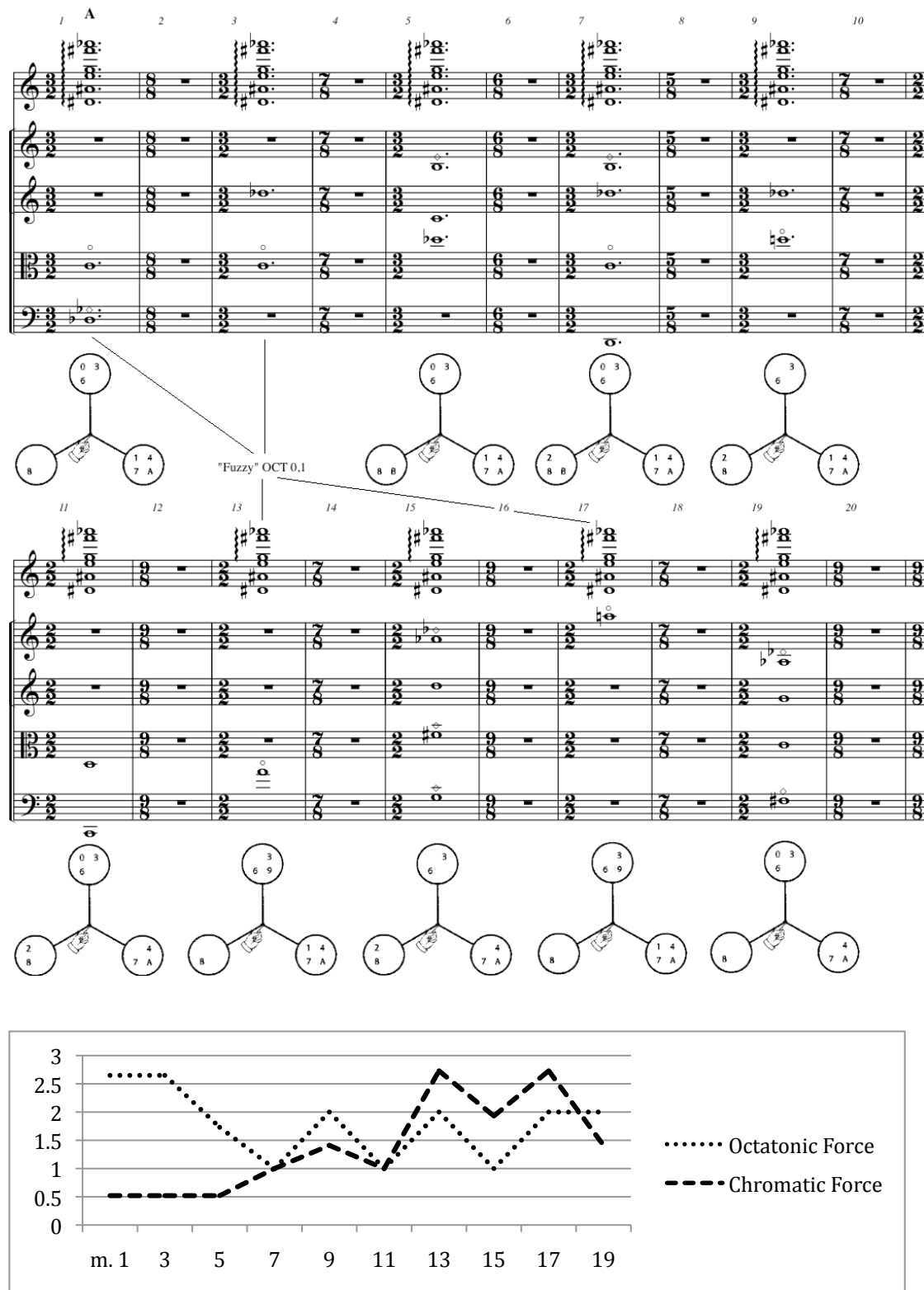
Example 1.3: Temporal arrangement of piano chords, mm. 1-82



and its string accompaniments in mm. 1-20 are shown in Example 1.4, with the pitch classes of each chord displayed on Fourier Balance 4. Each pan of the balance contains one of the three [0369] tetrachords; pitch class collections that fall entirely within any two pans will belong exclusively to one of the three octatonic collections, while any collection that comes close to filling all three pans will approach full chromatic saturation. As noted in Example 1.2, chord A can be understood as a fuzzy $\text{Oct}_{0,1}$ hexachord, with one pitch class (8) a semitone away from where it would form a perfect octatonic subset: the $\text{Oct}_{0,1}$ pitches fall entirely within the 12 o'clock and 6 o'clock pans, as does the strings' initial {01} dyad of mm. 1-3, the octatonicism "impurified" only by the piano's pc 8 in the 9 o'clock pan. The string chords in mm. 5 and 7 push the harmony closer to chromatic saturation with the introduction of pc's B and 2, with the resulting ten pitch classes in m. 7 nearly evenly distributed around the balance, while the introduction of pc 9 in m. 13, and its repetition in m. 15, form a near-complete $\text{Oct}_{0,1}$ collection, with only one "missing" pitch (0) and one non-octatonic pitch (8).

Example 1.4 also provides a graph of the "force" exerted by each chord of mm. 1-19 on Fourier Balances 1 and 4, understandable respectively as "chromatic" and "octatonic" force, in which weakening octatonicism over the course of mm. 1-7 and subsequent oscillation in mm. 9-19 is clearly visible (Fourier Balance 1 illustrations are omitted from the example for the purpose of succinctness and space). As noted in the Introduction, "chromatic force" in this measurement is not identical to "chromatic saturation," explaining why the harmony of m. 7, consisting of 10 pitch classes, exerts only a single Lewin of chromatic force, while the chords of mm. 13 and 17, which come close to filling half the space of the chromatic gamut, measure at a considerably stronger 2.75 Lw. As the graph makes vividly clear, chromaticism and diatonicism have an *orthogonal* relationship, being neither directly opposed nor correlated: the {346789A} collection

Example 1.4: Piano chord A with string chords, mm. 1-20, Fourier Balances and Lewin Graph

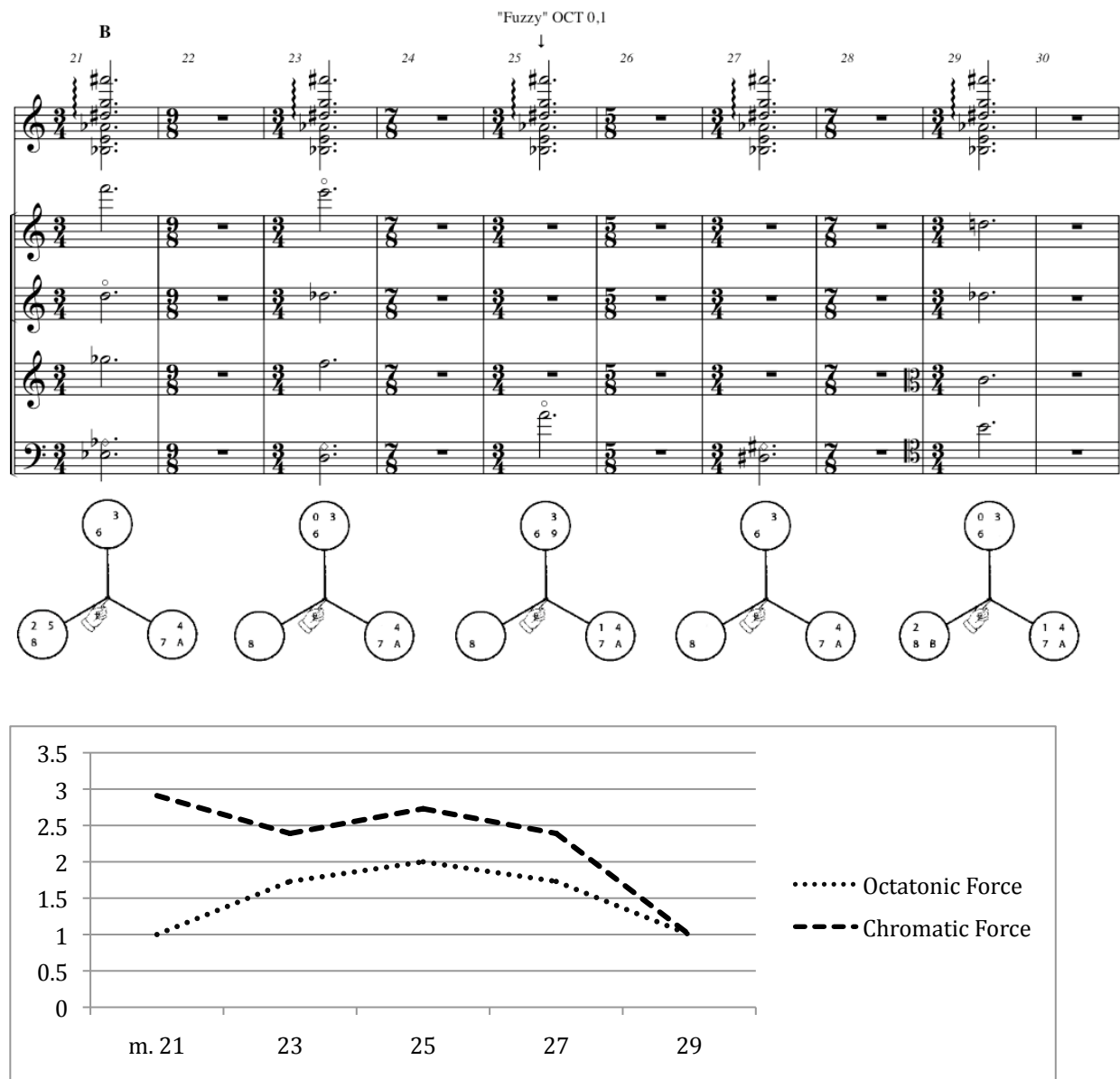


of mm. 13 and 17 measures highly on both balances as it is simultaneously a near-perfect Oct_{0,1} hexachord with a single intrusive pitch (8), and a near-contiguous chromatic cluster with a single “missing” pitch (5).

Chord B, shown in Example 1.5, is a re-registration of the same six pitch classes as chord A, with only pc’s 6 and 7 remaining in the same position between the two chords. It is subjected to a similar, though briefer, focusing and blurring as A, with the high point of octatonic force occurring at midpoint (m. 25) with the introduction, once again, of pc 9, and ending with an extremely chromatic (11-pitch) harmony. Chord C, shown in Example 1.6, is closely related to chord A in that it shares four of its six pitches (in the same registers) with A, and though it could be similarly classified as a fuzzy octatonic hexachord, as shown in Example 1.2, it is less harmonically distinct, projecting weaker octatonicism and changing character only slightly with the strings’ oscillating pc’s 1 and B. Chord D (Example 1.6), a fully chromatic hexachord, is similarly subjected to very little fluctuation, though it undergoes a subtle “re-voicing” in m. 45 with one pitch class (8) changing register: in mm. 39-43 it is accompanied upon each repetition by an {02} dyad that fuzzifies the chromaticism slightly, as pitch class 0 lies one step outside of the chromatic cluster, while in m. 45 it is complemented with a {9A} dyad that forms a chromatic octachord.

Mm. 47-70 consist of rearrangements of elements that have appeared thus far. In mm. 47-53, chord B recurs accompanied by the same string collections as in mm. 21-29, but its high point of octatonic focus (the appearance of pc 9 in the strings) is withheld, and is instead interjected between recurrences of chord C (mm. 56-62) before a reappearance of chord D returns in mm. 64-70. The appearance of chords E through H in mm. 74-82, shown in Example 1.7, represents a sudden dramatic acceleration of harmonic rhythm, as well as a downward

Example 1.5: Piano chord B, mm. 21-30, Fourier Balances and Lewin Graph

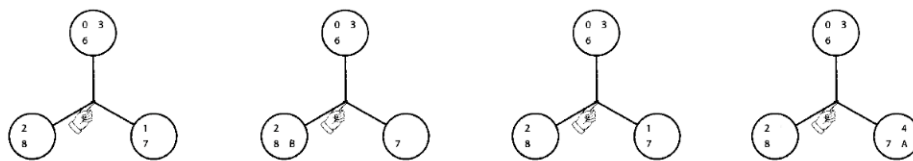


expansion into the piano's middle register. The chromaticism of E is dramatically succeeded by the strong octatonicism of m. 77-79, in which piano and strings together form a fuzzy octatonic heptachord (F), followed by a return in m. 79 of the fuzzy Oct_{0,1} octachord from mm. 1-3 in an

Example 1.6: Piano chords C, A, D, mm. 31-46, Fourier Balances and Lewin Graph

Cadential point

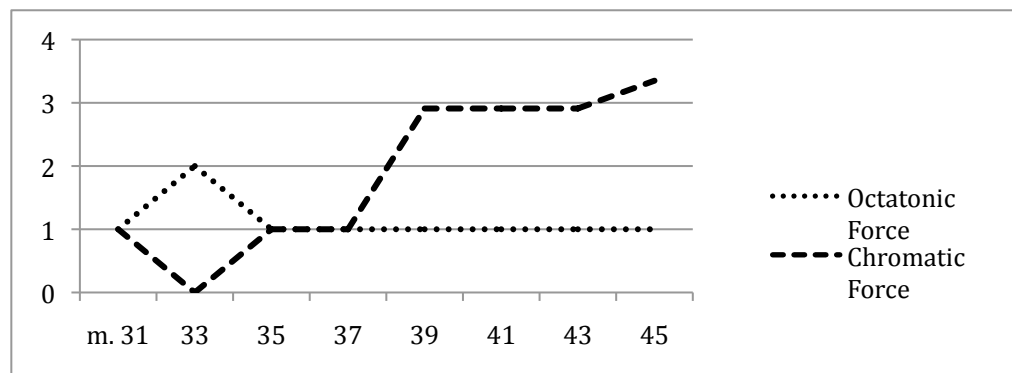
31 C 32 33 34 35 36 37 A 38



Strong chromatic force →

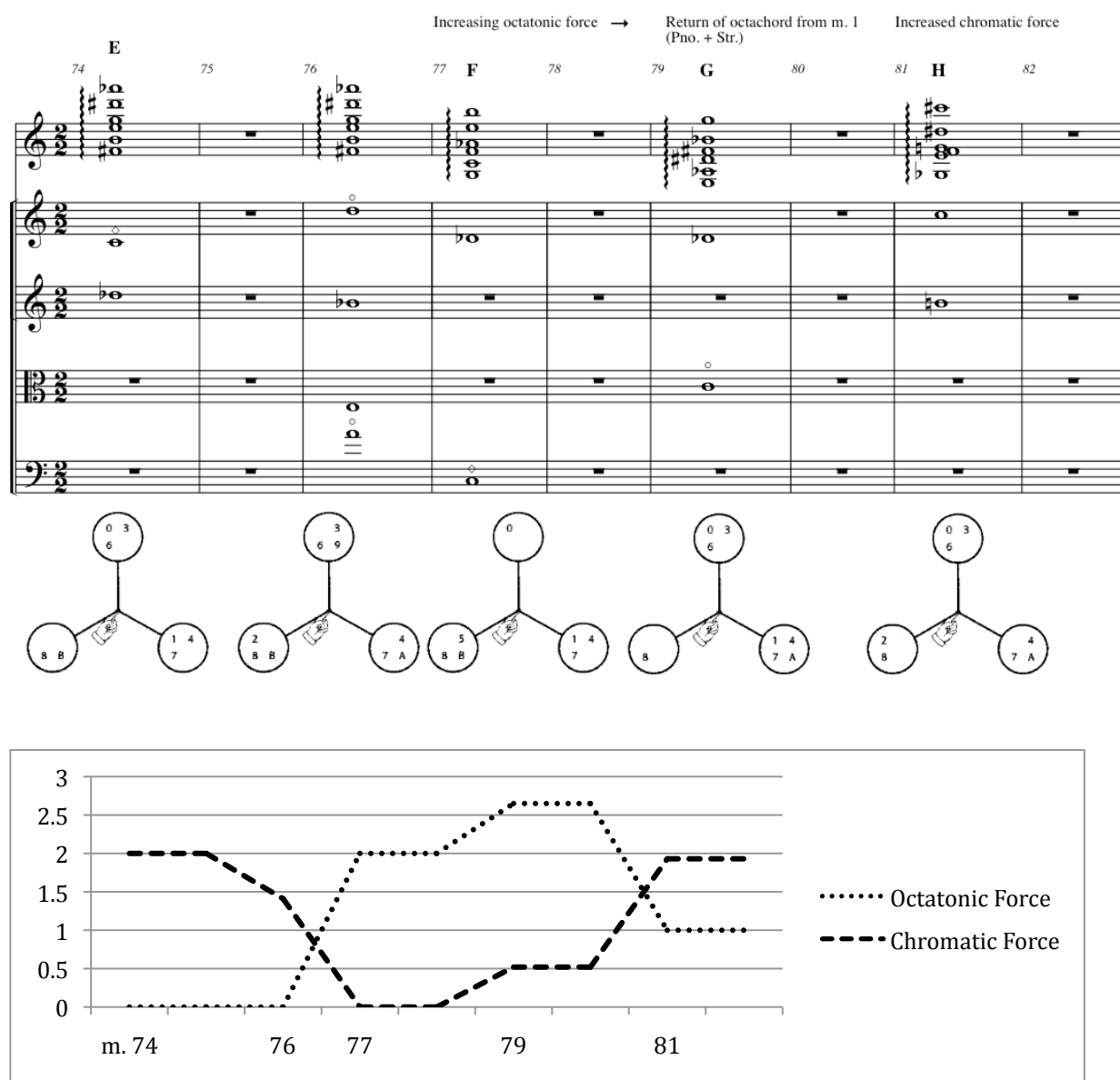
D 39 40 41 42 43 44 45 46

First instance of "pure" chromaticism



entirely new voicing as chord G, and another turn toward chromaticism in m. 81 with chord H, which can be regarded at once as both a fuzzy octatonic hexachord and a fuzzy chromatic cluster (shown in Example 1.2).

Example 1.7: Piano chords E-H, mm. 74-82, Fourier Balances and Lewin Graph



As noted in the Introduction, an aspect of Feldman's harmonic choices that the Fourier Balance measurements do not capture, but that is highly perceptually significant, is the manner in which temporal ordering and registral spacing of pitches influence a listener's perception of chord quality. Piano chords in mm. 1-82 are arpeggiated upward, either partially or entirely, and a listener is arguably inclined to perceive subsets of a chord most clearly toward the start of an arpeggiation, before all pitches have sounded. Example 1.8 shows the spacing and temporal ordering of chords A, B, C, D, and G. The near-octatonicism of chord A is made especially obvious by the fact that, as shown, the five of its six pitches that belong to $\text{Oct}_{0,1}$ are both registally and temporally adjacent, with pitch class 8 sounded as a registral and temporal "outlier" – a fact that makes the increases in octatonic force brought by the addition of pitch classes $\{0,1\}$ (mm. 1-3) and pitch class 9 (mm. 13, 17) all the more salient, as the strings' pitches are attacked together with the start of the piano's arpeggiations. Chords B and C, despite also being fuzzy $\text{Oct}_{0,1}$ collections, do not project their octatonicism quite as strongly, given that their $\text{Oct}_{0,1}$ pitches are split registally and temporally around pitch class 8 (B) or sounded simultaneously with it (C). Chord D contrasts strongly with the preceding chords not only by virtue of its increased chromatic content but because of the "clustered" spacing that highlights this intense chromaticism. The hexachord that forms chords A and G can be understood not only as a fuzzy octatonic collection, but, as shown, also as a fuzzy diatonic pentachord, with a sixth "intrusive" chromatic pitch. The arpeggiation of chord G groups these diatonic pitches together, leaving pc 7 as a registral and temporal outlier; what makes this chord sound so striking in context, in addition to its expansion of the piano's established registral space and the passage of increased harmonic rhythm in which it is heard, is the fact that it projects a collectional quality not heard previously in the work.

Example 1.8: Piano chords A, B, C, D, and G: spacing and temporal ordering of pitches

A

Temporally and spatially adjacent pitches
Octo,1 pentachord {3467A}

Octo,1 heptachord {013467A}

Octo,1 hexachord {34679A}

Fuzzy octatonic hexachord {34678A}

(Prototypical octatonic hexachord {34679A})

{0,1} (Str. mm.1-2)

P.c. 9 (Str. m. 13)

B

Octo,1

Octo,1

Fuzzy octatonic hexachord {34678A}

C

Octo,2 hexachord {B02367}

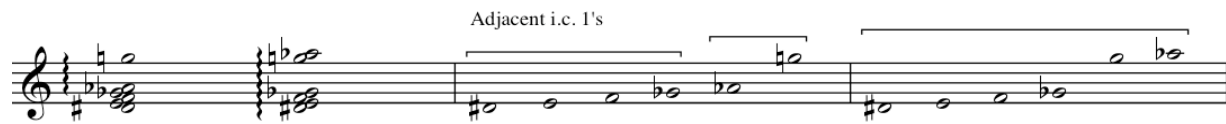
Fuzzy octatonic hexachord {023678}

Prototypical octatonic pentachord {02368}

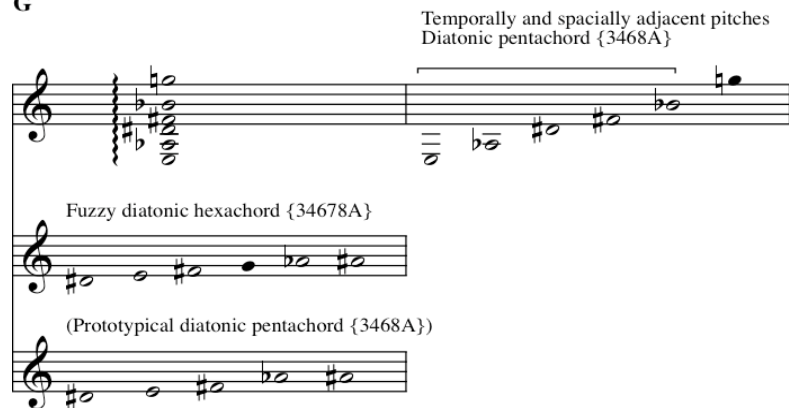
P.c. B (Str.)

Example 1.8 cont'd.

D



G



The retention and releasing of pitches in fixed registers shared between chords, and the relationship to underlying pitch *class* retention and rotation, is crucial to the opening's fluctuating sense of harmonic stasis and motion. Example 1.9 shows chords A through G in their original form in the uppermost staff, and broken into three “layers” in the lower three staves. The first layer (white noteheads) shows those pitches in the chord above it that have occurred in the same register in one or more previous chords; the second layer (black noteheads) shows pitch classes that have been heard in one or more previous chords but which appear in a new register, and the third layer (diamond noteheads) indicates pitch classes that are being introduced for the first time in any register. Chord B contrasts fairly strongly with chord A despite its identical pitch-class content, due to the fact that two-thirds of its pitches are transposed to new registers,

yet it maintains a subtle connection with A through the retention of G5 and F-sharp 6. Chord C shares so many registrally fixed pitches with A that it feels nearly like a “modified return” of the latter, and yet at the same time constitutes a subtle move into new harmonic territory with the introduction of pc’s 0 and 2 (a very slight weakening of A’s strong near-octatonicism). D sounds striking not only for its contrasting closed, “clustered” voicing but because it is the first appearance of pitch class 5 in *either* piano or strings, yet it occupies registral space established by the previous three chords, sharing two-thirds of its pitches in common with them. After the intervention of D, E feels strongly related to A and C due to its reestablishment of the high Ab6 shared with those chords. Part of what makes F and G sound especially fresh is the fact that they introduce the greatest number of registrally new pitches since the first occurrence of chord B in m. 21, yet the subtle connections remain important. Chord F’s pitch connections to previous chords seem comparatively weak, as two of its common pitches, F4 and E5, have been previously heard in only one chord each (D and E, respectively) while its A-flat 4 has occurred in both chords B and D. By contrast, what makes chord G feel subliminally like a return to familiar harmonic territory is its reintroduction of pitches D-sharp 4 and G5 – notes that have been “anchors” of the majority of the opening region (G5 is sounded in every chord in mm. 1-72, while D-sharp 4 occurs in all except chord B). The pitches that H shares in common with previous harmonies, much like those of F, have occurred in relatively few chords (E4 in chords B and D; F4 in D and F; D-sharp 5 in B alone), and the first occurrence in the piano of pitch class 1 constitutes a further move away from the established harmonic space. Chords F and H could thus be heard as articulating harmonic motion toward, then away from, G, the latter assuming something of a cadential quality via to its return to the preceding music’s most familiar registral pitches.

Example 1.9: Piano chords A through G: pitch/pitch class retention/rotation

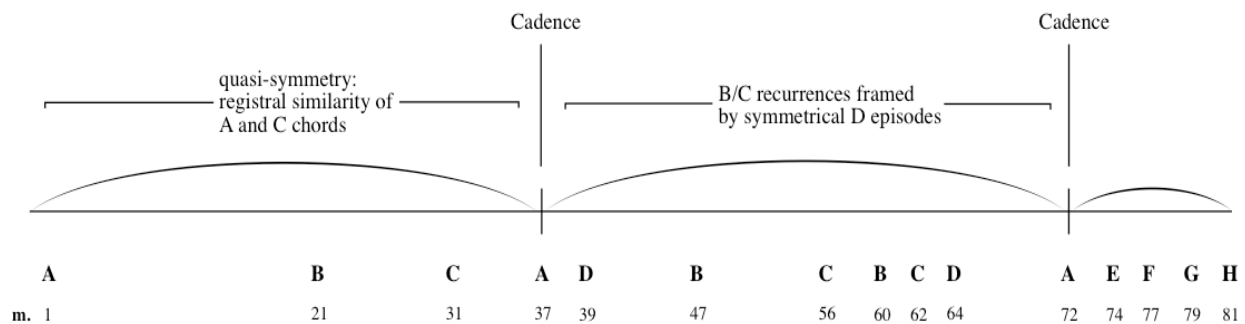
The image displays musical notation for piano chords A through H, illustrating pitch/pitch class retention/rotation. The notation is organized into four staves, each with a specific label:

- Staff 1:** Labeled "A", "B", "C", "D", "E", "F", "G", "H" above the notes. It shows the initial appearance of each chord.
- Staff 2:** Labeled "Recurrences of pitches in **fixed** registers". It shows the recurrence of specific pitches in the same register as they appeared in the first staff.
- Staff 3:** Labeled "Occurrences of previously heard pitch classes in **new** registers". It shows the same pitch classes as in the first staff, but in different registers.
- Staff 4:** Labeled "Introduction of **new** pitch classes". It shows the introduction of new pitch classes that were not present in the previous chords.

Sub-regions and phrase structures in Region 1

As noted in Example 1.3, there are two conspicuous recurrences of chord A following its initial appearance in mm. 1-20: in m. 37, after chord C and before chord D, and in m. 72, at the end of the passage just discussed. Each time it is accompanied by the same {02} string dyad, and its familiar sound after a stretch of absence can be said to have something of a cadential effect. Its placement suggests a division of mm. 1-73 into two large sub-regions, as diagrammed in Example 1.10 – its reappearance constituting a closing “cadence” for each phrase. As will be examined, both sub-regions are quasi-symmetrical in construction, with mm. 39-73 exhibiting the highest degree of symmetry.

Example 1.10: mm. 1-82, large-scale phrase structure



On a small scale within the first of these sub-regions, one finds that Feldman's arrangement of harmonies into local groupings is at times reminiscent of classical phrase structures, with single chords assuming a function that themes or motives would play in a tonal composition. *A-a-b-c* and *a-b-a-c* groupings, phrasal arrangements commonly found in tonal (and modal) music of many styles and eras, and for contemporary musicians perhaps most famously exemplified by the Classical-era "sentence" and "parallel period," occur intermittently through mm. 1-37 as well as at a critical dramatic moment later in the region. Despite the absence here of harmonic function or degrees of strong and weak cadential closure that make such phrase structures function in conventionally tonal music, one might say that Feldman's evocation of these phrasal archetypes by their sheer familiarity allows a listener to mentally group the chords of the opening measures into something resembling syntactic units. This provision of obvious structures onto which a listener can grasp vanishes relatively quickly as the music progresses – a small-scale analog, perhaps, to the manner in which the fairly obvious dramatic trajectories of mm. 1-209, as will be discussed, disappear over the course of the work.

The work's opening eight bars, for example, shown in Example 1.11, have an *a-a-b-c* structure akin to a musical "sentence," and one might argue that these four chords do, in fact, exhibit some degree of the qualities of true "presentation" and "continuation" found in a traditional tonal sentence. The first four bars, consisting of literal repetition of a single piano chord and string dyad (whose registration remains identical while its instrumentation changes), present harmonic material that will characterize much of the opening section and recur throughout the entire work, while the addition of string pitches in the following four bars subject this material to an increase in harmonic rhythm, a miniature trajectory of outward registral expansion, and a dissolution of the quasi-octatonic harmony through the addition of string pitches. In this context, the chord in m. 7 can be heard as having a weak cadential effect, having achieved near-total chromaticism and reached the near-limits of the ensemble's extreme registers (high piano and low cello); particularly upon hearing the new middle-register string dyad in m. 9, m. 7 is retroactively understood as the end-point of a process of chromatic saturation and registral expansion.

Given that m. 9 strikes the ear as the start of a new phrase, it is tempting to hear mm. 9-20, shown in Example 1.12, as a single six-bar phrase, yet the repetitions of pitch class 9 that bring the octatonicism in to focus in mm. 13 and 17, alternating with contrasting chromatic chords in mm. 15 and 19, create an *a-b-a'-c* structure that suggests a strong cohesion of these four harmonies, despite the absence of a cadential effect in m. 19. Once again, retroactive hearing is critical to our perception: given that there is nothing to strongly mark m. 13 as the beginning of a new phrase, nor to identify m. 19 as a phrase ending, it is only upon the entrance of the piano and strings' new chord in m. 21 that a listener will realize that he or she has just heard the close of an *a-b-a'-c* unit.

Example 1.11: mm. 1-8, sentence-like structure

mm. 1-4
"presentation":
literal repetition of A chord +
string dyad

mm. 5-8
"continuation":
increased harmonic rhythm
registral expansion
octatonicism to chromaticism

m. 7
(weak cadence / endpoint of
harmonic/registral trajectories)
↓

Measures 31-38, consisting of chord C followed by the first “cadential” A chord, are similarly structured, as shown in Example 1.13, but the context of this passage makes its *a-b-a-c* structure more immediately perceptible, as the first appearance of chord C strikes the ear as a new beginning after the repetition of chord B, and the cadential quality of A in m. 37 is readily apparent given the chord’s familiar identity from the opening bars and the ensuing novelty of chord D in m. 69. As noted, chord C has something of the feel of a modified return of A due to the high number of registrally fixed pitches shared between these chords – in particular, the boundary pitches D-sharp/E-flat 4 – A-flat 6, reintroduced by chord C, reestablishes the exact registral space occupied by A after the slightly lower tessitura of B. This gives the entire passage a quasi- symmetrical quality, seemingly confirmed by the appearance of an element of “literal”

Example 1.12: mm. 9-12, apparent beginning of new phrase

(A)

Pno.

Vln. I

Vln. II

Vla.

Vc.

mm. 13-20, *a-b-a-c* structure

(no cadential effect)

(A)

Pno.

Vln. I

Vln. II

Vla.

Vc.

Example 1.13: mm. 31-38, *a-b-a-c* structure

m. 37
Cadential A chord -
end of 1st large "sub-region"
(mm. 1-38)

Diagram labels: *a*, *b*, *a*, *c*

Chord labels: C, A

Instrument labels: Pno., Vln. I, Vln. II, Vla., Vc.

symmetry (the reappearance of chord A) at the very end, as shown in Example 1.14; one might even venture to say that the motion of the lowermost voice in chords A through C, outlining interval class 5 (D-sharp 4 – B-flat 3 – E-flat 4), is mimetic of a tonic-dominant-tonic progression.

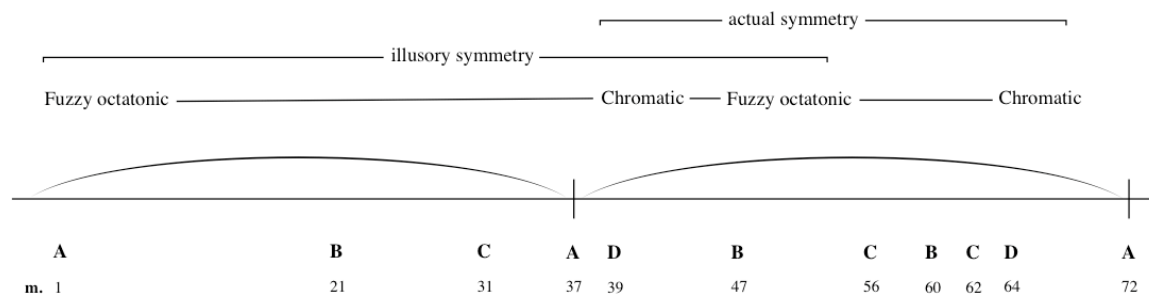
Measures 39-73, diagrammed in Example 1.15, are more literally symmetrical in construction than mm. 1-38, consisting of recurrences of chords B and C (mm. 47-63) flanked by appearances of chord D (mm. 39-46 and 64-71). This second large phrase does not exhibit the small-scale phrase structures found in the first. Chord D is highly static, accompanied in all but one instance by an identical {02} string dyad (in m. 68, the chord is unaccompanied by the

Example 1.14: mm. 1-38, symmetry and ic 5 motion

The diagram illustrates a musical structure with four measures labeled A, B, C, and A, corresponding to measures 1-20, 21-30, 31-36, and 37-38 respectively. Above the measures, a bracket labeled 'literal symmetry' spans from the first measure to the last. A second bracket labeled 'quasi-symmetry' spans from the first measure to the third measure. Below the measures, a large oval encloses the first three measures. Within this oval, two horizontal lines labeled 'ic 5' connect the first and second measures, and the second and third measures, indicating intervallic relationships. The musical notation shows chords on a five-line staff, with various accidentals (sharps, flats, naturals) and stems.

strings), while the central section consists of recurrences of piano and string chords from mm. 21-38 reordered in a manner that makes parsing into small-scale phrases somewhat more difficult: it may seemingly make sense to label mm. 21-30 (repetitions of chord B) and mm. 56-63 (repetitions of chord C, with a single intervening B) as separate phrases, though the interjection of B in m. 60 between recurrences of C seems intended to ambiguate the clear division of material. Because the central section of this symmetrical structure consists of a varied repetition of earlier material, following the introduction of new chords in the first section, a listener might at first be led to believe that he or she is hearing a large-scale symmetry with chord D as its center, consisting of a movement from fuzzy octatonicism to chromaticism and back to octatonicism – a rather traditional *a-b-a* form. Only upon hearing the reappearance of D, which returns in a near-retrograde form of its first appearance, does one realize that the “recapitulated” B and C chords were actually the center of a symmetrical structure – an example of retroactive perception functioning on a slightly larger scale.

Example 1.15: mm. 1-72, real/perceived symmetry



The sentence-like structure of mm. 74-82, shown in Example 1.16, is another factor imparting a cadential quality to the introduction of chord G in m. 79. If the earlier recurrences of chord A may be likened to confirmations of an established key area in a tonal composition, chord G might be compared to a cadence in a new key; part of its stable character comes from its tonal association, as its lower five notes can be heard as an extended sonority (an enharmonically spelled “sharp-11” harmony with its fifth omitted, to be precise) built on E-natural, a striking contrast to the preceding insistent presence of D-sharp/E-flat as the piano’s lowermost pitch. The phrasal placement of chord H (m. 81) is at first ambiguous, but it can be best understood as an extension of the prior “sentence” phrase, given the dramatic shift in texture and registral expansion that occurs in mm. 83-86, shown in Example 1.17, in which the strings gain a degree of independence from the piano, playing multi-measure sustained sounds, and the piano plays simultaneously struck as well as arpeggiated variants of its earlier chords, including a T1 version of the fuzzy diatonic G chord from m. 79. Such chord transpositions, both literal and “fuzzy,” will occur throughout the composition from this point onward, but they serve no structural function: as will be examined later in this chapter, their purpose seem to be to blur the distinct

identity of musical objects, at times by creating a web of interrelated sonorities with different degrees of resemblance to the initial, original harmony.

Example 1.16: mm. 74-82, sentence-like structure and new piano chords

Phrase structure diagram above the piano staff:

- Notes: a , a' , b , c
- Measure 79: "cadence"
- Measure 81: extension

Chord labels above the piano staff:

- E
- F
- G
- H

Harmony label below the piano staff:

- "E#11" harmony

Instrument staves:

- Pno.
- Vln. I
- Vln. II
- Vla.
- Vc.

Example 1.17: mm. 83-86: texture change, registral expansion

D, original registration and octave transposition of upper trichord

F, octave transposition

T1 of G

Pno.

Vln. I

Vln. II

Vla.

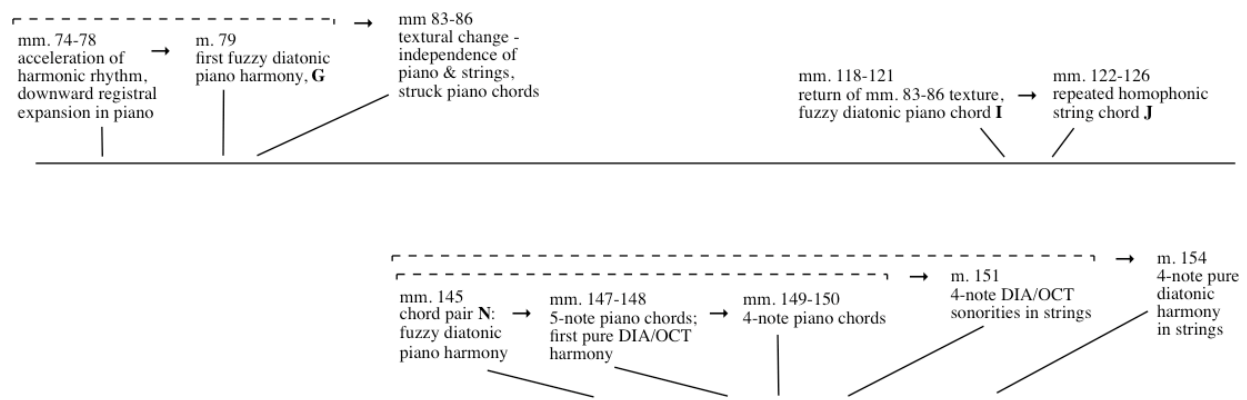
Vc.

Dramatic causality and new harmonic qualities through Region 2

Mm. 74-86 constitute the first in a series of episodes in which multiple novel musical events in short spans of time create an illusion of dramatic causality: changes in particular domains give the impression of anticipating or instigating imminent changes in other domains. A diagram of such causally-related events between mm. 74-157 is provided in Example 1.18. In the series of events between mm. 74-86, the piano's chord G is apprehensible, at least retroactively, as the "goal" of the quickened harmonic rhythm and downward registral expansion in the preceding measures, while the whole of mm. 74-83 may be understood as instigation for the dramatic textural change in mm. 83-86. In addition, the mm. 74-82 "phrase" features the first instance in which piano and string chords are not separated by intermittent rests and, concomitantly, allows for the perception of a "stepwise" voice-leading gesture between the

violins' D5 and B-flat 4 in m. 76 and the cello's C5 in m. 77, creating the impression of an ic4 dyad converging upon a single unison pitch, as illustrated in Example 1.19. Although it has been possible up until this point to perceive tenuous voice-leading connections between piano chords (such as the ip2 between chord A's high A-flat and B's high F-sharp), in mm. 76-77 the voice-leading connection is especially pronounced, despite being between different instruments, due to the contiguous measures as well as simply to the sustained nature of the string sounds. As will be explored, such "stepwise" gestures similarly crop up in later parts of the work as apparent signifiers of dramatic development.

Example 1.18: mm. 74-157, short-term causal relationships between musical domains



The second causal episode begins in m. 118, at which point a varied return of material from mm. 83-86 leads directly into a new idea – a repeated homophonic string chord beneath arpeggiated chords in the piano – in mm. 122-126. The relationship of mm. 118-120 to mm. 83-86 is immediately apparent, as it is the second time thus far in the work that the strings attack their sounds independently of the piano, again sounding in paired dyads (violins and viola-cello) that form a widely-spaced [0123] chromatic cluster, and as the piano's chord in m. 119, labeled

Example 1.19: mm. 76-77, string voice-leading

The musical score for Example 1.19, mm. 76-77, is presented in 2/2 time. It consists of three staves: Piano (Pno.), Violins (Vlns), and Strings (Str.). The Piano part features two measures, each with a complex chord. The Violins part has two measures, each with a single note. The Strings part has two measures, each with a single note. The notes in the Violins and Strings parts are connected by dashed lines, indicating voice-leading.

“I,” is a near-repeat of the chord in m. 85 (itself a T1 transposition of chord G), a single pitch changed so that the [015] trichord comprising the bottom half of the chord is inverted but the lower 5 pitches (excluding the Ab) remain within the same diatonic collection, and the chord constitutes a fuzzy diatonic sonority with a single registral outlier on top in the same manner as chord G, as shown in Example 1.20. The repeated string chord that follows in mm. 122-126, designated “J,” is the first clearly defined, self-contained musical “object” in the piece articulated by the strings entirely independently of the piano, its textural novelty put into relief by being set against arpeggiated 6-note piano chords (labeled “K” through “M”) which, while new in terms of their specific intervallic content, constitute a now-highly familiar type of textural and harmonic material. As with mm. 76-77, mm. 119-122 feature a suggestion of stepwise voice-leading as a signifier of concomitant dramatic and formal events, shown in a reduction in Example 1.20: it is easy to perceive the stepwise descent from F3 to E-flat 3, as well as the ascent from E4 to F4, between chord I and the ensuing piano chord (not given a letter name as this is its single occurrence in the entire work), but one may also hear a tentative voice-leading connection between the second piano chord’s E-flat 3 and the viola’s C-sharp 3 at the bottom of chord J,

imbuing J with something of the feeling of a point of arrival by seemingly “completing” the stepwise descent that the piano chords began.

Example 1.20: mm. 118-126, new piano chords and string chord J

comparison of chords I and T1 G

voice-leading, mm. 119-122

In mm. 145-146, the piano introduces a pair of new six-note chords, together labeled “N,” the second of which consists of a five-pitch diatonic collection arranged in thirds and fifths with a chromatic “outlier” at its top, an arrangement reminiscent of chord G and its ensuing variants. This is immediately followed by two successive changes in the cardinality of the piano’s harmony: two five-note chords (“O”) in mm. 147-148, and two four-note chords (“P”) in mm. 149-150. The second chord of O, an {02358} collection, is the first sonority in the work that constitutes a “pure” subset of octatonic and diatonic collections without being fuzzified, while the two four-note chords of P, which share their two lowermost pitches, together form a fuzzy diatonic collection {4568AB} with the “fuzzy” outlier on the bottom and the diatonic pentachord {468AB} arranged above in thirds and fifths, notably sharing four of its five pitch classes in common with the diatonic subset of chord G. In mm. 151, 154, and 157, the strings play two four-note sonorities in repetitive rhythmic patterns: the chord of mm. 151 and 157, designated “Q,” is an {A013} collection, a subset of the piano’s diatonic/octatonic pentachord in m. 148, while chord “R,” in m. 154, is an exclusively diatonic {46A0} tetrachord. The score of the entirety of mm. 145-159 is provided in Example 1.21. As diagrammed in Example 1.18, one may understand the fuzzy diatonic harmony of chord pair N as an instigator of the string of successive new events, as fuzzy diatonic chords have functioned thus far in the work as seeming catalysts of change; the four-pitch piano chords of P seem to follow naturally from the preceding five-pitch chords of O; and diatonic harmony R seems a logical outgrowth of the preceding progression through “fuzzy” to “pure” DIA/OCT collections.

Example 1.22 shows each chord of N through R accompanied by Fourier Balance 5. Pitches falling within any contiguous half of this balance belong within a single diatonic collection: it can be seen how the respective initial chromatic chords of N and O are dispersed

Example 1.21: mm. 145-159, introduction of piano chord pairs N, O, P, string chords Q, R

around the balance, while the fuzzy diatonic second chord of N, and the combined pitches of P, fall nearly within a half-circle with a single “outlier” one step away (pcs B and 5, respectively). Pitch collections in which the second of every 3 contiguous pcs is “skipped” will be both diatonic and octatonic subsets, as are the second chord of O and string chord Q, while exclusively diatonic string chord R consists of entirely contiguous pcs within a half-circle. The chart accompanying Example 1.22 displays the force of all collections from mm. 145-159 on Fourier Balances 1, 4, and 5: string chord Q, in both mm. 151 and 157, notably exerts greater force on the diatonic than octatonic balance (and equal force on the chromatic as to the diatonic, being 2/3rds of a chromatic hexachord) while chord R in m. 154 is the passage’s conspicuous diatonic high point.

Example 1.22: Piano and string chords N through R, Fourier Balances and Lewin Graph

piano chord pair N, mm. 145-146

2nd chord, registrally and temporally adjacent pitches
diatonic pentachord {4579A}

The musical notation for piano chord pair N shows two measures. The first measure contains two chords: a triad of D4, F#4, and A4, and a dyad of Bb4 and D5. The second measure contains a single chord: a dyad of Bb4 and D5. A bracket above the second measure indicates it is the 2nd chord, registrally and temporally adjacent pitches, diatonic pentachord {4579A}. Below the notation are two Lewin graphs. The first graph is a circle with 12 points, with labels 2, 7, A, 8, 6, 4, and 9. The second graph is a circle with 12 points, with labels 7, 5, A, 8, 6, 4, and 9.

piano chord pair O, mm. 147-148

2nd chord, DIA/OCT pentachord {02358}

The musical notation for piano chord pair O shows two measures. The first measure contains two chords: a triad of D4, F#4, and A4, and a dyad of Bb4 and D5. The second measure contains a single chord: a dyad of Bb4 and D5. A bracket above the second measure indicates it is the 2nd chord, DIA/OCT pentachord {02358}. Below the notation are two Lewin graphs. The first graph is a circle with 12 points, with labels 2, 9, 4, 1, 3, 8, and 5. The second graph is a circle with 12 points, with labels 0, 5, 3, 8, 1, 4, and 2.

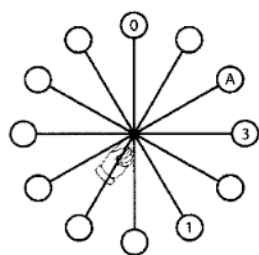
piano chord pair P, mm. 149-150

registrally and temporally adjacent pitches
diatonic pentachord {468AB}

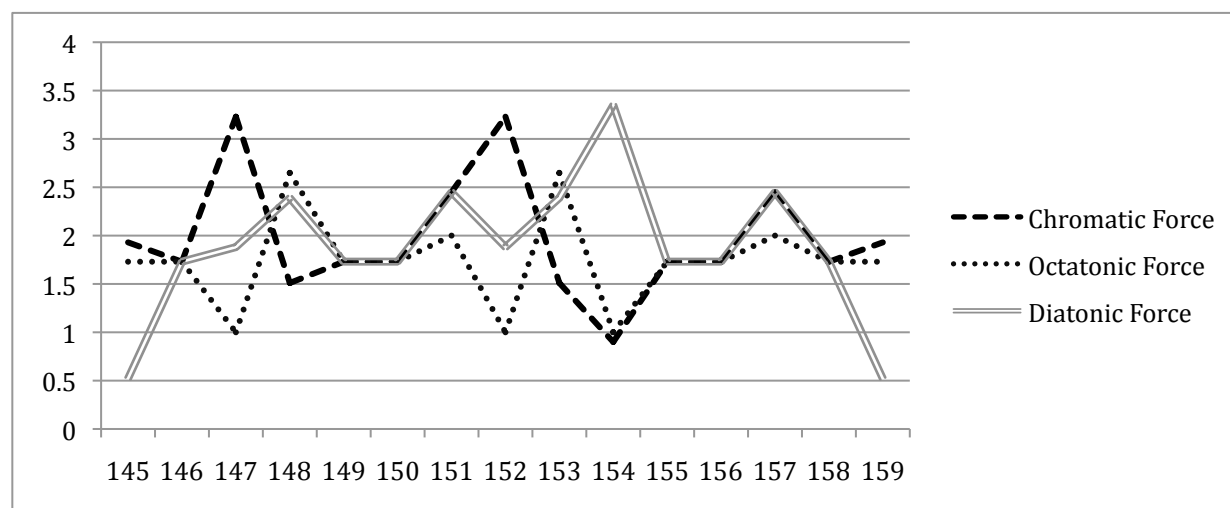
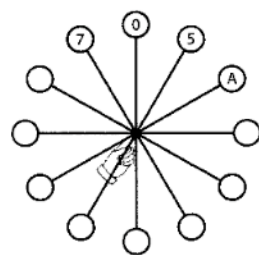
The musical notation for piano chord pair P shows two measures. The first measure contains two chords: a triad of D4, F#4, and A4, and a dyad of Bb4 and D5. The second measure contains a single chord: a dyad of Bb4 and D5. A bracket above the second measure indicates it is registrally and temporally adjacent pitches, diatonic pentachord {468AB}. Below the notation is a single Lewin graph, a circle with 12 points, with labels 5, A, 8, 6, 4, and 9.

Example 1.22 cont'd.

string chord **Q**, m. 151



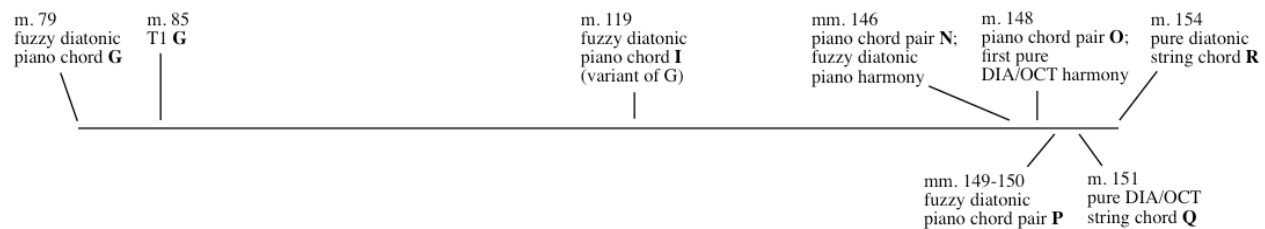
string chord **R**, m. 154



Trajectories in Regions 1 and 2

In addition to the impression of short-term causality between musical domains, there are clearly identifiable trajectories within individual domains that appear to link musical events separated in time. In particular, the changes that occur between mm. 74 and 159 seem to articulate several independently definable trajectories of harmonic “relaxation” away from octatonicism/chromaticism and toward diatonicism, increasing harmonic rhythm and surface rhythmic activity, and progressive independence of string quartet and piano gestures. The piano’s fuzzy diatonic harmonies G (mm. 79, 85), I (m. 119) and N (m. 146) seem anticipatory of the emergence of “pure” diatonic sonorities in O (m. 148), Q (mm. 151, 157), and R (m. 154), a relationship highlighted by the interim appearance of the piano’s P chords in mm. 149-150 and the resemblance of the collection they form to the “original” fuzzy diatonic G chord in m. 79. The succession of all such harmonies is diagrammed in Example 1.23. It should be noted that, although the harmonies in mm. 148 and 151 belong to both diatonic and octatonic collections, they can easily be heard as part of the “octatonic to diatonic” trajectory in that they constitute a move away from the *exclusively* octatonic chord subsets highlighted at the work’s opening, representing a weakening of octatonic force and emergence of diatonic force that reaches its peak in the exclusively diatonic collection of m. 154. Example 1.24 provides an extended graph of all harmonies from mm. 1-159 measured on Fourier Balances 1, 4, and 5. Immediately evident to the eye is the increasing frequency of diatonic peaks (above 3 Lw) from m. 122 onward; however, it is important to recall that these measurements capture only a single dimension of harmonic quality by measuring harmonies solely as pitch-class collections, without taking into account other dimensions that may emphasize or deemphasize particular harmonic characteristics. Measures 1 and 79, consisting of different arrangements of the same

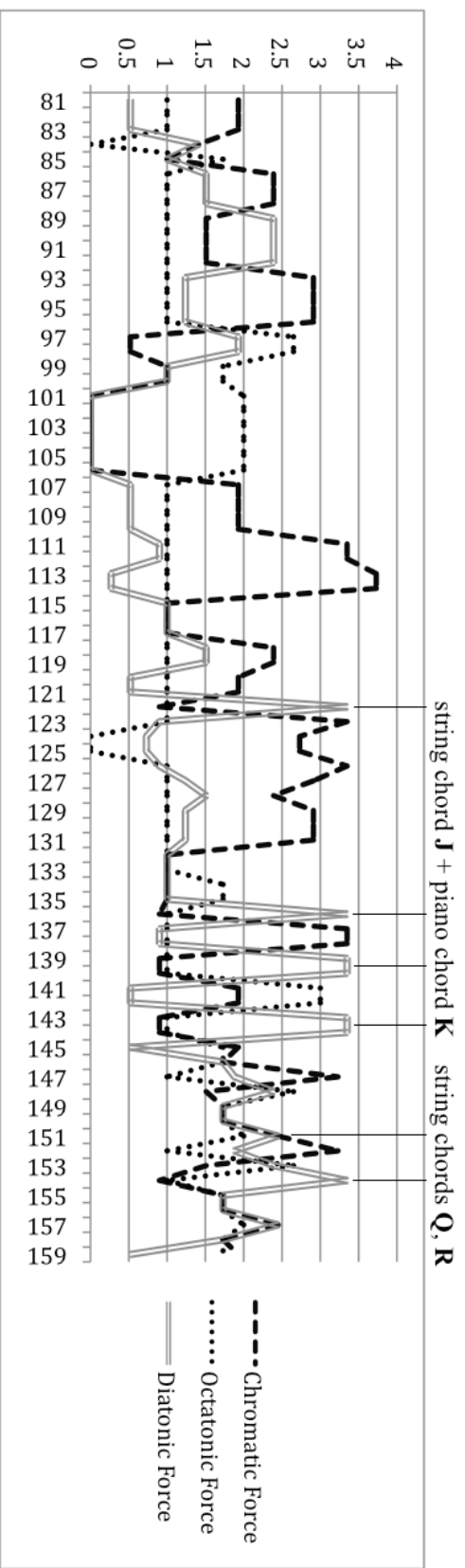
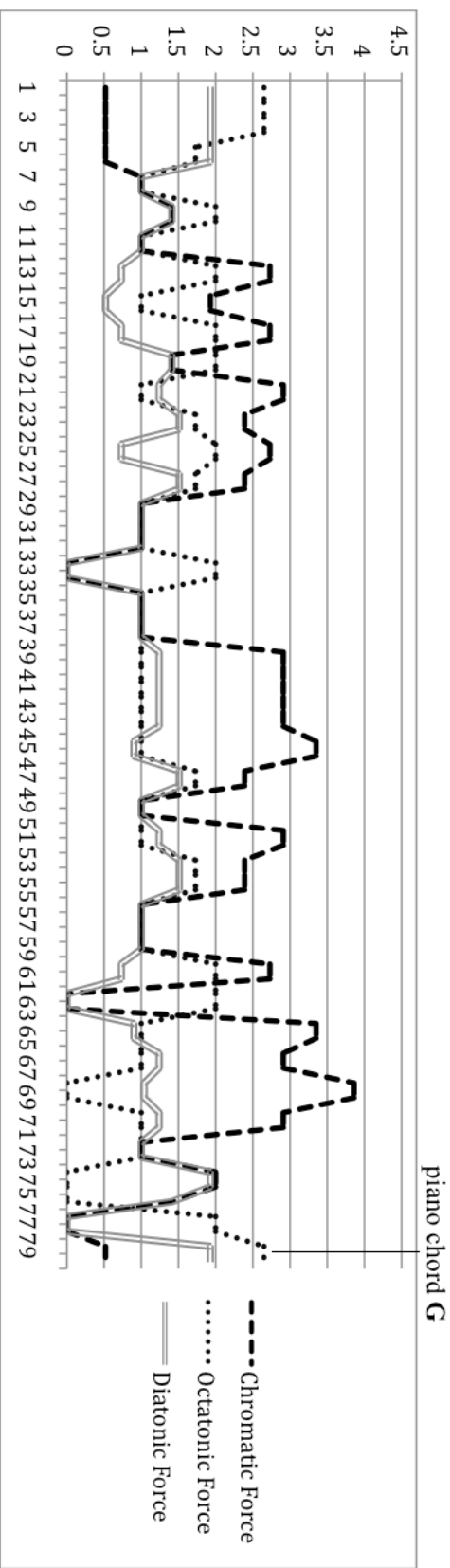
Example 1.23: mm. 79-154, progression of fuzzy diatonic, DIA/OCT, and diatonic sonorities



{0134678A} octachord, measure identically on all balances, exerting the greatest force on the octatonic balance, and the measurement does not reflect the spacing and temporal ordering of m. 79's G chord that emphasize its diatonic {3468A} subset; the same principle applies to the piano chords of mm. 85, 119, and 146 whose arrangements emphasize registrally contiguous diatonic pentachords. By the same token, in mm. 122, 139, and 143, piano and strings collectively form a complete “fuzzy” diatonic collection {0123578A} (in m. 136 a T1 transposition of the same collection), with pc 1 as a single intrusive chromatic pitch, but as the pitches are partitioned into a chromatic {0123} string tetrachord and an Oct_{1,2} {12578A} piano chord, the diatonicism is relatively weakly projected beside the ensuing vivid collections of mm. 148, 151, and 154.

A diagram of the time-span of each piano chord in mm. 1-159 (discounting contiguous repetitions) is provided in Example 1.25. Although the strings play frequently changing pitch collections in mm. 1-36, the extensively repeated piano chords form an extremely slow “background” harmonic progression which the strings are perceived, as argued, to alternately blur and bring into focus. Instances of chords that sound for only one or two measures occur sporadically at first, as repetitions of chords sustained at length earlier (particularly the “cadential” A chord recurrences in mm. 37-38 and 72-73), then in large numbers during those

Example 1.24: mm. 1-159 Lewin Graph

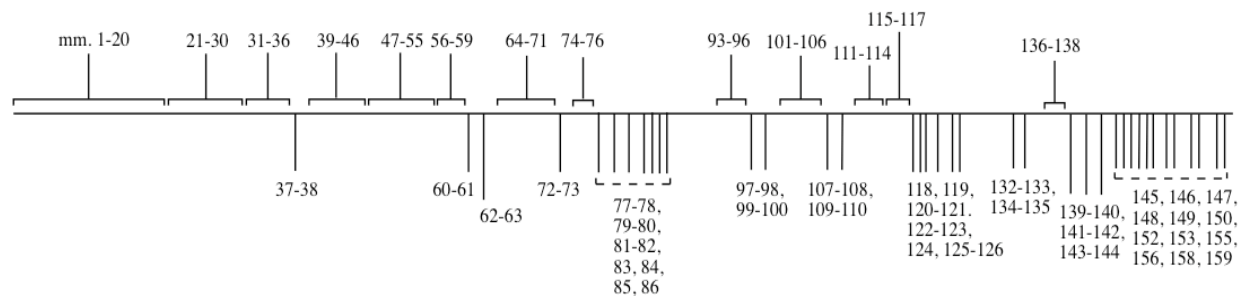


episodes of dramatic change in multiple domains in mm. 77-86 and 118-126, complementing the concomitant changes in texture, register, and harmonic quality with sudden accelerations of harmonic rhythm. By m. 145-146, just prior to the appearance of the work's first five- and four-note chords and pure DIA/OCT collections, this rate of harmonic change, consisting of consecutive chords of largely or fully exclusive pitch-class collections every one to two measures, has been established as normative.

Example 1.25: Time-spans of piano chords, mm. 1-159

top: spans of 3 or more measures

bottom: spans of 1-2 measures



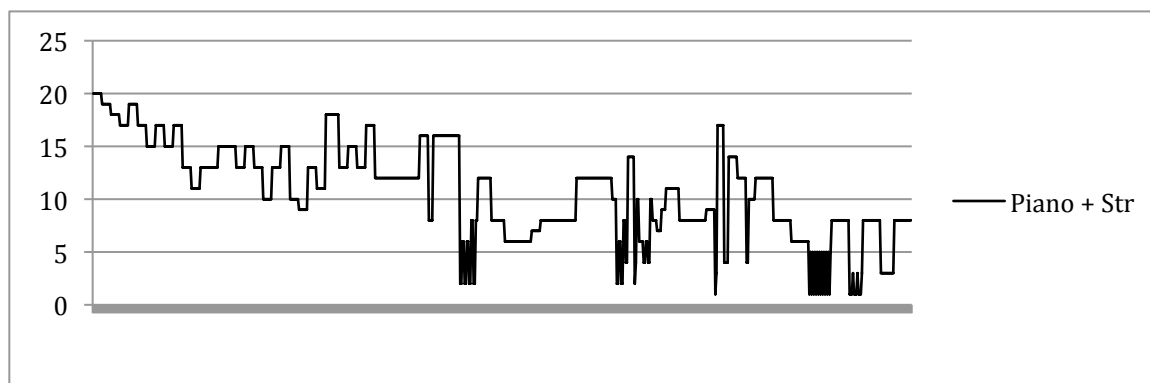
Complementary to the harmonic rhythm is a steady increase in surface rhythmic activity, a sense of which can be obtained by observing the lengths of time between successive attacks in the music (whether in the piano, strings, or both combined). The gradual contraction of lengths between attacks is difficult to represent in a manner similar to Example 1.26 due to the very small increments of change that occur over short spans of time, but it is possible to see the progression clearly by representing the time-lengths between attacks numerically. Example 1.26 graphs each attack from mm. 1-159 (including repeated measures), showing the duration, in

eighth-note values, between it and the next attack. Graph A's single line shows the durations between all attacks without regard for instrumentation, while Graph B represents piano and string attacks separately. As can be seen from Graph A, the succession of shortening lengths between attacks hews closely to the trajectory of accelerating harmonic rhythm; those episodes featuring changes in multiple domains within short time-spans tend also to be associated with the introduction of smaller time-lengths between attacks, such as the quarter-note-separated piano and string sonorities of mm. 83-86, and the string tetrachords staggered by dotted-eighth and eighth notes in mm. 151 and 154.

Graph B effectively illustrates the progressive rhythmic and gestural independence of string quartet and piano. The process begins, as noted, in mm. 83-86; when this episode is recalled in mm. 118-120, it leads directly into the strings' first clearly defined, repeated musical object (chord J), which forms a composite texture with the piano's arpeggiated chords. Quartet and piano exhibit their highest degree of independence in mm. 145-159, vividly evident from the extended string silence in mm. 145-153 during which the piano plays introduces chord pairs O, P, and Q.

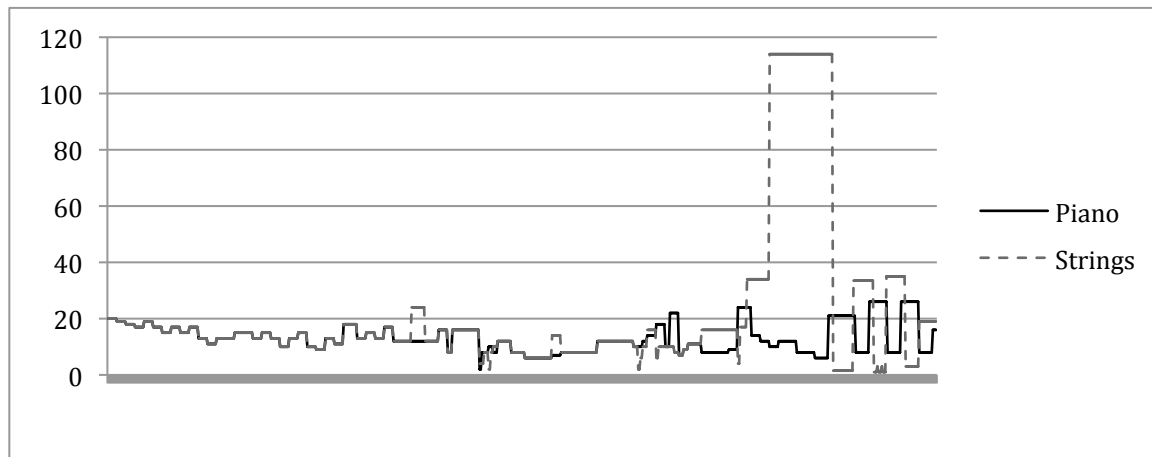
Example 1.26: Eighth-note durations between successive attacks, mm. 1-159

Graph A



Example 1.26 cont'd.

Graph B



Negation/ambiguation of trajectories

The sense of dramatic progression engendered by these episodes and trajectories is periodically undercut by reappearances of familiar material varied or stripped of its original context, seemingly “negating” or “ambiguating” this material’s formal and dramatic functions and casting momentary doubt upon the sense of continuous dramatic unfolding. In mm. 93-107, briefly following the textural change in mm. 83-86 that seemed to announce the start of Region 2, are sudden recurrences of Region 1 chords, shown in Example 1.27. Among them are chord F, which, in m. 77, had introduced sudden acceleration of harmonic rhythm and contraction of duration between successive attacks, and chord G, which appeared in m. 79 as the work’s first fuzzy diatonic sonority. The durations between successive iterations in mm. 93-101 are shorter than those of mm. 1-82, as though the music has “absorbed” some of the effect of the sudden intervening texture change of mm. 83-86, yet chords F and G appear here as part of a series of

familiar musical objects with no special distinction, without anticipating shifts in other musical domains or even appearing/coinciding with those shifts with which they were previously associated. Similarly, repeated string chord J reappears after only ten intervening bars in mm. 136-144, once again accompanied by six-pitch piano chords, as shown in Example 1.28: a T1 version of J mm. 136-137 is followed by a return to its original transposition level, with pc 0 sounding an octave higher, in mm. 138-139 and 143-144. Mm. 122-126 had introduced a new sense of rhythmic momentum in the strings with their steady repetition of relatively short durations, and the long pauses between the string chords in 138-144 convey a sense that this momentum is now dissipating.

Example 1.27: mm. 93-107, reappearances of chords from Region 1

The musical score for Example 1.27 shows measures 93-107. The Piano (Pno.) part is written in treble clef with a key signature of one sharp (F#) and a time signature of 3/8. It features several complex chords labeled D, G, F, C, and B. The Strings (Str.) part is written in bass clef and features a steady repetition of a string dyad. The score is divided into measures, with the Pno. part having more complex notation than the Str. part.

Chord A, which took on significance as a cadential gesture in mm. 37 and 72. reappears in m. 115, with the same {02} string dyad with which it had been accompanied in those earlier measures, and is immediately repeated in mm. 117 against a {9E02} string chord, shown in Example 1.29. Recalling the chord's earlier function, a listener is inclined to hear its reappearance in m. 115 as another cadential gesture, but the intensification of dissonance and chromatic saturation upon its repetition in mm. 117 ambiguates its musical meaning. Here, rather, it seems to function as a “launching point” for mm. 118-120 (whose texture recalls mm.

Example 1.28: mm. 136-144, recurrence of mm. 122-126 texture

The musical score for Example 1.28 (mm. 136-144) features five staves: Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). Above the piano staff, a diagram illustrates a chord structure with four labels: T1 K, K, "fuzzy" T1 K, and K. An upward arrow points from the "fuzzy" T1 K label to the piano staff. Below the string staves, a bracket labeled T1 J spans measures 136-138, and another bracket labeled J, original pitch level (pc 0 2 octaves higher) spans measures 139-144.

83-86), in which three of the string chord's pitches are immediately reiterated, the B5 carried over directly and the C4 and A4 each transposed up an octave. The harmony that had taken on connotations of small-scale closure is here superimposed with a string harmony that seems to serve precisely the opposite function, that of *opening* or *instigating* changes in musical material. Unlike the repetition of the "G" chord in m. 97, the "A" chord here seems to gain connotations of short-term causality rather than lose them.

A T1 version of piano chord I appears in m. 134, as the second of a repeated oscillating pair of chords: the first is a T1 transposition of chord B with a "blurring" string tetrachord, as shown in Example 1.30. As was illustrated in Example 1.20, chord I itself may be understood as a variant of chord G; Example 1.31 traces the relationships between the original chord G in m.

Example 1.29: mm. 115-120, recurrences of “cadential” A chord

reiteration of string pitches/pitch classes

79 and its transposition in mm. 85, the first appearance of chord I in m. 119, and T1 I in m. 134. An astute listener will be aware of the similarities between these chords, but whether they are to be understood as variations of the same musical object whose original dramatic connotations are being gradually negated or, conversely, similar yet distinct objects that serve different musical functions, is a matter left in large part to a listener’s individual perception. What is being ambiguated here is not merely the function and associations of a musical idea, but the identity of the idea itself.

Example 1.30: Piano chords, mm. 131-134

T1 B T1 I

Example 1.31: m. 79 “G” chord and ensuing variants

The diagram shows a musical staff with four measures. Measure 79 contains a G major chord (G, B, D) with a label 'G' above it. Measure 85 contains a chord with notes G, B-flat, and D, with a label 'b5' above it. Measure 119 contains a chord with notes G, B-flat, and D, with a label 'I' above it. Measure 134 contains a chord with notes G, B-flat, and D, with a label 'b5' above it. Arrows labeled 'T1' point from measure 79 to 85 and from 119 to 134. Below the staff, set-theoretic labels are provided for each measure: {34678A} for m. 79, {45789B} for m. 85, {4578B0} for m. 119, and {568901} for m. 134. Brackets below these labels group them into two pairs: [013457] for measures 79 and 85, and [013478] for measures 119 and 134. A label 'Inversion of lower [015] trichord' is placed between measures 85 and 119, with lines pointing to the lower trichords of both measures.

Immediately following mm. 83-86 is an idea that seems to hover between the novel and the familiar: homophonic string chords in unison with high-register single piano pitches, shown in Example 1.32. The chords themselves are new, and the sudden change in the piano’s cardinality is striking, as the piano’s material up until this point has consisted entirely of six-pitch chords. One could argue that the reduction of the piano’s role constitutes another step in the strings’ assertion of independence from the piano. At the same time, these chords seem to signal an abrupt cessation of the novel texture of mm. 83-86 and a return to now-familiar full-ensemble homophony. The chords return in mm. 127-130 following the repeated string chord of mm. 122-126, serving a similar textural function, and featuring a striking variation: the piano’s low D-flat 1’s, the only piano pitch below E-flat 3 sounded thus far in the work. While the majority of mm. 1-157 consists, as noted, of alternations between episodes introducing novelties in multiple domains and recurrences of familiar ideas, the episodes of mm. 87-100 and 127-130 blur the perceptual distinction between novel and familiar material by introducing novelties in particular

domains (piano cardinality and register) while simultaneously seeming to negate the implications of prior novelties in another (ensemble texture).

Example 1.32: Homophonic string chords and piano pitches, mm. 87-100 and 127-130

The image displays two musical excerpts. The left excerpt, labeled 'mm. 87-100', shows a piano (Pno.) and string (Str.) part. The piano part is in treble clef with a key signature of one flat (B-flat) and a 3/4 time signature. It features a series of chords: a triad of G4, B4, and D5 in the first measure, followed by a dyad of G4 and B4 in the second, and a triad of G4, B4, and D5 in the third. The string part is in treble clef with a key signature of one flat and a 3/4 time signature, featuring a series of chords: a triad of G3, B3, and D4 in the first measure, followed by a dyad of G3 and B3 in the second, and a triad of G3, B3, and D4 in the third. The right excerpt, labeled 'mm. 127-130', shows a piano (Pno.) and string (Str.) part. The piano part is in treble clef with a key signature of one flat and a 3/4 time signature. It features a series of chords: a triad of G4, B4, and D5 in the first measure, followed by a dyad of G4 and B4 in the second, and a triad of G4, B4, and D5 in the third. The string part is in treble clef with a key signature of one flat and a 3/4 time signature, featuring a series of chords: a triad of G3, B3, and D4 in the first measure, followed by a dyad of G3 and B3 in the second, and a triad of G3, B3, and D4 in the third.

Abandonment of trajectories in Region 3

Region 3, from mm. 160-209, constitutes a further turning away from the trajectories established in mm. 1-159 and negation of dramatic elements therein. After a reappearance of piano chord pair N in mm. 158-159 with reversed order and registers that symmetrically “frames” mm. 147-157, the strings introduce a pair of oscillating {5689} {B124} tetrachords, designated “S”, in mm. 160-161, and their repetition in mm. 164-165 frames the reappearance of two highly chromatic piano chords, L and M, recalled from Region 2, shown in Example 1.33. Unlike the DIA/OCT string tetrachords of mm. 151 and 157, {5689} is an exclusively octatonic subset, and its sound, together with the piano chords each containing [01234] subsets, suggests a sudden abandonment of the octatonic/chromatic-to-diatonic trajectory; though diatonicism is briefly re-suggested by the piano’s OCT/DIA {A013} figure (consisting of the same collection as the string’s mm. 151 and 157 chords) in m. 166, it is followed by a reemergence of the piano’s

“C” chord (in mm. 168 and 170) that seems to affirm a sense of return to the fuzzy octatonic/chromatic sound-world familiar from the work’s opening.

Example 1.33: First appearances of string chord pair S, mm. 160-166

mm. 160-161
chord pair S
{5689} {B124}

L {145678} M {789AB3}

{A013}

In mm. 172-198, shown in part in Example 1.34, the piano’s “B” and “G” chords alternate with new six-pitch piano chords, labeled “T” and “U”, together with repeated isolated D5’s in the strings, forming the slowest harmonic rhythm heard since m. 82 (chords sounded every two to three bars in 2/4 meter; 16 to 24 eighth-note durations between successive harmonies). Chord G, originally striking for its novel harmonic character and dramatized rhythmic and registral context in m. 79, here serves, together with “B,” as a now-familiar musical object against which unfamiliar objects (new piano chords and isolated string pitches) are contrasted, a further stage in the negation of its original dramatic associations. While there is nothing here resembling the sentence- and period-like arrangements of the opening measures, mm. 172-198 can easily be heard as comprising three quasi-“phrases” of equal length with four


piano chords each, due in large part to the literal repetition of the four piano chords and intervening string D's of mm. 172-180 in mm. 181-189. The final piano chord of the third "phrase" in m. 197, designated "V", can be said to have something of a cadential effect, in part as it is the lowest-register piano chord yet heard in the work (its bottom D3 is the piano's lowest pitch yet sounded with the exception of the isolated low B-flats in mm. 127 and 129), and because of its intervallic resemblance to fuzzy diatonic chords G and I (see again Examples 1.20 and 1.31). As Example 1.34 illustrates, V may be understood as a fuzzy transposition of chord I, as it preserves this chord's bottom [015] trichord spacing and octave-plus-tritone interval up from the lowest pitch.


Example 1.34: Alternation of old and new piano chords: mm. 172-179; m. 197


mm. 172-179; repeated in mm. 180-189

new chords

B G T U

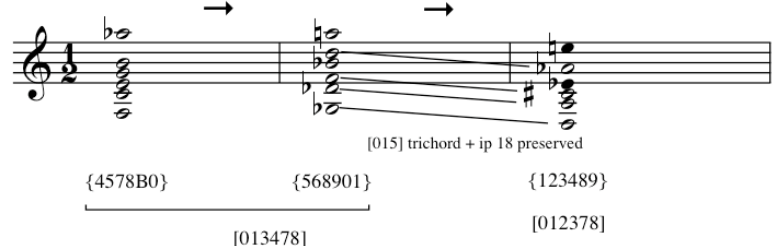
Pno. 

Str. 

m. 197 "cadential"
chord V 

m. 119 m. 134 m. 197

I T1 fuzzy T8 V



[015] trichord + ip 18 preserved

{4578B0} {568901} {123489}

[013478] [012378]

Piano chord pair P returns at T3 in mm. 199-200, followed by the chord pair O at T1 in mm. 202-203 and 205-206 and a variant of string figure Q, its {A013} collection in a new voicing, in m. 207. Interjected in mm. 201 and 204 are, respectively, the oscillating S string tetrachords introduced in mm. 160-161, and a new pair of {789A}-{569A} string tetrachords, labeled W. The entire passage is shown in Example 1.35. While chords N, O, and R were previously apprehensible as part of a trajectory toward diatonicism, their alternation here with more chromatic string sonorities – in particular, the cluster chord {789A} of pair W – ambiguates these associations. As with the interrelated fuzzy diatonic piano chords of mm. 79-134, a particular hearing is not imposed upon a listener here; one could, for example, hear this passage as a negation of the established meanings of its musical objects, or, conversely, as a dramatized contrast of elements imbued by their past associations with seemingly opposing musical meanings. The chords of W are also conspicuous for their “stepwise” voice-leading, with second violin and viola each spanning an oscillating $\text{ip } 2$, yet unlike those earlier moments suggestive of “stepwise” motion in mm. 76-77 and 118-119, W, surrounded here by familiar materials, appears to function neither as signifier nor catalyst of dramatic change. Not unlike the way in which recontextualized repetitions of the fuzzy diatonic and diatonic harmonies seem to negate their prior rhetorical associations, chord pair W here appears to throw the established (or at least suggested) meaning of a specific *kind* of musical gesture into doubt.

Immediately following the strings’ {A013}, in mm. 208-209 (also shown in Example 1.34), are two piano chords consisting of the same {5689}-{B124} collections played by the strings in mm. 160-161 and 201. Their appearance is somewhat inconspicuous, as they introduce neither new pitch collections nor a new piano cardinality, but the appearance of these two

tetrachords in contrasting guises in both strings and piano is a subtle foreshadowing of the increasingly prominent role they will come to play over the remainder of the work.

Example 1.35: Negation/ambiguation of prior materials, mm. 199-209

The musical score for Example 1.35 (mm. 199-209) is presented in two systems. The instruments are Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

System 1 (mm. 199-209):

- mm. 199-200:** T3 chord pair **P**
- m. 202-203:** T1 chord pair **O**
- m. 201:** chord pair **S** (reversed order) {B124}{5689}
- m. 204:** chord pair **W** {789A}{569A} (first occurrence)
- mm. 205-206:** T1 chord pair **O** (reversed order)
- mm. 208-209:** chord pair **X** (first occurrence)

System 2 (mm. 207-209):

- m. 207:** {A013} variant of chord **Q**

The score includes various musical notations such as treble and bass clefs, time signatures (3/4, 2/4, 3/8), and dynamic markings (7x, 7). The piano part features complex chordal textures, while the string parts provide harmonic support with sustained notes and moving lines.

Chapter 2: PART TWO, mm. 210-518

Introduction

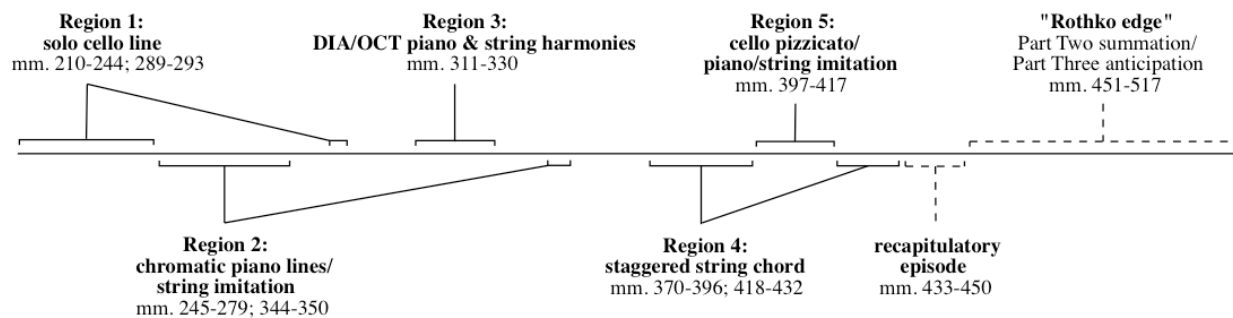
Part Two of *Piano and String Quartet* is difficult to convincingly parse into large coherent sub-sections, as it consists of a mosaic of new material and reappearances of ideas from Part One. However, a certain subtle kind of partitioning can be said to occur via the periodic introduction of new ideas that introduce novelties in one or more domains. Example 2.1 provides a formal diagram: five rough “regions,” each characterized by the introduction and sustained presence of a distinctively novel musical idea, occur between mm. 210-432 interspersed with recurrences of earlier material, before a “recapitulatory” episode in mm. 433-450 seems to articulate a large-scale formal division, and a final “Rothko Edge” section that blurs the boundaries between Parts Two and Three, being at once summative of the former and anticipatory of the latter. As Example 2.1 shows, there are also significant overlaps between Regions, the formal implications of which will be explored in this chapter: fragments of Regions 1 and 2 return following Region 2 and 3, respectively, suggestive of quasi-symmetrical frames, while Region 5 is nested entirely within Region 4.

Though linear relationships are perceptible between Regions at times, and there is a frequent sense of short-term causality between local musical events, the large-scale trajectories that characterized Part One are absent in Part Two, while at the same time the strong contrast between chromatic and OCT/DIA harmonic materials between Regions 2 and 3 constitutes a notable echo of Part One’s harmonic plan. Making perception of structure in Part Two especially difficult are the interjections, both between and within regions, of recurrent ideas from Part One stripped of their original contexts. Through their repetitions, these ideas tend to lose the dramatic

or rhetorical associations with which they were endowed upon their initial appearances, in some cases seemingly taking on new meanings, in others remaining rhetorically ambiguous.

After examining the new materials that characterize each Region, this chapter will document the repetition and recontextualization of specific ideas from Part One that occur across Part Two, before proposing a more detailed formal interpretation of Parts One and Two together than has been provided thus far.

Example 2.1: Part Two formal diagram

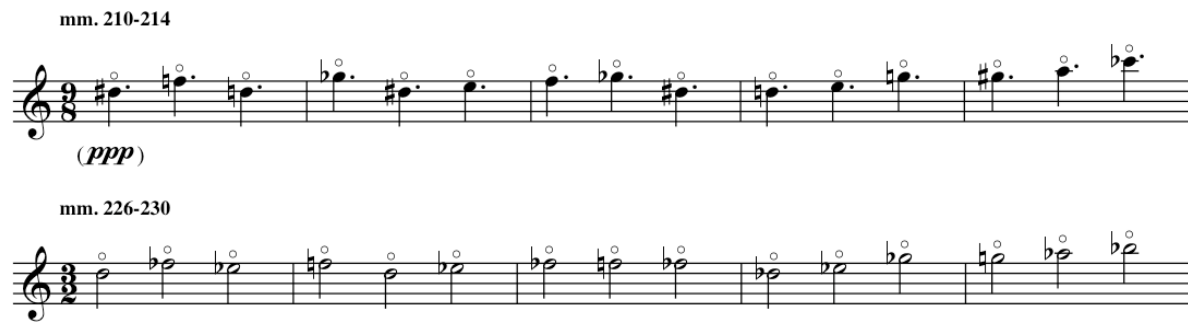


Region 1 (mm. 210-244)

Region 1 is characterized by two appearances of a 15-note solo cello line in harmonics in steady rhythm, surrounded by recurrences or variants of ideas from Part One. Both instances are shown in Example 2.2. In the context of the piece thus far, these passages are quite startling, as they are at once the first time a single string instrument has exhibited such a soloistic role, the first instance in the work of monophony, and the first unambiguously melodic gesture (though the piano's oscillating major thirds of mm. 149-150 might be said to be faintly melodic in character). A listener might expect, based upon the unfolding of events in Part One, that these sudden novelties in multiple domains might be followed by imminent changes in others, making

the absence of such development and the reiterations of earlier material especially surprising. The specific nature of these reiterations will be examined in detail later in this chapter.

Example 2.2: Region 1 cello solo episodes



Region 2 (mm. 245-279)

Region 2 begins with the introduction of two slow, chromatic contrapuntal lines in the piano, which are in turn imitated by the strings and varied in the piano by means of registral shifts and, in mm. 263-264, octave doublings, as shown in Example 2.3. As with the cello line of Region 1, this appearance of multiple novelties in a short span of time is reminiscent of the episodes of short-term causality in Part One: this passage is, at once, the first appearance of melodic gestures in the piano, the first time piano and strings have shared and imitated one another's material, and the first instance of octave doubling of pitches. Moreover, the initial appearance of the piano's chromatic lines is preceded in mm. 241-243 by two unfamiliar 5-note chords (the first a variant of the 5-note diatonic chord from m. 148, with its bottom pitch a half-step lower) in which the two uppermost "voices" in each chord move down by half-step: another instance of a "stepwisevoice- leading gesture marking a dramatic transition in the work, as well

Example 2.3: Region 2, mm. 241-247 and 263-264

mm. 241-257

(m. 148 chord variant)
(voice-leading)

chromatic piano lines

string imitation

Pno.

Vln. I

Vln. II

Vla.

Vc.

mm. 263-264

Pno.

as a minor change in musical material seemingly acting as a precursor to ensuing major ones.

One may hear the piano's chromatic lines as a distant response to the cello's chromatic solo line introduced in mm. 210-214 that constitutes a larger-scale formal linkage, but as will be seen, these events do not form part of a long-term trajectory, and the piano's "response" is heard only

after the cello line's potential as a dramatically important element has been heavily qualified by intervening Part One material.

One could say that the entirety of Region 2 constitutes another step in the continuum of increasing independence between piano and strings, as it consists of the longest segments yet of mutually exclusive music for piano and quartet alone, though, paradoxically, they have come closer to each other in another sense by sharing material. Yet it could hardly seem clearer at this point that the trajectories toward diatonicism and increasing/accelerating harmonic rhythm have been long abandoned: drawn entirely from a single {B0123} pitch-class collection, mm. 245-279 are both an introduction of the most sustained "pure" chromaticism in the work and, with the exception of a single interjection of oscillating {789T}-{569T} string chords in m. 265, a prolongation of that cluster collection as a single harmony (insofar as harmony can be said to truly exist in this passage) over 35 bars.

The opening eight bars of Region 2 recur in retrograde in mm. 344-351 (with the original ordering of pitches in each bar preserved), suggesting a quasi-symmetrical frame surrounding Region 3. The end of this chapter will examine the formal significance of this frame for Part Two and for the work as a whole.

Region 3 (mm. 311-330)

The seeming abandonment of DIA/OCT harmonic qualities in Region 2 makes the strong reassertion of these qualities in Region 3 especially surprising. At the outset of Region 3, in mm. 311-314, a brief <1, B, 0> melodic gesture in the piano that recalls the chromatic lines of Region 2 leads directly into a sustained, widely spaced {A013} chord in the strings, followed by a 3-note piano arpeggio emphasizing an octave doubling of pc 0, shown in Example 2.4. The sense of truncated "recapitulation" of mm. 245-279 engendered by the piano's <1, B, 0> line, together

Example 2.4: Region 3, mm. 311-317 and 325-330

mm. 311-317

mm. 325-330

Convergence of piano and strings upon B[#]4/C5 and Bb5, mm. 311-314

Comparison of m. 262 & m. 316 piano gestures

m. 263

m. 316

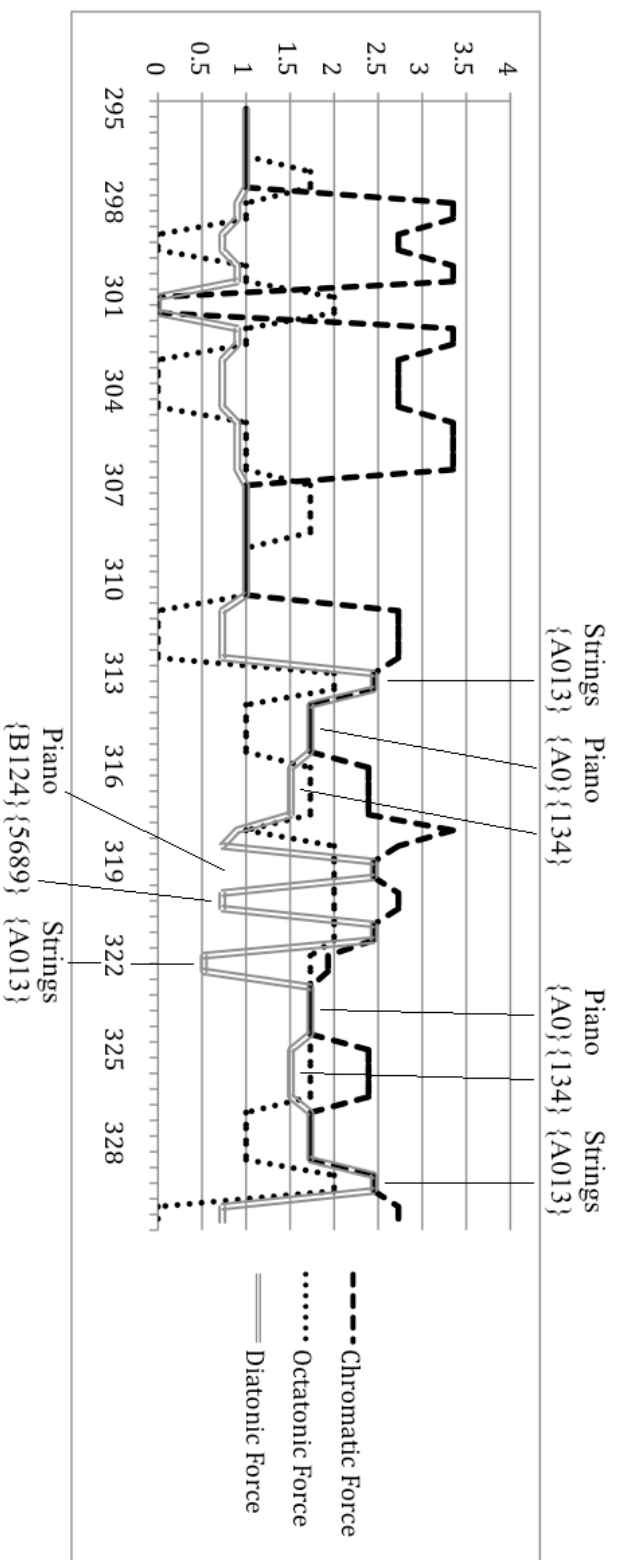
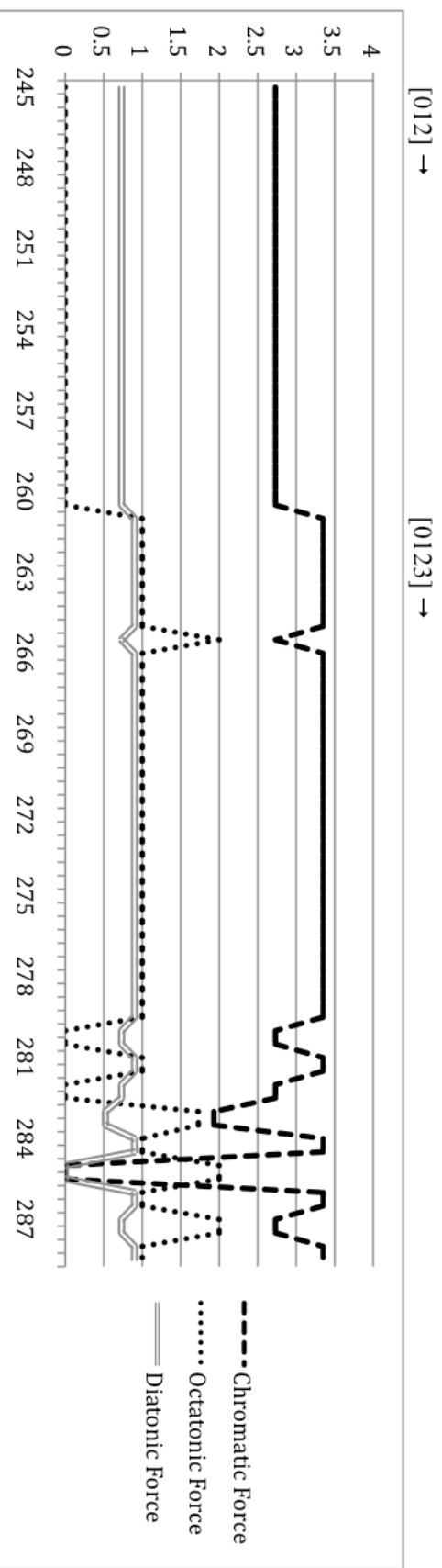
with the convergence upon shared pitches between gestures (C5 between the piano line and the string chord; C5 and Bb5 between the string chord and piano arpeggio), and the sudden shift from chromaticism to a pure DIA/OCT collection all contribute to a hearing of this passage as a cadential point, suggestive of a large-scale formal division. The piano's ensuing gestures in mm. 314-316 and 325-327 alternate between repetitions of the 3-note arpeggio with octave-doubled C's, and a pair of two-note arpeggios, the first an octave-doubled D-flat, the second an ip11 F-flat-E-flat; these are notably reminiscent of the two-note arpeggios that appeared in m. 263 as a variant of the piano's chromatic lines, but consist here of pitch classes {134} rather than the chromatic set {0123}. The piano's three arpeggio gestures in mm. 314-316 and 325-327 together form OCT pentachord {A0134}: duplicating, with one additional pitch, the pitch classes of the m. 312 string chord, which recurs in slightly varied form (its upper two pitches each an octave lower) in m. 329 seemingly "bracketing" the appearances of the piano arpeggios. This sustained

presence of the {A013}/{A0134} sonority seems to confirm the hearing of mm. 311-314 as a cadential gesture, a point of closure for earlier material (the chromatic lines Region 2), and a launching point for new ideas, and the movement from strong chromaticism to relatively strong diatonicism is reminiscent of the harmonic trajectory of Part 1, despite lacking a “pure” diatonic peak comparable to the strings’ {57A0} in m. 154. Example 2.5 graphs Regions 2 and 3s’ CHROM, OCT, and DIA relations in mm. 245-288 and 295-330 (omitting the cello solo in mm. 289-294). Though Region 2’s imitative piano and string lines consist entirely of shifting configurations of a single chromatic set, its harmonic force is weighed by drawing a distinction between those passages solely highlighting [012] subsets (mm. 245-260) and those emphasizing [0123] (mm. 261-264 and 266-279), while the piano’s {A0134} collections in Region 3 are weighed as separate {A0} and {134} gestures.

Region 4 (mm. 370-396; 418-432)

Region 4 consists of an extensively repeated, four-pitch chord with staggered entrances in the strings, shown in Example 2.6, first appearing in mm. 370-378 and 388-396 and resuming its repetitions in mm. 418-432. This chord is at once apprehensible as a distinctly new musical object (it is the first instance in the work of such staggered entrances, and both mm. 370-378 and 388-396 are the longest episodes thus far in the work in which the piano has fallen silent) and, first sounding immediately after a recurrence of piano chord G and consisting of four or G’s six pitches (E3, A-flat 3, F-sharp 4, and G5), as an outgrowth or extension of that familiar harmony.

Example 2.5: Regions 2 and 3 Lewin Graph



Example 2.6: Region 4, mm. 368-378: G piano chord and staggered string chord

G

Pno.

Vln. I

Vln. II

Vla.

Vc.

String duplication of G's pitches

string chord

Region 5 (mm. 397-417)

Between repetitions of Region 4's chord, Region 5 interjects a series of strikingly novel musical ideas: arpeggiated four-note piano chords echoed as staggered string chords, most consisting of unfamiliar pitch collections and each featuring a fixed C5 and Db6, with the cello playing pizzicato on some iterations; a repeated pair of high arpeggiated piano dyads in m. 416 reminiscent of those in mm. 263-264; and in m. 417 a repeated ascending four-note chromatic figure in the piano. The entire episode is given in Example 2.7. The first appearances of pizzicato in the entire work significantly heighten the sense of sudden movement into unfamiliar musical

Example 2.7: Region 5, mm. 397-417

The musical score is divided into three systems, each with five staves: Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

System 1 (mm. 397-417):

- Piano:** Features three measures of chords labeled {B014}, {A015}, and {8B01}. The first measure includes a flat and a sharp symbol.
- Violins:** Violin I and II play a melodic line in 3/4 time, with notes beamed together.
- Viola:** Plays a melodic line in 3/4 time, with notes beamed together.
- Violoncello:** Plays a melodic line in 3/4 time, with notes beamed together. The first measure is marked *pizz.* and the subsequent measures are marked *arco*. The dynamic *(ppp)* is indicated below the first measure.

System 2 (mm. 418-429):

- Piano:** Features four measures of chords labeled {B015}, {A013}, {6701}, and {0145}. The first measure includes a flat and a sharp symbol.
- Violins:** Violin I and II play a melodic line in 3/4 time, with notes beamed together.
- Viola:** Plays a melodic line in 3/4 time, with notes beamed together.
- Violoncello:** Plays a melodic line in 3/4 time, with notes beamed together. The first measure is marked *pizz.* and the subsequent measures are marked *arco*.

System 3 (mm. 430-441):

- Piano:** Features three measures of chords labeled {A013}, {0156}, and {1234}. The first measure includes a flat and a sharp symbol. The second measure is marked *4x's* and the third measure is marked *5x's*.
- Violins:** Violin I and II play a melodic line in 3/4 time, with notes beamed together.
- Viola:** Plays a melodic line in 3/4 time, with notes beamed together.
- Violoncello:** Plays a melodic line in 3/4 time, with notes beamed together.

territory, and despite the gestural relationship of the staggered string chords to those of Region 4 and the appearances of the now-familiar {A013} collection in a new guise in mm. 409-411 and 414-415, the entire passage has something of the feeling of an arbitrary interpolation, the pizzicatos and new harmonies appearing to have neither precedents earlier in the work nor implications for the subsequent music.

Returns/reprises of material from prior Regions

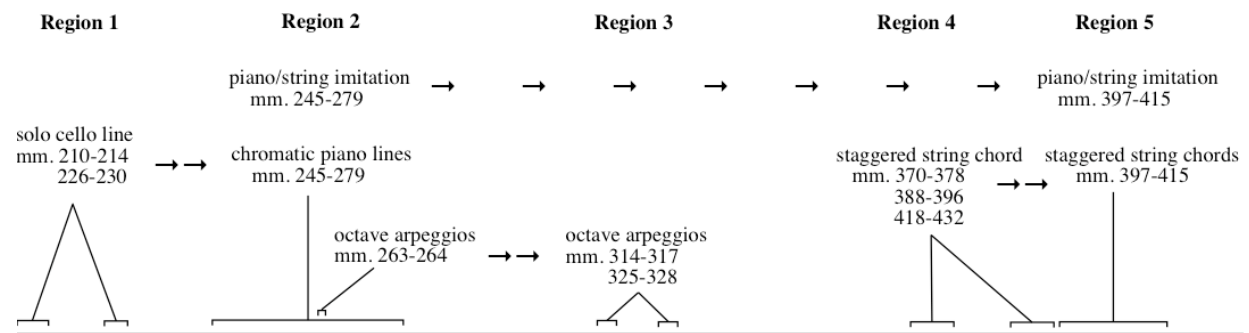
As was illustrated in Example 2.1, material from Regions 1, 2, and 4 recur following Regions 2, 3, and 5 to form quasi-symmetrical frames, none of which has the same precise formal or dramatic function. The nesting of Region 5 within Region 4 serves the purpose of appearing to negate Region 5's dramatic potentiality: once Region 5 has concluded, the resumption of Region 4's string chord repetitions, as though nothing unusual or novel had just occurred, seems to erase whatever dramatic or developmental implications Region 5 might appeared to have possessed (an impression which turns out to be false, as will be revealed shortly). The rhetorical function of the solo cello line's return following Region 2 is less clear. Given that the chromatic lines of Region 2 are apprehensible, if tenuously so, as an outgrowth of the cello line in Region 1, it is possible to understand this third occurrence of the line as constituting a kind of reprise, though given the way the line's startling novelty in Region 1 was repeatedly frustrated by reiterations of Part One material, one might also hear its repetition as another step in the negation of its original dramatic potentiality through familiarization.

The most literal symmetrical frame is formed by the return of the opening eight bars of Region 2 in retrograde order (with the original ordering of pitches in each bar preserved), bracketing Regions 2 and 3. This frame has formal implications not only for Part Two but for the composition as a whole, a fact which will be examined in detail at the end of this chapter.

Linearity between Regions

Relationships between Regions bear some semblance of linearity, in the sense that particular ideas in each Region can be understood upon their arrival as outgrowths of, or responses to, material introduced in a previous Region. Example 2.8 provides a diagram of linear relationships: the chromatic lines of Region 2 may be heard as a response to the cello's solo material in Region 1, the piano's gestures emphasizing arpeggiated octaves in Region 3 bear an obvious relation to the fleeting octave arpeggios in Region 2, the staggered string chord of Region 4 is a precedent for the multiple such staggered chords in Region 5, and, more distantly, the string duplication of the piano's pitches in Region 5 clearly echoes the piano-string imitation of Region 2. Never tying together more than two respective Regions (and mostly neighboring, contiguous Regions), these relationships do not form the kind of long-term trajectories heard in Part One, making Part Two as a whole rather more fragmented and episodic in feeling than its predecessor. Rendering the already-tenuous sense of logical musical progression even more ambiguous are the recurrences, both between and within Regions, of ideas from Part One stripped of their original contexts that allowed for perception of apparent formal or dramatic significance. At times these ideas send ambiguous or contradictory rhetorical signals by the seeming conflict between their prior associations and the new contexts in which they are heard, making their presence seem deliberately "non-logical" in nature. In a few cases, however, they seem to echo their original significations or take on new meanings altogether by virtue of their new surroundings.

Example 2.8: Part Two, linear relationships



Part One material in Region 1

The first iteration of the solo cello line in mm. 210-214 is followed immediately by a return of piano chord pair N from mm. 145-146, followed by a repetition of the oscillating chromatic W string chords of m. 204 and a T1 version of the X piano tetrachords from mm. 208-209. These recurrences constitute, in one sense, a small-scale instance of a “Rothko edge,” especially as the W and X chords had just occurred a few measures earlier, seeming now to drift over the formal border suggested by the cello line. The recontextualization of the N piano chords here, however, is of particular significance, as these chords had earlier been apprehensible as part of a trajectory toward diatonicism, the second of the two being a distinct fuzzy diatonic sonority (see again Example 1.21) unrelated to chord G and its successive variants. Juxtaposed with the cello line of Region 1, they seem to take on a nearly opposite association, signifying by their familiarity that development and change is *not* taking place as one might anticipate.

When the cello repeats its line, slightly varied and in slower (half-note) rhythm, in mm. 226-230, as though trying once again to instigate successive musical changes, it is frustrated again by repetitions and variants of earlier material: this time, a subtly transformed version of the

N chords succeeds the line, followed by a T1 version of the piano's B chord in mm. 235-239.

The N variants and their relationship to the original chords are shown in Example 2.9: the chords are not only reversed in order and register, but each is transposed by T11, the first chord (originally {34789T}) by fuzzy transposition so that pc 4 is moved down 3 semitones to pc1. Somewhat like the network of interrelated fuzzy diatonic piano chords in Part One, such variation seems intended to confuse the memory and the sense of musical objects' clear identity: a careful listener will be aware that something about these chords has changed, but, at least on first hearing, may have difficulty identifying *what* precisely is different and what the exact relationship to the original chords may be.

Between the two appearances of the cello line, the piano's G chord recurs at its original pitch level in mm. 224 and 225, accompanied by sustained string pitches in the same manner its T1 variants had in mm. 85 and 119, shown in Example 2.10 (see again Examples 1.17 and 1.20 for a textural comparison). A listener may be tempted to recall the chord's original, seemingly cadential function, the memory of which is intensified by the presence of string sonorities that had earlier been associated with dramatic textural shifts. Here, however, the chord's associations are seemingly contradicted by its context: it resembles a cadential point but seems not to articulate a shift or division in any musical domain, being surrounded on either side by near-identical material.

Example 2.9: Region 1 cello solo lines and succeeding piano chords

mm. 210-216

Pno.

Cello

Str.

(*ppp*)

chord pair N

fuzzy T11

T11

mm. 226-232

Pno.

Str.

m. 145
m. 215

T11 →

m. 232

m. 146
m. 216

fuzzy T11 →

m. 231

{24678A}

{135679}

{4579AB}

{4689A1}

Detailed description: This block contains two musical excerpts. The first excerpt (mm. 210-216) shows a piano part with a 'Cello' line and a string part marked '(ppp)'. The piano part features a 'chord pair N' and a 'fuzzy T11' chord. The second excerpt (mm. 226-232) shows a piano part and a string part. Below these are two horizontal timelines showing chord progressions. The first timeline starts with a G major chord (set {24678A}) at m. 145/m. 215, moves to a T11 chord at m. 232 (set {135679}), and then to a 'fuzzy T11' chord at m. 146/m. 216 (set {4579AB}), which finally resolves to a T11 chord at m. 231 (set {4689A1}).

Example 2.10: Region 1 G chord and accompanying string textures, mm. 224-225

G

Pno.

Vln. I

Vln. II

Vla.

Vc.

Detailed description: This block shows a musical score for mm. 224-225. It includes staves for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). A bracket labeled 'G' spans the first two measures, indicating a G major chord. The piano part plays a G major triad in the first measure and a G major triad with a suspended fourth in the second measure. The violin parts play a G major triad in the first measure and a G major triad with a suspended fourth in the second measure. The viola and cello parts play a G major triad in the first measure and a G major triad with a suspended fourth in the second measure.

Part One material in Region 3

A collection of Part One materials intrudes at Region 3's center, framed by the symmetrical "bracket" of DIA/OCT string chords and piano arpeggios (see again Example 2.4): a re-voicing of the chromatic W string chords occurs in m. 318, the X piano tetrachords appear again in mm. 319-320, the strings Q variant heard in m. 207 recurs in m. 321, while the N piano chords return in their original form mm. 322-323. The entire passage is provided in Example 2.11 The last two elements bear an association with the trajectory toward and emergence of diatonicism in Part One (the N chords by their original appearance, the Q variant by its resemblance to the original earlier chords), and it is possible for a listener to perceive them as retaining something of that original dramatic signification here in the midst of reemergence of DIA/OCT sonorities – a surprising quasi-reversal of the seemingly new signification the mm. 145-146 chord had taken on in Region 1.

Example 2.11: Part One materials at center of Region 3, mm. 318-324

associated w/ emergence of diatonicism in Part One (mm. 145-157)

re-voicing of chord pair W (3X)

chord pair X

Q variant from m. 204 (9X)

chord pair N

Pno.

Vln. I

Vln. II

Vla.

Vc.

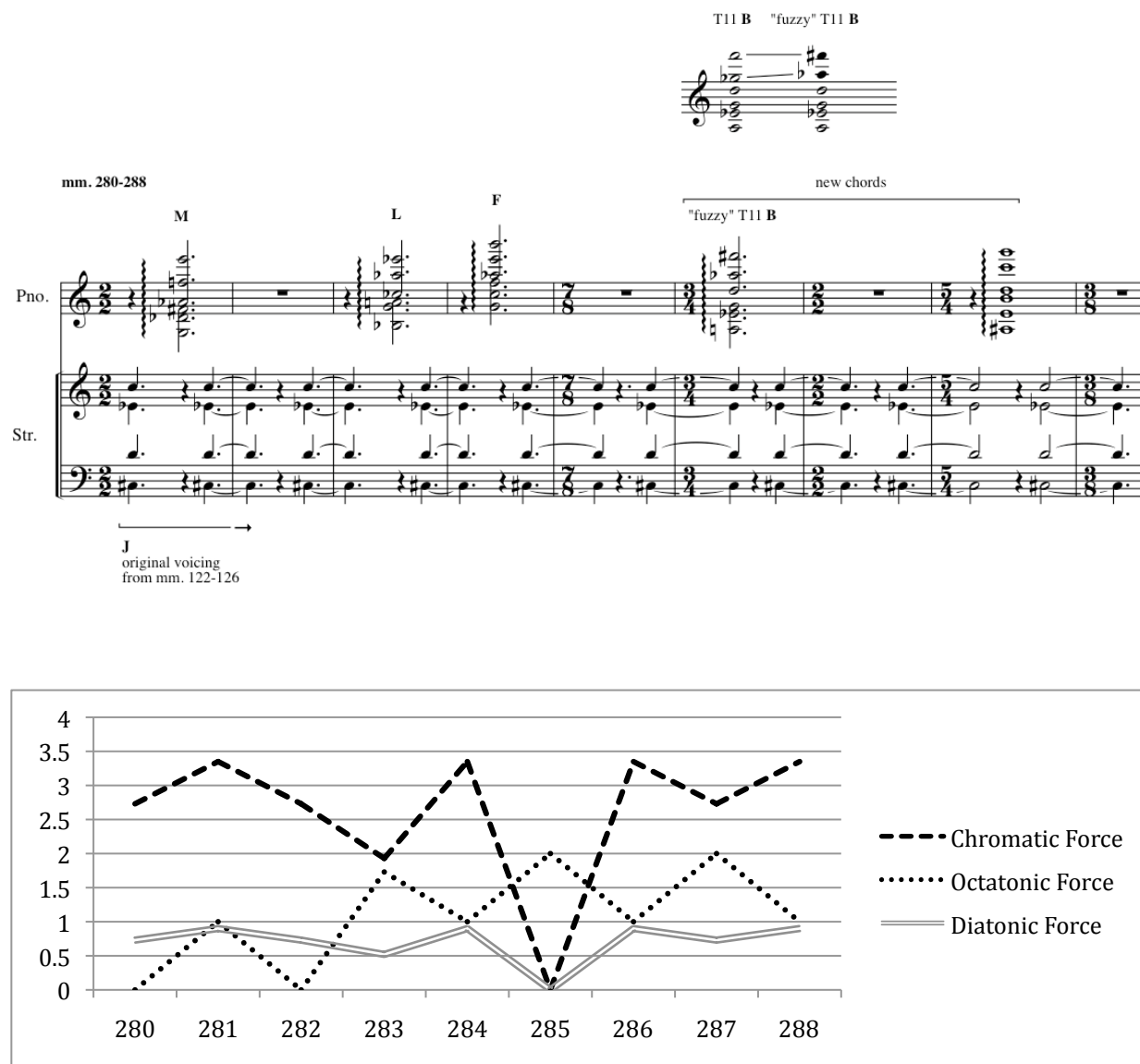
Part One material between Regions

As was noted at the outset of the chapter, drawing precise boundaries between Regions is difficult due to the continuous alternation of old and new ideas. In some cases, one might refer to reiterations of familiar material as occupying space “between” Regions: the fact that Region 2’s characteristic piano and string imitations cease in m. 279 (not to return until following Region 3), and are followed by a heterogeneous episode of earlier ideas before the first appearance of Region 3’s material, is suggestive of an ambiguous space between the neighboring regions that cannot be said to belong characteristically to either. The seeming closure of Region 3 by the appearance of the final {A013} string chord in m. 329 and sudden move into more chromatic material (an {E01} variant of the piano’s preceding {A0} arpeggios, shown in Example 2.4, followed by a series Part One objects) is similarly suggestive of a distance between the end of Region 3 and start of Region 4. The Part One materials that occupy these spaces between Regions seem “non-logical” in character, lacking clear contexts that would either seem to reinforce their original connotations or assign them new ones. The T11 B and T1 I pair of alternating chords, previously heard in mm. 132-134, are restated twice between Regions 2 and 3, first in mm. 295-297 and again (in reverse order) in mm. 307-309. The musical function, if any, of these chords was ambiguous to begin with in Part One, chord I being part of a network of fuzzy diatonic chord derived from chord G (see again Example 1.30), and they certainly have no clearer signification upon their reemergence.

Twice between Regions 2 and 3, and once between Regions 3 and 4, appear differing iterations of the repeated J string chord with concurrent piano chords that first appeared in mm. 122-126 (shown in Example 1.20), as part of a trajectory of increasing rhythmic activity and piano/quartet independence. String chord J appears identical to its original form in mm. 280-288,

while in mm. 298-306 its pc 4 is transposed up two octaves, and in mm. 334-342 two of its four pitch classes are changed, transforming the harmony from an [0123] chromatic cluster to a {2358} OCT_{0,2} collection. Concomitant with the changing string harmonies is a prevalence across the three episodes of new piano chords. Two new six-note chords appear in mm. 280-289, the first a close variant of T11 B; this chord appears once again in mm. 298-306, while mm. 334-342 features one new five-pitch and two new four-pitch chords. The material of all three passages is provided in Example 2.12, the first as a full score excerpt, the latter two in a reduction with rhythm and meter omitted. These three episodes present a unique sort of ambiguity among interpolations of Part One material. On one hand, the two episodes between Regions 2 and 3 may be heard, much like the T11 B and T1 I chord pairs, as non-logical interruptions, weakening the dramatic contrast between the neighboring regions by their seemingly acontextual, nondramatic nature. Yet the change in harmonic materials in the third episode (following Region 3), shown in Example 2.12's Lewin graphs, hints at a subtle trajectory between these three passages that shadows the materials surrounding them: the comparative octatonic strength and weakening of chromatic force that occurs in the third episode seems, perhaps, a faint echo of the harmonic contrast between Regions 2 and 3, an atypical and surprising instance of Part One materials within Part Two forming trajectory linkages across spans of time.

Example 2.12: string chord J episodes between Regions 2-3 and 3-4, Lewin graphs



Example 2.12 cont'd.

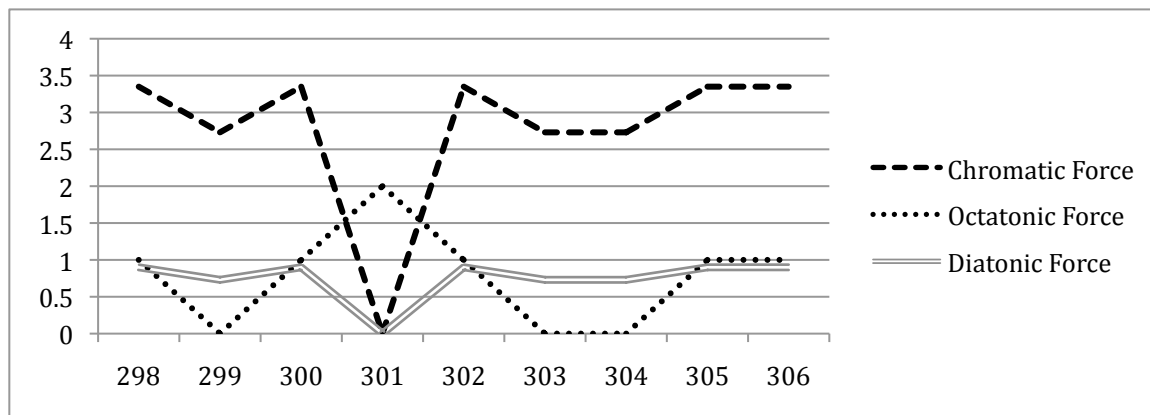
mm. 298-306

T1 L "fuzzy" T11 B L M

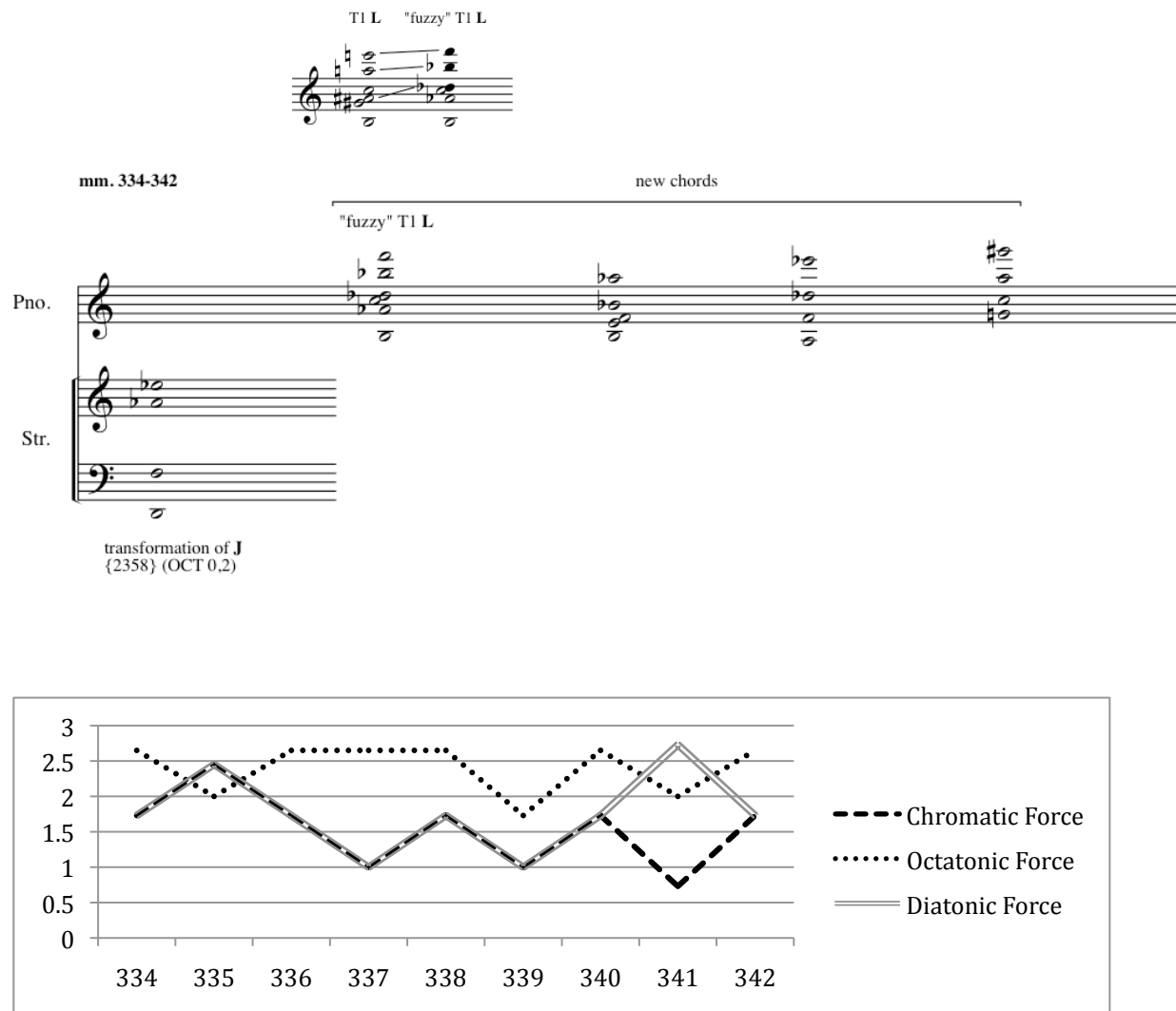
Pno.

Str.

J
new voicing



Example 2.12 cont'd.

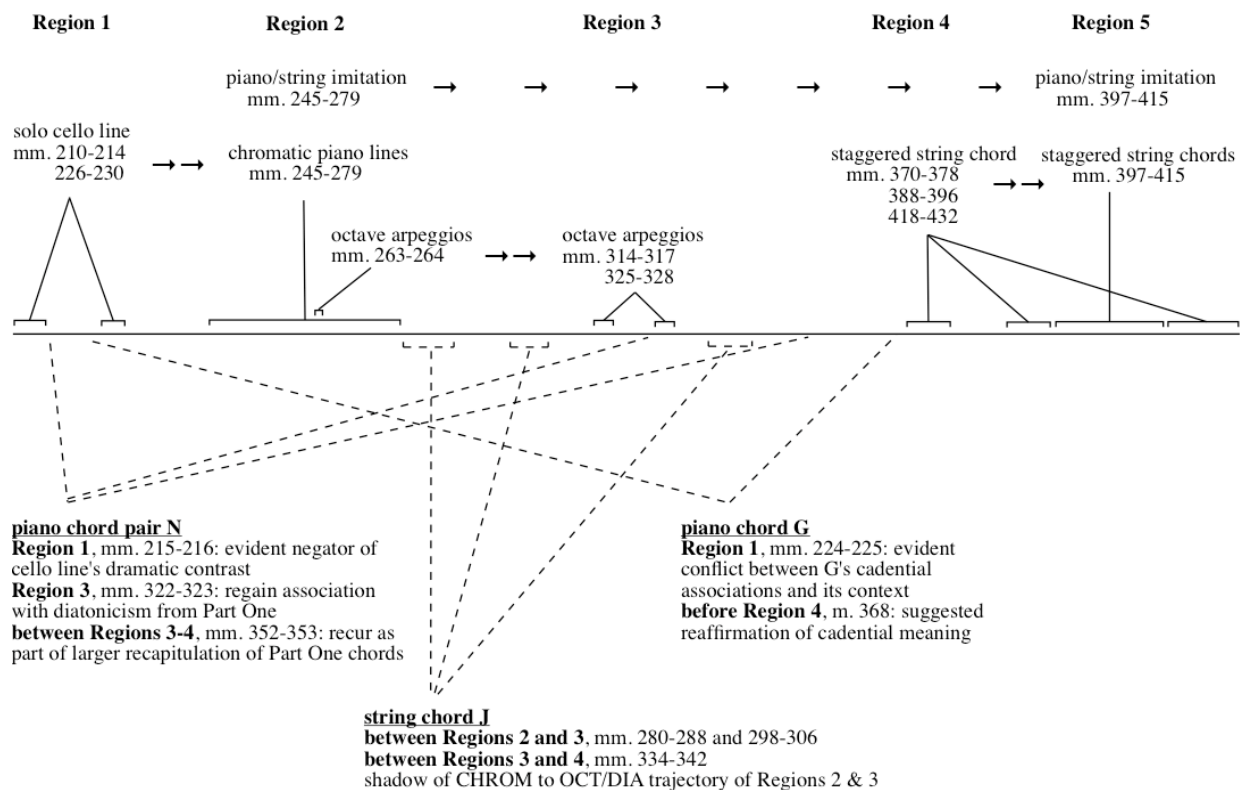


An episode of six-pitch piano chords beginning in m. 352 ends with a recurrence of chord G in m. 368, followed by the first entrance of the Region 4 staggered string chord that echo G's pitches (see again Example 2.6). The context seems possibly affirmative of G's original cadential connotations that were rendered ambiguous by its repetitions in the latter minutes of Part One

and its appearance in the midst of Region 1: here, it seems apprehensible at once as a closing gesture (of the episode of six-note piano chords begun in m. 352) and an “instigator” of new musical material (the Region 4 chord that seems a direct outgrowth of it).

Example 2.13 addends the diagram provided in Example 2.8 to show the most frequently recurring Part One materials that interrupt the already fragile linearity among Regions, either seemingly changing their musical significations with their context (chord pair N and chord G) or suggesting subsidiary linkages amongst themselves (chord J).

Example 2.13: Recurrences of Part One materials in Part Two



Recapitulatory episode

There are two ensuing episodes of six pitch piano chords following the episode in mm. 352-369. The first occurs in mm. 379-387, between repetitions of Region 4's chord prior to Region 5. The second, following Region 4's conclusion, conspicuously features two repeated bars (mm. 438-439) in which chord B oscillates with a T1 version of chord T (introduced in the latter minutes of Part One) in a stepwise voice-leading gesture, shown in Example 2.14. Though these particular chords had occurred contiguously once before in mm. 363 and 366, here the voice-leading between them is made more salient by their proximity and repetition in a gesture that, by association with similar voice-leading ideas prior to it¹, seems anticipatory of an important structural event.

Example 2.14 shows the ensuing bars from this voice-leading gesture: interim repetitions of T1 B in mm. 439-441 lead to three further appearances of original chord B in m. 443-437, accompanied by the same four-pitch string collections with which it had sounded (albeit in a different order) near the beginning of Part One in mm. 21-29, followed by the first appearance of chord "A" since m. 117, with the characteristic {02} string dyad with which it had appeared as a cadential gesture in mm. 37 and 72. These literal recurrences of material from near the piece's opening "bracket" the entirety of the work up until this point; because chord A has never appeared in the interim, it retains its cadential connotations, and is perceived, if not as the end of a narrative arc (for the presence of such an arc has been difficult to discern), at least as a gesture of large-scale structural closure. A listener may reasonably expect that the piece will end soon, as well as be inclined to hear any ensuing material as tangential to the large-scale dramatic unfolding (insofar as it exists) of the work.

¹ See again Examples 1.19, 1.20, and 2.3.

voice-leading

“Rothko Edge”

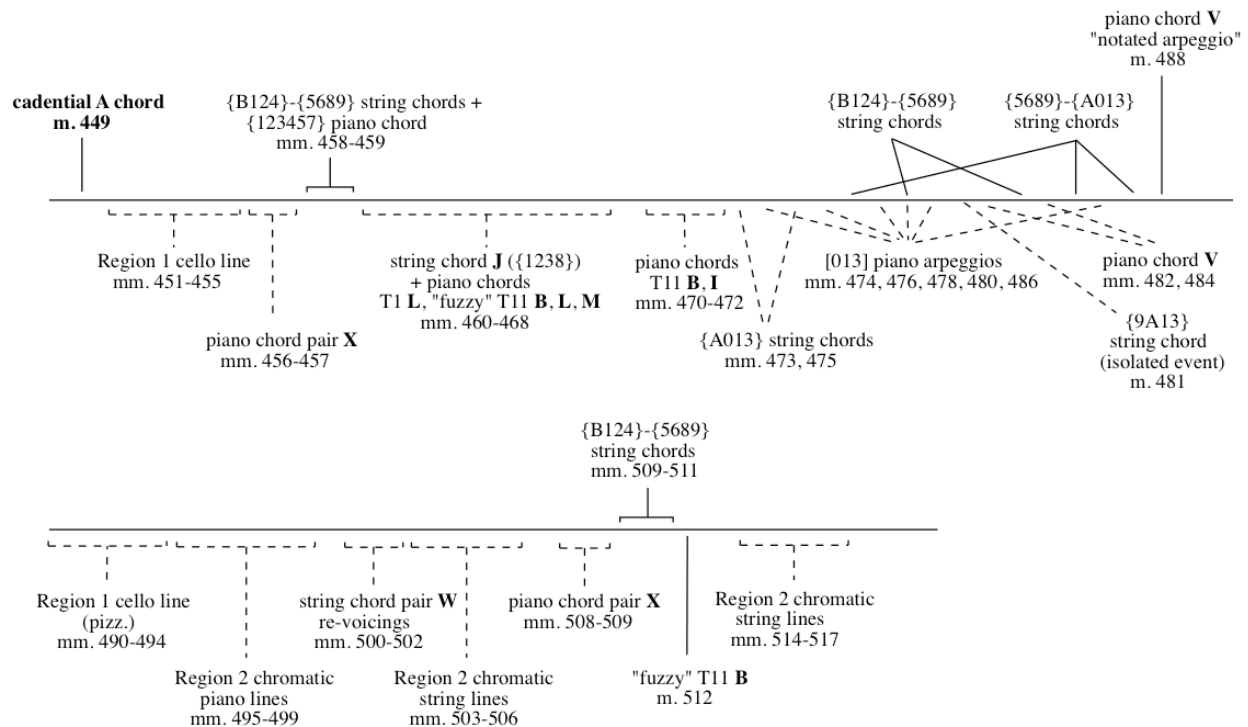
82

least in retrospect, to identify a precise moment where Part Two ends and Part Three begins. Example 2.15 provides a diagram separating materials clearly anticipatory of Part Three from such recurrences, as well as ideas that, for reasons that will be examined, may be regarded as reminiscences of earlier material.

Example 2.15: “Rothko Edge”, mm. 451-518

Upper level: Part Three anticipations

Lower Level: Parts One/Two recurrences/reminiscences



Shortly after the cadential A chord in m. 450, a pair of widely-spaced {B124}~{5689} chords appears in m. 458, and recurs in mm. 479, 483, and 509-511, with pitch classes redistributed among the lower three instruments upon each appearance but always with a

consistent oscillating F-flat-G-flat in the first violin. All instances are given in Example 2.16. This pair of pitch class collections is, of course, familiar, having appeared sporadically throughout the work as piano chord pair X and in Region 1 as string chord pair S, but these prior incarnations always took place within rather narrow registral spans and emphasized large, disjunct intervals between the collections, making the string chords from m. 458 onward a startlingly new kind of gesture with their wide registration and emphasis upon repeated “stepwise” motion in the first violin. There are a few interjections, however, in mm. 477, 485, and 487, that defy this principle, in which all parts move by large leaps (see again Example 2.16); in two of these cases (mm. 477 and 487), the {B124} collection is transposed to {A013}, both heightening the contrast with the “stepwise” oscillating chords and serving, perhaps, as a subtle gesture of integration of the two transposition levels at which [0235] collections have been heard over the work’s duration.

As if to emphasize their novelty, the string chords are followed upon their initial appearance in m. 458 by a half-arpeggiated six-pitch piano chord never heard previously in the work, and which never occurs again. Similarly fleeting are two separate, once-repeated ascending piano figures in m. 488 (immediately before the pizzicato cello line) and 512 (after the oscillating string chords of mm. 509-511) that constitute “notated arpeggios” of six-note harmonies: the m. 488 figure of chord I, which first occurred in m. 197 as a vaguely cadential gesture and which was repeated in mm. 361, 381, and most recently 482 and 484; the m. 512 figure of a familiar T11 transposition of chord “B” with one pitch out of place (A-flat 5 instead of the typical F-sharp 5). Both figures are given, along with the chords to which they are related, in Example 2.17. Like the {B124}-{5689} string chords, the novelty of these brief ideas turns out to be anticipatory of things soon to come.

Example 2.16: Rothko Edge, {B124}-{5689} and {A013}-{5689} oscillating string chords

{B124}-{5689} chords with oscillating ip2 in first violin

mm. 456-458
return of {B124}-{5689} piano chords
from mm. 208-209 and 319-320

Pno.

Vln. I

Vln. II

Vla.

Vc.

{B124} {5689}

m. 479

m. 483

mm. 509-511

Vln. I

Vln. II

Vla.

Vc.

disjunct {B124}-{5689} and {A013}-{5689} chords

m. 477

m. 485

m. 487

{5689} {A013}

{B124}

{5689} {A013}

Vln. I

Vln. II

Vla.

Vc.

Example 2.17: Rothko Edge, mm. 459, 488, and 512 piano harmonies

The image displays three musical examples from the score for Rothko Edge, focusing on piano harmonies. The first example, labeled 'mm. 458-459', shows a piano (Pno.) and string (Str.) section. The piano part features a new piano chord {123457} in the right hand, while the strings play a rhythmic pattern. The second example, labeled 'mm. 488-489', shows the piano part with a chord {123489} and a string part with a rhythmic pattern. The third example, labeled 'mm. 512-513', shows the piano part with a chord {235789} and a string part with a rhythmic pattern. The notation includes treble and bass staves, time signatures, and various musical symbols such as notes, rests, and accidentals.

Recurring within the “Rothko edge” without obvious formal or dramatic function, ideas from Parts One and Two cast doubt on the evident large-scale formal closure of mm. 443-450. In particular, the new appearance of repeated string chord J, now reconstituted as a novel {1238} sonority, and concomitant piano chords in mm. 460-468 is suggestive, like the three J episodes earlier in Part Two, that this particular musical object is following its own developmental trajectory independent of (and in defiance of?) what is occurring around it. At the same time, it is possible to hear certain reiterated ideas taking on something of a recapitulatory character by virtue of their past associations or their new variations. Particularly conspicuous in this regard are the {A013} string chords in mm. 473 and 475, the former in the voicing of the chord from m. 329 in Region 3 with the cello’s D-flat an octave higher, the latter repeating the former’s upper two pitches and featuring a “voice exchange” between the lower two, in alternation with

arpeggiated piano trichords in mm. 474 and 476 that share pitch classes with the string chords, as shown in Example 2.18. The piano arpeggios, with their upper ip2s, recall Region 3's arpeggiated trichords in mm. 314 and 325, making passage as a whole strongly reminiscent of this Region and its connotations of cadential repose, with the characteristic {A013} string sonority's relative consonance even more emphasized and dramatized here by means of its near-contiguous repetition (interrupted only by a piano trichord drawn from three of its four pitch classes) and the voice-leading gesture between the lower two instruments.

Example 2.18: Rothko Edge, {A013} string chords and piano arpeggios, mm. 473-476

The musical score for Example 2.18 is written for piano and strings in 2/2 time. The piano part (Pno.) consists of two measures, 473 and 474. In measure 473, the piano plays a trichord labeled {013}. In measure 474, it plays a trichord labeled {023}. The string parts (Vln. I, Vln. II, Vla., Vc.) play a sustained chord labeled {A013} across both measures. A viola-cello voice exchange is indicated between measures 473 and 474, with the viola playing the first pitch class (pc's 1, 3) and the cello playing the second.

Perhaps even more dramatically recapitulatory in character are the two final appearances of the cello's solo line, both provided in Example 2.19. The first recurrence immediately follows the return of chord "A" in m. 449, played, as it has always been previously, in harmonics in the cello's highest register, and with its final fifteenth pitch omitted. The line is very familiar by this point in the work, having lost the striking novelty it possessed upon its first appearance, and

coming immediately after the recapitulatory episode it is very easy to hear it as possessing something of an air of finality, as though a familiar musical idea is being stated for one last time – a feeling intensified by the sense of “petering out” engendered by the elongated last two pitches and absent final pitch. But its last statement this is not, for the line returns one final time, now in the instrument’s middle register and in pizzicato, in mm. 490-494. This is extremely striking formally and rhetorically, for it serves as a *moment of integration*, a bringing together of elements in different domains that had hitherto occurred separately: specifically, the prior iterations of the cello line and the cello pizzicati in the mm. 397-417 episode. These pizzicati had seemed almost an anomaly, a striking isolated event with no evident implications for the ensuing music, yet in a curious reversal of the process of dramatic negation, by serving as such a gesture of summative integration, the cello’s pizzicati *gain*, rather than lose, formal and dramatic function by their recurrence in mm. 490-494.

Example 2.19: Rothko Edge, final occurrences of solo cello line, mm. 451-455 and 490-494

mm. 449-455

A

Pno.

Str.

Cello

elongated final pitches/
missing 15th pitch

mm. 490-494

pizz.

Form of Parts One and Two together

As noted at the outset of this dissertation, there is some degree of arbitrariness in dividing mm. 1-450 into separate “Parts,” given that there is no clearly articulated formal division between them as well as a great deal of overlapping of material. The recapitulatory episode is rhetorically suggestive of the close of a unified whole, yet one may wonder if the combined Parts possess an intelligible overall form given the heterogeneity of materials and lack of clear dramatic arc. A clue may be found in the symmetrical structure of Region 3 that is, in turn, framed by the introduction and retrograde recurrence of Region 2 material in mm. 245-251 and 344-350. It is notable that immediately following this recurrence, two textures familiar from Part One and Region 1 but nearly entirely absent through Regions 2 and 3 – on one hand, repeated piano chords alternately blurred and focused by the strings, and on the other, contrasting successive piano chords in alternation with isolated string D5’s – return, pervading both Region 4 and the Recapitulatory episode. Just as the Region 1 material forms a quasi-symmetrical frame around Region 2, so mm. 1-244 and mm. 352-450 might be understood as forming a second layer of quasi-symmetry through the presence of these two characteristic textures.

This allows for an interpretation of the whole of mm. 1-450 as forming a basic five-part symmetry, in which the outermost sections are characterized by the presence of chromatic or fuzzy octatonic six-pitch piano chords blurred and brought into focus by the strings, or in alternation with string D5’s, while the piano’s {B0123} chromatic lines in turn frame the pure diatonicism/octatonicism of Region 2, which is itself symmetrical around an intrusion of elements from earlier in the work. Example 2.20 provides a diagram showing the nested symmetries and characteristic six-pitch piano chords associated with both outer textures, as well as the only two, very minor “intrusions” of the blurred string chord texture into mm. 245-351, in

the form of single T11 B chords with accompanying chromatic strings collections in alternation with T1 I piano chords (identical to the chord pair that appears in Part One in mm. 132-134; see again Example 1.29).

The symmetry of mm. 1-450 is far less literal than that of mm. 519-810, and is in no way imposed upon a listener's sensibilities: on the contrary, it is continually thrown into doubt by the intrusion of non-symmetrical elements that seem to upset it, and a listener must make some conscious effort to discern this structure. Thomas DeLio, in an essay examining a much earlier Feldman work, the third of the *Last Pieces* (1959) for piano solo, notes that, with regard to the formal organization of the piece, Feldman "never highlights structural connections," but instead "builds into the piece the *possibility* that the listener may perceive" these connections for him- or herself, and in doing so "will become intensely aware of the nature of his own perceptions."² By the time of *Piano and String Quartet* Feldman was, as the foregoing discussion should make evident, far more interested in overt structural elements, some of the deliberate ambiguity DeLio describes in *Last Pieces* #3 remains: one could say that into mm. 1-450 of *Piano and String Quartet* Feldman has built the *possibility* of hearing a large-scale symmetry, a possibility that requires, as DeLio puts it, a listener to make "a conscious and constant effort to link events over time."³

² DeLio, op. cit., 68.

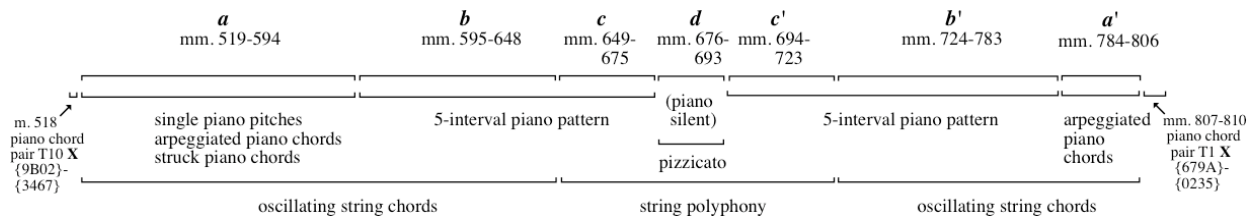
³ Ibid., 69.

Chapter 3: PART THREE, mm. 518-810

Introduction and formal overview

Consisting of far fewer materials than Parts One and Two, Part Three exhibits an overt quasi-palindromic design that stands in strong contrast to the veiled, ambiguous symmetries of mm. 1-450. A diagram of the entire form of this part is provided in Example 3.1.

Example 3.1: Part Three formal diagram



The outermost sections of the palindrome, labeled *a* and *a'*, consist of the alternating homophonic {B124}-{5689} string chords introduced in the Rothko Edge, over which the piano plays a succession of various new materials. Between these outermost layers are *b* and *b'*, in which the oscillating string chords continue while the piano plays “notated arpeggios” of chord V like that of m. 488¹ at various transposition levels. In, *c* and *c'*, nearer to the center of the palindrome, the strings’ rhythmic homophony gives way to polyphony as the piano continues its V arpeggiations, while the palindrome’s core, *d*, consists of 18 measures in which the strings’ polyphony continues, featuring the reintroduction of pizzicato, while the piano falls silent. Framing the entire Part are two transpositions of the piano’s chord pair X, with the order of the

¹ See again Example 2.17.

set classes in each transposition a reverse of the other as if to emphasize the large-scale symmetry.

In spite of the evident formal clarity, Part Three features materials whose rhetorical associations appear to negate one another by their seemingly contradictory and exclusive natures. Connotations of formal closure collide with implications of musical development, as do suggestions of climax with increasing musical stasis.

Section *a*

Section *a* begins in m. 519, at which point the oscillating {B124}-{5689} string chords commence their long, unbroken chain of repetition; the first nine measures are shown in Example 3.2. This moment has been chosen to mark the beginning of Part Three despite the fuzzy boundary with Part Two as it is at this point onward that the miscellaneous ideas from Parts One and Two cease their recurrences, and a listener will likely have a sense here that the string chords' sporadic appearances stretching back to m. 458 were premonitions of their sudden domination of the musical texture.

At the start of *a*, a listener may be inclined to hear the strings' extensively repeated chords, given their low informational content and their formal positioning after the seemingly "conclusive" events of the Recapitulatory episode (as well as the pizzicato cello line), as constituting some kind of coda material. In particular, a listener familiar with Feldman's body of works from the 1970s onward will be aware of his frequent practice of ending a work with a single extensively repeated musical idea, often featuring the emergence of a steady pulse (as in *Why Patterns?* [1978]), a strongly diatonic or quasi-tonal harmonic character (as in *I Met Heine on the Rue Fürstenberg* [1971] and *For Philip Guston* [1984]) or a combination of these (as in *The Viola In My Life II* [1970] and *Rothko Chapel* [1971]). The {B124}-{5689} chords do

Example 3.2: Start of *a*, mm. 518-527

The musical score for Example 3.2, measures 518-527, is presented in two systems. The first system (measures 518-524) features a complex rhythmic pattern with frequent changes in time signature (7/4, 3/4, 5/4, 3/4, 5/4, 3/4, 5/4). The Pno. part has a melodic line with a bracketed section labeled {3467}-{9B02}. The Vln. I and Vln. II parts have a bracketed section labeled {B124}-{5689}. The Vla. and Vc. parts have a bracketed section labeled {B124}-{5689}. The second system (measures 525-527) features a more regular rhythmic pattern with a time signature of 7/4. The Pno. part has a melodic line with a bracketed section labeled {B124}-{5689}. The Vln. I and Vln. II parts have a bracketed section labeled {B124}-{5689}. The Vla. and Vc. parts have a bracketed section labeled {B124}-{5689}. The Pno. part has a dynamic marking of (ppp) in measure 525.

establish a slow regular pulse – albeit one that changes periodically – and the two tetrachords together form a “fuzzy” diatonic collection, {89B12456}, with pc 5 as an intrusive chromatic pitch, as shown in Example 3.3. When this pair of tetrachords appeared in other guises earlier in

the work, their alternations, as noted, tended to emphasize large, disjunct intervals, obscuring their collective quasi-diatonic quality, but here this quality seems brought to the fore by the insistent presence of “stepwise” motion (in the first violin) and its scalar connotations.

Example 3.3: {B124}-{5689} fuzzy diatonicism

Fuzzy diatonic octachord {1245689B}

The diagram shows a musical staff with a treble clef. It contains eight notes: B2 (sharp), D3, E3, F#3, G3, A3, B3, and C#4. A bracket labeled {5689} spans the notes F#3, G3, A3, and B3. Another bracket labeled {B124} spans the notes B2, D3, E3, and F#3. A third bracket is placed under the notes D3, E3, F#3, G3, A3, and B3.

(Prototypical diatonic heptachord {89B1246})

The diagram shows a musical staff with a treble clef. It contains seven notes: B2 (sharp), D3, E3, F#3, G3, A3, and B3.

From mm. 523-537, as the string chords repeat, the piano initially plays only a single, sporadically repeated high E-flat (also shown in Example 1.47): a gesture of minimal informational content that accords with the coda-like character established by the string chords and the formal context. From m. 538 through m. 567, however, it introduces a profusion of new materials, all consisting of pitch collections never previously emphasized: simultaneously struck four-pitch chords, both single and in pairs, in mm. 538, 540, 542, 548-549, and 551; new arpeggiated four-, five-, and six-pitch chords in mm. 556, 560, and 562, and, finally, an arpeggiated seven-pitch chord in mm. 564 and 567. All chords are shown in Example 3.4. After the prevalence of fully- or half-arpeggiated piano chords throughout the work, the sound of simultaneously struck chords is remarkably fresh: such articulation had only fleetingly occurred far earlier in the piece, in mm. 83-84, as two non-arpeggiated iterations of chord “D”. The

emergence of a seven-pitch arpeggiated chord is perhaps even more startling, as chords such up until this point have always had a maximum cardinality of six, and the chord of mm. 564 and 567 is the first in the entire work to breach this boundary. One might describe these events as developmental in nature, if “development” is understood to mean taking the basic *premises* established by the materials of the piece and stretching them beyond the limits within which they have thus far appeared. The premise of arpeggiated piano chords is taken beyond the established limit to its cardinality, while the “seed” of struck piano chords planted near the work’s beginning is further developed here as well as married to the premise of oscillating pairs of chords, another frequent feature throughout the work’s duration. The occurrence of this “developmental” material simultaneous with the strings’ repeating chords produces an effect of contradictory and irreconcilable implied formal and rhetorical functions: as discussed, the string chords and their placement after conspicuous conclusive gestures seem to suggest an end to the large-scale form, yet the piano’s rate of musical information, and rate of introduction of new materials, is simultaneously accelerating beyond anything previously experienced. Moreover, there is some suggestion of the string and piano strata influencing one another: beginning in m. 568, immediately after the seven-note piano chords, the first violin’s oscillating interval switches from F-flat-D-flat to B-A, and the sudden move upward in register and change in initial intervallic direction (beginning on an “upper” rather than a “lower” pitch) is a startling shift following forty-nine bars of F-flat-G-flat repetition. One might hear the sudden change as a response to the piano’s profusion of dramatically novel material, in a kind of dramatic causality between domains similar to those near the beginning of the piece.

Example 3.4: New piano materials in *a*, mm. 538-567

struck chords in oscillating pairs

m. 538 {AB04} {89B1} m. 540 {489B} {5780} m. 542 {1268} {6780}

Pno. Vln. I Vln. II Vla. Vc.

single struck chords

mm. 547-549 {89B1} mm. 550-552 {6780}

Pno. Vln. I Vln. II Vla. Vc.

Example 3.4 cont'd.

arpeggiated chords

m. 556 {AB04}

m. 560 {46879B}

m. 562 {479AB0}

m. 564 {3589AB0}

m. 567 {3589AB0}

Conclusion of *a* and Section *b*

This sense of development, however, slows very quickly after it begins. A variant of the seven-pitch piano chord from mm. 564 and 567, transposed up a semitone with one pitch

omitted, occurs in mm. 580-584, but it is bracketed by recurrences of familiar harmonies: T11 of chord B appears as a “notated arpeggio” in mm. 569-575 and as a conventionally arpeggiated chord in mm. 586-592, while the “notated arpeggio” of chord V from the Rothko Edge reappears, here rhythmically elongated into dotted eighths rather than dotted sixteenths, in mm. 573 and 575. All chords are shown in Example 3.5. At the outset of *b* in m. 595, the piano begins its long series of repetitions of this notated V arpeggio at various transposition levels encompassing the instrument’s lower-mid to upper registers, without any discernable pattern to the ordering of transpositions; the first nine measures of *b* are provided in Example 3.6. Development seems to have frozen, as the brief proliferation of new materials from mm. 538-594 has ceased and been replaced by incessant repetition of a single musical object (though one could argue that the constant transposition carries some faint connotation of “development”, in the sense that that term is conventionally used with regard to tonal music, where development typically features sequential transposition of thematic or motivic material). The first violin returns to F-flat-G-flat in mm. 577-594, and when it reintroduces B-A in 595-603, the interval’s dramatic significance seems faded due to its familiarity and the absence of any seemingly causal chain of events surrounding it. Beginning in m. 604, also shown in Example 3.6, the first violin’s oscillating interval becomes a high A-flat to D-flat (ip5 or a perfect fourth), which it continues until m. 648. By the time of m. 604, the sonority of the repeating string chords is highly familiar, but from this point onward they lose the sense of stepwise voice-leading connection that made them so strikingly novel when they first appeared: although F-flat G-flat alternation appears regularly, in its original register or in other registers, in other instruments (e.g., second violin in mm. 604 and 609; viola in mm. 605 and 610; cello in m. 606 and 613), it is far more difficult to perceive aurally due to its position as an “inner” voice in the texture.

Example 3.5: Piano materials near end of *a*, mm. 569-592

<p>m. 569 (repeated in m. 571)</p> <p style="text-align: center;">T11 B</p>	<p>m. 573 (repeated in m. 575)</p> <p style="text-align: center;">V</p>	<p>m. 580 (variant of mm. 564 and 567; repeated in mm. 582 and 584)</p> <p style="text-align: center;">{9AB146}</p>	<p>m. 586 (repeated in mm. 588 and 590)</p> <p style="text-align: center;">T11 B</p>
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Section *c*

At the start of *c* in m. 649, as the piano continues its arpeggiations, the strings abruptly shift to rhythmic polyphony: while each string instrument continues to play two pitches per measure, three of the four strings attack together on each downbeat of the 9/8 meter while a fourth lags behind, and in the remainder of each measure each instrument attacks its second pitch on a different rhythmic subdivision. The first five bars of *c* are provided in Example 3.7.

Through the entirety of *c* the {B124} and {5689} tetrachords are each respectively realized in only two voicings, creating a circling progression of four distinctly voiced chords whose ordering always remains the same despite the occasional repetition of single {B124}-{5689} pairs (such as that shown in m. 651). Example 3.7 shows these chords in a single-staff reduction, as well as in a score excerpt in which the dotted lines between staves connect the pitches of each discrete chord upon its initial appearance. While the rocking chord pairs of *a* and *b*, in spite of

Example 3.6: Start of *b*, mm. 595-603: piano V arpeggios

The musical score for Example 3.6 consists of two systems of staves. The first system (mm. 595-600) includes staves for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The Piano part features arpeggios labeled T4 V, T8 V, and T5 V. The Violin I part has a persistent oscillating interval of a second (ip 2) between Bb and A#. The second system (mm. 601-603) continues the same instrumentation. The Piano part features arpeggios labeled T6 V, T7 V, and T5 V. The Violin I part has a persistent oscillating interval of a second (ip 2) between Db and Ab. The Viola part has a persistent oscillating interval of a second (ip 2) between Fb and Gb, labeled as "inner" voices. The Violoncello part has a persistent oscillating interval of a second (ip 2) between Bb and A#.

the persistent oscillating ip 2's in the first violin, underwent continual changes of voicing, the “frozen” chord spacings of *c* heighten the sense of harmonic stasis even further, despite the brief overlappings of pitches that occur between discrete tetrachords due to the rhythmic polyphony.

Example 3.7: Beginning of *c*, mm. 649-653

spacing and ordering of *c* tetrachords

Section *d*

At the outset of *d* in m. 676, pizzicatos are introduced into the texture, and rhythmic unisons between instruments vanish: each instrument attacks its pitches at separate time points from all others, frequently featuring new rhythmic subdivisions, including triplets at the quarter- and eighth-note levels. At the same time, the piano falls silent for a total of eighteen measures (mm. 676-693), or 63 quarter-note durations. While piano silences of approximately this length occurred in Region 4 (the first two episodes of staggered string chord repetition, in mm. 370-378

and 388-396, each measure 62 quarter-note durations), here at the center of Part Three the piano's disappearance seems especially dramatically precipitous due to the contrasting consistency of the musical texture in *b* and *c*, in which a V arpeggio figure sounded with regularity every two or three bars.

The established {B124}-{5689} string voicings of *c* continue in mm. 676-682, but with periodic anomalies in the form of foreign pitches, missing pitches, or pitches in atypical registers before, in mm. 683-693, the strings finally break free, playing a patchwork of new alternating and repeating {B124}-{5689} chord voicings that contrast with those of the previous 34 measures. Example 3.8 shows the mixed pizzicato/arco texture that continues throughout *d*, and the chords of mm. 676-682 are given in a single-staff reduction (anomalous pitches are in black noteheads). The chord voicings of mm. 683-693 are also provided in a reduction, showing the three distinct pairs of voicings appearing in these eleven measures and their temporal arrangement.

Completion of palindrome

After the center point of *d*, the quasi-palindrome of mm. 519-810 is completed by appearances of prior material in reverse order. In *c'*, from mm. 694-723, the strings return to the four chord voicings and rhythmic organization of *c* while the piano resumes its transposed V arpeggations. At the start of *b'* (mm. 724-783), rhythmic polyphony abruptly ceases and the strings return to homophonic chords, while the piano's V figures continue; near the end of *b'*, between mm. 758 and 774, several of these figures are rhythmically elongated from the typical dotted-eighth rhythm to include quarter and dotted-quarter values, as shown in Example 3.9. In *a'* (mm. 784-806), the piano recapitulates the T11 B chord that was heard at the end of *a* (mm. 586-592), followed by a new six-pitch chord, given in Example 3.10, strongly reminiscent of the

chord in mm. 580-584, sharing four of its six pitches in common. Over the course of *b'* and *a'*, the first violin's oscillating intervals recur in reverse of the order in which they were introduced: the high D-flat-A-flat ip 5 appears from mm. 724-774, while the “stepwise” B-A and Fb-Gb ip 2s recur in mm. 775-783 and 784-801, respectively, with a brief reappearance of B-A in mm. 802-806. The composition ends with a sudden cessation of the string chords followed by two {0235}-{679T} piano arpeggios that, as was shown in Example 3.1, form a symmetrical frame around mm. 519-806 together with the {3467}-{9B02} arpeggios of m. 518.

Example 3.8: Beginning of *d*, mm. 676-679: pizzicato/arco texture

The musical score for Example 3.8 shows the beginning of piece *d* in measures 676-679. The score is for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The time signature changes from 4/4 to 3/4 and back to 4/4. The texture alternates between pizzicato (pizz.) and arco (arco). Trills are marked with a '3' and a bracket. The Pno. part is mostly rests. The strings play a rhythmic pattern of eighth and sixteenth notes, often with trills. The Vln. I part has a melodic line with trills. The Vln. II part has a rhythmic pattern with trills. The Vla. part has a rhythmic pattern with trills. The Vc. part has a rhythmic pattern with trills.

Example 3.8 cont'd.

mm. 676-682: anomalies in string chords

Four sets of string chords are shown on a single staff. Above the staff, four labels with arrows point to specific chords:

- {B126}** (foreign pc 6/ missing pc 4)
- {5689}** (pcs 8/9 in anomalous registers)
- {589B}** (foreign pc B/ missing pc 6)
- {5689}** (pcs 8/9 in anomalous registers)

mm. 683-693: pairs of {B124}-{5689} chord voicings

Two staves of musical notation showing pairs of chord voicings. The first staff contains six pairs, labeled 'pair 1' and 'pair 2' alternately. The second staff contains five pairs, labeled 'pair 2' and 'pair 3' alternately. Each pair consists of two chords in close proximity.

Example 3.9: *b'*, rhythmically elongated V arpeggios, mm. 776-780

A single staff of musical notation for piano (Pno.). It shows three arpeggiated chords labeled T1 V, T4 V, and T8 V, each spanning multiple measures. The notation includes a treble clef, a key signature of two flats, and a common time signature.

Example 3.10: *a'*, mm. 796-804 piano chord and evolution from previous chords

The diagram illustrates the evolution of piano chords through four stages:

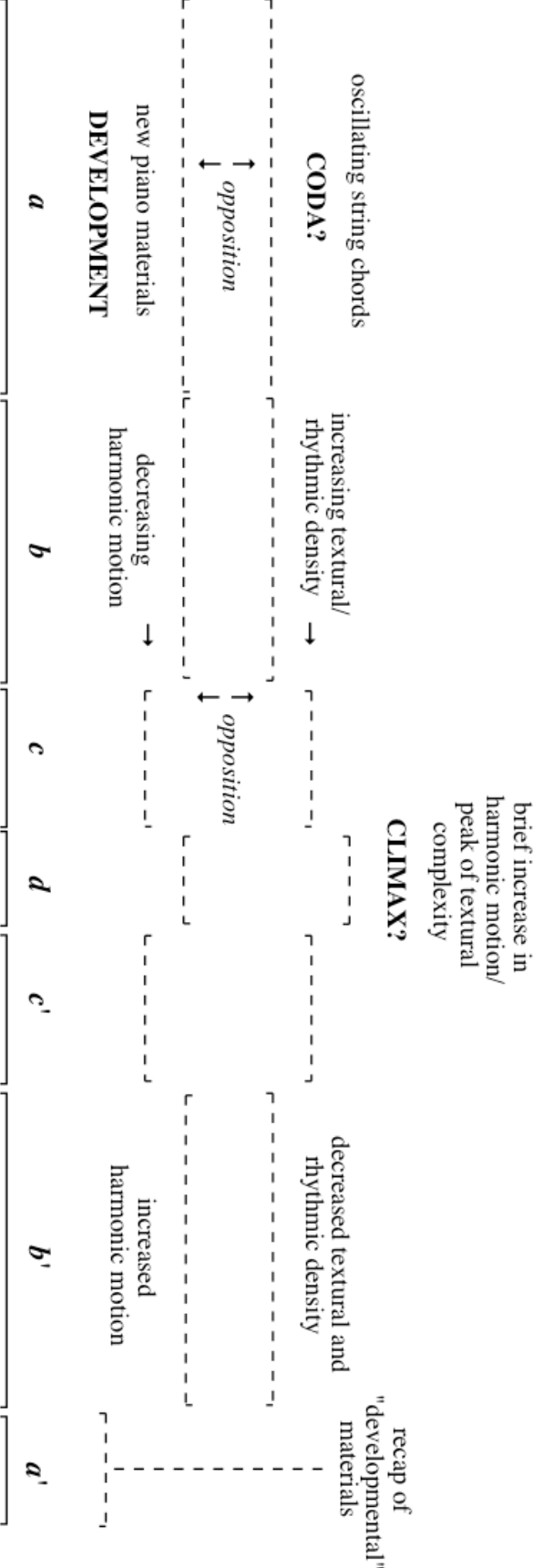
- m. 796; repeated in mm. 800 and 804:** Chord {9B0146}.
- mm. 564, 567:** 7-pitch chord {3589AB0}.
- mm. 580, 582, 584:** Chord {9AB146} ("missing" pc 0).
- mm. 796, 800, 804:** Chord {9B0146}.

Arrows indicate transformations between these chords, specifically a T1 (tritone) operation minus one pitch, and the preservation of the {1469} subset.

Formal and rhetorical considerations

Together with the quasi-symmetrical form, what makes Part Three suggestive of an arch-shaped dramatic trajectory is its incremental increase, then corresponding decrease, in textural and rhythmic density, from the homophony of *a* and *b*, through the polyphony of *c*, to the peak of textural complexity in *d* before reversing course. The piano's sudden absence in *d* is, in its own right, a dramatic event complementing the other novel elements of *d* by throwing them into even stronger relief from their surroundings. Yet whatever sense of climax *d* suggests seems contradicted, over the course of *a* through *c*, by the concurrent motion toward ever more static harmonies and economy of material. Could *d*, in which the strings escape for a few measures from the registrally frozen harmonies surrounding them in *c* and *c'*, be construed as a true dramatic climax? Possibly, but if so, it is one that is strongly relativized (negated, perhaps?) not only by the increasingly static string harmonies but by the more overtly dramatic episode of "developmental" piano materials in *a*, compared to which its sense of dramatic contrast is relatively subdued, consisting of new iterations of what are, by this point in the work, highly familiar harmonic materials. Example 3.11 provides a diagram illustrating these formal and rhetorical oppositions.

Example 3.11: Part Three, suggested rhetorical functions and opposing elements



Conclusion

As the foregoing discussion suggests, “negation” in *Piano and String Quartet* can be understood to operate on different levels. On a small scale, individual musical objects are subject to contradictions between their immediate apparent rhetorical or dramatic meanings and their formal contexts. In Parts One and Two, objects that, upon their initial appearances, seem to have vivid dramatic associations or function as points along clear trajectories are later repeated and varied in contexts very different from those in which they were first heard, while in Part Three the piano materials that seem “developmental” in relation to those of Parts One and Two occur in the context of what seems, at least initially, to be a coda-like structure, following large-scale cadential and summative gestures that seem to signal that the body of the musical “argument” has ended, the nature of piano’s materials and their apparent formal location sending contradictory and seemingly irreconcilable signals.

“Negation” also occurs at the level of trajectories and formal sections, in the sense that the large-scale progressions implied in Part One – in particular, the movement away from fuzzy octatonicism and chromaticism toward diatonicism, and the gradual acceleration of harmonic rhythm – seem to be abandoned, replaced in Part Two by an ever-shifting mosaic of old and new elements in which long-term trajectories are difficult or impossible to identify, while in Part Three the sense of proliferating “development” implied by the piano quickly slows and gives way to extended repetition of a single musical object.

The Introduction to this dissertation raised the question of whether any of the work’s trajectories could be heard as achieving a “goal” or point of fulfillment, albeit one that would be understood retroactively. It also noted that the harmonic trajectory of Part One may be understood in broad terms as dissonance moving toward consonance, in both absolute and

relative senses of those terms, and pointed to the possibility of such harmonic contrast carrying an implicit familiar rhetorical meaning.

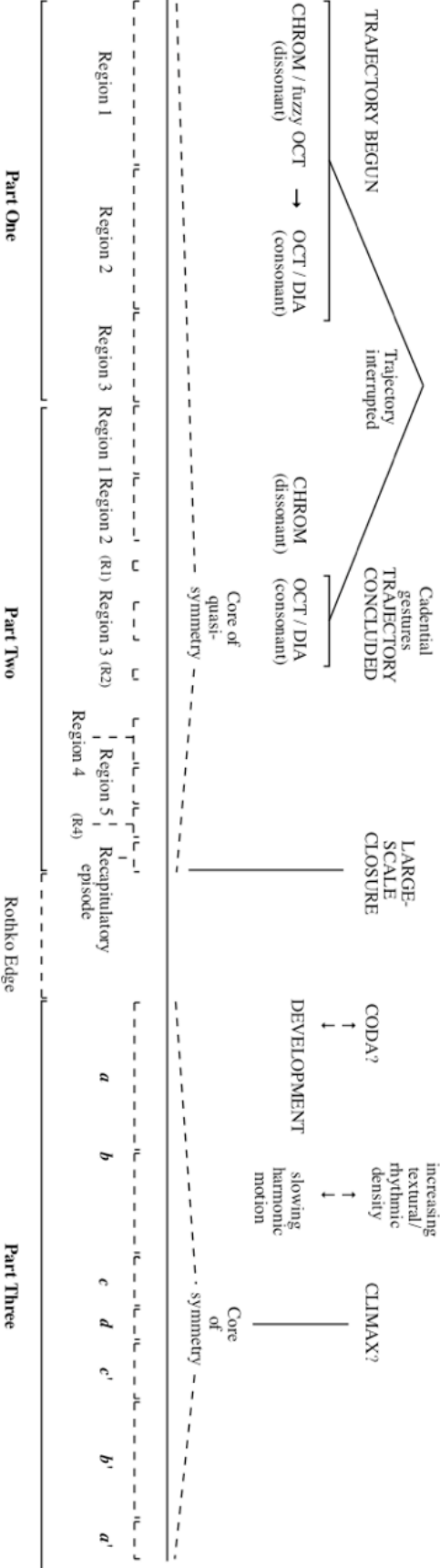
While it is difficult to measure consonance and dissonance, even in their absolute senses, in a precise manner akin to the measurements of qualitative genera done here with the tools provided by Quinn, the opening minutes of *Piano and String Quartet* do offer a vivid contrast between relative consonance and dissonance via the presence and absence of chromatic [012] subsets. Every sonority from mm. 1-121 features at least a single [012] subset; a few, such as the piano's "D" chord, contain even larger chromatic clusters. Piano chords lacking [012] subsets appear in mm. 122 and 136-143 simultaneous with or in close proximity to [0123] string chords, while the {02358} piano chord of m. 148 is the first entirely independent, freestanding harmony devoid of such chromaticism. This chord, and the {A013} string chord that follows it in m. 151, each contain only a single ic 1, while the {57A0} string harmony of m. 154 is entirely free of ic 1 dissonance. In one sense, this last harmony could be understood as the logical end-point of a trajectory away from chromaticism, yet there is nothing in other musical domains that highlights this moment as one of closure or formal division; following m. 154 the music seems simply to reverse course, featuring more chromatic harmonies between mm. 160-244 followed by the emergence of a highly "pure" form of chromaticism in the imitative {B0123} piano and string lines in Region 2 of Part Two.

As described in Chapter 2, however, the strings' {A013} collection returns in the form of quasi-cadential chords in Region 3 of Part Two, framing an episode featuring alternating {A0} and {134} piano gestures – the former of these being the second, and final, sonority in the entire work devoid of ic 1. While there is an absence of any sense of *gradual* progression from chromatic toward consonant harmony between the second and third Regions of Part Two, the

contrast between the two is certainly as vivid as that of the work's opening minutes – if not even more so, given the highly concentrated nature of Region 1's chromaticism. Chapter 2 also detailed how Parts One and Two together may be interpreted as a large five-part quasi-symmetrical structure, with Region 3 of Part Two constituting its core. What makes plausible an interpretation of this Region as a point of closure for the trajectory away from chromaticism initiated, then seemingly abandoned, in Part One, is the combination of this large-scale symmetry surrounding the Region with the overtly rhetorical elements within it. The cadential {A013} string chord in m. 313, as described, carries strong connotations of a point of “arrival,” due not only to its strong harmonic contrast with the preceding material but also to the sudden dramatic expansion of register (including the lowest string pitch heard in the entire work, the cello's D-flat 2) seemingly freeing the pure DIA/OCT harmonic material from the mid- to upper-register constraints under which it had hitherto appeared. After the piano echoes and extends the string chord's pitch classes with its {A0} and {134} gestures – the former the only sonority in the work since m. 154 free of semitonal dissonance (with additional emphasis upon the octave, the most “absolutely” consonant harmonic interval) – the modified return of the string chord in m. 329 retains its cadential connotations, but this time as a gesture of closure, given the contrast of the ensuing chromatic material. It is at this point that the composition begins to circle back toward earlier materials, by way of reappearance of the piano's chromatic {B0123} lines, to a return of the alternately blurred and focused arpeggiated piano chords familiar from Part One (and, as noted, the staggered string chord of Part Two, Region 3 can easily be heard not only as a novel object in its own right but as an outgrowth, or extension, of the piano's familiar G chord). Example C-1 diagrams the entire work, combining this reading of the harmonic trajectory with the formal and rhetorical interpretations provided in Chapters 1 through 3.

Chapter 2 noted that the quasi-symmetrical structure of Parts One and Two is not made overt, and that a listener must make some effort to realize the *possibility* of perceiving a large-scale symmetry. Much the same might be said about the importance of an individual listener's perception in resolving the apparent rhetorical contradictions that hover over the entire work. Just as Part Three features dramatically developmental material near its beginning despite its apparent formal location as a coda, and suggests a dramatic arc by its textures even as it exhibits greater harmonic stasis and a corresponding paucity of material toward its center, so Part Two seem to repeat – and possibly even intensify – Part One's dramatic contrast between relative dissonance and consonance even as it seems to negate individual dramatic elements and the trajectories they initially seemed to entail. Answering whether the initial trajectory of dissonance toward consonance reaches a true point of closure or fulfillment in Part Two, and whether Part Three constitutes a true dramatic arc reaching a climax, is, to a significant extent, dependent upon the individual listener; these formal and rhetorical elements are “built into” the piece in such a manner that they are *suggested*, but rendered deliberately ambiguous, and how a listener responds to them will depend as much upon the nature of his or her own perception as upon the music's intrinsic content.

Example C-1: *Piano and String Quartet*, complete formal diagram



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